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Management, Business, Administration and Legal Initiatives

African Resilience Reshaping the Global Stage: Growth, Synergy and Prospects

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Foreword

We are most grateful to ABSA for sponsoring the Conference, in large part, which would have been frightfully expensive without their partnership and generosity. Thank you to the participants from many of our national Universities for their enthusiastic support in participating in the 2024 MBALI International conference, including DUT, UKZN, UFH, UJ, NMMU, SP, WSU CPUT and LU. We were overwhelmed by the large number of participants both online and face-to-face. Moreover, I am most grateful for the participation of international Universities from Ghana, Uganda, Nigeria, Zimbabwe, Kenya, Botswana, Poland, and Xichang University (China). The Conference was unprecedentedly huge this year, where we received 217 papers for presentation (190 physical and 27 online). Post conference, 65 articles were submitted for the double-blinded peer review process. We have accepted 43 papers for publication, of which 11 are from UNIZULU. About 8 authors decided not to publish with us for since their final papers were accepted elsewhere and 3 have not responded to our feedback as yet.

The MBALI International Conference has become a valued African Academic voice, expressing African innovations, ideas, and perspectives covering the fields of commerce, administration and law, which is in perfect alignment with the University of Zululand's 2022-2027 vision of a Node for African Thought. In support and celebration of this enlightened Vision, this year the theme of the conference was "African Resilience Reshaping the Global Stage: Growth, Synergy and Prospects." The university believes that Africa must be the centre of intellectual discourse that shapes the future of the continent and establishes its position on the global stage as an equally competitive player.

We are heartened by the support we received from national and international academics to serve as reviewers of papers submitted for accredited proceedings. These collective efforts serve to build a strong foundation for the Conference and its Proceedings, becoming the lofty voice for African ideas within the context of Management, Business Administration and Law Initiatives. Much work needs to be done in this regard and we are well prepared to rise to the challenge.

Successful Conferences and their associated Proceedings crucially depend on a

dedicated team to manage a complex project. We are most grateful to the MBALI Steering Committee, but more especially to task coordinators which include Dr Lizelle Calvino for Venue and Catering, Mr Shalen Heeralal for Marketing and Media, Mrs Fortunate Tarwireyi for Administration and Procurement, Mr Innocent Mthembu ICT and Mr Sakhile Fatyi Web-Design, Ms Karen Enslin Programme Design and Proceedings Administrator, Mrs Sinegugu Nkonde-Masondo Secretarial Support. We are also grateful to Prof Greyling for her dedicated support and leadership as well as Prof Tewari, who continues to assist us in taking MBALI to even greater heights through his refreshing innovative inputs.

Finally, I am grateful to Dr Damilola Kehinde Ilesanmi for his service as managing editor, and not forgetting Mrs Hermine Henneke for language editing

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The Influence of political engagement on companies' profitability

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ABSTRACT

Political engagement helps companies acquire crucial government assets and support. Political engagement enables companies to implement measures that mitigate uncertainty and protect against environmental concerns, which may have a direct influence on their profitability. The objective of this research is to examine the influence of political engagement on the long-term profitability of banks in certain Southern African countries, namely South Africa, Botswana, Namibia, and Swaziland. DataStream provides data for the period from 2014 to 2023. The data were analysed using Gaussian Mixture Models. The research reveals that political engagement has a negative influence on the long-term sustainability and profitability of the company. This research provides valuable insights for organizational management and shareholders on how to increase company profitability by reducing political engagement.

Keywords: Southern Africa, Political engagement, Company's profitability, Financial leverage and Banking industries.

INTRODUCTION

Every company's existence is dependent on contact with the environment. Interacting with the environment is a crucial means of existence, enabling self-sufficiency, dependency and, most importantly, sustainability (Lin et al., 2018). Aligning the concept of sustainable development, also known as sustainability, with the United Nations' transformation agenda, which seeks completion by 2030,

enhances its clarity (Lin et al., 2020). The main objective of long-term sustainability is to enhance the societal, ecological, and economic capabilities of governments and enterprises globally. Businesses function within a framework that includes both internal and external stakeholders (Lin et al., 2019). Companies must satisfy their customers in order to thrive and achieve optimal profitability.

Stakeholders have the ability to exert influence over the company's aims, regulations, and activities, or it may be affected by the company's rules and regulations (Maqbool & Bakr, 2019). Political engagement refers to the interaction of political party members with corporate leaders who are significant stakeholders in company operations (Wang et al., 2016). This connection facilitates the utilization of benefits such as easy access to bank loans, tax exemptions, and a significant portion of the market. Political engagement refers to any activity that impacts the political arena or influences its development (Quazi & Richardson, 2012). Political engagement encompasses a spectrum of activities, ranging from exercising the right to vote to participating in a demonstration or even resorting to acts of violence, as well as communicating with a representative by means of written correspondence (Nguyen & Nguyen, 2020).

Mayer (1998) asserts that political involvement significantly affects the profitability of a corporation. Any organisation that engages in significant business decision-making and the establishment of laws and regulations must prioritize political engagement (Nyberg, 2021). Companies that possess superior frameworks and decision policies, outperform their competition. The idea of rent-seeking and rent-protection elucidates the link between political engagement and company profitability. The grasping hand argument posits that native party organisations utilise companies to pursue their individual ideological and societal goals, resulting in detrimental effects on the firm's profitability (Zhang et al., 2022).

However, the helpful hand theory suggests that local party committees possess an advantageous effect on an organization's profitability. This is because they assist companies in obtaining limited funds in the economic system and reduce agency problems in companies with inadequate management. Political engagement impacts the profitability of any business; however, its impact may be relatively less for private companies (Zaid et al., 2020). Likewise, the circumstances and consequences differ

across industrialised and developing countries. The influence is more severe in nations that are developing because they have a higher incidence of political crises than industrialised ones (Lim & Rokhim, 2021). Investor protection is higher in mature financial markets due to their greater efficiency and broader disclosure rules, which indicate less government interference. In emerging countries, corporations exhibit a higher level of political engagement (Hydock et al., 2020). Researchers have found that political engagement has a positive effect on a company's profitability, as shown by studies conducted by Le and Nguyen (2021).

This finding is consistent with the concept of a helping hand. One important aspect of this assumption is that political engagement provides companies with a variety of forms of institutional assistance, such as having accessibility to useful data and assets. Nevertheless, several studies have shown negative aspects of political engagement and claim that a board that is politically active lacks the motivation to prioritise the growth of shareholder value and improve company profitability. According to Bhagwat et al. (2020), certain forms of political engagement have a negative effect on the profitability of a corporation. These corporations abandon their goal of maximising profits in order to achieve political and social agendas. Excessive political engagement has a detrimental effect on the profitability of local state-owned companies (SOEs) (Gangi et al., 2020). This is because the management of these companies prioritises political and social profitability above economic profitability, as shown by studies conducted by Vural-Yavaş (2021).

Similarly, if companies are politically engaged, it has a detrimental impact on their profitability, which leads to them performing worse than companies that are not politically engaged in a developing nation context (Darsani & Sukartha, 2021). According to Moodie et al. (2021), political engagement has a detrimental effect on local state-owned enterprises (SOEs), but a comparatively beneficial effect on non-state-owned enterprises (NSOEs). This is because NSOEs have a higher proportion of political party members on their board of directors compared to local SOEs. DesJardine and Durand (2020) highlight the diverse effects of political affiliations on the success of companies. According to Cohen and Li (2020), politically linked companies generally exhibit worse profitability compared to their non-politically connected counterparts. Previous research suggests that in industrialised countries,

political engagement has a favourable impact on a business's profitability. However, in developing nations, political engagement might have a negative correlation with corporate profitability, eventually leading to a decrease in overall profitability.

In the banking industry, Gupta et al. (2020) examine the influence of public responsibility on both publicly traded and privately held banks, specifically in a worldwide context. They found that state-owned banks demonstrated worse profitability compared to privately-owned banks. Research on the impact of political engagement on corporate profitability in the financial sector of emerging Southern African nations remains unexplored as of now (Gupta et al., 2020). South Africa, Botswana, Namibia, and Swaziland are the dominant and rapidly expanding economies in Southern Africa, with the banking industry playing a pivotal role in these nations. The steady and lucrative operation of this industry is essential over economic strength (Okafor et al., 2021). This prompts us to examine how political engagement has a detrimental effect on the profitability of companies in growing Southern African nations. This study enhances the current body of knowledge by investigating the influence of political engagement on the profitability of banks in growing Southern African nations, involving South Africa, Botswana, Namibia, and Swaziland.

This research also investigates the influence of political engagement on company profitability at a national level in order to verify the reliability of the findings. The overall data indicate that political participation has a large and negative influence on business outcomes in specified Southern African nations, which aligns with the grasping hand theory. The findings suggest that the bank's profitability is more serious when the secretary assumes the role of chairman of the executive committee, or CEO. Moreover, state-owned banks are prone to prioritizing political objectives over economic benefits due to political interference, resulting in subpar business outcomes. The present analysis additionally incorporates control factors such as the size of the business, total asset growth rate, and debt-to-equity ratio, as well as whether the government has a direct stake in the company. Each of these elements has a substantial impact on the profitability of a company. This research provides valuable insights for the organizational board of directors and shareholders on how to enhance company results by reducing political engagement.

LITERATURE REVIEW

The profitability of a company refers to the various aspects of a company's operations and the impact they have. A company is considered politically connected if one of its managers or shareholders is a member of a legislative body, a minister, or has close ties to a political party (Moorman, 2020). Actually, businesses that have a minister, a member of a political organisation, a representative from the legislature, or any other individual with political affiliations as part of their ownership structure or board of directors, are considered to be politically engaged (Kujala et al., 2022). Scholars have examined the influence of political engagement on the profitability of companies. The study shows that, in developing economies, the influence of political engagement on company outcomes is greater than in industrialised nations, mostly owing to political instability (Shabbir & Wisdom, 2020).

Regulatory reforms have the potential to either promote or hinder company success. The influence of political engagement on company profitability is uncertain due to the challenge of weighing the costs and benefits of political affiliations. According to Lintukangas et al. (2023), politically engaged companies might gain advantages from their connections, either to maintain or enhance their profitability. Empirical data indicates that political engagement is most significant when there is convenient access to financial resources. For example, Shahbaz et al. (2020) have shown that enterprises that are politically engaged are more likely to have increased and more convenient access to bank loans. The effective distribution of these precious resources provides companies with a competitive advantage that may be converted, leading to enhanced efficiency (Almashhadani, 2021). Companies that are politically active, benefit from significant benefits such as increased leverage, reduced taxes, and strong market power.

Li et al. (2020) emphasise that political engagement poses significant risks for the company, mostly owing to challenges related to control and ownership. In their study, Vuong et al. (2021) found that big companies tend to have a higher level of engagement in political ties, which ultimately has a favourable influence on their profitability. In contrast, smaller businesses are not often interested in political connections. In addition, huge corporations have convenient possession of liquid assets, allowing them to accumulate greater debt, and benefit from advantages such

as tax shields. Desheng et al. (2021) have provided evidence supporting this fact, whereas Andrews et al. (2020) demonstrate that political ties have a substantial impact on companies' profitability. The benefits of high leverage and low taxes are often seen in non-listed companies that have connections with politicians. Prominent politicians utilise their authority to favour their relatives, acquaintances, and those who gain from government resources (Albanna et al., 2022).

Pattiruhu and Paais (2020) analysed a sample of companies in China, both exporters and non-exporters, to investigate the effect of political engagement on their profitability. The study reveals the beneficial impact of political engagement on the profitability of exporter companies. Conversely, if politically engaged companies do not use their readily obtainable financial resources efficiently, it might adversely affect the business's profitability. The company's profitability might be negatively affected by political interference in its management, as well as by the inadequate managerial abilities of politicians (Arshad & Khurram, 2020). Zhang and Pérez-Tornero (2022) contend that instead of prioritising the maximisation of company value, politically connected individuals are more inclined towards rent-seeking, extraction, and political goals.

Singh et al. (2021) found that political engagement had a detrimental effect on company profitability. They attributed this to politically engaged companies prioritising political goals above their own goal of maximising profits. The increasing impact of government policies on the establishment of companies has led to political engagement in their operations. Government regulations may impact the operational expenses of companies in some sectors (Alabdullah, 2022). A politically engaged company has a decrease in its profits when it expands its workforce in politically disputed regions, resulting in greater labour expenses (Aydoğmuş et al., 2022). In their study, Ergene et al. (2021) found that outside financiers place significant emphasis on politically linked enterprises, due to the negative impact these connections have on company results. According to Banerjee et al. (2021), managers who are involved in politics negatively affect financial effectiveness, as well as the resultant company profitability.

In addition, Zalata et al. (2022) demonstrate that politically engaged companies in recently privatised industries exhibit worse profitability compared to their non-politically

engaged equivalents. Furthermore, Banerjee et al. (2021) suggest that Chinese companies that have recently been privatised and have CEOs who are politically connected, tend to exhibit poor results in terms of post-IPO stock returns. Gerged et al. (2023) found that political engagement had a detrimental effect on company profitability in Swaziland, when examining the impact of political engagement on business outcomes in developing nations.

In a similar vein, Banerjee et al. (2021) examined the correlation across politically engaged businesses and business expenditures, as well as the profitability of corporations within the Chinese environment. The results indicate that there is a negative correlation between political engagement and the profitability of companies in China. Furthermore, companies that are more politically active are financed by bank loans with longer terms and have a greater tendency to engage in excessive investment. Raimo et al. (2021) also discovered a negative correlation between political activity and companies' profitability. Given the considerations presented above, this research formulates the following hypothesis:

H1: Company profitability is negatively impacted by political engagement.

METHODOLOGY

This study assesses the influence of political engagement on the long-term sustainability of state-owned banks in four Southern African countries, namely South Africa, Botswana, Namibia, and Swaziland. The sample comprises sixty-two publicly traded banks out of the overall number of enrolled banks in chosen Southern African nations for a time frame spanning from 2014 to 2023. Among the banks mentioned, there are 15 from south Africa, 14 from Botswana, 15 from Namibia, and 9 from Swaziland. The current study acquires political engagement data through banks' websites and annual reports, while data on additional variables is acquired via Data Streaming. Organisations that have seen a decline in profitability are inclined to seek the involvement of members of parliament or political parties in their board governance structures (Aliamutu & Gurr, 2024). This research implements the subsequent mathematical model to assess the outcomes.

$$\text{Prof}_{i,t} = \beta_0 + \beta_1 \text{Par}_{i,t} + \beta_2 \text{Age Gov}_{i,t} + \beta_3 \text{Size}_{i,t} + \beta_4 \text{Lev}_{i,t} + \beta_5 \text{GRV}_{i,t} + \beta_6 \text{GOV}_{i,t} + e_{i,t}$$

In formula 1, the variables *i* and *t* represent the total number of banks and the number of years, correspondingly. Prof refers to the profitability of a corporation, evaluated by the measures of ROA and ROE. Political engagement is often assessed using a binary variable in most research that examines enterprises with political engagement. This research used members of the Par as boards (incorporating the chairperson) or administrators (involving the CEO) as indicators of political engagement. The value of "par" is 1 when any secretary or assistant secretary of a company, especially the chairman or CEO, assumes the roles of boards or management. Otherwise, the value is 0 (Aliamutu & Mkhize, 2024). This study employs a collection of control variables, specifically focussing on the banking sector.

These factors include age, size, leverage (Lev), growth (GRW), and whether or not the government has a direct stake (Gov). In their study, Ndzana et al. (2021) found that well-established and influential companies in the political sphere had convenient and unrestricted access to loans. Furthermore, their ability to maintain a high debt to equity ratio is facilitated by their significant political engagement. Additionally, La Rocca et al. (2022) propose that there is a beneficial effect of increased assets on the profitability of politically engaged companies. Research has shown that the market profitability of politically active enterprises is improved by factors such as leverage, age, and equity ownership (Dombrovsky, 2011). The error term is represented by the symbol. The variable explanation is summarised in Table 1.

Table 1: Descriptive statistics and correlations analysis

Variables	Mean	SD	ROA	ROE	PAR	GRW	SIZE	LEV	AGE	GOV
ROA	0.057	0.545	1.000							
ROE	0.488	2.628	0.855	1.000						
PAR	0.314	0.384	0.049	0.044	1.000					
GRW	0.417	2.210	0.215	0.174	0.106	1.000				
SIZE	10.445	0.471	0.039	0.041	-0.136	-0.083	1.000			
LEV	0.578	0.241	-0.006	-0.007	-0.014	-0.013	-0.121	1.000		
AGE	9.753	8.117	0.072	0.088	-0.086	-0.04	0.314	-0.006	1.000	
GOV	0.205	0.352	-0.014	0.003	-0.022	-0.056	0.411	0.031	0.326	1.000

Table 2: Test multicollinearity

Variable	VIF	I/VIF
ROE	1.211	0.817
PAR	1.051	0.851
Gov	1.410	0.546
Size	1.450	0.528
Age	1.230	0.637
GRW	1.221	0.785
Lev	1.052	0.852

VIF: Variance inflation factors

This research utilises descriptive statistics to assess the normality of the data. This research uses correlation analysis, as well as conducting a variance inflating factor (VIF) test to assess multicollinearity in the data. It utilises the generalised method of moments (GMM) proposed by Saeed et al. (2016) to examine the hypothesis and employs a two-step dynamic panel estimation technique, which is particularly suitable for analysing cross-sectional and short-term data. This method is valuable for identifying alterations along with prejudices related to endogeneity concerns (Wu et al., 2012).

RESULTS

This study uses descriptive statistics to provide a summary of the data, and then performs correlation analysis to assess the presence of multicollinearity. A two-step approach dynamic panel regression is used to examine the influence of political engagement on a company's long-term sustainability.

Table 3: Two-step dynamic panel estimation

Variables	ROA		ROE	
	Coefficient	T-statistics	Coefficient	T-statistics
L1	0.081***	13.101	0.084***	22.041
L2	-0.466***	-11.771	-0.203***	-67.211
PAR	-0.257***	-24.741	-0.725***	-66.362
Gov	0.022***	72.751	0.717***	77.360
GRW	0.216***	15.641	0.282***	76.111
Size	0.253***	18.721	0.375***	34.421
Lev	0.042***	11.351	0.144***	73.799
Age	0.000	-0.671	0.033***	29.251

Sargan Value	3.222	-	2.852	-
AR (1)	0.028	-	0.008	-
AR (2)	0.262	-	0.172	-

L1 is the first dependent variable, L2, is the second variable, ***, **, **, * significance level at 1% and 10%

Table 1 displays the statistical summary and correlation analysis. The outcomes indicate that the average profitability of banks in the chosen Southern African nations does not exhibit significant variance, since there are no outliers in the dataset. The results indicate that, on average, there is a higher proportion of politically engaged individuals on the organizations' board of managers compared to government members who own shares in the companies (Saeed et al., 2016). However, this does not lead to an improvement in the companies' profitability. Furthermore, the growth rate of companies' profitability is always rising, and this industry is also expanding in terms of its overall company scale. Additionally, this research utilises correlation analysis to examine the problem of multicollinearity among the independent variables. The findings indicate that there is a low correlation among the explanatory factors, thereby ruling out the presence of multicollinearity.

Table 2 uses VIF (Variance Inflation Factor) and Tolerance (the reciprocal of VIF) to assess the presence of multicollinearity. The findings validate the absence of multicollinearity in the dataset.

Table 3 presents the outcomes of a two-step dynamic panel estimate using ROAs and ROE. In this research, a Sargan test is conducted to assess the validity of the instruments. The current study reveals that the Sargan test yields negligible results, suggesting that the instruments used are legitimate. Additionally, the current study uses the Arellano-Bond test to examine autocorrelation. The current study reveals that the P-values for AR1 are statistically significant, indicating the presence of autocorrelation. However, the P-values for AR2 are not statistically significant, suggesting that there definitely is no autocorrelation in the second lag. The results suggest that political engagement has a considerable negative effect on returns on assets (ROAs). Empirical data indicate that the profitability of banks declines when the secretary takes on the position of chairperson of the management team, or CEO.

Moreover, publicly traded banks are prone to prioritise political objectives above economic benefits due to political interference, resulting in subpar companies'

profitability. In their study, Wu et al. (2012) provide a valuable contribution to the existing body of knowledge on sustainability-oriented dynamic capabilities. They demonstrate that various political capacities have distinct effects on company development, which are contingent upon the company's initial profitability and the specific time periods being examined. The results are substantiated by the grasping hand theories and indicate that political members who participate on corporate boards use enterprises pursuing their own political and social goals, rather than prioritising the optimisation of company profitability. La Rocca et al. (2022) have highlighted empirical proof that supports the notion of a strong negative correlation between political engagement and company profitability in local State-Owned Enterprises (SOEs). Additional factors such as growth, government ownership, company size, and leverage have a notable positive effect on return on assets (ROAs).

These findings align with research conducted by Pang and Wang (2021), who discovered that leverage, age, and equity ownership have a positive impact on the market profitability of politically affiliated companies. Similarly, research on returns on equity (ROE) also reveals a substantial adverse effect of political engagement on ROE. This conclusion was corroborated by Saeed et al. (2019), who discovered a markedly unfavourable influence of political activity on the financial market throughout election periods. Furthermore, it was shown that factors such as growth, business size, leverage, government direct ownership, and age had a significant and beneficial influence on the return on equity (ROE) of financial companies in Southern African nations. This research also uses a country-wise analysis, specifically focussing on South Africa, Botswana, Namibia, and Swaziland, to assess the strength and reliability of the findings.

Table 4 presents the varied results for Return on Assets (ROAs) and Return on Equity (ROE). The Sargan test, AR1, and AR2 values corroborate the validity of the instruments and indicate the absence of autocorrelation. This study reveals that political engagement has a noteworthy adverse effect only on the profitability of companies in South Africa, Botswana, Namibia, and Swaziland, as evaluated by their return on assets (ROA). The findings indicate that banks that are politically active in these nations are more inclined to prioritise political aims rather than economic advantages, resulting in a decline in banks' profitability. The results corroborate the

grasping hand theories and align with the findings of Faccio (2010), who also observed the same outcome in the context of Chinese state-owned enterprises (SOEs).

Nevertheless, this study concludes that there is no substantial relationship between political engagement and the profitability of banks in Sri Lanka, as measured by the return on equity (ROE). The findings suggest that there is no correlation between political activity in this nation and the profitability of the companies. Additionally, there is no evidence to support either the grasping hand theory or the helping hand theory. Growth (GRW) is a control variable that has a considerable influence on the profitability of banks in South Africa, Botswana, Namibia, and Swaziland. This influence corresponds with the results of Su and Fung (2013). Nevertheless, the impact of leverage on companies' profitability in South Africa and Botswana, as measured by Return on Assets (ROA), is substantial, aligning with the conclusions drawn by Saeed et al. (2015). The relationship between the size, age and profitability of banks is only significant in Namibia, and Swaziland, , according to the results of Amore and Bennedsen (2013).

Table 4: Two step dynamic panel estimation country-wise

Variables	South Africa		Botswana		Namibia		Swaziland	
	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE
L1	0.414** (1.121)	0.721 (1.5.0.1)	0.026 (1.481)	0.002 (0.131)	2.147 (1.071)	4.829 (1.421)	0.058 (0.51)	0.351** (1.331)
L2	-0.158 (-0.381)	-0.167 (-1.471)	0.423*** (88.599)	0.588*** (1.14.451)	-1.615 (-1.681)	-4.063* (-1.871)	0.522** (1.251)	-0.113 (-0.721)
PAR	-0.034** (-1.8410)	-0.151* (1.762)	-0.005** (-3.581)	-0.043** (-4.781)	-128.441 (-1.081)	-0.454 (-1.451)	-0.041 (-0.781)	-1.821** (-1.599)
Gov	0.003 (1.251)	0.035 (0.361)	0.004 (0.291)	0.213 (0.431)	1.021*** (1.561)	-0.474 (-1.431)	-0.0041 (-0.341)	-0.087 (-0.271)
GRV	0.001*** (2.171)	0.023*** (1.591)	-0.008 (1.251)	-0.076 (-0.599)	11.064 (1.051)	-0.476 (1.381)	0.013*** (1.471)	0.180 (0.230)
Size	-0.002 (-1.431)	0.015 (1.411)	-0.028 (-1.541)	-0.624* (-1.849)	-0.124 (-1.141)	0.758* (1.751)	0.008 (0.431)	-0.417 (-2.281)
Lev	0.002** (1.301)	0.045 (1.631)	0.000 (-0.121)	0.008 (0.671)	-0.000 (-1.029)	0.178 (1.431)	-0.004** (-1.0610)	0.0035 (0.331)
Age	0.000 (0.499)	-0.003 (-0.561)	0.000 (-1.331)	-0.001 (-0.231)	-0.922 (-1.071)	-3.452 (-1.281)	0.001*** (3.851)	0.37 (0.551)
Sargan value	4.500	5.262	3.773	4.773	7.829	4.623	5.217	8.225
AR(1)	0.002	0.046	0.025	0.042	0.004	0.026	0.000	0.031
AR(2)	0.148	0.423	0.326	0.346	0.582	0.651	0.184	0.322

CONCLUSION

Political engagement enables companies to mitigate unpredictability, offer a protective barrier, and limit their reliance on the external environment, thus protecting their profitability against potential risks. This research seeks to examine the influence of political engagement on the long-term profitability of banks in certain Southern African

nations (South Africa, Botswana, Namibia, and Swaziland), using Gaussian Mixture Models (GMM) to estimate the outcomes. Political engagement, the size of banks, leverage, the age of banks, and growth all have a key impact in influencing the profitability of companies in the chosen Southern African nations. A general study suggests that political participation has a substantial detrimental effect on company profitability. Evidence suggests that the companies' profitability is worse when the secretary assumes the role of leader of the committee of directors or CEO. Moreover, governments that own banks are prone to prioritise political objectives above economic benefits due to political interference, resulting in the subpar profitability of the companies. This research offers assistance to organisational management in maintaining and enhancing companies' profitability via the reduction of political engagement. Exploring the correlation between political engagement and stock market profitability is a compelling avenue for future research.

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Zhang, W., & Pérez-Tornero, J.M. (2022). Theorizing platformization from the perspective of the connection between mobile journalism and political participation.

Assessment of farmer's usage of information communication technology (ICT) in the marketing of cocoa produce in Osun State, Nigeria

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ABSTRACT

Cocoa farmers face significant challenges in the value chain, particularly middlemen who purchase cocoa beans at prices well below international market rates. This disparity is primarily due to the limited access to vital market information, which hampers farmers' productivity and growth. This study investigates the use of Information and Communication Technologies (ICTs) in cocoa production marketing, and assesses the extent of ICT usage among cocoa farmers in Osun State, Nigeria. A multistage sampling procedure was used to select 222 cocoa farmers and data were gathered using structured interview schedules. Descriptive statistics and correlation analyses were used to analyse the data. The findings show that mobile phones (87.8%), radios (87.8%), and television (56.8%) are the most widely used ICT tools in cocoa marketing. In terms of overall ICT usage, 76.0% of the farmers demonstrated a medium level of usage, 14.0% were at a low level, and 10.0% exhibited high usage. The primary barriers to ICT usage included poor electricity supply (ranked highest, WMS = 1.77), high costs of ICT devices (WMS = 1.70), and inadequate network services (WMS = 1.66). A significant inverse relationship was found between farmers' age and their level of ICT usage ($r = -0.3108$, $p < 0.05$), indicating that younger farmers are more likely to use ICT tools. The study concludes that, while cocoa farmers in Osun State use ICTs moderately for market access, their usage is limited by infrastructural and financial challenges. The government is urged to prioritize stable electricity supply and offer subsidized ICT resources to support the farmers.

Additionally, improved internet connectivity from service providers could further enhance access to market information, ultimately empowering farmers in the cocoa value chain. The study recommends that government efforts should focus on ensuring a reliable electricity supply and offering subsidized ICT resources for farmers. Secondly, telecommunication service providers should strive to improve internet connectivity to enhance farmers' access to cocoa market information.

Keywords: assessment, usage, information communication technology (ict), marketing, cocoa produce, value chain

INTRODUCTION

The rapid evolution of Information and Communication Technologies (ICTs) has effectively transformed the world into a global village, making technology essential in all aspects of life (Jamin, Arifin, Mokhtar, Rosli, & Shukry, 2019). In recent years, considerable research has focused on the adoption of ICT-enabled information systems across various sectors of the economy and academic fields (Agunbiade, Agbalajobi, & Oyekunle, 2017; Uziak, Lorencowicz, Koszel, & Kocira, 2018). This trend has also affected the agricultural sector, which remains a significant contributor to Nigeria's economy. As noted by Olabode and Ogunrinola (2020), agriculture in Nigeria contributes 17.8% to the country's Gross Domestic Product (GDP) and employs approximately 42.7% of the labor force. Among the key agricultural products, cocoa plays a crucial role, accounting for approximately 2% of Nigeria's export earnings, and provides livelihoods for over 200,000 rural households (Popoola et al., 2015). Cocoa production is not only important for the direct income it generates, but also for the jobs it creates along the value chain, including marketing, transportation, processing, and exportation (Gama, Abdulsalam, & Katanga, 2021). Despite the economic significance of cocoa, the industry faces several challenges. Inefficient marketing processes, low productivity owing to insufficient input supplies, and inconsistent agricultural policies hinder the growth of cocoa production (Gama et al., 2021). These issues are further exacerbated by a lack of adequate access to marketing information, which directly affects farmers' ability to negotiate fair prices for their produce. ICTs have the potential to bridge the information gap among farmers, particularly cocoa farmers, by facilitating access to vital market information, inputs, and government policies, which in turn can enhance productivity (Agbongiarhuoyi, Thomas, Uwagboe, & Famuyiwa, 2020). Nigeria's teledensity increased significantly, establishing it as the fastest-growing

telecom market in Africa. Improved access to information through ICTs has enhanced agricultural practices, but rural farmers, especially cocoa farmers, remain vulnerable to exploitation by middlemen due to limited market information. These intermediaries often offer prices below the official rates, exploiting farmers' lack of market knowledge, ignorance of market prices, and limited bargaining power, which are often a result of low literacy levels and poor social status (Wole-Alo & Oluwagbemi, 2020). Given these challenges, this study seeks to identify the types of ICTs used by cocoa farmers in Osun State, Nigeria, to access market information and examine their level of utilization of ICTs. This study also seeks to provide insights that can guide policymakers to create an enabling environment for the integration of ICTs in agriculture, particularly in the cocoa value chain.

METHODOLOGY

The study was conducted in Osun State, an inland state in southwestern Nigeria. Osun State lies between latitude 7° 30' 0" N and longitude 4° 30' 0" E. It is bounded in the north by Kwara State, in the east by Ekiti State and Ondo State, in the south by Ogun State, and in the west by Oyo State. The state has a population of 3,423,535 according to the 2006 population census figure of the National Population Commission (FOS, 2007), covering an estimated area of 8,602 square kilometers with thirty (30) Local Government Areas and one (1) area office with Osogbo as the state capital. Osun state has a Yoruba race and ethnic origin at Ile-Ife and a UNESCO site at Osun Osogbo. A multistage sampling procedure was used to select respondents for the study. The first stage involved the purposive selection of two ADP zones (Iwo and Ife/Ijesa zones) out of the three ADP zones in the state because of their prominence in cocoa production, followed by a collection of the total population of registered cocoa farmers in each local government of the two ADPs at the ADP headquarters in Iwo. In the third stage, the proportional selection of five local governments were selected proportionally across the ADPs, three from the Ife/Ijesa zone (Ife South, Oriade, and Obokun), and two from the Iwo zone (Irewole and Isokan). In the final stage, systematic random sampling was used to select two hundred and twenty-two (222) respondents in the selected communities. Data were collected from respondents using a structured interview schedule. Farmers were visited in various settlements/stores or on farms, depending on their scheduled leisure time. Only one person was trained to

assist in the use of an interview schedule to obtain the required quantitative data from arable crop farmers.

Dependent variable

The dependent variable was ICT usage. A composite score was used to measure the level of ICTs used by cocoa farmers for cocoa production marketing in the study area. The farmers were asked to respond (on a scale of 0-5 representing: never, very rarely, rarely, occasionally, frequently, and very frequently, respectively) to the frequency of the usage of ICTs for cocoa production marketing. The scores for each of the respondents were summed, and the mean and standard deviation were obtained and computed. Furthermore, ordinal categorization into high, medium, and low ICT usage was achieved using a composite score technique, as previously used by many studies (Yekinni, 2024).

This is expressed as follows:

- High level = Scores between maximum point (1) to (Mean + Standard Deviation) point
- Medium= Scores between high and low categories
- Low level = scores between the lowest point (0) and (mean – Standard Deviation) point. Data were analysed using descriptive and inferential statistics, such as frequency count, percentages, mean, charts, Simple Linear Regression and Pearson's product moment correlation.

RESULTS AND BACKGROUND CHARACTERISTICS

Table 1 shows the percentage distribution of the respondents according to their background characteristics. The mean age of the cocoa farmers was 51.6 years. with a standard deviation of 12.4 years. Many farmers were between the ages of 46–55 years (29.7%) and 56–65 years (24.3%). This indicates that cocoa farming in the area is mostly practiced by middle-aged to older farmers, with younger farmers aged 35 years or below constituting a smaller percentage (11.7%). This indicates that young people may be less involved in cocoa farming. Approximately two-thirds (65.3%) of farmers were male. However, 34.7% were women, indicating their involvement in cocoa farming activities. The majority of the farmers were married (77.5%), a few were

single (9.0%), separated (5.9%), divorced (1.8%), or widowed (5.9%). Most respondents had a relatively large household size, with nearly 60.0% having between 6-10 household members. The mean household size was 7.0 with a standard deviation of 3.0. Table 1 further shows that half (50.5%) of the respondents were Christians, while Muslims constituted 42.5%, and a few (7.0%) of the respondents were traditional worshipers. The results also showed that the mean years of residency of the respondents in the community were 35.6 years and a standard deviation of 16.1 years. This shows that most of the respondents had lived in the study area for a very long time. The results in Table 1 also show that more than half (58.1%) of the respondents were members of the cocoa farmers' association, while 41.4 percent of them did not belong to any cocoa farmers' association. This implies that farmers have an avenue to learn through the farmers' associations, which will in turn boost their knowledge in cocoa farming, marketing, and adoption of technologies. The mean farming experience of cocoa farmers was 27 years. This is a relatively long farming period; therefore, cocoa farmers would have been equipped with better knowledge of cocoa farming. This is in tandem with Igboho et al. (2018), who found that farming experience affects farm management expertise and decision-making processes, such as cocoa marketing. Moreover, more than half (55.3%) of the respondents had primary school education, 32.4% had secondary school education, while few (4.5%) of the respondents had tertiary education. This implies that most cocoa farmers have some level of formal education, but the higher educational level was very low. That could influence access to modern farming techniques, technologies, and business strategies. This is in tandem with the work of Okoedo-Okojie and Omoregbee (2012), as cited by Agbongiarhuoyi et. al. (2020), where it was pointed out that educational status was related to the use of ICTs by farmers.

Table 1: Percent distribution of cocoa farmers by background characteristics (n = 222)

Variables	Frequency	Percentage (%)	Mean	Std. Dev.
Age (years)				
>35	26	11.7		
36 – 45	49	22.1		
46 – 55	66	29.7	51.55	12.42
56 – 65	54	24.3		
>66	27	12.2		
Gender				

Male	145	65.3		
Female	77	34.7		
Marital status				
Single	20	9		
Married	172	77.5		
Separated	13	5.9		
Divorced	4	1.8		
Widowed	13	5.9		
Household size				
1-5	67	30.2		
06-10	132	59.5	7.2	3.3
>11	23	10.4		
Religion				
Christianity	112	50.5		
Islam	94	42.5		
Traditional	16	7.0		
Years of resident				
01-10	12	5.4		
11-20	38	17.1		
21 – 30	47	21.2		
31 – 40	52	23.4	35.63	16.11
41 – 50	41	18.5		
>51	32	14.4		
Membership of cocoa farmers' association				
Members	129	58.1		
Farming Experience				
1-10	22	9.9		
11-20	62	27.9		
21 – 30	72	32.4	27.15	11.89
31 – 40	45	20.3		
41 – 50	13			
above 50	7	3.2		
Level of education				
No formal education	17	7.7		
Primary education	123	55.3		
Secondary education	72	32.4		
Tertiary education	40	4.5		

Types of ICTs used by cocoa farmers for cocoa produce marketing

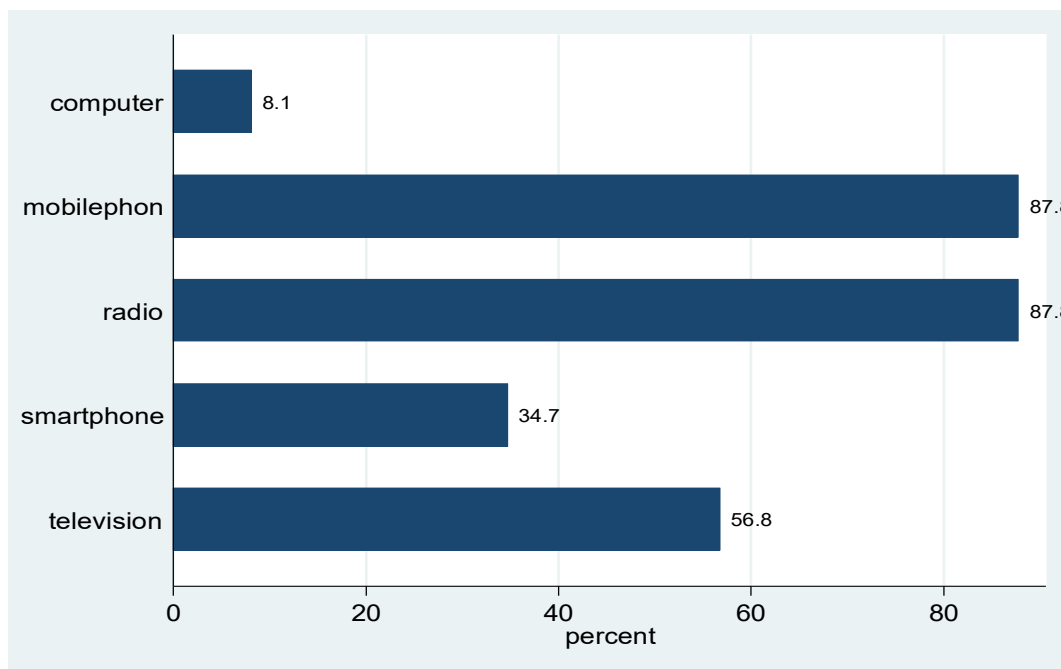
Results in Figure 1 show that the majority of the respondents used radio (87.8%) and mobile phone (87.8%) for cocoa produce marketing information. This implies that the information communicated through radio and mobile phone is widely used by the

cocoa farmers for cocoa produce marketing. This is in agreement with the assertions that radio is the most common ICT used in rural areas in Africa (Gillwald et al., (2010; Samuel, 2016). It also agrees with the earlier findings of Adams and Ajao. 2016, and Agbongiarhuoyi et al., 2020 in their different studies that radio and mobile phones are the most used ICTs among farmers.

Furthermore, results in Figure 1 show that more than half (56.8%) of the respondents used television for getting information on cocoa produce marketing. This implies that a larger percentage of the respondents make use of the television for accessing relevant information for cocoa produce marketing. The least reported type of ICT used for cocoa produce marketing was the computer (8.1%). This implies that the use of a personal computer for cocoa produce marketing was not common among the farmers. Similar findings suggested that computers would be the least accessible for cocoa produce marketing due to the high costs involved and lack of skilled users (Gelb and Parker (2005) as cited in Samuel (2016).

Slightly more than one-third (34.7%) of the respondents used smartphones for facilitating cocoa produce marketing. This finding reveals that smartphone usage in cocoa produce marketing was not so prominent among cocoa farmers. This could be a result of the high cost of smartphones, their fragility, and their operating skill.

Figure 1: Percentage of respondents according to type of ICTs used for cocoa produce marketing

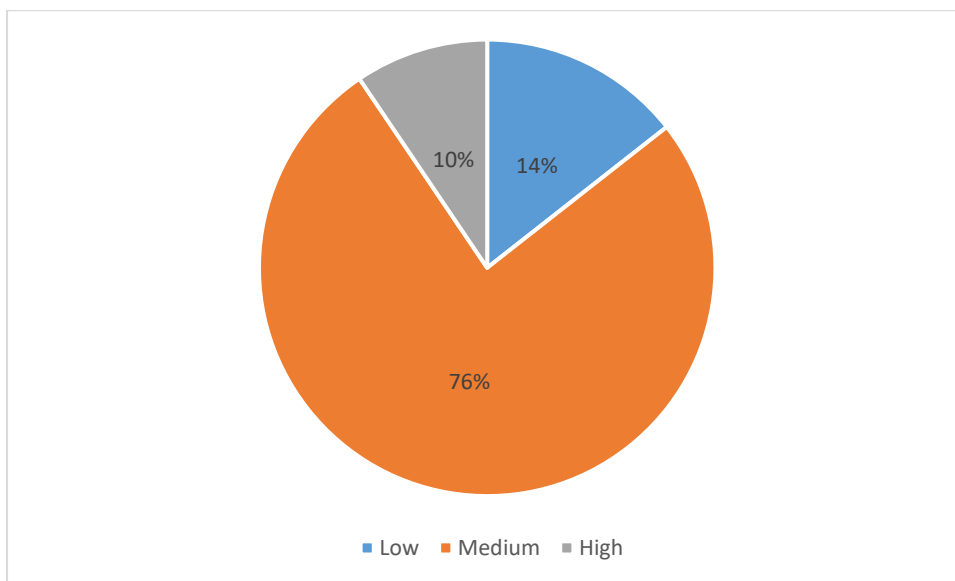


Source: Field Survey, 2022

Level of ICT usage by cocoa farmers

Respondents were classified according to level of ICT usage -low, medium and high. Results in Figure 2 show that the majority (76%) of the respondents were found under the medium level of usage, some (14%) of them were found under the low level of usage, while a few (10%) of the respondents were found amongst the high level of ICTs usage for cocoa produce marketing. This implies that ICTs are used by the respondents on a medium level. This finding simulates that of Adam and Ajao (2016) who found out that the usage of ICTs by the farmers is on the average level.

Figure 2: Level of ICTs usage by the respondents



Source: Field Survey, 2022

Benefits derived from the usage of ICTs

As shown in Table 2, the perceived benefits derived from the usage of ICTs for produce marketing were ranked in descending order. Easy access to the market was ranked 1st because it has the highest weighted mean score (WMS=1.24), followed by accurate measurement and a good scaling system (WMS=1.23) which was ranked 2nd, the the best grading techniques ranked 3rd, while the 4th and 5th levels were obtaining high incentives (WMS=1.18) and getting the best pricex (WMS=1.17), respectively. This shows that the perceived benefits of usage of the ICTs for cocoa produce marketing, were mainly facilitating easy access to farmers to get markets for their products and ascertaining the weight measures of the cocoa produce. This study is similar to that of Yekinni et al.'s (2024) findings, in which the majority of the Northeastern Nigerian farmers had a low level of benefits from ICT usage.

Table 2: Distribution of respondents by perceived benefits derived from ICT usage in cocoa produce marketing (n=222), Weighted mean = 1.20

S/N	Benefits	High		Medium		Low		WMS	Rank
		F	%	F	%	f	%		
1	Getting the best price	50	22.5	91	41.0	81	38.3	1.17	5 th
2	Getting the best grading system	50	22.5	85	38.3	87	39.2	1.19	3 rd
3	Getting high incentives	59	26.6	76	34.2	87	39.2	1.18	4 th
4	Getting accurate scales and a good scaling system	52	23.4	90	40.5	80	36.0	1.23	2 nd
5	Easy access to market outlets	55	24.8	91	41.0	76	34.2	1.24	1 st

WMS: weighted mean score

Source: Field Survey, 2022.

Constraints to the usage of ICTs among the cocoa farmers

The results in Table 3 show the ranking of the constraints facing the respondents in the usage of ICTs in cocoa produce marketing. Inadequate power supply was the most severe constraint to the usage of the ICTs among cocoa farmers in the study area, with a weighted mean score of 1.77. Therefore, it has been ranked 1st, with the high cost of purchasing the ICTs (WMS=1.70) being the 2nd most severe constraint, while poor network service (WMS=1.66) is the 3rd. Furthermore, the unavailability of repairers (0.94) and a lack of knowledge of usage (WMS=0.94) were the least severe constraints to ICTs usage and ranked 11th, followed by inaccessibility to recharge vouchers (WMS=0.95) which was ranked 10th and lack of operating skills (WMS=1.00) which was ranked 9th. Others were high service charge (WMS=1.24), high cost of repairs (WMS=1.21), illiteracy (WMS=1.15), unavailability of a help line, customer line or call center (WMS=1.09), unavailability of ICT accessories (WMS=1.09), ranked 4th, 5th, 6th, and 7th respectively.

These findings showed that a number of constraints severely affect the respondents' usage of ICTs in the study area because they have a mean score that is either higher or equal to the weighted mean score (WMS=1.21). This is in line with the separate works of Abdulrahman et al., 2017 and Agbongiarhuoyi et al., 2020 that poor electricity supply and internet services posed serious limitations to farmers in using ICT to access cocoa market information.

Table 3: Distribution of respondents by the severity of constraints to the usage of ICTs (n=222), Weighted mean=1.21

S/N	Constraints	Highly severe		Moderately severe		Somewhat severe		Not severe		None		WMS	Rank
		F	%	f	%	F	%	f	%	F	%		
1	High cost of purchasing the ICTs	29	13.1	36	16.2	48	21.6	58	26.1	51	23.0	1.70	2 nd
2	Lack of power supply	25	11.3	50	22.5	44	19.8	56	25.2	47	21.2	1.77	1 st
3	Poor network service	26	11.7	43	19.4	40	18.0	55	24.8	58	26.1	1.66	3 rd
4	Illiteracy	17	7.7	26	11.7	34	15.3	42	18.9	103	46.4	1.15	6 th
5	Lack of knowledge of usage	15	6.8	21	9.5	23	10.4	39	17.6	124	55.9	0.94	11 th
6	Lack of operating skills	15	6.8	24	10.8	26	11.7	38	17.1	119	53.6	1.00	9 th
7	Unavailability of helpline, customer line or call centre	15	6.8	26	11.7	25	11.3	55	24.8	101	45.5	1.09	7 th
8	High service charge	11	5.0	30	13.5	41	18.5	60	27.0	80	36.0	1.24	4 th
9	High cost of repairs	10	4.5	34	15.3	39	17.6	49	22.1	90	40.5	1.21	5 th
10	Unavailability of repairers	7	3.6	29	13.1	30	13.5	33	14.9	123	55.4	0.94	11 th
11	Inaccessibility to recharge vouchers	9	4.1	24	10.8	28	12.6	47	21.2	114	51.2	0.95	10 th
12	Unavailability of ICT accessories	10	4.5	30	13.5	32	14.4	47	21.2	103	46.4	1.09	7 th

WMS – weighted mean score

Table 4: Linear regression analysis between the age and use of ICTs

Source	Sum of squares	Df	Mean square	F	p
Model	368.952	1	368.952	23.53	0.0000
Residual	3450.219	220	15.683		

Total	3819.171	222	17.281
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r= -.3108

Table 4 shows the results of linear regression analysis between the age and use of ICTs. The results indicate a significant relationship between the ages of the respondents and ICT usage by the cocoa farmers in the study area. The Pearson Product Moment Correlation Coefficient shows that the direction of the relationship is negative ($r = -0.311$; $p < 0.001$). This suggests that younger farmers are more likely to use ICTs. compared to their older counterparts ($p < 0.001$)

DISCUSSION AND CONCLUSION

The findings of this study shed light on the usage of Information and Communication Technologies (ICTs) in cocoa produce marketing among farmers in Osun State, Nigeria. The high reliance on mobile phones (87.8%), radios (87.8%), and television (56.8%) highlights the central role these traditional ICT tools play in the farmers' efforts to access market information. This pattern reflects a broader trend where mobile phones, due to their widespread usage, have become vital tools for communication and information dissemination, especially in rural areas where more sophisticated technologies may be less accessible.

The mean level of ICT usage by the majority (76.0%) of respondents suggests that, while farmers are engaging with these technologies, they are not fully leveraging them to maximize benefits in cocoa marketing. Only a small fraction (10.0%) demonstrated a high level of ICT utilization, which points to a gap in technology adoption and possibly in the farmers' ability to optimize ICTs for improved market access. This mean usage level is likely being influenced by several challenges faced by the farmers, as indicated by the study.

The primary constraints identified—poor electricity supply, high costs of ICT devices, and inadequate network services—are significant barriers to the effective utilization of ICTs. Poor electricity supply, in particular, was ranked the highest, underlining the infrastructural deficiencies that limit continuous access to ICT tools. The high cost of ICT devices also plays a critical role, as many farmers may find it financially prohibitive to invest in newer or more advanced technologies. Additionally, inadequate network

services constrain the farmers' ability to access timely and accurate market information, further complicating their ability to make informed decisions about when and where to sell their cocoa beans.

The negative relationship between the farmers' age and their level of ICT usage ($r = -0.5803$) reinforces the notion that younger farmers are more likely to adopt and effectively use modern technologies, compared to their older counterparts. This finding aligns with global trends where older individuals tend to be slower in adopting new technologies, which could be due to lower technological literacy or comfort with traditional methods.

CONCLUSION AND RECOMMENDATION

In conclusion, the study reveals that cocoa farmers in Osun State are utilizing ICTs moderately for cocoa produce marketing, with mobile phones, radios, and televisions being the most commonly used tools. However, significant barriers, such as poor electricity supply, the high costs of ICT devices, and inadequate network services, are impeding their ability to fully exploit ICTs for market access. Based on the findings of this research, the study recommends that the government should pay urgent attention to improving their electricity infrastructure and providing subsidies for ICT devices for rural farmers to enhance accessibility. Telecommunications providers should work towards improving network coverage in rural areas to ensure that farmers can consistently access essential market information. By addressing these issues, ICT usage in cocoa produce marketing can be elevated, potentially leading to improved productivity and better economic outcomes for cocoa farmers.

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Examining the socio-economic and institutional challenges affecting service delivery in rural municipalities: The case of uMlalazi Local Municipality, South Africa

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ABSTRACT

With emphasis on the uMlalazi Local Municipality, this study critically investigates the institutional and socioeconomic barriers that prevent efficient service delivery in South African rural municipalities. Utilizing a qualitative desktop research approach, this study investigates important problems such as scarce financial resources, ineffective administrative processes, and socio-political obstacles. The study is supported by current research, which shows that systemic problems affect rural towns, spanning the years from 2017 to 2024. On the other hand, focused initiatives and improved local governance can greatly enhance service provision. The recommendations made in this study's conclusion address resolving socioeconomic disparities, enhancing institutional capacity, and enhancing service delivery results in rural areas.

Keywords: uMlalazi Local Municipality, service delivery, rural towns, institutional and socioeconomic barriers

INTRODUCTION

The socioeconomic development of South Africa's rural communities is contingent upon the provision of effective services. Numerous obstacles prevent rural municipalities like KwaZulu-Natal's uMlalazi Local Municipality from offering essential services including electricity, water, sanitation, and healthcare. These regions' inadequate infrastructure, poor governance, and socioeconomic inequality make it difficult for the local government to raise the citizens' standards of living (Mashamaite & Lethoko, 2018). Using uMlalazi Local Municipality as a case study, the main goal of

this article is to examine the institutional and socioeconomic issues affecting service delivery in rural municipalities. The examination of secondary data sources, such as scholarly publications, official documents, and municipal records, is made possible through the qualitative desktop research approach, which offers insights into the complex problems faced by South African rural municipalities.

Effective services are essential for the socioeconomic development of rural communities in South Africa, but providing essential services like electricity, water, sanitation, and healthcare is a problem for rural communities, like uMlalazi Local Municipality in KwaZulu-Natal. Deep-seated socioeconomic gaps, poor infrastructure, and problems with administration make it difficult to enhance the quality of life for locals in these locations.

It is difficult for the local government to raise the standard of living of residents in rural areas like KwaZulu-Natal's uMlalazi Local Municipality due to a lack of infrastructure, bad governance, and socioeconomic inequalities.

The study of secondary data sources, such as scholarly publications, official reports, and municipal papers, is made easier by the qualitative desktop research approach (Brown & Zulu, 2021), which offers insights into the complex problems that South African rural municipalities face. The emphasis on uMlalazi Local Municipality is especially pertinent, since it illustrates the bigger challenges that several rural South African municipalities faced in the years following apartheid. Nevertheless, municipalities have socioeconomic difficulties despite major legislative changes intended to decentralize service delivery duties. These difficulties are exacerbated by a lack of administrative competence, political unpredictability, and scarce financial resources (Mottiar & Bond, 2020).

This study contends that these problems are linked rather than discrete, adding to systemic shortcomings in service delivery that sustain rural underdevelopment. By looking at these issues, the study aims to make recommendations for ways to decrease socioeconomic inequality and boost institutional effectiveness, which would enhance service delivery results in rural municipalities such as uMlalazi.

BACKGROUND

The majority of the people residing in the uMlalazi Local Municipality, which is mostly

rural and located in KwaZulu-Natal province, are impoverished. Agriculture, which is mostly dependent on the local economy, is prone to production fluctuations because of weather variations and restricted access to resources. Thus, the municipality has significant challenges in the areas of education, public health services, and infrastructure development. The municipality faces financial and administrative capacity issues despite efforts to support local economic development (LED), which has a direct influence on its capability to provide services efficiently (Van der Heijden, 2023). The difficulties faced by many other rural towns in South Africa, where high rates of unemployment and poverty, making service delivery worse, are reflected in the rural setting of uMlalazi (Dullah Omar Institute, 2020; ASSAf, 2020). The South African government has tried to alleviate rural underdevelopment since the country's democratic transition in 1994 by giving local municipalities more authority to provide services. Nonetheless, uMlalazi and other rural communities continue to confront formidable institutional and socioeconomic obstacles. These include inadequate funding, a shortage of skilled workers, and governance shortcomings, all of which have a negative impact on the results of service delivery (Nel et al., 2022). Moreover, attempts to enhance local administration have been thwarted by political meddling and corruption, which has resulted in the waste of resources and the ineffective delivery of services. This background provides context for a more thorough examination of the institutional and socioeconomic barriers to rural development in uMlalazi Local Municipality.

PROBLEM STATEMENT

Meeting the service needs of their people has always been difficult for rural municipalities in South Africa. The uMlalazi Local Municipality, like many others, has struggled to provide basic services because of institutional and socioeconomic limitations (Mkhize, 2019). According to Van der Heijden (2023), these difficulties include a lack of administrative ability, a lack of financial resources, and sociopolitical obstacles including political instability and corruption. The continuation of these problems not only makes it more difficult for the municipality to deliver basic services, but it also impedes sustainable development, which keeps rural areas' poverty and inequality alive. Residents of uMlalazi local municipality are widely unhappy as a result of the failure to address these issues, and they frequently use protests as a way to express their annoyance with the inadequate quality of service provided. Examining

the unique institutional and socioeconomic problems that uMlalazi Local Municipality faces, this study aims to find viable alternatives that can improve service delivery. In order to comprehend how administrative procedures and governance frameworks affect service delivery results, the research is based on current literature and institutional theory (Reddy & Govender, 2021). The report presents ideas for resolving these issues and offers a thorough analysis of the elements that lead to service delivery failures in rural towns by concentrating on the uMlalazi scenario. The ultimate objective is to make a meaningful contribution to the wider conversation on rural development and offer workable solutions that can raise the standard of living for the citizens of uMlalazi and other municipalities around South Africa.

LITERATURE REVIEW

Financial constraints

One of the biggest issues facing rural communities like uMlalazi is a lack of funding. The equitable share distribution system, which is intended to guarantee that municipalities with limited revenue-generating capabilities receive adequate cash to deliver basic services, is a major source of funding for the municipality (CoGTA, 2021). Nevertheless, given the increasing strain that urban migration and population expansion are placing on municipal resources, this formula frequently proves insufficient to fulfill the rising needs for services in rural regions (Rogerson & Rogerson, 2021). Because of the high rates of unemployment and poverty in the area, the uMlalazi Local Municipality, like many other rural municipalities, has little ability to produce local revenue through property taxes or service fees (CoGTA, 2021).

Additionally, rural towns may have inadequate financial management capabilities, which results in inefficient spending, procurement, and budgeting procedures. Municipalities frequently mismanage the money intended for service delivery, or underspend on important infrastructure projects as a result of the improper use of their allotted budgets (Nel et al., 2022). In addition to making service delivery backlogs worse, this mismanagement keeps towns from attending to the pressing demands of their constituents. Because of this, the financial difficulties that uMlalazi Local Municipality is facing are a result of both insufficient funding and more significant problems with the municipality's financial governance and administration.

Institutional capacity

The ability of a municipality to efficiently manage its employees, procedures, and resources in order to provide services to its citizens is referred to as institutional capacity. One major obstacle to service delivery in the instance of uMlalazi Local Municipality is institutional capability. There is a lack of qualified workers in the municipality, especially in critical fields like project management, engineering, and finance management (Reddy & Govender, 2021). Ineffective administrative practices, sluggish infrastructure upkeep, and service delivery delays are caused by this skills scarcity. Additionally, the municipality's leadership is frequently ineffective, and senior officials leave the organization frequently, which makes it difficult to maintain service delivery initiatives (Mottiar & Bond, 2020).

The governance shortcomings of uMlalazi, such as a lack of accountability and transparency in the decision-making processes, exacerbate the institution's vulnerabilities even more. These challenges are sometimes brought to light by municipal audits, which indicate systemic concerns with resource management and project delivery (Van der Heijden, 2023). The governance problems that uMlalazi is facing, are representative of more general problems that many South African rural municipalities are facing, especially with regard to the devolution of service delivery responsibilities. Studies reveal that a large number of local governments face challenges related to insufficient institutional capacity, which hinders their potential to address community demands and enhance service delivery results (Cloete & Wissink, 2015; Pillay, 2019).

Socio-political barriers

Governance issues similar to those in uMlalazi are not unique; rather, they are indicative of a larger pattern in many South African rural communities. Here, the decentralization of service delivery responsibilities without sufficient support for capacity building has resulted in serious challenges (Smith & Nkosi, 2020). As a result, uMlalazi Local Municipality's potential to address resident requirements and enhance service delivery outcomes is severely compromised by a lack of institutional capacity.

An important contributing factor to the escalation of poor service delivery is corruption. In numerous rural municipalities, including uMlalazi, there have been reports of embezzlement, bribery, and fraudulent procurement practices (Reddy & Govender,

2021). In addition to taking funds away from necessary services, these actions erode public confidence in local government organizations. Furthermore, community voices are frequently excluded from municipal decision-making processes due to a lack of effective procedures for public oversight and engagement. The residents have a sense of disempowerment as a result of the municipality's perceived inadequate response to their needs due to a lack of accountability and transparency.

Infrastructure and technology deficits

The lack of infrastructural development in rural municipalities like uMlalazi makes it difficult for them to offer essential services. Many communities in uMlalazi lack access to dependable power, water, and sanitation facilities, which are essential for raising living standards and fostering economic growth (Tsheola & Mokgokong, 2023). Due to limited financial resources and the high expense of extending infrastructure to remote and sparsely populated areas, the municipality finds it challenging to meet the requirements of its citizens. In addition, poor upkeep of the current infrastructure makes it more difficult to provide services because roads, water pipes, and electricity systems regularly malfunction as a result of underfunding and neglect.

Apart from inadequate infrastructure, rural towns face impediments to efficient governance and service delivery due to the delayed adoption of technology. uMlalazi underutilizes digital resources, including online platforms for public interaction and geographic information systems (GIS) for planning and monitoring (Rogerson & Rogerson, 2021). The lack of these technologies makes it more difficult for the municipality to monitor the performance of service delivery in real-time, respond more quickly to community needs, and maintain accountability in the use of public funds. Therefore, if rural municipalities like uMlalazi are to enhance their governance practices and service delivery outcomes, technological adoption is a crucial area that should be focused upon.

Socio-economic inequalities

South Africa's rural-urban divide has made it difficult for towns like uMlalazi to meet the demands of disadvantaged areas, where there is a high rate of unemployment, low household incomes, and restricted access to services (Tsheola & Mokgokong, 2023). Due to the towns' limited ability to make money from a weak local economy, the socioeconomic disparities that are common in rural areas exacerbate problems

with service delivery. High rates of unemployment and poverty in uMlalazi put more strain on the town's resources because more citizens there depend on the government's free basic services. The municipality's financial capability is further limited by its reliance on social grants and government transfers, which restricts its power to impose local taxes or service fees (Reddy & Govender, 2021).

Social tensions are worsened further by the socioeconomic setting of uMlalazi, since marginalized people feel cut off from essential amenities and alienated from decision-making processes. The absence of social cohesiveness in these regions exacerbates an impoverished and underdeveloped cycle by preventing locals from taking advantage of opportunities to improve their standard of living. Therefore, addressing these socioeconomic disparities is essential to enhancing the quality of service provided by rural towns like uMlalazi. Municipalities may build a more just and long-lasting basis for rural development by encouraging inclusive economic growth and increasing community involvement in local government.

Theoretical framework: Institutional theory

Institutional theory, which provides a useful framework for understanding the institutional and socioeconomic challenges that rural communities face, serves as the foundation for this study. Governments and other organizations, according to institutional theory, operate under formal and informal frameworks that affect their effectiveness, conduct, and decision-making procedures (Van der Heijden, 2023). Understanding how governance structures, financial policies, and administrative practices impact the outcomes of service delivery in rural communities is made easier with the help of institutional theory. South Africa's formal institutional design decentralizes service delivery obligations to local municipalities in order to promote local development and improve governance (Pillay, 2019).

However, informal behaviors that hinder towns' capacity to provide services effectively such as political favoritism, corruption, and shoddy accountability systems often compromise the efficacy of this structure. These covert actions take the shape of political meddling, resource mismanagement, and the exclusion of community input from decision-making procedures in uMlalazi (Reddy 2022). Therefore, institutional theory offers a useful prism through which to examine the governance issues that

confront rural towns, and to suggest tactics for enhancing institutional capability and enhancing the quality of services rendered.

Furthermore, formal and informal frameworks play a critical role in determining the results of public service, according to institutional theory. In order to effectively address the issues raised by informal practices, local governments should strengthen their institutional capacity and operational transparency (Scott, 2014). Policymakers can better address the special requirements of rural communities and enhance service delivery by understanding the interactions between these official and informal systems. In the end, using institutional theory in this situation makes it possible to analyze the variables affecting service delivery in a more nuanced way and makes it easier to create focused interventions meant to promote local development and improve governance.

RESEARCH METHODOLOGY

The present investigation employed a desktop research technique that entails the methodical gathering and examination of secondary data sources. This study's qualitative methodology enables a thorough examination of important service delivery-related concerns, including institutional capability, sociopolitical obstacles, and budgetary limitations. The desktop study approach enables the integration of existing knowledge and research findings from a wide range of sources. It is especially well-suited for investigating socio-economic and institutional difficulties in rural communities. The Integrated Development Plan (IDP) and annual performance reports of the uMlalazi Local Municipality, as well as official records and academic literature, provided the data for this study. Owing to the qualitative methodology used in this study, important service delivery-related concerns such institutional capability, sociopolitical obstacles, and budgetary limitations may be thoroughly examined.

With the use of the desktop study approach, the researcher can incorporate a wide range of viewpoints and insights, leading to a thorough grasp of the intricate variables affecting service delivery in rural municipalities. To find patterns in the data, thematic analysis was employed, with an emphasis on the interactions between institutional flaws, governance shortcomings, and socioeconomic disparities. The study's conclusions are discussed in the parts that follow, along with suggestions for resolving the particular problems that uMlalazi Local Municipality is facing.

DISCUSSION OF FINDINGS

The results of this study show that a number of institutional and socioeconomic issues prevent the uMlalazi Local Municipality from providing services in an efficient manner. The municipality's financial reliance on government transfers, which restricts its independence and makes it more difficult for it to deal with the backlog of services, is one of the biggest problems. Despite being intended to promote equity, the equitable share distribution mechanism frequently fails to fulfill the needs of rural communities, especially those with high rates of unemployment and poverty (Rogerson & Rogerson, 2021). Because a thriving local economy is not supported by the socioeconomic background of uMlalazi, the municipality's low ability to create local money exacerbates this financial dependency even further.

Apart from budgetary limitations, the municipality has noteworthy obstacles concerning institutional capability. Administrative inefficiencies within the municipality are a result of underqualified staffing, a lackluster leadership team, delayed projects, the poor upkeep of services, and underspending of the allotted funds (Nel et al., 2022). These problems are made worse by political meddling and corruption, which frequently take funds away from essential services and weaken public confidence in the municipality (Van der Heijden, 2023). The high rates of unemployment and poverty in uMlalazi's socioeconomic setting put more strain on the municipality's resources because more citizens depend on the government's free basic services.

RECOMMENDATIONS

Strengthening Financial Autonomy: In order to increase its revenue source, BusinessTech (2024) proposes that the municipality ought to investigate novel approaches such as imposing local taxes, charging for services, and forming public-private partnerships. By taking these steps, the municipality might become less dependent on funding from the federal government and gain the financial independence it needs to clear up its backlog of unfulfilled services.

Capacity Building and Training: In order to enhance the administrative effectiveness and service delivery capability of the municipality, it is recommended that ongoing professional development initiatives be put in place for municipal officials. To guarantee that the municipality has the skills required to provide services efficiently,

training programs should concentrate on important areas such as project management, engineering, and financial management (Reddy & Govender, 2021).

Enhancing Public Participation: It is important to bolster community involvement mechanisms so that local opinions are heard and taken into account during the municipal decision-making process. In order to engage citizens, this could entail setting up community forums, holding frequent public gatherings, and utilizing digital platforms (Tsheola & Mokgokong, 2023).

Addressing Corruption: Prioritizing anti-corruption measures might help minimize political meddling in municipal functions. These efforts include the strong enforcement of accountability systems and transparency in procurement processes. The implementation of whistleblower protection measures and the creation of independent oversight committees could accomplish this (Mottiar & Bond, 2020).

Infrastructure Development and Technological Adoption: The implementation of digital tools for governance and infrastructure development investments can improve the effectiveness of service delivery in rural towns. The municipality can track service delivery performance and respond to community demands more effectively by using technology, such as GIS for planning and monitoring (Rogerson & Rogerson, 2021).

CONCLUSION

The institutional and socioeconomic problems that rural municipalities like uMlalazi face are complex and multidimensional. Effective service delivery faces major challenges from socio-political hurdles, institutional shortcomings, and financial limits. However, rural municipalities may enhance the quality of their service delivery and support sustainable development in South Africa by implementing focused interventions such as financial autonomy, capacity building, and the promotion of public participation. To guarantee that municipalities can fulfill the demands of their citizens and build a more just society, it is also crucial to combat corruption and promote inclusive governance (Reddy & Govender, 2021).

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Examining the external factors influencing the performance of construction SMEs in the Eastern Cape, South Africa

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ABSTRACT

Construction SMEs are recognised to be drivers of the country's economic growth through job creation in both developed and developing countries. This promise has fallen short in South Africa as the country's economy had registered a high rate of construction SME failure for a while, owing to the challenges that are facing construction SMEs, which affect their business performance. The study sought to examine the influence of external factors over the performance of construction SMEs in the Eastern Cape. A PESTEL analysis was used to examine the influence of external factors over the performance of construction SMEs. Data were collected from construction SMEs in the Eastern Cape Province in South Africa. The sample consisted of 303 business owners/managers who were selected by using random sampling. A quantitative technique was used. The study revealed key external factors influencing the performance of construction SMEs which include political, technological, social, and legal factors. The study recommends that government should deal decisively with acts of corruption in the construction industry, where whistle-blowers are encouraged to report acts of corruption. Social awareness must be propagated in communities to advocate the utilisation of local businesses, and construction SMEs need to uphold the high quality of the constructed projects. Furthermore, incentive schemes should be created and extended by the government

through policy development that will encourage and support construction SMEs to invest in innovation and technology.

Keywords: construction SMEs, external factors, performance, Eastern Cape, South Africa

INTRODUCTION

According to Amoah and Amoah (2018:151), SMEs play a fundamental role in the socio-economic growth and development of countries, where SMEs are acknowledged as key instruments for innovation, economic growth, employment, and social mobility. As a strategic initiative, the Coega Development Corporation (CDC) (2020:96) acknowledges that it makes economic sense for SMEs to be a conduit for employment creation and wealth distribution, since these firms are known to employ many employees, where employment is needed, providing people with a fair chance to contribute to the development of the economy. Authors agree that SMEs contribute a bigger proportion of GDP and employment, which propels economic growth and development (Dlamini & Schutte, 2020; Gyimah & Boachie, 2018; Msomi & Olarewaju, 2021). Chien, Ngo, Hsu, Chau and Iram (2021:14) and Tripathi (2019:261) agree that SMEs underwrite more than 55 percent of GDP and more than 65 percent of total employment in emerged countries, while SMEs contribute more than 60 percent of GDP and above 70 percent of total employment in emerging countries. Amoah and Amoah (2018:151) state that, in the case of developing countries, SMEs account for 45 percent of total employment and 33 percent of GDP.

As expected, literature discovered that the construction sector contributes between 5-10 percent of GDP, with a string of total impacts on the national economy through infrastructure development, while it also attracts FDI (Alaloul et al. 2021; Ofori, 2012; Serrado et al. 2019). For instance, in Nigeria, the construction sector contributes approximately 6 percent of GDP, where construction SMEs account for a greater percentage (Alaloul et al. 2021). In Taiwan, construction SMEs contribute 98 percent to the country's GDP (Usman & Alaezi, 2016). This unmatched contribution of construction SMEs is achieved through their performance and resilience. On the contrary, construction SME growth and performance in South Africa (SA) have been of great concern to several stakeholders (Msomi & Olarewaju 2021). This concern is caused by lack of economic stability and high business failure of construction SME

businesses. This is due to the specific challenges construction SMEs encounter, such as a small local market, difficult business conditions comprising complicated procedures and regulations, poor infrastructure, and lack of financial systems (Nqala, 2019). Wentzel, Fapohunda, & Haldenwang (2022:1) discovered factors that put the sustainability and performance of construction SMEs, such as lack of management knowledge by owners, and politics, as well as industry experience of a selected area, at risk. Many scholars agree that there are crucial factors affecting the stability of construction SMEs (Adeyemi & Aigbavboa, 2018; Flepisi, Womack & Lekhanya 2023; Windapo & Cattell 2013). These factors faced by construction SMEs are a risk to the survival and sustainability of these businesses (Wentzel et al., 2022).

Hence, Flepisi et al. (2023:1) argue that government and the private sector must come up with mechanisms that will cushion the construction SMEs throughout the development of policies that will enable these firms to perform as expected. Therefore, this study seeks to identify external factors affecting the performance of construction SMEs and find potential solutions that will cultivate and ignite opportunities for great performance. As identified by Yüksel (2012:53), the study intends to use PESTEL (Political, Economic, Socio-cultural, Technological, Environment and Legal) analysis to examine external factors influencing the performance of construction SMEs in the Eastern Cape.

LITERATURE REVIEW

The literature review gathered in this section intends to reveal external factors influencing construction SMEs. There is consensus amongst authors that business external factors construction SMEs include political, legal, technological, and social, as well as economic aspects (Anderson, 2017; Cepel, 2019; Eruemegbe, 2015; Indris & Primiana, 2015).

Political factors

A politically stable country, as described by Krammer and Kafouros (2022:4), does not only enable foreign investment, but it also facilitates business growth and helps businesses to attract funding and acquire technical knowledge from abroad. In addition, the authors state that a stable political situation facilitates innovation in firms (Krammer & Kafouros, 2022:4). Therefore, it is important for governments to create a stable political environment, as it enhances growth and development and also

encourages both foreign and local investment. Krammer and Kafouros (2022:1) further argue that construction SMEs operating in countries facing political instability, are exposed to great uncertainty, exorbitant operating costs, and adverse political patronage. In this regard, Rehman, Çela, Morina and Gura (2019:2) believe an unstable political situation results in low labour productivity in construction SMEs. Rehman et al. (2019:4) determined that policies related to political instability were, furthermore, often a major constraint to the growth of SME businesses in Albania, Georgia, Morocco, and Nigeria, as well as in Pakistan. In support, Mohammed and Bunyaminu (2021:3) highlight a study conducted by Wang (2016) that discovered political instability is one of the key obstacles faced by SMEs in developing countries. Subsequently, businesses have moved their operations from countries such as Zimbabwe and the Congo to SA, due to unstable political activities that result in unpredictable markets (Muzurura, 2019:114). In Pakistan, it was discovered that political support offers limited support to SMEs (Khan, Mehmood, Ahmed, Mustafa, Alshamsi, Iqbal & Salamzadeh, 2022:2).

As such, it can be concluded that a country with stable political conditions is likely to facilitate a good environment for construction SMEs, aiding their contribution to economic growth. Thus, unstable political conditions could be a hindrance to construction SME growth and performance, disabling them from contributing positively to economic growth. Hence, the South African government needs to intentionally develop friendly policies that foster political stability that will enable the performance and sustainability of construction SMEs. Globally, every aspect of politics and its relation to other countries highly affect the business condition (Farooq 2020). It is therefore important for construction SMEs to ensure political factors relate to business interaction with local government and agencies, where a good working relationship with the mayor and city staff members is developed (Kokemuller 2021:1).

Corruption

Ezebilo, Odhuno and Kavan (2019:2) are of the view corruption linked to the public sector is often seen as one of the biggest threats to construction SME growth in developing countries such as SA. Nordin, Takim and Nawawi (2011:330) and Schoeman, Evans and Du Preez (2022:1) agree corruption is a risk to construction and engineering businesses, as well as those institutions and companies that fund

and/or guarantee construction projects. The World Bank defines corruption as the abuse of public office for private gain by public officials (Abed & Gupta 2002). According to Ezebilo et al. (2019:2), scholars like Athanasouli, 2011; Fisman and Svensson, 2007, and Sharma and Mitra, 2015 have conducted research on the impact of corruption on firm growth, revealing the following crucial obstacles to SME growth: bribe payments, which diminish business profitability and technical efficiency; bribery, which decreases firm growth; corruption, which diminishes the probability of new products being introduced also causing businesses that engage in corruption to have a lower level of performance. Furthermore, Nordin et al. (2011:330) state corruption may lead to wasted tender expenses, tender uncertainty, increased project costs and reputational risks for construction SMEs. Hence, Lekan, Clinton and Uduak (2021:2) assert one of the obstacles facing construction SMEs is corrupt governmental policies.

in a study by Flepisi and Mlambo (2021:65), they discovered that mega projects are heavily affected by corruption, interference by politicians, and mismanagement. Mmbengeni, Mavhungu and John (2021:2) point out that SA battles with high levels of fraud and corruption that negatively affect the business environment in the country. Ezebilo et al. (2019:14) studied the perceived impact of corruption conducted in SA and discovered corruption has dire consequences for construction SMEs, which include hindrance to innovation, competitiveness, and the effectiveness of these firms. Based on the above literature, it can be argued that corruption is the greatest enemy to the growth of construction SMEs, limiting their contribution to economic growth. Thus, governments must develop interventions that will enable a corruption free environment for construction SMEs, since the growth of the construction SME is proportional to its revenue and profits (Kor, Mahoney, Siemsen & Tan, 2016:1729).

Economic factors' influence on construction SMEs

Eruemegbe (2015:485) discovered that the main economic factors that may affect many companies are inflation, interest rates and unemployment. According to Dvorský, Gavurová, Cepel and Cervinka (2020:98), economic factors are critical determinants of business conditions in every nation, hence, these factors can significantly influence construction SME profitability. The authors further claim that overall business performance cannot be separated from the impact of economic

factors and these factors influence construction SMEs at both local and international levels (Dvorský et al. 2020).

Leitch, Hill and Neergaard (2010:250) are of the view that business growth is not without risks. However, entrepreneurs are able to find innovative ways of mitigating risks associated with business growth. Farooq (2020) cautions that, since the global economy is volatile, most construction SMEs must be careful of its impact at all times.

Social factors

Social environmental factors in any business comprise “societal movements, changes in public values and attitudes people in the marketplace have toward working for [that particular] business” (Kokemuller, 2021:1). According to Jin, Liu and Chen (2022:507), social trust as one of the factors, is a key part of an external cultural environment for firms such as construction SMEs. Furthermore, high degrees of social trust were found to be linked with anticipated outcomes by the community (Ouechtati, Masmoudi & Slim, 2022).

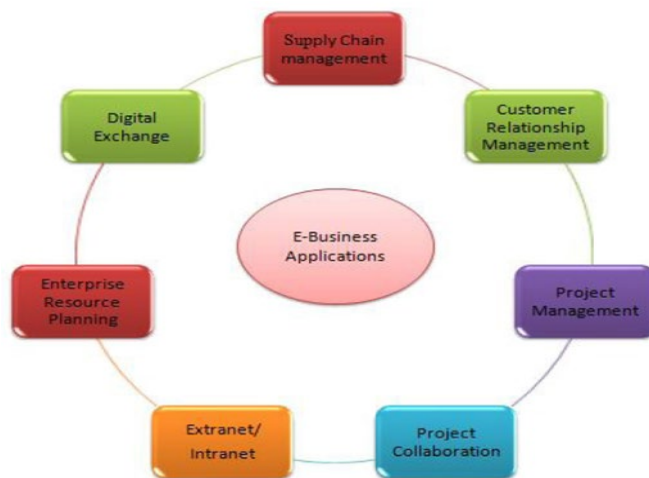
Every society has its unique requirements that shape regional business personas and are some of the primary external factors for the business environment (Farooq, 2020). Indris and Primiana (2015:189) state the social surroundings are made up of factors linked to the day-to-day organisational activities that affect short- and long-term decisions. These include economic forces that administer the exchange of materials, money, energy, and information, the influence of technology, and the influence of political law, which allocates power and provides coercion and protection laws and rules, as well as the power of socio-cultural norms that set the values, traditions and customs of an indigenous environment. Based on this view, Jaya, Nasir and Dewi (2021:39) highlight that businesses need to analyse the competitive environment, select a good strategy, and find the resources needed to implement the company’s plan to achieve a sustainable competitive advantage, with social factors playing a key role in this process. Thus, construction SME entrepreneurs need to perform innovative actions that allow them to take full advantage of the opportunities presented by social factors (Tur-Porcar, Roig-Tierno & Llorca Mestre, 2018:2).

Technological factors

According to Farooq (2020), technology is one of the main drivers in today’s world,

since it helps businesses create competitive advantage by producing more competitive products and services and more effective processes, or by creating a completely new business. This is confirmed by Cherian and Kumaran (2016:1), who state that Information Communication and Technology (ICT), which is a large part of Information Technology, has transformed the process of information creation, exchange, storage, and access, as well as the ability to view. The tools mainly used for ICT are the internet, computer, telephone and wireless (Cherian and Kumaran, 2016:1). Based on the above, it is clear ICT is crucial for every construction SME, and could improve the stream of information and reduce costs that would lead to improved performance and a higher profit margin. Therefore, there is a need for construction SMEs to acquire new knowledge, to create competitive advantage from innovation. Cherian and Kumaran (2016:1) confirm that construction SMEs could take advantage of ICT by using the four most internal processes of ICT, which are e-tendering, e-site, e-procurement and e-quality. The application of E-business in the construction sector is illustrated (Figure 1) below, where different outputs are integrated.

Figure 1: E-Business application in the construction sector



Source: Cherian and Kumaran (2016: 4)

Acar, Ak, Sey and Arditi (2005:713) claim that, although ICTs are powerful tools for the fast and broader distribution of technical knowledge, few SMEs are taking full advantage of their benefits. In Cameroon, Ntwoku, Negash and Meso (2017:311) assessed the adoption of ICT by SMEs and found only well-established firms turning to the use of ICTs. This supports Cherian and Kumaran (2016:1), who view the use of ICT in the construction sector as low, even though it has the greatest potential of

increasing productivity. In contrast, Azevedo and Almeida (2021:2) realise SMEs easily adapt and take advantage of new technology due to fast decision-making as a result shorter communication lines.

Cooper (2022) asserts that technology is a game-changer, giving the SMEs an opportunity to remain competitive in the market, while competing with bigger companies. Therefore, the implementation of E-Business in the construction sector could offer construction SMEs the opportunity to reform and remodel the old way of doing things. In addition, its impact can be of great significance, leading to improved business performance (Cherian & Kumaran, 2016). In SA, a study on the evaluation of the use of modern technology for effective material management in the construction industry by Odubiyi, Oke, Aigbavboa and Thwala (2019:5), they revealed factors preventing construction firms from adopting modern technology, including lack of finance, cultural barriers and work environment challenges. Literature on the adoption of modern technology by construction SMEs in SA is, however, limited. Based on the above literature it can be concluded that, while there is an undisputable benefit associated with the adoption of technology (Eze & Ugulu, 2021; Anjum, 2019). research indicates critical factors such as cultural barriers and a lack of finance associated with adopting modern technology.

Legal factors

Kent (2013:1) states that there are “too many laws that are killing small business, and banks have made it harder for small business to borrow money”. Ngibe (2020:80) argues the government of every country is responsible for the implementation of these laws, which govern compliance conditions for small businesses. Hence, Windapo, Olugboyega and Odediran (2020:2) highlight regulatory obstacles that are a enormous risk to the growth and sustainability of construction SMEs. The impact of the legal and regulatory framework in Tanzania led to excessively difficult registration and licensing requirements that put a strain on the SME operations, resulting in poor performance (Anderson, 2017). In Indonesia, a study by Suliantoro, Winarno and Handayani (2019:13) assessed the success factors of SMEs on public procurement and found government regulations to be an obstacle to SMEs. In Malaysia, in a study by Salleh, Rohaizad, Shafiq, Zaib, Kadimon and Syahrudin (2021:30) on business risks that affect construction SME performance, they corroborate that government regulations

are a risk to the success of these businesses. Thus, the impact of regulations for construction SMEs has dire effects, exposing these businesses to major operational challenges, including those pertaining to business registration and compliance.

SME business registration and licencing

SMEs are not exempt from the constraints associated with macro environmental factors, such as the payment of registrations, licence fees and taxes (Cant & Wiid, 2013). Abdissa and Fitwi (2016:48) state that regulatory restrictions, which include the registration and licencing of businesses, is one of the factors that negatively affects construction SME performance in both developed and developing countries. Moreover, Sitharam (2014:29) asserts SME owners experience challenges with matters regarding the licencing of their businesses, as they are not allowed to operate without a range of licences and permits. Furthermore, Akinyemi and Adejumo (2018:5) identify matters associated with business registration processes as a bottleneck to small firms during the start-up phase. Ngibe (2020:61) states that regulatory requirements for construction SMEs, such as compliance with income tax registration, VAT, UIF, COID, and Pay As You Earn (PAYE), are a huge financial and administrative burden for businesses, including those in the construction industry. These regulatory requirements influence construction SME competitiveness and profitability to a great extent (Akinyemi & Adejumo, 2018).

This is confirmed in a study on construction SMEs in Nigeria by Lekan et al. (2021:19), who revealed government policy as a main factor influencing the success of these companies. Similar to Kenya, the registration and licencing compliance of SMEs proves to be a complicated and tedious process, putting a lot of strain on businesses, with the result that SME owners are forced to evade some of these critical procedures which, in the long run, affect business performance (Maingi, Kinanga & Odimba, 2019). Likewise, in SA it takes 176 days for the business owner to deal with licencing issues, with 18 procedures to be followed in ensuring licencing matters are fully addressed (Abor & Quartey, 2010). Maingi et al. (2019:1) found registration and licencing procedures influence the growth of youth-owned SMEs. Based on the above literature, it can be concluded business registration and licences can be a major obstacle and financial burden to construction SME performance.

RESEARCH DESIGN AND METHODOLOGY

Research approach and strategy

A questionnaire, consisting of a quantitative technique, was used to collect primary data from 303 construction SME owners/managers in the Eastern Cape. The questionnaire was formulated from the literature review, which comprised closed-ended questions.

Study population

The study's target population consists of 1 320 formal construction SMEs primarily conducting business in the Eastern Cape province (Construction Industry Development Board (CIDB), 2021). The study focused on registered SMEs doing business in the three types of construction industry, namely civil construction, non-residential buildings and residential buildings.

Sample size and sampling techniques

A sample frame of 303 construction SME owners or managers is a selection that genuinely represents the study population to be studied. Non-probability sampling and random sampling were used for the selection of the survey respondents.

Data collection

In recruiting study participants, the researcher followed the method summarised below:

- a. Drew up a list of construction SMEs registered with the CIDB that also appear in the SETA database.
- b. Emailed the CEO or Directors requesting permission to conduct the study.
- c. Removed construction SMEs from the list where permission was not granted.
- d. Contacted construction SME owners/managers telephonically where permission was granted.

The researcher obtained a list of construction SMEs registered with the CIDB, contacted the CEOs or Directors of potential construction SMEs by email, and requested permission from these business owners/managers for their businesses to form part of the study.

Data analysis

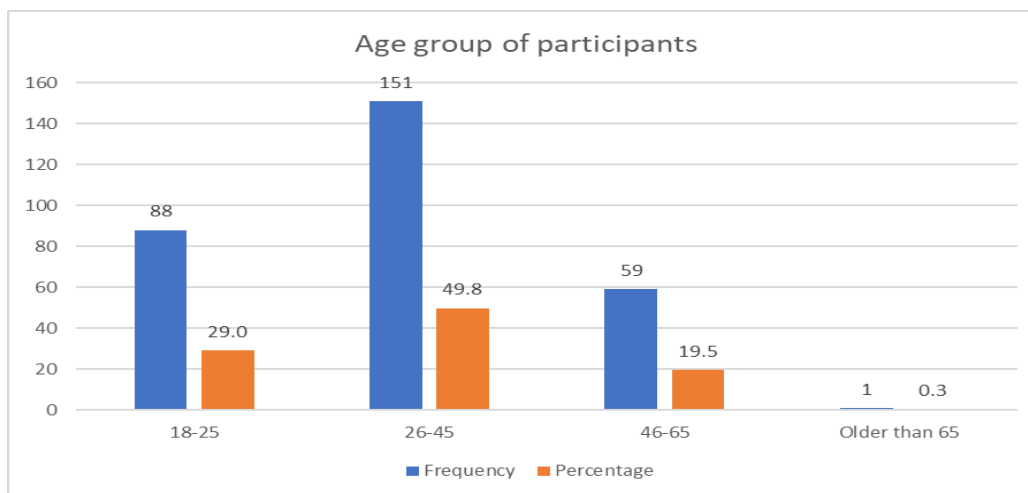
The Statistical Package for Social Sciences (SPSS), version 27.0, was used to capture and analyse primary quantitative data for this study. The SPSS software enabled the researcher to generate different tests in the form of descriptive statistical analysis, frequency analysis, correlation, tabulation, and t-tests analysis. Cross-tabulations, with the appropriate inferential statistics (chi-square test), were used to test the relationships between variables (Kumar, 2011).

RESULTS

Demographics

Age group

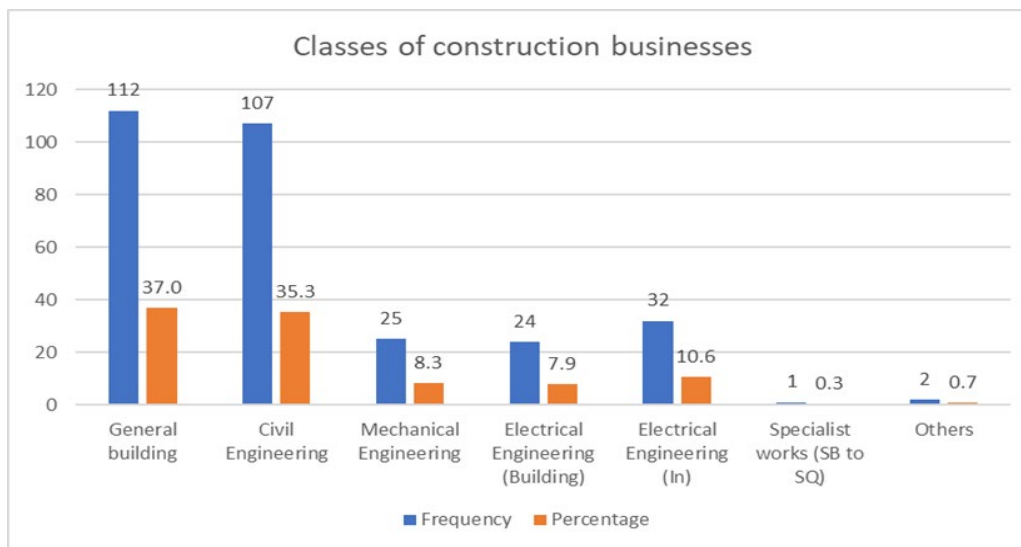
Figure 2: Age group



The construction SME respondents were asked to indicate their age, with Figure 2 illustrating the results. A significant percentage respondents (49.8 percent) indicated that their ages were between 26-45 years of age, followed by 29 percent of respondents between the ages of 18-25 years, while 19.5 percent were between 46-65 years, and 0.3 percent of respondents were older than 65 years. Thus, a significant number of construction SME respondents were between the ages of 26-45 years. Interestingly, the findings show a considerable number of young entrepreneurs working in the construction SME sector. This differs slightly from the OECD report (2017:16), which highlighted that entrepreneurs were normally males, aged between 40-50 years.

Classes of construction businesses

Figure 3: Classes of construction businesses



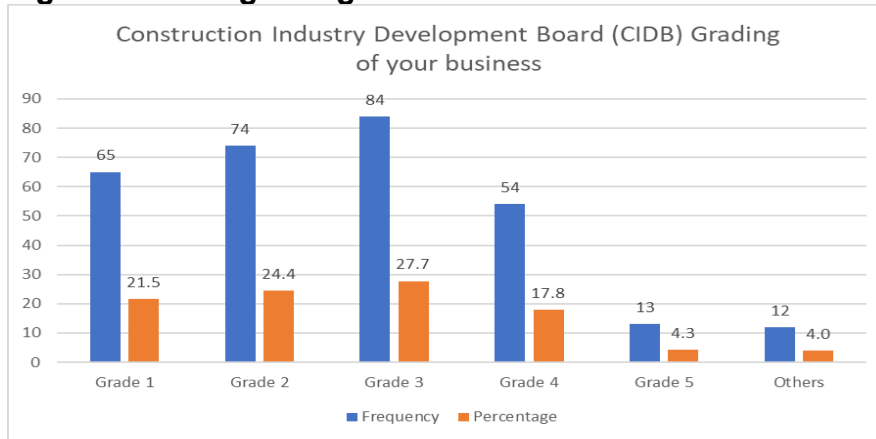
The survey respondents were asked to indicate the class of construction under which their business operated. Figure 3 above reveals the results, showing a moderate number (37 percent) of construction SMEs operating as general building, with 35.3 percent operating in civil engineering, 10.6 percent in electrical engineering (In) and 8.3 percent in mechanical engineering. Furthermore, 7.9 percent operate as electrical engineering (building), with 0.7 percent operating in other classes and only 0.3% construction SMEs operating under specialised works (SB to SQ). Therefore, the majority of classes that represented construction SMEs in this study were general building and civil engineering. This proves the lesser representation of construction SMEs in other classes of construction.

CIDB grading

The respondents were asked to disclose their current grading in the CIDB. Figure 4 below reveals just more than a quarter (27.7 percent) construction SMEs are registered under CIDB grading 3, whereas 24.4 percent are registered as grade 2, with 21.5 percent being under grade 1, and 17.8 percent under grade 4. Only 4.3 percent construction SMEs are registered under CIDB grade 5, while 4 percent are registered under other grades. Thus, the largest grade represented by construction SMEs in this study, was grade 3, closely followed by grade 2, and then grade 1. These findings contradict the findings by Adendorff et al. (2011:43), who discovered grade 1

contractors in the Eastern Cape make up 91.8 percent of the total number of registered contractors in the province. The results prove that the number of grade 2 and 3 construction SMEs in the Eastern Cape has grown over the years.

Figure 4: CIDB grading



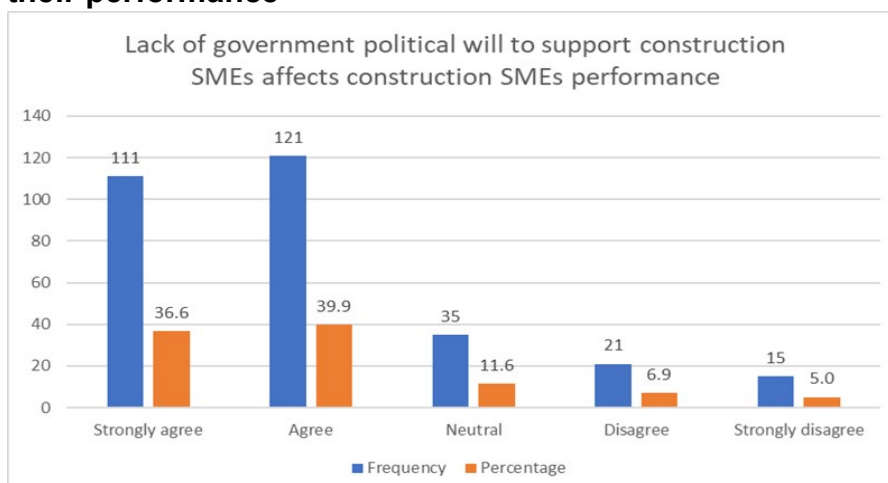
External factors influencing the performance of construction SMEs

Political

Lack of government political will

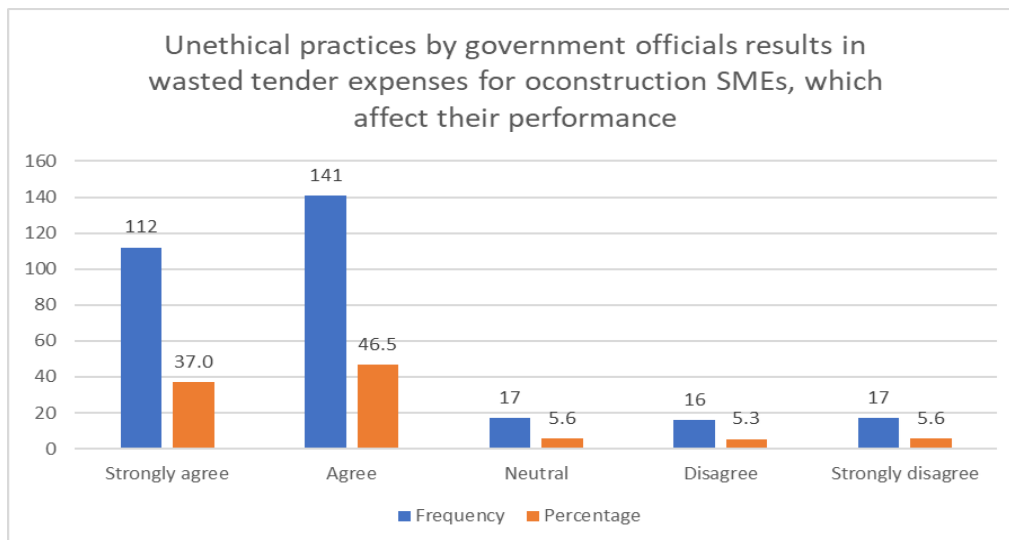
Figure 5 below indicates that the majority (39.9%) of respondents agreed that the lack of government political will to support construction SMEs affects their performance, while 36.6% strongly agreed, 11.6% remained neutral, 6.9% disagreed and only 5% strongly disagreed with the statement. These results are supported by the Chi-square test results ($\chi^2 = 173.122$; $df = 4$; $P < 0,001$) for this variable. These findings are supported by the literature, with Khan et al. (2022:2) highlighting that government political support offers limited support to SMEs.

Figure 5: Lack of government political will to support construction SMEs affects their performance



Unethical practices by government officials

Figure 6: Unethical practices by government officials resulting in wasted tender expenses for construction SMEs affect their performance



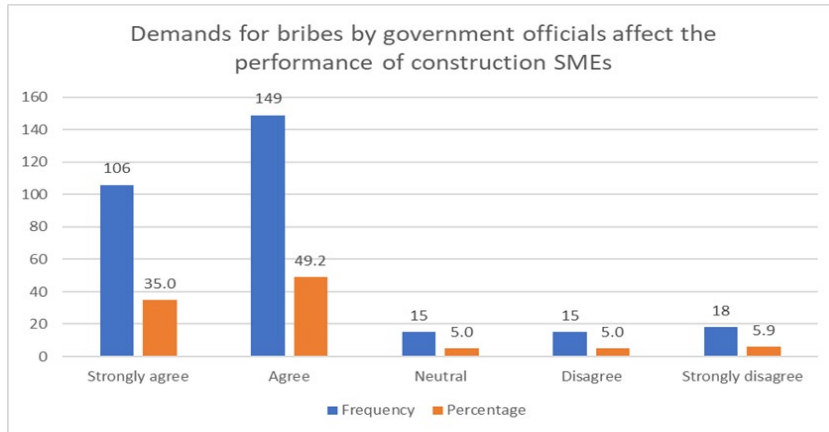
As depicted in Figure 6 above, a vast majority (83.5 %) of respondents agreed unethical practices by government officials result in wasted tender expenses for construction SMEs, which affect their performance, with 46.5 % that agreed and 37 % that strongly agreed, while 5.6 % of the respondents remained neutral, 5.6 % strongly disagreed and 5.3 % disagreed with this statement. A Chi-square test was conducted and the results ($\chi^2 = 245.828$; $df = 4$; $P < 0.001$) for this variable prove that the contribution of construction SMEs is affected by unethical practices by government officials. These findings agree with the literature, as Ezebilo et al. (2019:2) and Nordin et al. (2011:330) highlight that corruption could result in wasted tender expenses, tender uncertainty, increased project costs and reputation risks for construction SMEs.

Demands for bribes by government officials

The findings in Figure 7 below show that a vast majority (84.2%) respondents agreed to demands for bribes by government officials, affecting the contribution of construction SMEs to economic growth, with 49.2% agreeing and 35% strongly agreeing, while 5% of the respondents remained neutral, 5.9% strongly disagreed and only 5% disagreed with this statement. The findings are supported by the Chi-square test results ($\chi^2 = 261.538$; $df = 4$; $P < 0.001$) for this variable, which show the contribution of construction SMEs to economic growth is influenced by demands for bribes by government officials. These findings are supported by Mmbengeni et al.

(2021:2), who found SA is struggling with high levels of fraud and corruption, where businesses pay bribes to be awarded tenders, which negatively affects the business environment in the country.

Figure 7: Demands for bribes by government officials affect the performance of construction SMEs

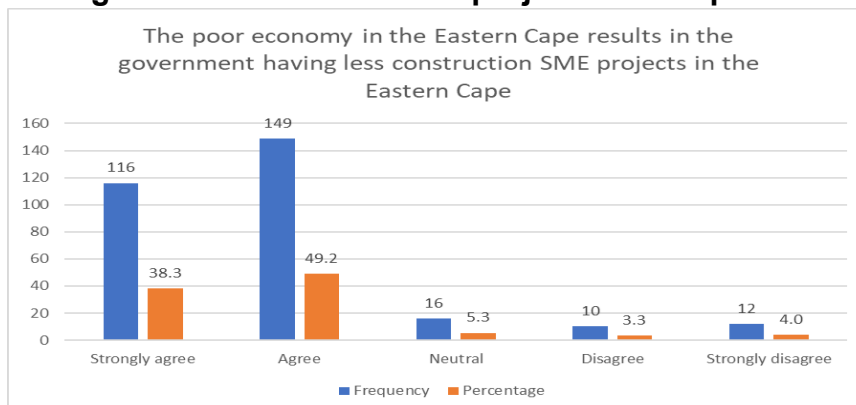


Economical

Poor economy in the Eastern Cape

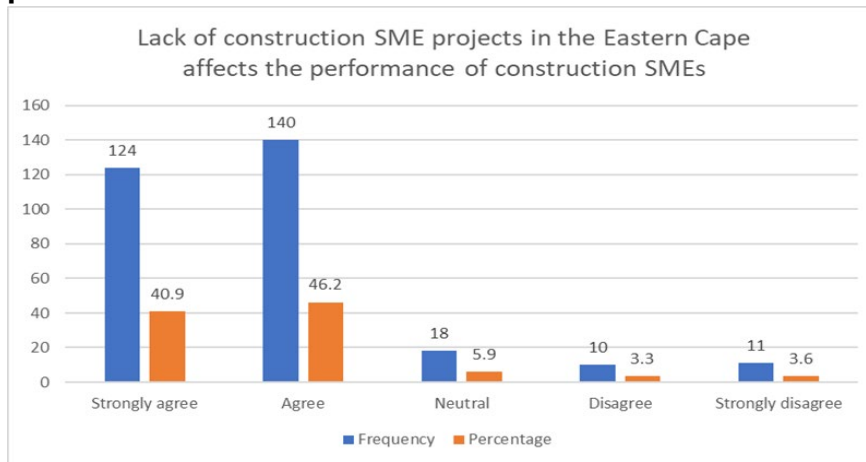
According to Fiseha et al. (2019:203), the Eastern Cape province is not immune to the economic challenges faced by SA, which lead to poor economic performance. The findings shown in Figure 8 below reveal an overwhelming majority (87.5%) respondents agreed the poor economy in the Eastern Cape results in the government having less construction SME projects in the province, with 49.2% agreeing and 38.3% strongly agreeing, while 5.3% of the respondents remained neutral, 4% strongly agreed and only 3.3 percent disagreed with this statement. To further confirm these findings, a Chi-square test was conducted and the results ($\chi^2 = 293.650$; $df = 4$; $P < 0.001$).

Figure 8: The poor economy in the Eastern Cape results in the government having less construction SME projects in that province



Lack of construction SME projects

Figure 9: Lack of construction SME projects in the Eastern Cape affects the performance of construction SMEs

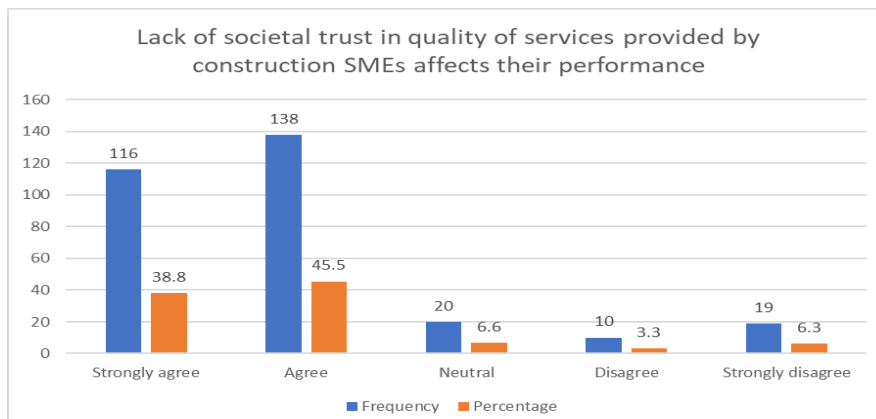


The findings in Figure 9 above signify an overwhelming majority of respondents agreed that the lack of construction SME projects in the Eastern Cape affects the performance of construction SMEs, with 46.2% that agreed and 40.9% that strongly agreed, while 5.9% of the respondents remained neutral, 3.6% strongly disagreed and only 3.3% disagreed with this statement. These findings are supported by the Chi-square test results ($\chi^2 = 283.155$; $df = 4$; $P < 0.001$) for this variable, which show that the contribution of construction SMEs is affected by the lack of construction SME projects in the Eastern Cape. These findings are supported by Mulaudzi and Lancaster (2021:1), who determined that many projects in SA were stopped due to crime and criminal activities, and this has resulted in fewer projects being available in the market.

Social

Lack of societal trust

Figure 10: Lack of societal trust in quality of services provided by construction SMEs affects their performance

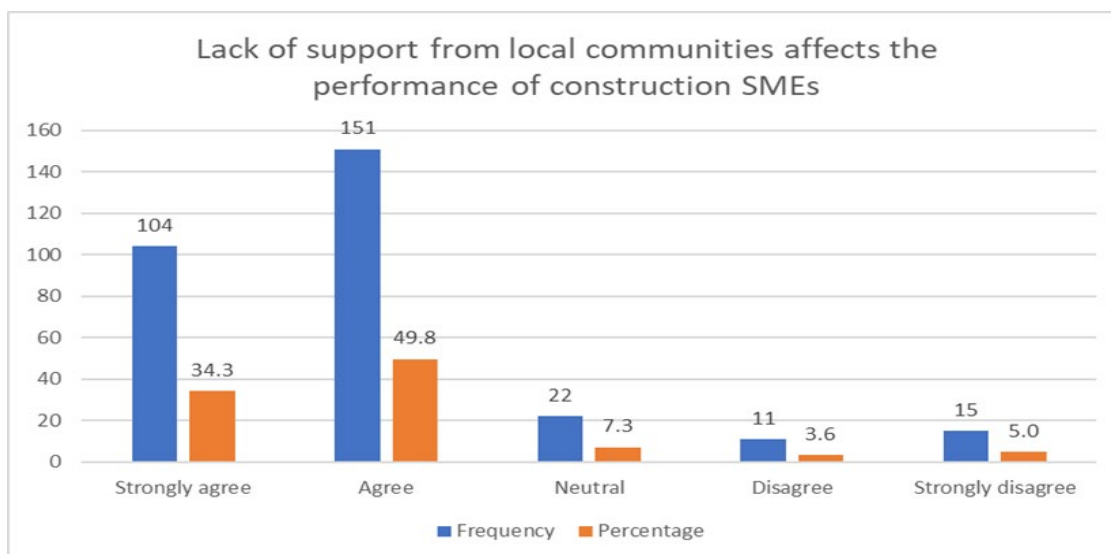


As depicted in Figure 10 above, a vast majority (84.3%) of the respondents agreed that lack of societal trust in the quality of services provided by construction SMEs affects their performance, with 45.5% that agreed and 38.8% that strongly agreed, while 6.6% of the respondents remained neutral, 6.3% strongly disagreed and 3.3% disagreed with this statement. These results are supported by the Chi-square test results ($\chi^2 = 247.512$; $df = 4$; $P < 0.001$) for this variable, which indicate that the lack of societal trust in the quality of services provided by construction SMEs influences their performance. These results support the ongoing concern over the inferior quality of completed works by inexperienced SMEs that are a hindrance to the performance of construction SMEs (Reddy, 2016).

Lack of support from local communities

According to Brien and Hamburg (2014), local communities are a good support system for SMEs as they allow local SMEs to collaborate and learn from each other through community development. The findings in Figure 11 below show a vast majority (84.1%) of respondents agreed that lack of support from local communities affects the performance of construction SMEs, with 49.8% that agreed and 34.3% strongly agreed, while 7.3% of the respondents remained neutral, 5% strongly disagreed and only 3.6% disagreed with this statement. A Chi-square test was done and the results ($\chi^2 = 265.432$; $df = 4$; $P < 0.001$) for this variable confirm that the performance of construction SMEs is influenced by the lack of support from local communities.

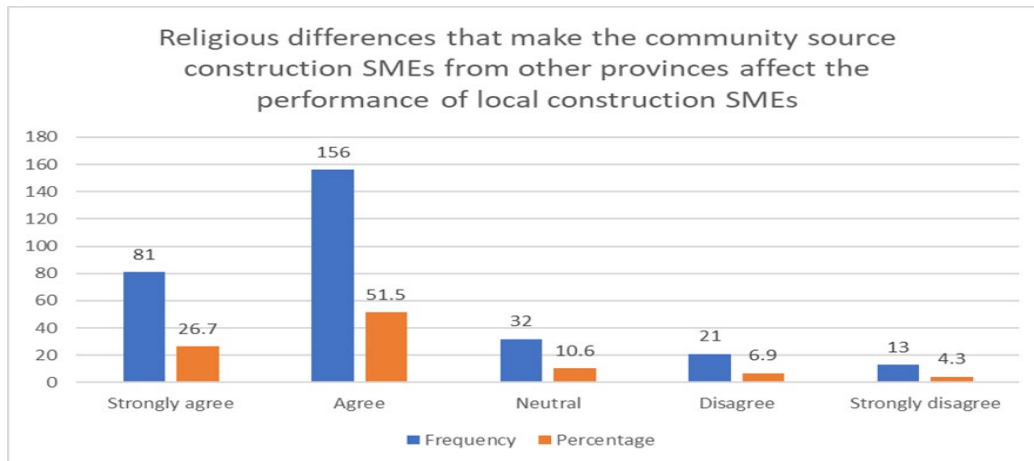
Figure 11: Lack of support from local communities affects the performance of construction SMEs



Religious differences

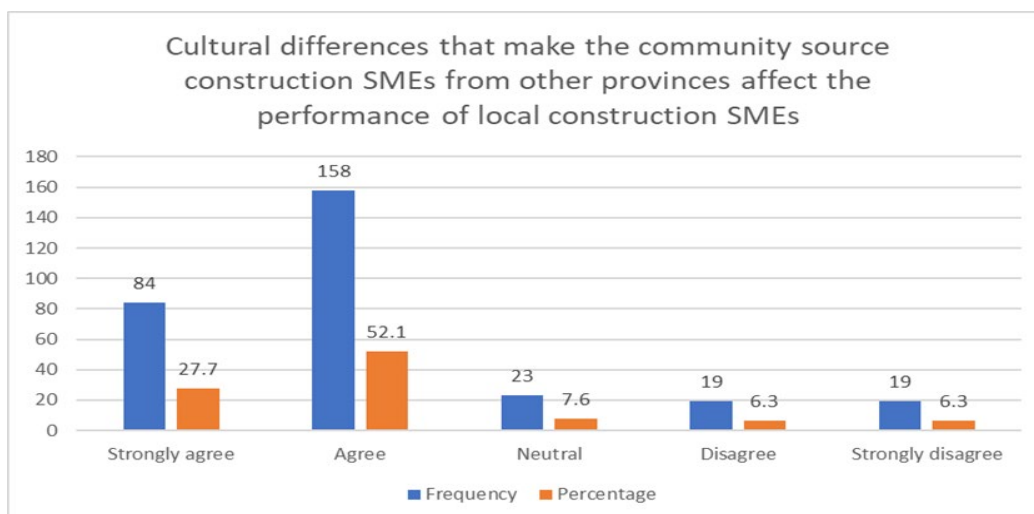
The findings in Figure 12 below reveal a vast majority (78.2%) of respondents agreed that religious differences that make the community source construction SMEs from other provinces, affect the performance of local construction SMEs, with 51.6% that agreed and 26.7% that strongly agreed, while 10.6% of the respondents remained neutral, 6.9% disagreed and only 4.3% strongly disagreed with this statement. A Chi-square test was done to confirm the findings. The results ($\chi^2 = 233.815$; $df = 4$; $P < 0.001$) for this variable, show that religious differences that make the community source construction SMEs from other provinces did indeed affect the performance of local construction SMEs.

Figure 12: Religious differences affect the performance of local construction SMEs



Cultural differences

Figure 13: Cultural differences affect the performance of local construction SMEs



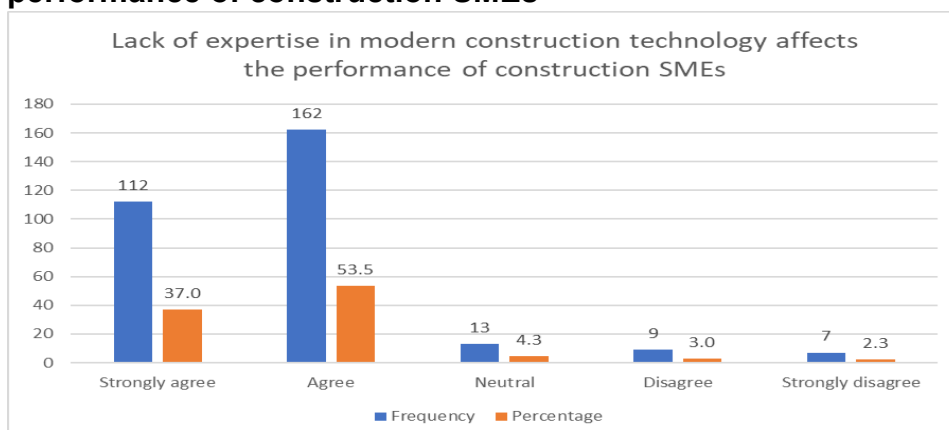
As depicted in Figure 13 above, a vast majority (79.8%) of the respondents agreed that cultural differences that make the community source construction SMEs from other provinces, affect the performance of local construction SMEs, with 52.1% that agreed and 27.7% that strongly agreed, while 7.6% of the respondents remained neutral, 6.3% disagreed and 6.3% strongly disagreed with this statement. Additionally, a Chi-square test was conducted to confirm this variable and a good fit was discovered. The results ($\chi^2 = 246.026$; $df = 4$; $P < 0.001$) for this variable show cultural differences that make the community source construction SMEs from other provinces, affect the performance of local construction SMEs. These findings are supported by the literature, as Anjum (2019:1239) and Eze and Ugulu (2021:165) state that critical factors such as cultural barriers hinder the success and performance of SMEs.

Technology

Lack of expertise in modern construction technology

As shown in Figure 14 below, an overwhelming majority (90.5%) of the respondents agreed that lack of expertise in modern construction technology affects the performance of construction SMEs, with 53.5% that agreed and 37% that strongly agreed, while 4.3% of the respondents remained neutral, three percent disagreed and only 2.3 percent strongly disagreed. To confirm the results, a Chi-square test was conducted and the results were ($\chi^2 = 342.000$; $df = 4$; $P < 0.001$) for this variable. These findings are supported by Mogos, Eleftheriadis, and Myklebust (2019:) and Odubiyi et al. (2019:628), who established that lack of digitalisation by SMEs in modern technology such as Industrial Revolution 4.0 affects their business performance.

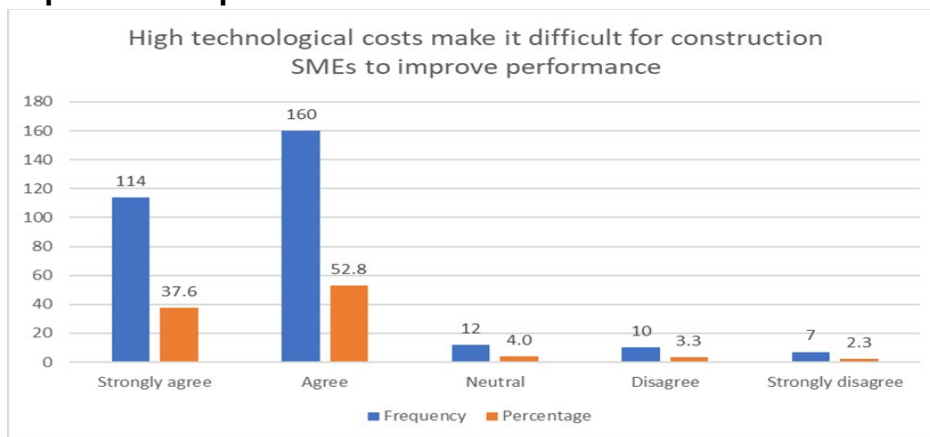
Figure 14: Lack of expertise in modern construction technology affects the performance of construction SMEs



High technological costs

As depicted in Figure 15 below, the overwhelming majority (90.4%) respondents agreed that high technological costs make it difficult for construction SMEs to improve their performance, with 52% that agreed and 37.6% that strongly agreed, while 4% of the respondents remained neutral, 3.3% disagreed and only 2.3% strongly disagreed with this statement. A Chi-square test was done and the results ($\chi^2 = 338.733$; $df = 4$; $P < 0.001$) for this variable show high technological costs make it difficult for construction SMEs to improve their performance to contribute to economic growth. These findings are supported by Mogos et al. (2019:628), who discovered one of the major factors making it difficult for SMEs to use modern technology is high technological costs, which affect their performance.

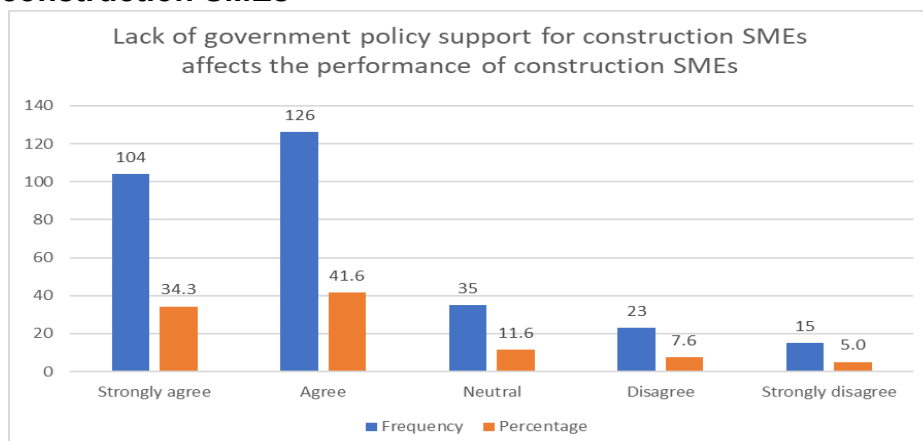
Figure 15: High technological costs make it difficult for construction SMEs to improve their performance



Legal

Lack of government policy support

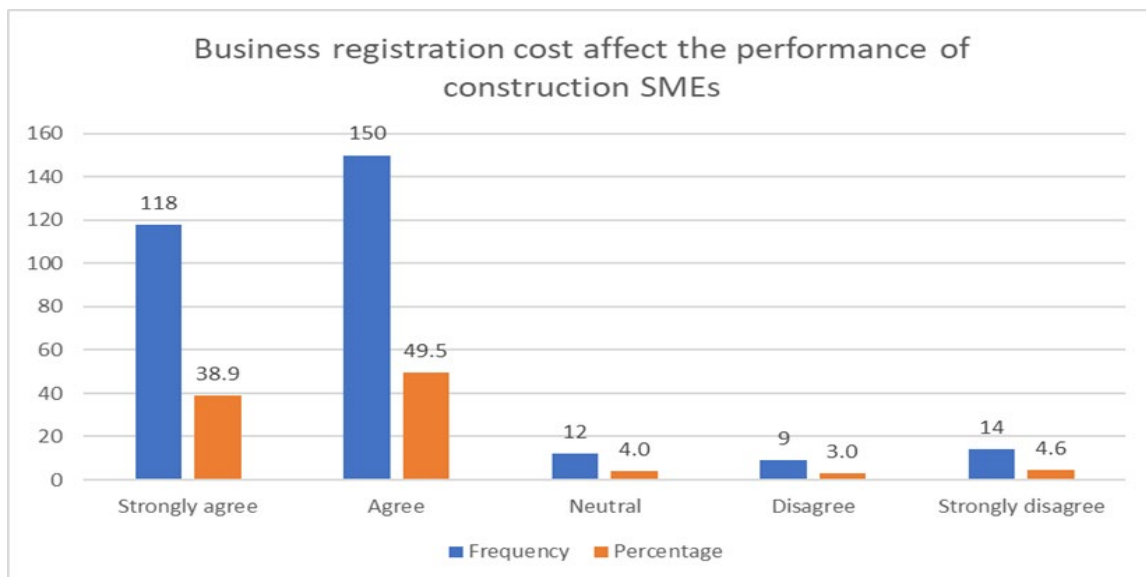
Figure 16: Lack of government policy support affects the performance of construction SMEs



As depicted in Figure 16 above, an overwhelming majority (88.5%) of the respondents agreed that lack of government policy support affects the performance of construction SMEs, with 47.9% that agreed and 40.6% that strongly agreed, while 4% of the respondents remained neutral, while 5% strongly disagreed and only 2.6% disagreed with this statement. The findings are supported by the Chi-square test results ($\chi^2 = 300.746$; $df = 4$; $P < 0.001$) for this variable. These findings are supported by Fiseha et al. (2019), who discovered lack of policy support by government for entrepreneurship, particularly in the rural areas, is a major constraint to the contribution of SMEs to economic growth in the Eastern Cape.

Business registration costs

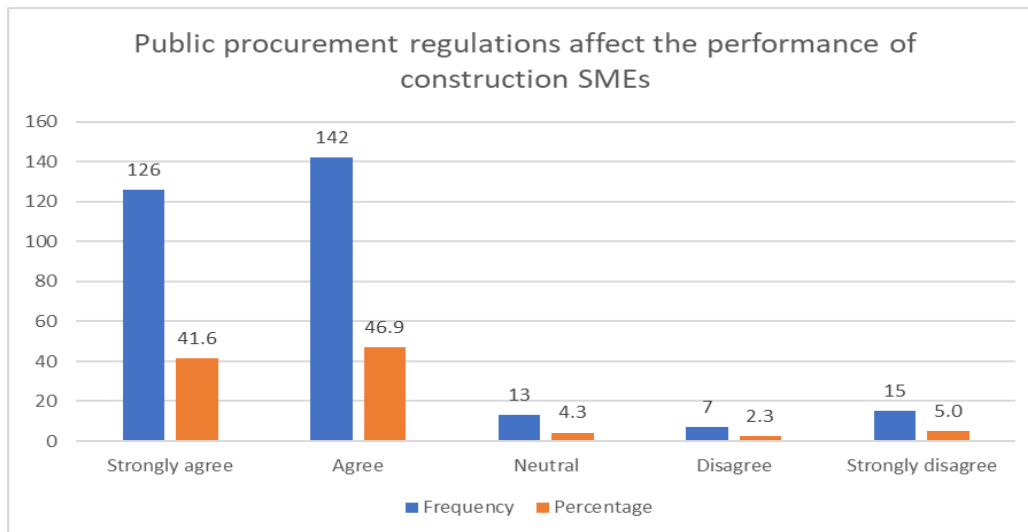
Figure 17: Business registration costs affect the performance of construction SMEs



As shown in Figure 17 above, an overwhelming majority (88.4%) of the respondents agreed that business registration costs affect the performance of construction SMEs, with 49.5% that agreed and 38.9% that strongly agreed, while 4% remained neutral, 4.6% strongly disagreed and only 3% disagreed with this statement. A Chi-square test was done to confirm the findings. The results indicate that ($\chi^2 = 305.003$; $df = 4$; $P < 0.001$) for this variable, which shows that business registration costs affect the contribution of construction SMEs to economic growth. These findings are supported by the literature, as Akinyemi and Adejumo (2018:5) found matters around business registration processes create a bottleneck for small firms during the start-up phase.

Public procurement regulations

Figure 18: Public procurement regulations affect the performance of construction SMEs



The findings in Figure 18 above show an overwhelming majority (88.5%) of the respondents agreed that public procurement regulations affect the performance of construction SMEs, with 46.9% that agreed and 41.6% that strongly agreed, while 5% of the respondents strongly disagreed, 4.3% remained neutral and only 2.3% disagreed with this statement. The results are supported by the Chi-square test results ($X^2 = 299.030$; $df = 4$; $P = 0.000$) for this variable. These findings are supported by Suliantoro et al. (2019:13), who found public procurement government regulations to be an obstacle to the growth of SME businesses.

CONCLUSION

The study findings revealed that there are key external factors influencing the performance of construction SMEs. The PESTEL analysis showed that political, economic, social, technological, and legal factors are key external factors affecting the performance of construction SMEs. Political factors identified the empirical findings of the study include lack of government political will, unethical practices and a demand for bribes by government officials, while economic factors identified by the study are poor economy in the Eastern Cape and lack of construction SME projects. The social factors discovered by the study are lack of societal trust in quality of services provided by construction SMEs, lack of support from local communities, religious and cultural differences. The technological factors identified by the study include lack of expertise

in modern construction technology and high technological costs. Lastly, legal factors discovered by the study are Lack of government policy support, business registration costs and public procurement regulations.

Therefore, if construction SMEs are to be the hope for countries to improve economic growth through job creation and economic development, strategies must be formulated to address these external factors. The study recommends that government must deal decisively with acts of corruption in the construction industry, where whistleblowers are encouraged to report acts of corruption. Social awareness must be given to communities to advocate the utilisation of local businesses, especially construction SMEs. Construction SME businesses need to uphold the high quality of projects constructed through the implementation of quality management systems. Furthermore, incentive schemes should be created and extended by the government through policy development that will encourage and support construction SMEs to invest in innovation and technology. To ease the impact of legal factors, procurement regulations need to be reviewed by policymakers, to allow construction SMEs to participate in submitting bids for tenders without being disqualified for not meeting certain criteria. Lastly, policymakers should reassess the payment of high monthly SARS costs and business registration costs by smaller construction businesses, as these are placing excessive strain on these firms, affecting their performance.

RECOMMENDATIONS FOR FUTURE RESEARCH

With regard to further research, the study recommends the scope of additional research to be conducted under: “An assessment of the effectiveness of government financial agencies in the support of the sustainable growth and development of construction SMEs”. This study will enable the government to understand the shortcomings of these financial agencies and streamline its processes to best suit the SME environment.

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Factors contributing to graduate skills shortages at Umfolozi Local Municipality

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ABSTRACT

The purpose of this paper is to identify factors contributing to graduates' skills shortages, which directly influence the high rate of graduate unemployment. This paper also sought to analyse, interrogate, and debate the issues that are related to graduates' skill shortages. This research paper highlighted the importance of training and development policies in the quest for the elimination of lack of skills among graduates. The uMfolozi Local Municipality was used as a case study. The study employed a qualitative research approach, adopted a purposive sampling technique and utilised a sample size of seventeen (17) participants. Interview guide questions were utilised to collect the data from uMfolozi Municipality personnel, who comprised different managers and staff. This study adopted a qualitative research design and the data was collected through the use of interview question guides. The research contributes to the imminent scholarly debate about graduates' skill shortages and the role of universities and colleges regarding effectiveness in teaching to produce competitive graduates, who can be adopted easily by the labour market. The research findings reflected that uMfolozi Local Municipality is also experiencing the challenges of graduate skills shortages and the municipality has been trying to address these challenges and issues through initiatives such as internships for graduates and the training and development of existing employees. The major recommendation that the study is making is that the corporate sector should be actively involved in universities and colleges' curriculum development processes.

Keywords: graduate skills, youth unemployment, internship programmes, Bantu Education Act, WIL

INTRODUCTION

A debate on graduate skills shortages across the globe continues to be frequent in relation to employment opportunities, skills mismatch and the relevancy of programmes offered by different institutions of higher education. Hodgson, Spours, Smith and Jeanes (2019) assert that there is a huge challenge of graduates' unemployment in South Africa and across the globe. Statistics South Africa (2018) has recently revealed its quarterly labour force survey for the fourth quarter of the year 2018, revealing that South Africa closed last year with an unemployment rate of 27 percent. The new report revealed that of the 6.1 million unemployed people in the fourth quarter of 2018, about 57 percent had an education which is below grade 12 or matric, followed by those with grade 12 at 34 percent.

Apparently, the rate of youth unemployment has become a worldwide crisis, with fundamental social, economic, and political implications (Dale & Weir, 2016). However, the reality is that many unemployed graduates gallivant in the streets of South Africa, as it also happens in other countries (Breedt, 2018). Bhorath (2004) asserted that the increasing number of unemployed people who have university degrees and diplomas had become a negative trend in the post-apartheid South African labour market. The International labour organisation report, (2013) asserted that the global financial crisis is continuing in the form of approximately seventy-five million unemployed young people, of which forty-five million of those are graduates, with some form or level of education and those with certificates or qualifications.

The changes to global economic conditions, the other economic changes that have taken place in the Slovak Republic, are the results of the vanishing of most traditional employers and the way production and services are processed at present. The graduate's skills shortage or educational system have not yet been able to close the gap between the labour market and the relevant graduates to fill the vacancies that exist within the labour market (International Labour Organisation (ILO, 2013).

Hence this study seeks to investigate the underlying factors that influence, and contribute to graduates' skills shortages in the rural areas of uMfolozi Local Municipality in KwaZulu Natal, South Africa.

STUDY OBJECTIVE

The objective of this study was to find the factors that contribute towards graduates' skills shortages at uMfolozi Local Municipality.

Question asked

What are the factors that contribute to graduates' skills shortages at uMfolozi Local Municipality?

CONCEPTUAL FRAMEWORK

The conceptual framework seeks to depict a picture and path of research rooted in theoretical structures (Adom, Dickson, Hussein, Emad, Joe & Adu-Agyem, 2018). The fundamental objective of the conceptual framework is to make research results more practical, understandable, and acceptable to the theoretical structures. Adom, et al. (2018) asserted that the theoretical framework helps to stimulate research, while inculcating the extension of knowledge by providing direction and impetus to the entire research project. Hence the researcher opted for a conceptual framework to achieve the objectives of the study, as affirmed by Adom et al. (2014). The conceptual framework assists a researcher in attaining the desired results as depicted in the study objectives.

Skills development theory

This study employed the skills development theory, which involves the learning of a large variety of skills that show a similarity in development from the first representation of knowledge, based on first changes in behaviour, to ultimate fluent, spontaneous, largely effortless, and highly skilled abilities (Dekeyser, 2007). Hajarrah and Khafizah (2012) assert that skills theory emanated from the apparent flaw in the trait's theory, where traits are relatively fixed. In the past, trait theory could not yield desired objectives to develop ideal leaders who displayed those traits. Hence skills theory is there to discover skills and abilities that make leaders effective. However, as with trait theory, skills theory is also leader-centric and therefore focuses on characteristics that make leaders effective.

The study on the investigation of the factors that contribute to graduates' skills shortages and its primary objective, have been explored through engaging with the

skills theory. There are two basic theories to develop from the skills approach, and those are Katz's three-skills approach and Mumford's skills model of leadership (Burkus, 2010). The objectives of the study were tested by following the three-skills approach, which asserts that effective leadership needs three skills. Based on the conceptual framework, technical skills, human skills and conceptual skills were investigated, arguing whether graduates could lack such skills and, as a result, become unemployable.

In addressing the study objectives, applying the three-skills approach, technical skills refer to proficiency in terms of a particular activity or job, while human skills refer to the capacity to work with other people, and conceptual skills refer to the ability to work with diverse, innovative concepts and ideas (Hajaraih & Khafizah, 2012). The three-skills approach was used to establish the competencies of effective graduates in terms of individual attributes, leadership outcomes, and career experiences, as well as environmental influences.

Hajaraih and Khafizah (2012) argued that one of the strengths the skills theory is that it considers effective leadership performance to consist of learnable skills instead of traits, hence making leadership accessible to anyone. Therefore, the skills theory is a suitable theory that has assisted researchers in addressing the aim of the study, and the study objectives, assist towards answering the study questions. The utilisation of this theory has assisted the researcher in the attainment of the desired findings, concurrently helping with the unpacking and answering of the research objectives and research questions.

Limitations and critiques of the Skills Development Theory

The main objective of the Skills Development Act 97 of 2008 was to address the skills shortage in the labour market. The ability development theory, which uses the principle of labour supply and demand in its analysis, also aims to eliminate the lack of ability. Horwitz (2013) argued that the demand-supply perspective of the labour market, particularly with regard to the qualification process, is not necessarily approached analytically to find answers to the shortages of skilled workers covered in the debate.

However, both development law and development theory have limitations in explaining organizational behaviour, decisions, and political roles in the discourse on skills shortages (Horwitz, 2013). Theories of skills development in the 21st century should

focus on different inquiry-based approaches to education that emphasize technical and motivational skills. We also need to consider the agency, regulatory situation, and the availability of strategies for retaining and judiciously leveraging existing skills and talent within organizations.

From an analytical point of view, supply and demand orientated labour market perspectives on the qualification process cannot be considered to be the sole basis for explaining the skills shortages. Again, it makes sense to rely on institutional theory by including the regulatory process structure.

METHODOLOGY

Creswell (2009) defines research methodology as a study of the method used in the study. It is used to determine the approach that the research will take in addressing the research objectives and answering the research questions. Methodology describes the way the research should be coordinated through sampling, research design, and other data collection instruments (Creswell, 2009). According to Marchal et al. (2017), research methodology describes the framework for a specific set of assumptions that can be used to conduct research. It describes the orientation that influences the research findings. Thus, it is important for the researcher to provide a basis for the methods used and to justify the choice of these methods (Walsham, 2006).

This section provides the research methodology, as well as some rationale for choosing between the approach and the way in which the study has been conducted. This section also provides information about the data that was collected and used; e.g. sampling, a targeted population, and data processing techniques.

RESEARCH APPROACH

Qualitative research approaches are typically used to study the complex nature of a particular phenomenon, to explain and understand it from the perspective of the participants. Researchers wish to establish not only what is happening, but also how and why it is happening the way it is (Myers, 2019).

That is why the researchers chose a qualitative approach to data collection and analysis. Qualitative research aims to help researchers understand people and the social and cultural contexts in which they live. Such research makes it possible to

explore and express the complexities and differences of the world under study (Myers, 2019). Thus, this approach helped the researcher to respond to the research questions and establish the factors that influence the upsurge of graduate unemployment, ultimately giving informed recommendations on how to address and redress the graduate skills shortages in the uMfolozi rural community.

RESEARCH DESIGN

This study chose a qualitative research design based on a descriptive perspective. The descriptive perspective was chosen because it helps the researcher to identify characteristics in their target sample or particular population. Indeed, these characteristics in the population sample of uMfolozi local municipality were identified, observed and measured in order to guide the data analysis and interpretation of the findings.

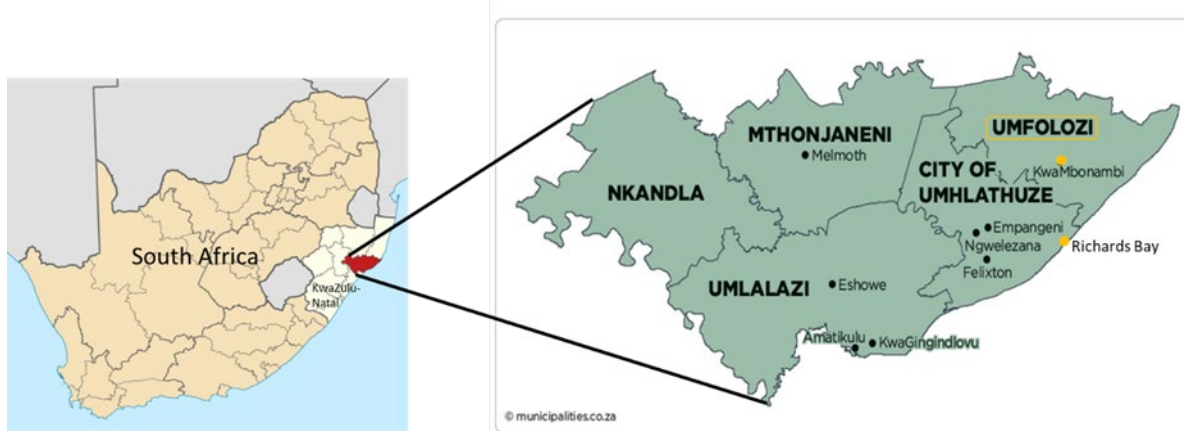
Additionally, the researcher used a case study design. Instead of collecting large amounts of data to identify patterns across time and place, case studies collect detailed data to identify narrowly defined characteristics of interest (Rossman & Rollis, 2012). Boras et al. (2002) stated that case studies can be used to describe the characteristics of particular subjects, such as individuals, groups, events, or organizations. Therefore, this is a good design for this study, as it explored employers' perceptions of graduate skills shortages in the community.

The study was guided by the qualitative technique to investigate the factors contributing to graduates' skills shortage in the rural areas of uMfolozi Local Municipality. Descriptive research defines the characteristics of the phenomenon and answers questions like "what", "where", "how" and "who" (Kothari, 2004). Thus, a descriptive research design was adopted in this study by carefully choosing details and collecting data that answered the research questions on the contributing factors to graduate unemployment.

RESEARCH SETTING

The uMfolozi Local Municipality, known before as the Mbonambi Local Municipality, is a level B municipality that is part of the King Cetshwayo District in the KwaZulu-Natal Province (Figure 1) (UMfolozi Municipality Integrated Development Plan (IDP), 2017). It is one of the five municipalities that make up the district municipalities.

Figure 1: Location of uMfolozi Local Municipality within the King Cetshwayo District of the KwaZulu-Natal Province



Source: Adopted from Umfolozi Municipality IDP 2017

Closer to the City of uMhlathuze, the small town of KwaMbonambi is based alongside one of the country's main highways, which runs from Cape Town to the Mozambican border and embraces both traveller and enterprise traffic. This massive segment of land within the uMfolozi Municipal region is owned by the Ingonyama Trust as well as privately owners. This privately owned land is stationed in the centre of the municipal area surrounding KwaMbonambi.

The municipality has an estimated population size of 122 889, of which 52% are women (UMfolozi Municipality IDP, 2017). The average population density is estimated at 88 people per km². Within the newly demarcated boundaries, the population is now 133 344 people in 27 142 households. UMfolozi Municipality is home to some of the most impoverished people in KwaZulu-Natal, with about 52 190 people without a formal income.

UMfolozi Local Municipality does not receive much attention from employers, compared to the metropolitan districts. Oluwajodu, Blaauw, Greyling, and Kleynhans (2015) observed an upward trend in graduate unemployment inside the municipality from 1995 to 2014. Also, the few skills possessed by the community's graduates, deviated from the competencies required by the employers (Oluwajodu et al., 2015). In addition, the lack of graduates in the labour market and within the municipality, can be attributed to a combination of shortcomings in the greater training system, a lack of

structural adjustments in their planning and no improvement of the system of most municipalities (Sydney, 2016).

The main economic sectors at uMfolozi Local Municipality range from manufacturing; wholesale and retail trade, catering and accommodation; transport, storage and communication; finance, insurance, real estate and business services to agriculture, forestry and fishing (uMfolozi Municipality IDP, 2017).

TARGET POPULATION AND SAMPLING

Kumar (2011) defines sampling as the process of selecting a few samples from a larger group as the basis for predicting the occurrence of an unknown piece of information or situation in the larger group under study. Creswell et al. (2009) assert that there are two common classes to which sampling methods belong, i.e., probability and non-probability sampling. Probability sampling is that which is selected randomly and involves the sampling of elements by chance, whereas in non-probability sampling, the elements are not chosen by chance (Creswell et al., 2007). Ultimately, for probability sampling applied mathematics may be used to accurately generalise to the population, while this cannot be done with non-probability samples. On the other hand, with non-probability sampling (also known as non-random sampling) it might not be clear whether each element is included in the ultimate population (Bless et al., 2013). This study used the non-probability sampling technique to ensure that the desired numbers of respondents were represented.

Furthermore, purposive sampling, also referred to as a judgmental sampling, was adopted to identify the participants (from a population) who were relevant to the study. Creswell (2013) points out that purposive sampling is a technique widely used in studies that are qualitative in nature, as well as for the documentation and selection of information-rich cases, or populations, for the most effective use of limited resources. According to Bless et al. (2013), a population is a group of people, items or objects from which samples are taken for measurement.

Therefore, the researcher purposefully selected all seventeen (17) managers across the departments within the uMfolozi Local Municipality. The managers from corporate services, human resources, finance services and local economic development, community services and economic development and planning were included in the sample of this study. The reasoning behind this selection was the fact that all

managers in the municipality are managing both the employees and their respective scope of work, which includes recruitment and selection, evaluation and managing their subordinates, among other duties.

DATA COLLECTION TECHNIQUE

The data collection procedure is a combination of interrelated activities or methods of gathering information and getting that information ready for analysis. The importance of data collection is to get information on record, to formulate decisions, solve important problems and to disseminate the data (Creswell et al., 2009). The researcher used semi-structured interview guides for data collection through the distribution of questionnaires to the 17 unit managers of the different departments at uMfolozi Local Municipality (Table 4.1).

Table 1: Number of participants per department

Department	Number of participants
Corporate Services	1
Human Resources	3
Finance Services	2
Local Economic Development	2
Community Services	5
Economic Development and Planning	4

Corporate services – The research depicts that future leaders of South Africa are shaped in part by corporate services provided by local municipalities, which are essential to graduate training and development. In order to improve service delivery and governance, Municipalities can improve their graduate training and development programs by tackling obstacles, seizing opportunities, and incorporating best practices. Administration, human resources, and document management are among the administrative support services that the department is in charge of providing for the municipality.

Human resources – The human resources department plays a crucial role in recruiting and appointing skilled graduates to fill in municipal openings. This particular department also organises conferences, workshops and courses in order to promote graduate skills and knowledge. It further encourages employees to realise their full

potential; establish appropriate compensation policies through negotiation; and maintain a continuous, non-discriminatory process of discussion and consultation with employees on issues of shared interest, with the goal of fostering open communication and mutual trust.

Financial services – This department organises finances for the purpose of supplying graduates with chances for skills development and employment experience. They create treasury rules and standards for local government, to ensure sound and sustainable management of the financial affairs of municipalities and other institutions, and to provide for topics related thereto.

Local economic development – One of the key strategies for reducing poverty is local economic development (LED). This department encourages graduates to launch their own firms, fostering innovation and entrepreneurship, generating employment, and propelling economic progress. By fostering local economic growth, local economic development must aim to provide employment. This suggests that additional manufacturing and enterprises should be established in the local community. In order to strengthen the economy and expand employment possibilities for more people, especially the poor, essential stakeholders in a municipality must unite as part of the IDP.

Community services – The Community Services Department assists graduates in acquiring pertinent skills that increase their employability and appeal to other companies. This department is in charge of ensuring that social services, emergency services, environmental and health services, community safety, traffic management, sports, arts, and cultural services are provided to the communities at a standard that is acceptable.

Economic development and planning – The economic development plan is responsible for identifying skills gaps in important sectors and creating specialised training initiatives for graduates within the Municipality. This department thoroughly assesses the economy, establishing governmental priorities for economic growth, and outlining initiatives, programmes, and methods for economic improvement.

Semi-structured interviews were conducted, with open-ended questions, providing flexibility to the flow of the interview. Moreover, the ultimate advantage of semi-structured interviews is that they establish personal and direct contact between the

interviewers and interviewees, and also limits non-response rates (Creswell et al., 2009). In this study, the managers completed the interview guides, while the researcher documented any additional information and clarified the questions where the need arose. This facilitated the generation of conclusions that fulfilled the objectives of the study.

DATA ANALYSIS

Bhorat et al. (2010) describes data analysis as the process of bringing order, structure, and meaning to the body of collected data. This study employed content analysis as a tool to analyse the data. Content analysis entails the separation of data according to the similarities and differences of the data that was collected from participants by means of semi-structured interview guides with open-ended questions (Creswell et al., 2009). The data was categorised, classified, and arranged according to emerging common themes arising from the participants' responses. After the analysis, the researcher paraphrased the respondents' views based on the themes that emerged. The researcher then professionally assessed and inferred the respondents' information, ultimately compiling a professional report (Creswell et al., 2009).

The descriptive analysis of Tesch's eight steps, in Creswell (2014), was used to interpret and analyse the data. Tesch's eight steps assert the following:

- a) The researcher must read all the transcripts carefully to get a sense of the entire document and responses and write down some that could be utilised as themes and sub-themes.
- b) The researcher must choose one transcript that is shorter and read it while jotting down the basic meaning of what was being read in the margin.
- c) The researcher must proceed reading through all other scripts in the same way, and after all the scripts have been read, list all the identified topics.
- d) The topics must be grouped according to their similarities and classified into columns, as major topics, unique topics, and additional topics.
- e) The researcher may choose appropriate abbreviations for each topic in the data, identifying and reverting to the data with the most appropriate abbreviation for each section of the data.

- f) The most descriptive wording must be identified for each topic, and then classified into themes and subthemes reduce the total list of themes.
- g) The final abbreviation for each theme must be written down in alphabetical order.
- h) The researcher may recode the existing material, if necessary.

LIMITATIONS OF THE STUDY

The qualitative research technique that was employed in this study was subjected to the common obstacle of having a small number of respondents. It is imperative that the researcher emphasises that a sample size of 17 respondents does not make the study entirely representative of all the uMfolozi Local Municipality unit managers and their staff members. However, it must also be emphasised that the data collected from the unit managers at uMfolozi Local Municipality was adequate to successfully carry out this research. Yet, the small sample size makes it challenging to generalise the findings nationally.

In addition, a few of the unit managers were from outside the province of Kwa-Zulu Natal. Hence, their perceptions on graduates' skills shortages, might not be an accurate portrayal of what is transpiring in Kwa-Zulu Natal, and the uMfolozi municipality. The final drawback was that the researcher anticipated that the unit managers who were interviewed at the municipality would be biased in their responses. He assumed that the bias was based on an attempt by the municipality to present itself as being a progressive entity, instead of accepting true circumstances

ETHICAL CONSIDERATIONS

Ethics in research are concerned with protecting the interests and privacy of the participants and others who are or could be affected by the research (Liu et al, 2015). The most important approach to the field involves obtaining the informed consent of the participants and if necessary, those who are responsible for them. Ethical clearance has to be granted by the authority, stating clearly that the participant participates of his or her own accord and may opt out at any time if he or she so wishes. A gatekeeper's letter, which gives consent to pursue research, was granted by the uMfolozi Local Municipality (Appendix 1). Thereafter, ethical clearance was sought and granted by the Research Ethics Committee, University of Zululand (Appendix 2).

Other measures include protecting the privacy and anonymity of the participants and the honest avoidance of deception by the participants or the utilizers of the research. by applying the data.in a dishonest way. Confidentiality is considered to be a fundamental principle, unless there is a risk of serious harm to vulnerable individuals. Confidentiality can be viewed as a continuation of privacy. This refers to agreements between people to restrict access to other people's personal information. Participants were informed of the possible limitations of this principle and of steps that could be taken to avoid violating this principle (Kraak, 2010).

Since the researcher gathered the research from managers, all data obtained from the individuals was kept confidential. In addition, during the interviewing process, the researcher was non-judgemental of the attitudes of the respondents.

Plagiarism, meaning directly copying work, or using the ideas of others without acknowledging the source, should be mentioned in this context, as should the manipulation of data, or the creation of false data (Kraak, 2003). The researcher acknowledged all the sources used to access data, in citations as well as the reference list, to avoid plagiarism.

Informed consent is the process of obtaining a subject's explicit and unfunded consent to participate in research, based on a thorough understanding of the procedures involved and their possible implications (Van Belle et al., 2019). The respondents signed the informed consent, in which it was explained that the information discussed would not remain with the researcher, but would also be disclosed to the supervisor.

STUDY RESULTS

Research results are depicted as the portion of the introduction and data analysis (Van Belle et al., 2019). Results are used as an outline of the coordination of interviews that were used to gather the data. The researcher used the written interview guide questions as a premise to ground the hypothesis based on the factors that contributes to graduate's skills shortages that may be influencing the high rate of unemployment amongst graduate's at uMfolozi rural communities.

Demographic information

The purpose of this section of the data was to describe the demographic variables of the sampled participants. Demographic characteristics were considered because the

main aim of this research was graduate's skills shortages within the rural areas surrounding the uMfolozi Local Municipality. The demographic data included the gender, race, age, and nationality of the employees within the department that the unit managers were managing at uMfolozi Local Municipality (Table 5.1).

Table 2: Demographic characteristics

Participant number	Gender	Age	Race	Occupation	Community status
1	Female	25	Black	Employed	Municipal official
2	Female	27	Black	Employed	Municipal official
3	Male	29	Black	Employed	Municipal official
4	Male	32	Black	Employed	Municipal official
5	Female	37	Black	Employed	Municipal official
6	Male	38	Black	Employed	Municipal official
7	Female	40	Black	Employed	Municipal official
8	Female	42	Black	Employed	Municipal official
9	Male	45	Black	Employed	Municipal official
10	Female	46	Black	Employed	Municipal official
11	Female	48	Black	Employed	Municipal official
12	Male	50	Black	Employed	Municipal official
13	Female	52	Black	Employed	Municipal official
14	Female	54	Black	Employed	Municipal official
15	Male	55	Indian	Employed	Municipal official

16	Male	61	Black	Employed	Municipal official
17	Female	65	Black	Employed	Municipal official

All the participants answered the questions in this section of the interview guide appropriately. Based on the information gathered from the demographic characteristics, it is evident that in terms of gender, females were dominant in this study with a total number of ten (10) participants, while males followed with seven (07) participants. The participation rate in terms of gender infers that the females are dominant in the managerial positions in this municipality.

A majority of sixteen (16) participants were Blacks, with only one Indian participant, and all seventeen participants were South Africans. The data presented on race raises questions on whether rural-based municipalities employ affirmative action (or positive discrimination) candidates when doing recruitment. According to Bledsoe et al. (2021), affirmative action favours policies that are aimed at enhancing the workplace or educational opportunities for those who are underrepresented in some sections of society. Plotters (2021) states that positive discrimination focuses on demographics with historically low representation in leadership, as well as professional and academic roles, and is mostly considered to be a remedy to counter discrimination against certain groups.

The association between age and managerial positions and employment status

UMfolozi Local Municipality unit managers were requested to tick the age category that is appropriate to them. All 17 managers responded to the question, which makes it a 100 percent participation rate. In terms of age, four (04) participants were in the age group of 25–35, and five (05) were between the ages of 36–45, while the majority, namely eight (08), were 46 years and older. The median age was 45 years

In terms of age and managerial position, youths employed in managerial positions and employment status, the data indicate that young people, graduates in this case, are not well represented in managerial positions. Only four (04) of the participants in this municipality represented the youth in strategic managerial positions. Therefore, it is evident that, in this municipality, most of the people in managerial positions are older

than 46 years. Having managers over the age of 46 being employed by this municipality, could mean that those managers have relevant and substantial working experience, hence the dominance of this group amongst the participants.

All participants were asked to indicate the department that they were managing. The majority of the participants were from the Local Economic Development department (LED).

Recognized as a fundamental tool to achieve sustainable development, LEDs are becoming a greater and greater integral part of its core function, and local governments are developing sustainable lighting that meets the basic needs of local communities, to face the challenge of developing sustainable settlements (Abrahams, 2003). However, Abrahams (2003) noted that local governments in South Africa are working on LED concepts.

To build on the arguments by Abrahams (2003), the researcher discovered that even in the 21st century, local governments is still confronted with the same challenges pertaining to LED. Local governments continue to face the challenge of simultaneously improving the quality of life and contributing to the growth of the local economy. Mlambo et al. (2019) found that, in order to achieve the goal of developing sustainable settlements and to address and reduce developmental gaps to prepare for future socio-economic needs, local governments should work with diverse societies within and without the country. We have found that we need a holistic understanding of economic dynamics in the field of governance.

THE CONTRIBUTORY FACTORS TOWARDS GRADUATES' SKILLS SHORTAGES

Bhorat et al. (2010) maintained that the most basic factor causing unemployment amongst graduates, is their lack of adequate skills. Kalie et al. (2006) stated that analysts are in agreement that South Africa's unemployment is structural, meaning that many unemployed people possess inferior skills to what is expected in the marketplace. Rasool and Botha (2011) asserted that South Africa will continue to experience serious shortages of skilled workers, and that this has a negative impact on the economic prospects and global competitiveness of the country. Therefore, a constant skills shortage negatively affects socioeconomic growth and development in South Africa.

The following are the interview questions and answers of the graduate participants, as well as the remarks made by them:

Interview question: What is your take on the availability of resources at universities and colleges, such as computers, labs and so forth, that prepare students for suitable employment in the workplace?

Theme: *Computer labs, labs and other infrastructure play a significant role in enhancing chances for employment*

All participants in this study acknowledged that universities, and other institutions of higher learning in the country are faced with the challenge of limited resources. For example, some institutions' computer laboratories are not adequately equipped, especially those situated in rural or semi-rural areas. While these tertiary institutions do have resources, the participants believed the resources were not enough to accommodate all students. These findings agree with those of Tichoana (2013), who argues that institutions of higher education and training, like all other organisations, need to have sufficient resources if their learning and teaching is to be effective.

Participants 3, 5, and 6: "Universities and colleges that are semi-rural in nature are the ones that are mostly without sufficient resources. Resources such as, inter alia, computer labs and science equipment, are amongst the things that are not sufficient. The issue of the huge number of enrolments versus the available resources also influences the scarcity of resources".

This theme is similar to the skills development theory, in that the theory puts emphasis on technical skills and digital skills. Technical skills also include the mastering of the necessary tools, materials and technologies to effectively perform a required task. Chu, Reynolds, Tavares, Notari, and Lee (2017), argue that technology is fundamentally transforming teaching and learning, since learners, universities, and educators have access to exploratory digital knowledge resources and creative tools.

Interview question: How does a poor understanding of the English language and communication skills contribute to graduate employability?

Theme: *Communication skills have a huge impact on employment*

Communication is important and plays a critical role in the workplace and any other

social settings. All participants believed that communication skills are key to employability, and that the English language, in particular, has a huge impact on the employability of graduates. In South Africa, the English language can be regarded as the universal language of communication. The views and opinions of the participants, however, digress from some literature. For example, Bharathi (2006) conducted a study on the communication skills-core of employability. The study found that the curriculum does not provide any scope for the development of practical and soft skills. It further confirms that the curriculum provides limited scope for developing the writing skills of the learners, but it demands and evaluates memory skills and reproduction abilities. Ultimately, the study pointed out that there are certain gaps in the current educational communication curriculum. These gaps centre around the theoretical acquisition of knowledge, and fail to provide adequate guidance for the development and enhancement of human capabilities.

Interview question: To what extent do you think do universities and colleges have the necessary infrastructure to produce suitable graduates for employment?

This question correlates with the need for other resources such as the infrastructure that is expected to be available in institutions of higher learning and training. According to Tichoana (2013), students mainly focus on the laboratories, lecture halls, etc., when seeking and selecting institutions for higher learning. It is therefore imperative that universities, and other institutions of higher learning and teaching, have good infrastructure with advanced laboratories that are equipped with state-of-the-art equipment because there is a strong belief that good infrastructure has a huge impact on the graduates' output.

Theme: Infrastructure has a huge impact on institutional outlook

The infrastructure of a university, college or any other institution of higher learning and teaching, without a doubt plays an imperative role towards the development of that university or educational institution. Most of the participants believed that laboratories, computers, and other infrastructure played a crucial role in perceptions about an institutional outlook. Institutions that have good infrastructure are said to produce globally competitive graduates.

Indeed, based on the responses given by the participants, one can deduce that an institution of higher education and training that has a good infrastructure would yield

positive results in terms of their graduates being employed. Therefore, institutions of higher education and training need to have a good infrastructure to attract and produce suitable graduates for employment, and there will be no need for employers to conduct long inductions and orientations for newly employed staff (Tichoana, 2013).

Interview question: To what extent do you think internship programmes solve the challenge of graduate's skills shortage?

Theme: Internship programmes have a huge impact on graduates' employability

Most of the participants believed that, as well as preparing the graduates for permanent employment, internship programmes closed the gap between theory and practice. This is in agreement with Anjum (2020), who suggests that academic internships are a bridge to integrate theory and practice by taking part in supervised and scheduled work. These internship programmes not only improve graduates' personal skills, but also help them increase their professional growth and experience (Mabiza et al., 2017). The literature depicted that employee training and internships are two practical ways to address the lack of graduate-level expertise. Jackson (2018) indicated that internship programmes provide graduates with practical experience, meaning that students can use their academic knowledge in real-world settings through internships. In harmony with Harvey et al. (2017), internships aid in the development of critical abilities like problem-solving, cooperation, and communication.

However, in many cases, internship programmes do not serve their purpose. This is because one may view internships as programmes that are designed to benefit the employer, due to the low stipend that interns earn per month. In addition, once the internship contract ends, the intern may be left unemployed while the organisation embarks on a process to employ another intern.

Participant 1 to Participant 15: "Internship programmes do not guarantee a job after completion of the programme, nor does it equip the candidate with adequate skills for a particular job because most internship programmes do not have the budget for training. The intern mainly follows orders and serves as the assistant in the particular office".

Participants 11, 13, 14, and 17: "Internship programmes are an exploitation of graduates, and they do not serve the interest of grooming and providing necessary

skills to graduates. Most internship programmes pay a stipend of as little as R3500 to somebody who has a qualification. This is exploitation of graduates despite the load of work they are usually subjected to. There is a need to revise and review the policies of work integrated programmes, particularly in the government departments”.

Interview question: To what extent do you think does Work Integrated Learning (WIL) address the issue of graduates’ unemployment?

Theme: *WIL has a positive impact on the employability of graduates*

All participants shared the same sentiments that, by addressing the challenges and limitations, and implementing effective WIL strategies, educational institutions and industry partners can enhance graduates’ employability and reduce unemployment rates. Mabungela and Mtiki (2024) wrote that Work Integrated Learning (WIL) is the term for educational experiences that combine theoretical knowledge with real-world application in a work environment, which benefits both current employees and students. By giving the students a mixture of academic course work and practical work-related tasks, WIL is intended to promote the integration of theoretical understanding in the classroom.

Participants 1 to participant 7: “WIL gives students practical experience so they may use what they’ve learned in the classroom to apply to actual situations”.

Participants 7 to participant 15: “WIL makes networking possibilities possible by putting students in touch with business leaders and prospective employers”.

“WIL assists children in acquiring critical abilities, including problem-solving, cooperation, and communication”.

“WIL experiences help graduates find employment by showcasing their skills to prospective employers”.

Participants 16 and 17: “Graduates who take part in WIL, have a higher chance of finding work soon after graduation”.

DISCUSSIONS

The literature reveals that there is consensus that South Africa’s unemployment is structural. Many of the unemployed people possess lower skills than anticipated in the marketplace. According to Bhorat et al. (2010), the most basic factor towards

graduate's unemployment is the lack of adequate skills that prepare students for suitable employment in the workplace. The participants were requested to engage in the question of whether the availability of resources at institutions of higher education and training prepared students for suitable employment and whether the unavailability or scarcity had any influence towards the skills shortage and the employability of graduates. All participants were of the view that universities, colleges and other institutions of higher education and training should have resources. However, some institutions' resources may not be enough to accommodate all students.

The existing literature shows that the infrastructure of a university, college, or any other institution of higher learning and teaching, plays an important role in the development of that university or educational institution, since students focus on those infrastructural elements when selecting an institution of higher education. Participants were requested to share their opinions on whether institutions of higher learning and teaching have the necessary infrastructure to produce suitable graduates for employment. Most participants believed that laboratories, computers, etc. are basic needs when selecting an institution of higher learning and teaching. Moreover, respondents were of the view that institutions that have a good infrastructure, produced globally competitive graduates. Hence, one could conclude that universities and colleges need to have a good infrastructure to produce suitable graduates for employment.

On whether internship programmes solve the challenge of graduate's skills shortage, Anjum (2020) argues that academic internships are a bridge to integrate theory and practice through taking part in supervised and scheduled work. The researcher concludes that internship programmes enhance the employability of graduates. Internship programmes give graduates the opportunity to showcase their talents and skills to prospective employers; hence internships help graduates become more employable (Thompson et al., 2018). Internship programmes are said not only to improve graduates' personal skills, but also to enhance the interns' professional growth and experience. Indeed, most of the respondents (seven) in this study were of the view that internship programmes provided the necessary experience that organisations require. Some of the respondents were of the view that internship programmes were there to close the gap between theory and practice, while others

were of the view that internship programmes prepared graduates for permanent employment.

On the question of whether a good understanding of the English language and communication skills contributed to graduate employability, all participants believed that English has a big impact on the employability of graduates and that communication skills are key to a successful interviews and subsequent employability

The lack of skilled individuals, particularly amongst the youth, is a major problem that South Africa is faced with. The National Party (apartheid government) promulgated numerous laws during the apartheid era, such as the Bantu Education Act amongst others. In her study of Human Capital Development in South Africa: Perspectives on Education in the Post-Apartheid Era, Gamede (2017) explained how the apartheid government introduced a system to separate development for different racial groups in South Africa. In order to enforce racial prejudice in the dissemination of education, the apartheid government introduced the Training and Artisan Act No. 38 of 1951, the Bantu Education Act No. 47 of 1953, and the Extension of University Education Act No. 49 of 1959.

The aim of these Acts was to enforce instruments that laid a significant foundation for unequal access to educational resources and training opportunities that were essential for effective teaching and learning (Mateus et al. 2014) leading to greater inequalities at country level. According to Mateus et al. (2014), these Acts systematically inhibited the human capital development of non-white races from primary, secondary, and tertiary levels of education. The introduction and the implementation of these Acts also resulted in a shortage of sufficient adequately trained teachers in most Blacks schools (McKeever, 2017). Hence the uneven provision of education resulted in the uneven attainment of fundamental skills. Ultimately, this led to occupational inequalities in the labour market (Gamede, 2017).

Gamede (2017) mentioned that, in most black high schools, learners completed their secondary education without Mathematics and Physical Science subjects. According to the aforementioned author, these subjects are the ones providing better opportunities for employment (McKeever, 2017), yet very few Blacks were able to infiltrate into the fields of Mathematics and Physical Science at the university level

(Gamede, 2017). McKeever (2017) concurs with Gamede (2017) in terms of the detrimental effect caused by the enforcement of these Acts in the education sector.

Upon scrutinisation of the literature, the researcher concluded that, with the increase in unemployment, WIL seems to assist companies in hiring graduates with all the qualities and abilities needed for success in the workforce, enabling them to build and expand their enterprises and ensure greater prosperity for all parties involved. It is therefore imperative that institutions of higher learning and teaching include WIL as a prerequisite module before the completion of the qualification. WIL programs have a significant positive impact on graduates' overall development and job prospects (Mabungela & Mtiki, 2024).

Based on the above deliberations, it is evident that the three Acts, which constituted discrimination, affected individuals, the workplace, and society at large. It is evident that these Acts made it difficult for Blacks to obtain the education and training that would prepare them to gain employment of their choice. The post-apartheid government came into power in 1994 and it inherited an education and training system that was racially divided in terms of how differently whites and blacks were educated and trained. Despite the interventions by the democratically elected government, aimed at education and training being made available to all, the student organisations still call for transformation in the education system in South Africa (McKeever, 2017). Also, regardless of the efforts by the Department of Higher Education and Training, there is still a sharp increase in the unemployment rates amongst graduates in South Africa (Li, Whalley & Xing, 2014).

CONCLUSION

On the basis of the outcomes, this study concludes that there are indeed factors that contribute towards graduates' skills shortages at uMfolozi Local Municipality. This study theorised around the contributions of current training and development Acts and policies as motivating factors, and further looked at the contribution of legislative and regulation frameworks to the employment relationships and skills development in South Africa, with uMfolozi Local Municipality as a case study. The researcher deduces that some of these motivating factors are satisfactory measures for combating graduates' skills shortages and, for considering the intervention of employers in curriculum development in institutions of higher learning and teaching.

UMfolozi Local Municipality is strategically located near Richards Bay, which is situated in the city of uMhlathuze and is said to be the economic hub of Empangeni and the surrounding areas. Richards Bay is an industry-oriented environment, which should assist the neighbouring uMfolozi municipality with the capacity to establish programmes that will be a solution to graduate's skills shortages.

The literature revealed that internships provide graduates with industrial insights, hence students are better prepared for the workforce through internships, which provide them with a greater awareness of industry requirements. Hence, the further implementation of meaningful internship programmes that aim to equip fresh graduates with relevant work experience is of fundamental importance. This should help to reduce skills shortages and the high rate of unemployment in the neighbouring uMfolozi municipality.

The proper implementation of the labour relations Acts and policies that guide skills development, may assist affirmative action with the reduction of graduate's skills shortages.

The literature revealed that WIL experiences help graduates find employment by showcasing their skills to prospective employers. Therefore, it is of paramount importance that institutions of higher education and training consider WIL as a prerequisite module before the completion of any qualification.

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Investor sentiment, stock market returns and volatility: evidence from the Johannesburg Stock Exchange

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ABSTRACT

Traditional asset pricing theory asserts that investors are rational and therefore asset prices are solely influenced by fundamental factors. However, the effect of behavioural biases on asset returns has been documented in recent financial literature, leading to the questioning of traditional financial theories. Accordingly, this study investigated whether investor sentiment has an impact on the returns and volatility of the headline indices on the Johannesburg Stock Exchange market over a ten-year period, i.e. January 2007 to December 2017. A composite broad market sentiment index was used to measure sentiment, and the Generalised Autoregressive Conditional Heteroscedasticity models (GARCH 1,1, GJR-GARCH 1,1 and E-GARCH 1,1 using normal, student's t and GED distribution methods) were used as the method of analysis. Findings show that there is a significant relationship between market returns, volatility and investor sentiment on the South African market. These findings point to the inadequacy of traditional asset pricing models as they do not take investor sentiment or any other behavioural component in pricing assets into account, in spite of the evidence that they are significant risk factors. The results have implications for price discovery, risk management and policymaking – all aspects of which the success depends on the proper measurement and forecasting of volatility.

Keywords: investor sentiment; volatility; returns, general autoregressive conditional heteroscedasticity

INTRODUCTION

Background

Traditional finance theories, such as the Efficient Market Hypothesis (EMH), are based on the assertion that investors always make rational investment decisions (Meher &

Mishra, 2024). Oseni and Olanrewaju (2017) further state that there is a widely accepted model for asset pricing, known as the Capital Asset Pricing Model (CAPM), which was developed by Treynor (1961), Sharpe (1964), Lintner (1965) and Mossin (1966). The model is used to determine the required rate of return of a risky asset, with the notion that the price movements are caused by fundamental information flowing into the market and the efficient and rational reaction of investors to that information (Oseni & Olanrewaju, 2017). Much of the assertions in traditional finance theories stem from the Markowitz mean-variance portfolio theory (Markowitz, 1952). Therein, Markowitz (1952) asserted that market participants are willing to construct portfolios that maximise returns, depending on the amount of risk captured, and that volatility in stock prices is driven only by variations in fundamental factors (Wang, Su & Duxbury, 2021).

Over the years, the concept of efficiency has been challenged as a result of human behaviour (Woo, Mai, McAleer & Wong, 2020). According to Yang and Copeland (2014), behavioural literature has proved that investor sentiment does influence trading decisions, leading to mispriced stocks. Further empirical evidence brought forward by Sewell (2012) and Magnuson (2022), alludes to the fact that there are limitations to a fully efficient market. The focus has thus moved to this new and seemingly robust paradigm of finance – behavioural finance. Therein, it is stated that investors are prone to cognitive biases and are not fully rational. Therefore, asset prices and market volatility may be influenced by the investors' sentiments and not only by fundamental factors (Hu, Wang & Chi, 2013). Baker and Wurgler (2007) state that investor sentiment represents the investor's subjective expectations of future asset prices. Since it is widely accepted that human behaviour is indeed a systematic risk factor that influences volatility and asset prices (Cavalli, Naimzada, Pecora & Pireddu, 2021), asset pricing models should include it as a variable.

Rashid, Fayyaz and Karim (2019) state that, to fully understand stock price movements, it is imperative to include the behaviour of market participants. Furthermore, (Kourtidis & Šević, 2011; De Bondt, 2020) argue that to truly understand and elucidate market abnormalities such as price bubbles, it is necessary to comprehend human psychology. This will ensure that participants supersede traditional asset pricing models, which claim that risk is affected solely by fundamental factors (Yang & Copeland, 2014). Ma, Fraser-Mackenzie, Sung, Kansara & Johnson

(2022) declare that investors who make trading decisions that are led by human behaviour instead of fundamental factors, are known as noise traders. These investors often act on impulse and irrationality, but play an important role in the impact that investor sentiment has on asset pricing and the volatility of the market (Gao, Zhao, Sun & Zhao, 2022).

PROBLEM STATEMENT

Asset pricing models should aim to include market sentiment as a variable that impacts the volatility and the returns of financial assets, as this will reflect their true fundamental value. However, as pointed out by Ghazi and Schneider (2020), traditional asset pricing models inaptly assume that asset prices are solely affected by fundamental factors. This assumption creates a problem of deviating asset prices from fundamental values which, in turn, creates problems for investors, portfolio managers and policymakers due to the resulting poor price discovery process (Yang & Copeland, 2014). If efficient pricing is ever to be achieved, behavioural components of asset pricing will have to be taken into account. This study employed an investor sentiment index constructed by (Rupande, Muguto & Muzindutsi, 2019) and Generalized Autoregressive Conditional Heteroskedasticity (GARCH) models to show that market-wide investor sentiment is systematic and should be considered when pricing financial assets.

Research question and objectives

The study addressed the following question: Does investor sentiment influence stock market returns and volatility on the Johannesburg Stock Exchange (JSE)?

The objectives of the study were to:

- Determine the impact of investor sentiment on volatility and returns of the headline indices on the South African market.
- Determine whether sentiment affects the volatility and returns of the headline indices differently on the South African market.
- Determine whether sentiment-augmented models are superior to non-augmented models.

Importance of the study

The research conducted in this paper aims to investigate whether investor sentiment influences returns and volatility on the JSE. Much of the studies in this regard have focussed their attention on financial markets in developed countries such as the United States of America (USA), Germany and the United Kingdom (UK) (Kumari & Mahakud, 2015) and much less so in the developing and emerging markets such as South Africa. Assessing this relationship in South Africa will add to the limited research conducted in the context of emerging markets. Two related studies by Kumari and Mahakud (2015) and Rupande et al. (2019) have also been done in the emerging markets – India and South Africa, respectively. However, this study differs from the mentioned studies as its focus is narrowed down to headline indices on the JSE to achieve its objectives – the Small Market Capitalisation (SmallCap), Middle Market Capitalisation (MidCap) and JSE Top 40 indices as opposed to the broad market indices they employed.

Observing if there is indeed a relationship between these variables will assist policymakers in realising the importance of incorporating investor sentiments when measuring risk and making decisions that affect the markets (Sayim & Rahman, 2015). Doing so may contribute to reducing stock market volatility and uncertainty (Rupande et al., 2019). As this study hypothesises that investor sentiment does influence volatility, the incorporation of market sentiment to asset pricing may result in better portfolio management and measurement of risk by market participants. An integral function of financial markets regarding asset pricing is price discovery, which determines how information is incorporated into prices (Brogaard, Hendershott & Riordan, 2014). It reduces the noise component of prices and acquires different types of information to trade on, making prices more efficient overall (Lin, Chou & Wang, 2018). Therefore, failing to incorporate sentiment in traditional asset pricing models would lead to poor price discovery, causing investors to be misinformed and the market to be volatile due to poor information processing.

LITERATURE REVIEW

Evidence from developed markets

Brown and Cliff (2005) evaluated the predictive power of various investor sentiment proxies employed in previous studies. They used Vector Autoregression (VAR) models

to examine the relationship between a sentiment index and stock market returns. Results suggest that the forecasting power of a sentiment index for future stock returns is weak, but the fluctuations of investor sentiment are correlated with contemporaneous market returns.

Investigating the relationship that exists between investor sentiment and the volatility of stocks, Michelfelder and Pandya (2005) analysed the volatility of stock returns and predictability for emerging Asian economies and differentiated them with the developed markets of the USA and Japan. The Exponential Generalized Autoregressive Conditional Heteroskedasticity (EGARCH) model, using the Skewed Generalised Error Distribution (SGED), addressed the volatility clustering in stock returns. Two important conclusions made by this model regarding noise traders are: the sentiment of noise traders is random and thus cannot be anticipated by rational investors, and the irrationality of noise traders leads to systematic risk. This risk is the result of a variation in fundamental prices and extra volatility. The findings of the paper were that, in emerging markets, the volatility shocks last for longer periods compared to developed countries. This occurs due to the fact that mature markets have information systems that do not allow volatility shocks to persist and ultimately result in a collective volatility shock for the whole market. Kumar and Lee (2006) conducted a study in the United States spanning from 1991-1996. The purpose of the study was to test the noise trader model as the model asserts that individual investor sentiment has an influence on stock returns. This was implemented through the investigation of the impact of over one million retail transactions on stock returns. Results suggested that the noise trader theory holds. Thus, transaction activities in the retail space had an incremental explanatory power for small stocks, value stocks and stocks with lower prices, resulting in the conclusion that investor sentiment is significant in stock prices.

Finter, Niessen-Ruenzi and Ruenzi (2012) examined the effect of investor sentiment on the German stock market. The Principal Component Analysis (PCA) was used to construct a sentiment indicator that condenses the information of several well-known sentiment proxies. Contrary to the above study conducted in the USA, where investor sentiment has strong predictive power over future stock market returns and prices, it was found that the opposite is true for the German stock market. This is mainly due to the German market being dominated by institutional investors who are less likely to make decisions based on sentiment fluctuations. Baker, Wurgler and Yuan (2012)

conducted a study on markets in Canada, France, Germany, Japan, the UK and the USA to examine the contribution of the global component of sentiment on the stock prices of highly integrated markets. The research found that sentiment fluctuations, reflected in returns and volatility, influence arbitrage opportunities, portfolio management and capital budgeting. Shu and Chang (2015) examined periods of aviation disasters, terrorist attacks, huge sporting events and others, to examine how sentiment emerging from these events influences prices in the financial markets. Results from this study proved that prices in financial markets are elevated with higher sentiments, whilst there is a decrease in prices with lower sentiments. Empirical evidence also shows that, when there are good events and investors are optimistic, sentiment has a stronger influence on prices.

Da, Larrain, Sialm and Tessada (2016) conducted a study in Chile to see whether noise trading results in increased volatility. They observed both equity and bond markets and focused on the volatility caused by a large number of individual investors, as it seemed that their investment decisions contributed to a large amount of volatility. Prices in both markets seemed to shift from intrinsic values as a result of a large number of individual investors making similar trades around the same time. The volatility on the Santiago's Stock Market Equity Index and the Dow Jones LATIxx Chile Government Bond Index, was observed before the firm entered the markets in 2011 up until a few years later. It was found that investors often switched from funds when they observed large changes such as the 2008 financial crisis. Thereafter, in 2009, the markets started stabilising with investors moving back to funds with the risk they preferred before the crisis. After 2011, the markets saw high volatility after each recommendation by the firm. As mentioned, these recommendations were not rational. This study proves that noise trading does affect volatility as suggested by Shiller (1981) and Black (1976).

Evidence from emerging markets

The impact of sentiment on financial markets has been a subject of many studies over time. A study by Chi, Zhuang and Song (2012) compared the returns of stocks with high and low sentiment to observe the relationship between investor sentiment and stock returns. It was found that, in the long run, stocks with high sentiment had a higher return than stocks with low sentiment. These results were not as expected, as usually the converse is true with sentiment pushing stock prices above the intrinsic value

(Chen & Haga, 2021). This discrepancy resulted as the study was conducted in an emerging capital market. The findings of Białkowski, Etebari and Wisniewski (2012), which revealed that during the holy month of Ramadan stock markets illustrate abnormal returns, but low volatility. This is not substantiated by fundamental factors, thus proving that during this month investors are merely optimistic, and this optimism leads to a higher volume of investment. Chi et al. (2012) also looked at investor sentiment and its relationship with stock returns and volatility in an emerging capital market – the Chinese stock market. The focus was on the inflows and outflows of different types of mutual funds, and trying to relate these to different stocks in order to measure individual sentiment. A measure by Frazzini and Lamont (2008) was used to assess the sentiment indicator on individual stocks held by mutual funds. Considering a positive relationship between the flows measured and return volatility, the conclusion was that investor sentiment does affect volatility.

Kumari and Mahakud (2015) looked at whether Indian stock market returns, an emerging market, are affected by investor sentiment. To see this, they developed a broad-based irrational aggregate investor sentiment index and used GARCH models to examine the impact of changes in investor sentiment on the market volatility and returns. From the findings, volatility is affected negatively and positively by past investor sentiments and by past returns. The study also mentions that the results show that investor sentiment is priced as a systematic risk factor in the Indian market and that it plays a huge role in predicting the market's future returns and volatility. Unlike developed markets characterised by a large number of retail investors who influence market returns, institutional investor sentiment affects stock returns and volatility more in India.

A study by Sayim and Rahman (2015) investigated if stock returns, volatility and individual investor sentiment are related in Turkey. Evidence is from the Istanbul Stock exchange, which is a developing market. For investor sentiment, the monthly Consumer Confidence index was used as a proxy. To measure its impact on stock returns and volatility, they used impulse response functions from the VAR model. The study found that the Istanbul's Stock exchange returns were increased by any positive investor sentiment and that unanticipated increases in rational investor sentiments in the market resulted in significant negative impact of the stock market's volatility. This suggests that stock returns, volatility and individual investor sentiment are indeed

related. The authors conclude that these findings suggest that investors in Turkey have positive expectations about their economy as a whole.

Evidence from South Africa

Dalika and Seetharam (2014) analysed the relationship between stock returns and investor sentiment on the South African market. The study investigated two questions of central importance concerning investor sentiment: does investor sentiment have an influence on the South African market and is the effect of sentiment greater on securities that are difficult to value and arbitrage. A linear combination of volatility premium, the total volume of Initial Public Offerings (IPO), average initial first day returns of IPOs and market turnover was used to construct a composite sentiment index. The primary empirical finding is that sentiment has a broad cross-sectional and rich effect on securities in the South African market. When investor sentiment is relatively high, young stocks, highly volatile stocks, small firm stocks and extreme growth experience low future returns relative to other securities.

Balcilar, Gupta and Kyei (2018) conducted a study in South Africa, an emerging market, with the aim of predicting returns and volatility using investor sentiment indices. This was done by replicating an investor sentiment index constructed by Baker and Wurgler (2006) and combining it with the non-parametric causality-in-quantiles test proposed by Balcilar et al. (2018). Findings indicate that the two indices employed in this study are able to predict returns and volatility. They associate such findings with the noise trader theory as this limits the ability of fully arbitraging mispricing in the stock markets.

Rupande et al. (2019) examined the effect of volatility and investor sentiment on the JSE All Share Index (ALSI) by utilising GARCH-in Mean (GARCH-M) specifications augmented by a sentiment factor under the three error distribution assumptions by analysing daily data over the period 2002 – 2018. The results found that the effect of past returns and past shocks on the JSE ALSI to the conditional mean will disappear after one period. Significant evidence of a positive relationship between risk and return on the JSE was also found, showing that volatility is a priced factor on the JSE. Evidence of leverage effects and volatility persistence were also present in the results found. Investor sentiment was found to be a significant factor in describing the conditional variance and returns on the JSE. The Glosten, Jagannathan and Runkle

(GJR-GARCH-M), with an investor sentiment factor, was found to be the most ideal for volatility modelling. This attests to the significance of investor sentiment on the JSE.

DATA

Returns calculation

This study employed daily closing prices, dividend yields and volume turnover on the SmallCap, MidCap and JSE Top 40 indices from the Iress (2024) database over the period of January 2007 – December 2017. This period was chosen due to the fact that it includes the financial crisis and several political changes both globally and in South Africa. The study used daily data rather than weekly or monthly data for two reasons: firstly, it would be easier to identify and trace the origins of trends, spikes and drops in share prices and the overall market; and secondly, a higher frequency of data would lead to the models used to generate more accurate results, as financial forecasting is often inaccurate if less frequent data estimates are used (Zhang & Wang, 2019). Accordingly, the daily returns on the indices were computed as:

$$R_t = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}} \quad (1)$$

where: R_t is the total daily return; D_t is the closing price for dividends on day t ; P_t is the closing price on day t and P_{t-1} is the closing price on the previous day. The dividend payment was estimated by multiplying the specific market's (JSE Top 40, MidCap or SmallCap) dividend yield on day t by P_t . The returns were transformed to logs because the log-normal distribution of returns, especially over a longer term than daily is satisfactory, because the skew of log-normal distribution is positive, whereas actual market returns, for example, JSE Top 40, are negatively skewed. In the initial tests to be conducted, student's t is one of the choices of distribution along with the normal distribution and Generalised Error Distribution (GED). Therefore, the decision to transform the data to logs was taken. If logs were not computed, it gives the assumption that the expected value of any such stock in one day is infinity.

Investor sentiment

Due to the nonexistence of an uncontroversial measure of investor sentiment, a sentiment measure constructed by Rupande et al. (2019) was employed. The measure was based on daily data on the exchange rate between the South African Rand and

the USA dollar (Exch), the prime rate (Prime), the 90-day Treasury bill rate (Treasury), the repo rate (Repo), the trading volume of the JSE ALSI (Volume), the volume-weighted average price changes of the JSE ALSI and the SAVI (South African Volatility Index) (Savi). The selection of these proxies was on based on the availability of data and motivation from available literature. Thereafter, PCA was used to derive a sentiment index from the fitted proxies. The composite sentiment index was formulated using this technique because it permitted the reduction of the data's dimensionality. This aids the ability to interpret the data without information loss in the determination of whether investor sentiment influences stock volatility and returns on the South African market (Jolliffe& Cadima, 2016).

Orthogonal transformation is used by the PCA technique to transform an array of correlated series into a set of linearly uncorrelated ones (Li & Ran, 2020). The Varimax rotation was used to rotate the PCA matrix in order to maximise the variance of the loadings. Baker and Wurgler (2006) stated that some sentiment proxies take longer to display sentiment. To account for this, an index with first principal components of the current values and one-period lagged values was established. This led to the evaluation of the correlation between the first stage index and the current and lagged values of each of the proxies. A composite index (InvSent) was then specified as the first principal component of the correlation matrix of the factors – each corresponding proxy's current or lagged values, whichever had a greater correlation with the first-stage index as (Rupande et al., 2019):

$$InvSent_t = \theta_1 Exch_{t-1/t} + \theta_2 Prime_{t-1/t} + \theta_3 Treasury_{t-1/t} + \theta_3 Repo_{t-1/t} + \theta_3 Volume_{t-1/t} + \theta_3 Vwap_{t-1/t} + \theta_3 Savi_{t-1/t} \quad (2)$$

where: θ_i displays the factor loadings on the first principal components of the proxies, which are lagged and contemporaneous. According to Kumari and Mahakud (2015), the relationship between sentiment and price volatility is contemporaneous at the level of individual securities. A study by Lee, Jiang and Indro (2002) studied the impact of sentiment on returns and volatility using the GARCH model and found that excess returns are contemporaneously positively correlated with shifts in sentiment. The terms in the mean and variance equations are lagged and contemporaneous due to the present value of stock returns, depending on its own past lagged values in order to condition the volatility on the past values. The inclusion of lagged implies that

investor sentiment has a considerable effect on the mean-variance equations when using GARCH models (Kumari & Mahakud, 2015).

Stationarity and unit root tests

Stationarity and Unit Root Tests were conducted first as stationarity can strongly influence the behaviour and properties of a series, and lead to spurious regressions. If the variables in the model are not stationary, standard assumptions for asymptotic analysis will not be valid and hypothesis testing of the regression parameters cannot be conducted (Brooks, 2019). Estimation involved applying the Augmented Dickey-Fuller (ADF) stationarity test to test for the presence of unit roots, and the Kwiatkowski Phillips Schmidt Shin (KPSS) stationarity test to test for stationarity. ADF is the higher order test of the Dickey-Fuller test which can be used with serial correlation (Sjösten, 2022). However, the model should be used with caution because, like most unit root tests, it has a relatively high type-one error rate. The null hypothesis for this test is that there is a unit root against the alternative that the variable is stationary. The ADF test equation is:

$$\Delta y_t = \psi y_{t-1} + \sum_{i=1}^p \alpha_i \Delta y_{t-1} + u_t \quad (3)$$

On the other hand, the KPSS test hypothesises that a variable is stationary against the alternative that it is not (Shin & Schmidt, 1992; Syczewska, 2010). The KPSS statistic is based on a linear regression and consists of three variables: a random walk (r_t), a deterministic trend (β_t) and a stationary error (ε_1), with the regression equation:

$$x_t = r_t + \beta_t + \varepsilon_1 \quad (4)$$

KPSS-type tests are intended to complement unit root tests such as the Dickey-Fuller tests, through testing both the unit root hypothesis and the stationarity hypothesis. Should the results obtained from each test clash in terms of the order of integration, the KPSS test will be favoured compared to the ADF test. This is because KPSS tests for a null hypothesis of stationarity, while ADF tests for non-stationarity. A null hypothesis cannot be proven – it can only be affirmed or rejected. Therefore, rejecting the null hypothesis implies that the alternative is more correct than the null (Shin & Schmidt, 1992).

METHOD OF ANALYSIS

GARCH (1,1)

Generalised Autoregressive Conditional Heteroscedasticity (GARCH) models were employed to examine the effects of investor sentiment on market returns and volatility. To estimate GARCH models, it is necessary to test for serial correlation in the data and this was carried out using the Ljung Box test (Kumari & Mahakud, 2015; Brooks, 2019). Since the correlation of the residuals with one another was found, the Ljung-Box and Autoregressive Conditional Heteroscedasticity – Lagrange Multiplier (ARCH-LM) Engle and Ng (1993) tests were conducted to test for autocorrelation. These tests were conducted both before and after the estimation of the GARCH models. The lag order of (1,1) was employed as most empirical work in South Africa has shown that it captures the ARCH effects and the autocorrelation in the variance (Mangani, 2008; Mandimika & Chinzara, 2012; Yavas & Dedi, 2016). In cases where these first-order models failed to capture the inherent ARCH effects and autocorrelation, higher order models were used. The mean equation for GARCH (1,1), both with and without sentiment were estimated respectively as:

$$y_t = \mu + \alpha y_{t-1} + v\varepsilon_{t-1} + \delta h_{t-1} + \theta \Delta InvSent_t + \varepsilon_i \quad (5)$$

$$y_t = \mu + \alpha y_{t-1} + v\varepsilon_{t-1} + \delta h_{t-1} + \varepsilon_i \quad (6)$$

where: y_t represents the index returns; δ denotes the risk premium; α captures the effect of past returns; v captures the effect of past shocks; $\Delta InvSent_t$ represents the changes in investor sentiment in the mean and conditional variance equation. The conditional variance (h_t) for GARCH (1,1), both with and without sentiment, respectively, were estimated as:

$$h_t = \omega + \alpha \varepsilon_{t-j}^2 + \beta h_{t-i} + \varphi \Delta InvSent_t \quad (7)$$

$$h_t = \omega + \alpha \varepsilon_{t-j}^2 + \beta h_{t-i} \quad (8)$$

A limitation of the GARCH (1,1) model of Bollerslev (1986) is that the estimated model may violate the non-negativity conditions. Therefore, artificial constraints must be placed on the model coefficients in order to avoid this. The GARCH model can account for volatility clustering and leptokurtosis as well as leverage effects (Brooks, 2019). According to Black (1976), leverage effects is the notion of positive and negative shocks of the same magnitude, having different results on stock market volatility.

GJR-GARCH (1,1)

The GJR-GARCH model by Rabemananjara and Zakoian (1993) and Glosten, Jagannathan and Runkle (1993) captures the asymmetry in terms of negative and positive shocks and adds a multiplicative dummy variable to check whether there is a statistical difference when shocks are negative versus when they are positive (Kumari & Mahakud, 2015).

The mean equation estimated for Glosten, Jagannathan and Runkle (GJR) - GARCH (1,1) is the same as that of GARCH (1,1), represented by equations 5 and 6, for both with and without sentiment, respectively.

The conditional variance (h_t) for GJR-GARCH (1,1) both with and without sentiment respectively, were estimated as:

$$h_t = \omega + \alpha \varepsilon_{t-1}^2 + \beta h_{t-j} + \gamma \varepsilon_{t-1}^2 d_{t-1} + \varphi \Delta InvSent_t \quad (9)$$

$$h_t = \omega + \alpha \varepsilon_{t-1}^2 + \beta h_{t-j} + \gamma \varepsilon_{t-1}^2 d_{t-1} \quad (10)$$

The leverage effect in Equation 9 is denoted by a positive γ . However, since the non-negativity constraints may still be violated under the GJR-GARCH model, the condition for non-negativity, where $\omega > 0$, $\alpha > 0$, $\beta \geq 0$, and $\alpha + \gamma \geq 0$, has to be satisfied. The model is still admissible, even if $\gamma < 0$, provided that $\alpha + \gamma \geq 0$.

EGARCH (1,1)

Consequently, the GARCH model has been modified a number of times. One of the extensions is the Exponential GARCH (EGARCH) model proposed by Nelson (1991). The EGARCH model also allows for asymmetric effects between positive and negative asset returns (Kumari & Mahakud, 2015).

The mean equation estimated for EGARCH (1,1) is the same as that of GARCH (1,1), represented by equations 5 and 6, for both with and without sentiment, respectively.

The conditional variance (h_t) for EGARCH (1,1) both with and without sentiment respectively, are estimated as:

$$\log(h_t) = \omega + \alpha \left[\left| \frac{\varepsilon_{t-j}}{\sqrt{h_{t-j}}} - E \left(\frac{\varepsilon_{t-j}}{\sqrt{h_{t-j}}} \right) \right| \right] + \gamma k \frac{\varepsilon_{t-k}}{\sqrt{h_{t-k}}} + \beta h_{t-i} + \varphi \Delta InvSent_t \quad (11)$$

$$\log (h_t) = \omega + \alpha \left[\left| \frac{\varepsilon_{t-j}}{\sqrt{h_{t-j}}} - E \left(\frac{\varepsilon_{t-j}}{\sqrt{h_{t-j}}} \right) \right| \right] + \gamma k \frac{\varepsilon_{t-k}}{\sqrt{h_{t-k}}} + \beta h_{t-i} \quad (12)$$

With the EGARCH in Equation 11, there is no need to artificially impose the non-negativity constraints as it models conditional variance in logs. The log of conditional variance makes the leverage effect exponential instead of quadratic and therefore, the estimates of the conditional variance are guaranteed to be non-negative. However, the following conditions still need to be met, where $\omega > 0$, $\alpha_j + \beta_i < 1$. The leverage effect under the EGARCH is shown when $\gamma < 0$.

Equations 8, 10 and 12 were estimated using the GED. Seeing as financial time-series data does not follow a normal distribution and the t-distribution is most efficient when dealing with a relatively small sample size, the descriptive statistics were analysed and a conclusion was drawn that the GED would be the most suitable option (Cappuccio, Lubian & Raggi, 2004; Zuoxiang, Bin & Nadarajah, 2009). The GED is efficient when the errors around the mean of a distribution are not normally distributed and are of special interest to the subject under study – as is in this case. The best model was selected based on Schwarz's Bayesian Criterion (SBIC), since SBIC is most efficient in a large sample, while Akaike Information Criterion (AIC) is not. In a small sample AIC is efficient, but SBIC is not (Brooks, 2019). The results from the estimated models are reported in the section below.

RESULTS AND INTERPRETATION

Analysis of stationarity tests

Table 1 below depicts the results of the stationarity tests – ADF and KPSS tests – employed to determine the order of integration of the variables employed in this study. Evidence from both tests show that the investor sentiment index (InvSent) is I(1), that is, it has unit roots. However, the returns series on all the indices (Top40, MidCap and SmallCap) is I(0). This means that only the sentiment index had to be differenced once before estimating the GARCH models to avoid spurious estimations.

Table 1: Unit root tests (ADF)

Null Hypothesis: The variable has a unit root				
At Level				
	INSENT	SMLCAP	MIDCAP	TOP40
Constant	-1,7156	-25,6843***	-47,2006***	-52,9492***

Constant and Trend	-2,6495	-25,6818***	-47,1928***	-52,9395***
At First Difference				
Constant	-37,9379***			
Constant and Trend	-37,9393***			

***, ** and * denotes significance at the 1%, 5% and 10% levels of significance, respectively.

Table 2: Stationarity tests (KPSS)

Null Hypothesis: The variable is stationary				
At Level				
	INVSENT	SMLCAP	MIDCAP	TOP40
Constant	2,8151***	0,1148	0,0689	0,0416
Constant and Trend	0,2279***	0,1172	0,0623	0,0403
At First Difference				
Constant	0,1003			
Constant and Trend	0,0543			

***, ** and * denotes significance at the 1%, 5% and 10% levels of significance, respectively.

Analysis of descriptive statistics

Table 3 below reports the descriptive statistics of the three-return series. From the table, there is no evidence of an outlier in the data, as the minimum and the maximum values from all three market returns are more or less equal to each other. The mean returns are nearly equal for the SmallCap and MidCap but are slightly higher for Top 40 data. Similarly, the standard deviations for all market returns are relatively low but slightly higher for Top 40 returns. All the returns series are slightly negatively skewed and leptokurtic, which is reflective of abnormal distribution. The null hypothesis is that data that is normally distributed, is rejected in the Jacque-Bera, consistent with the skewness and leptokurtic values. This suggests that a linear structural model such as Ordinary Least Squares cannot be used on Small Cap, Mid Cap and Top 40 indices as it does not explain the mentioned features of the data (Brooks, 2019). This explains why a non-linear data generating process (GARCH) is preferred in this study. This

departure from the normality of return distribution has implications for GARCH models through the introduction of the leverage effect to stochastic bubbles (Urom, Onwuka, Uma & Yuni, 2020) and the volatility feedback effect (Allen, 2020).

Table 3: Descriptive statistics

	SMLCAP	MIDCAP	TOP40
Minimum	0,987408	0,988958	0,979210
Maximum	1,016747	1,014135	1,023786
Mean	1,000097	1,000110	1,000124
Kurtosis	11,13747	4,830198	4,940825
Standard Deviation	0,001598	0,002390	0,004713
Skewness	-0,393485	-0,279961	-0,159131
Jarque-Bera	7652,928***	419,4291***	442,8967***
ARCH LM Statistic	193,4757***	83,55178***	71,22517***

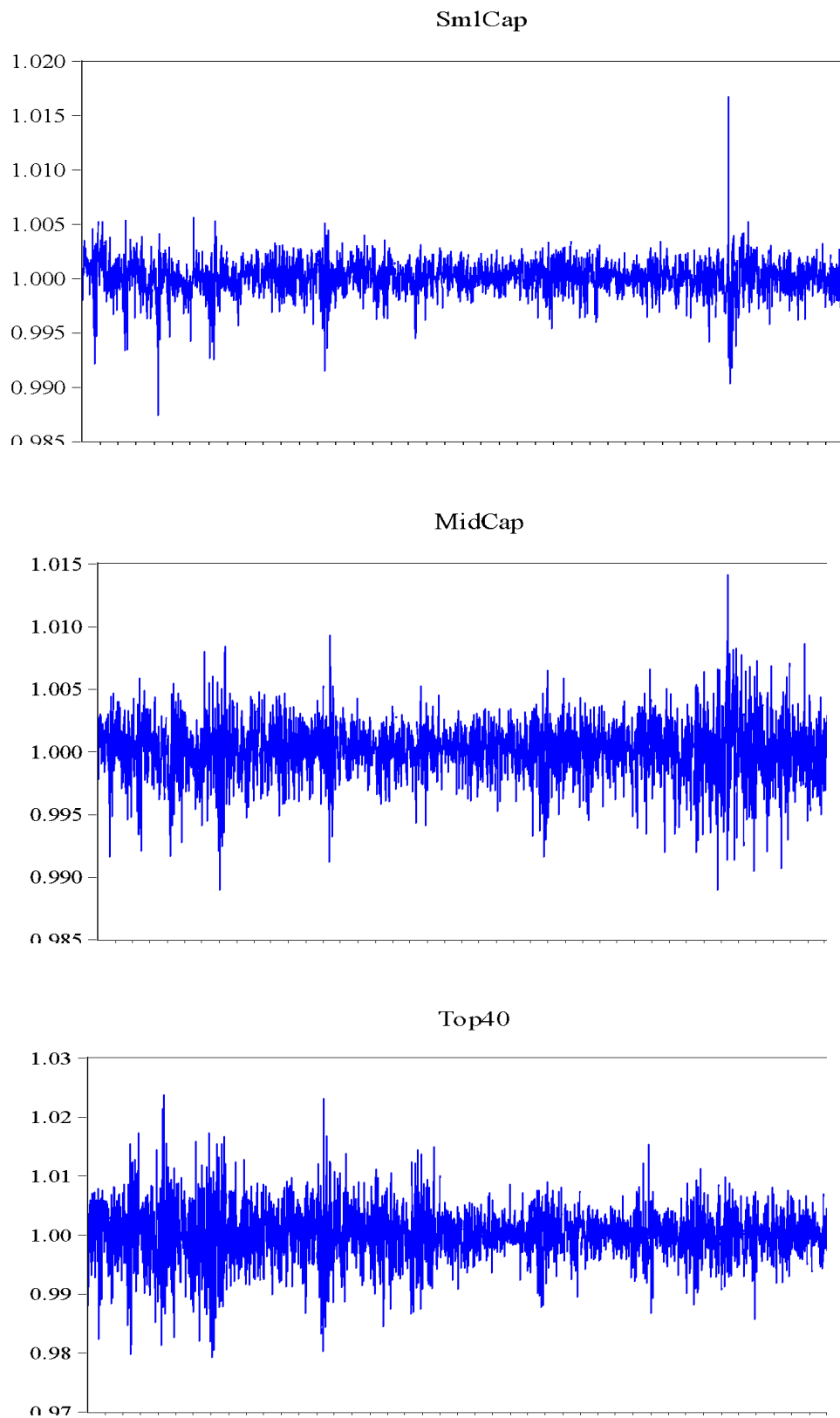
***, ** and * denotes significance at the 1%, 5% and 10% levels of significance, respectively.

Analysis of Autoregressive Conditional Heteroscedasticity (ARCH) Effects

Volatility clustering explains the likelihood of large changes in asset prices to follow large changes and small changes to follow small changes. Therefore, the current level of volatility is positively correlated with its level during the immediately preceding periods (Brooks, 2019). Figure 1 below plots daily returns for the indices over the sample period. For the SmallCap index, there appears to have been a prolonged period of relative stability during the 2007 to 2015 period, evidenced by only relatively small positive and negative returns until that point. During mid-2015 to 2016, the volatility was significantly higher, when many large positive and large negative returns were observed during a short space of time. When a market suffers a volatile shock, more volatility should be expected. This can be seen by the persistence of volatility shocks for both the MidCap and JSE Top 40, during the sample period. Comparing all three indices, it can be seen that the MidCap and JSE Top 40 indices exhibit higher volatility clustering than the SmallCap index. While the GARCH model captures

volatility clustering and leptokurtosis, the E-GARCH and GJR-GARCH models capture volatility clustering, leptokurtosis and volatility persistence (Masinga, 2016).

Figure 1: Daily returns for January 2007 – December 2017



Model selection criteria

Following the confirmation of the presence of ARCH effects above, the three models – GARCH (1,1), TGARCH (1,1) and EGARCH (1,1) – were estimated. These models were estimated under three distribution assumptions – Normal, Student's t and GED. The SBIC from the outputs are reported in Table 3 (without sentiment augmentation) and Table 4 (with sentiment augmentation). The market indices were compared using the SBIC information criterion, due to it being asymptotically efficient (Kumari & Mahakud, 2015). In both tables, the SBIC is minimised by the EGARCH (1,1), estimated using the GED distribution. Overall, however, the information criteria are optimally minimised for all the distributions and markets, where there is sentiment. This suggests that sentiment does have an impact on asset returns and volatility (Brooks, 2019).

Table 4: Distribution without sentiment

Variable	Distribution	GARCH	TGARCH	EGARCH
SMLCAP	Normal	2,846718	2,8496	2,846718
	Student's t	2,849601	2,852522	2,852532
	GED	1,423678	1,426559	1,423672
MIDCAP	Normal	2,846748	2,849629	2,846748
	Student's t	2,849631	2,852534	2,852562
	GED	1,423673	1,426555	1,423561
TOP40	Normal	2,846792	2,849673	2,846792
	Student's t	2,849674	2,852587	2,852606
	GED	1,442901	1,445783	1,442883

Table 5: Distribution with sentiment

Variable	Distribution	GARCH	TGARCH	EGARCH
SMLCAP	Normal	2,630963	2,631362	1,636519
	Student's t	2,697084	2,71077	1,639814
	GED	2,514517	2,518262	1,115728
MIDCAP	Normal	2,62949	2,630828	1,643159
	Student's t	2,697735	2,711908	1,639385
	GED	1,392384	1,395142	1,106451

TOP40	Normal	2,630963	2,631362	1,636519
	Student's t	2,697084	2,71077	1,639814
	GED	2,514517	2,518262	1,115728

Analysis of model parameters for models with sentiment

Table 6 below lists the parameter values for the EGARCH model both with and without sentiment. When comparing the coefficients of all three indices both with and without the effects of sentiment, the results obtained suggest that the ARMA (1,1) coefficients are statistically significant at all conventional levels of significance for all indices, with sentiment. This is as expected in accordance with literary evidence (Michelfelder & Pandya, 2005; Frazzini & Lamont, 2008; Kumari & Mahakud, 2015; Sayim & Rahman, 2015; Rupande et al., 2019). The studies all agree that investor sentiment does need to be included in asset pricing models in order to provide results that are fundamentally accurate. Accounting for irrational investors, noise traders and behavioural finance prevents problems associated with price discovery, portfolio management and risk management. Therefore, correlation does exist between market index returns and its past values, which indicates that stock trading prices, historical returns and unexpected shocks eventually revert to their long-term mean (Brooks, 2019).

Now comparing the three indices with sentiment, it can be seen that the coefficient of risk aversion (δ) is positive and significant for the MidCap. This indicates that higher risk leads to higher returns. Thus, δ can be interpreted as a risk premium. The risk premium is negative and significant at the 1% and 10% levels of significance for the JSE Top 40 and SmallCap, respectively, indicating that there is feedback from the conditional variance to the conditional mean (Brooks, 2019).

The parameters for all indices with sentiment are statistically significant in the conditional variance equation. This shows that current volatility can be depicted by past shocks (α), volatility in the previous period (β) and changes in investor sentiment (ϕ), with previous period volatility accounting for the majority of the volatility. The results for all indices without sentiment show that $\alpha + \beta < 1$, which indicates the stationary condition, is satisfied and persistence in volatility does exist. A shock in current volatility will affect the expected volatility in future periods (Brooks, 2019). There is a negative effect on conditional volatility and returns for changes in investor sentiment in the JSE Top 40 and MidCap markets. This indicates that, when sentiment

is high, there is an increase in mispricing in the market. This results in a fall in the prices and returns. This is in accordance with the findings by Dalika and Seetharam (2014) on the South African market.

Table 6: Results from the various E-GARCH specifications

Mean	TOP40		SMCAP		MIDCAP	
	-InvSent	+InvSent	-InvSent	+InvSent	-InvSent	+InvSent
AR(1)	0,431078	1,000000***	0,310963	1,000001***	0,228800	0,889773***
MA(1)	0,248792	-0,998976***	0,346370	-0,975171***	0,591654	0,849470***
δ	-	-0,000310***	-	-9,66E-05*	-	0,030806***
Variance						
ω	-0,021798	-3,224697 ***	-0,000956	-2,569091***	-0,002459	-2,324069***
α	-0,441175	0,140533***	-0,572311	0,319392***	-0,593743	-0,324750***
β	-0,523693	-0,052542**	-0,572104	-0,039140**	-0,593558	-0,604385***
γ	0,391605	0,708576***	0,203324	0,821783***	0,216717	0,427234***
φ	-	-0,052868***	-	0,000968	-	-0,038396***
$\alpha + \beta$	-0,964868	0,087991	-1,144415	0,280252	-1,187301	0,929135

***, ** and * denotes significance at the 1%, 5% and 10% levels of significance, respectively.

-InvSent denotes 'without investor sentiment' and +InvSent denotes 'with investor sentiment.'

Residual diagnostics

Following the estimation of the EGARCH models, model diagnostics were conducted with the null hypothesis of no serial correlation in the residuals versus an alternative that there is serial correlation. All the residual diagnostic tests - Q Statistics, Squared Residuals and Serial Correlation Tests – indicated that there was no more serial correlation in the residuals, following the estimation of the EGARCH model.

CONCLUSION

The study aimed to determine whether investor sentiment affects market returns and volatility on the SmallCap, MidCap and the JSE Top 40 indices; whether any impact noted was different for the South African market in particular; and whether sentiment-augmented models are superior to non-augmented models. GARCH models were employed over the period 2007 – 2017. A sentiment measure constructed by Rupande et al. (2019) was introduced in both the mean and variance equations of the models.

From the results, GARCH models performed better when investor sentiment was included, which suggested a significant relationship between market returns and investor sentiment. Investor sentiment, therefore, did affect returns and volatility. Results showed that the SmallCap index with investor sentiment gave the best results of all GARCH models employed and can be supported with evidence from a study by Baker and Wurgler (2006). Their study tested and verified that stocks of smaller

companies belonging to the SmallCap index are more likely to be disproportionately affected by sentiment, because they have valuations that are highly subjective and difficult to arbitrage (Baker & Wurgler, 2006).

The findings of this study were as expected, due to South Africa being an emerging market. Michelfelder and Pandya (2005) suggested that volatility shocks last longer in emerging markets than in developed countries, and information systems in mature markets do not allow volatility shocks to persist. A possible reason for this, as explained by de Almeida, Júnior, Gaio and Lima (2024), is that a large proportion of investors in emerging markets are often irrational. Therefore, emerging market investors lack the ability to understand and correctly interpret market announcements, indicators and movements – making them more likely to be driven by sentiment rather than fundamentals (Cole, Melecky, Mölders & Reed, 2020). In favour of behavioural finance, market returns and volatility in the SmallCap, MidCap and the JSE Top 40 were influenced by investor sentiment.

Since the JSE markets were affected by investor sentiment, it is important that investors also incorporate such sentiment to measure risk when constructing their portfolios and making investments. More diversified portfolios will then be preferred in order to reduce the risk associated with behavioural finance and maximise returns on investments. From this study, policymakers may realise that market volatility is not only affected by the fundamentals, but also by investor sentiment. Including sentiment in asset pricing models may contribute to reducing market volatility and uncertainty, as it will ensure that participants supersede traditional asset pricing models, and true fundamental values are reflected (Yang & Copeland, 2014). Accounting for investor sentiment in analysis increases the accuracy with which volatility is measured and forecasted, which in turn will result in better portfolio management, price discovery and the measurement of risk.

An earlier study by Rupande et al. (2019) has also been conducted on the South African market. However, while the work of Rupande et al. (2019) was based on the broad JSE ALSI, this study delves deeper and analyses the SmallCap, MidCap and JSE Top 40 indices, as opposed to the broad market indices previously employed. Focusing only on the three headline indices can, however, still be seen as a limitation to this study. Future studies should consider analysing individual stocks and/or a

portfolio of similar stocks. This is because returns and the volatility of an individual company's shares may each be affected differently by investor sentiment and, therefore, this may not be well captured when focusing on different markets. An additional factor to consider for future studies is one of structural breaks. A structural break is a sudden shift in a macroeconomic time series (Allaro, 2018). Seeing as this study involved time series analysis, it is based on the assumption of stationarity and the constancy of parameters over time. Therefore, a structural break could affect any or all of the model parameters and each case would in turn have its own respective impact (Boot & Pick, 2020).

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Organizational justice, organizational citizenship behavior and intention to stay of employees at Sedibeng College in southern Gauteng

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ABSTRACT

Employee turnover is a major concern in higher education institutions (HEIs) as qualified employees migrate to the private sector and other HEIs that offer better rewards, benefits and working environments. Retaining talented employees in HEIs is critical as they play a significant role in the country's education system. There are various predictors of employee turnover. This study investigates two of them: organizational justice (OJ) and organizational citizenship behavior (OCB). The study seeks to provide an insight into the current practices of OJ in HEIs, specifically their impact on employees' OCB and how this consequently affects the employees' intention to stay (ITS) with the institutions.

Academics play an integral part in the development of students in HEIs. For this reason, HEIs must have employees who will go above and beyond what is required of them for the betterment of students and the overall quality of education supplied by the institution.

A quantitative research paradigm was used to investigate a sample of 200 employees at Sedibeng College in Southern Gauteng. Data was collected with the aid of a structured questionnaire.

A means analysis was conducted to assess the perceptions of the employees regarding OJ dimensions, namely procedural justice (PJ), distributive justice (DJ), and interactional justice (IJ), as well as OCB and ITS. Regression analysis was

conducted to examine whether the independent variables: PJ, DJ and IJ, predicted OCB and whether OCB predicted ITS. Interactional justice proved to be the strongest predictor of OCB. The results of the correlation analysis revealed that all three dimensions of OJ are significantly and positively related to employees' OCB and ITS. The Cronbach alpha coefficient test provided a satisfactory indication of the reliability of the measuring instrument. Content, construct and predictive validity methods were applied to establish the validity of the study. In this study, the recommendations provide key insights into what management can do to improve OJ practices and employees' OCB levels. The recommendations are as follows:

- Employee participation in decision making, clear communication of decisions and any changes in policies and procedures, as well as consistency in the application thereof.
- To address perceptions of DJ, review the current reward system and how workloads are managed and distributed.
- To provide managers with leadership training that encompasses communication skills.
- To establish a well-structured anonymous grievance channel to allow employees to highlight any unfair practices they perceive. This will ensure that management can pick up these issues and manage them timeously to ensure a fair working environment.

Keywords: organizational justice; procedural justice; distributive justice; interactional justice; organizational citizenship behavior; intention to stay.

INTRODUCTION AND BACKGROUND OF THE STUDY

Organizations in the 21st century are concerned about how they can foster employee commitment, psychological empowerment, OJ, OCB and employee retention in a highly competitive environment (Akinyemi, 2012). Organizational success and sustainability require exceptional contributions from the workforce. As such, employees need to go beyond the call of normal duty to generate innovative ideas and see them through. This can only be possible when organizations, through innovative human resource practices, secure total employee commitment, citizenship and continued tenure (Samuel, 2018).

The world needs highly performing organizations to boost the global economy. This can only be achieved if organizations and institutions provide their employees with a satisfying workplace; this includes OJ. Organizational justice is one of the major factors that influence OCB (Iqbal, Aziz & Tasawar, 2012). Many organizations are realising the need to manage their employees in a more humanised manner (Zheng & Chen, 2017). Organizational justice refers to employees' perception of their organization's behaviors, decisions and actions and how these influence the employees' attitudes and behavior at work (HRzone, 2019).

Organizational justice is closely connected to the concept of fairness; employees are sensitive to decisions made daily by their employers, whether on a smaller or a larger scale, and will judge these decisions as fair or unfair. These judgements influence an individual's behavior and can lead to workplace deviance where the actions are judged as unfair (HRzone, 2019). Further, Wan (2016) adds that perceptions of justice or fairness in the workplace are widely recognised as an influential factor in employee attitudes. Employees will hold positive attitudes about their work outcomes and their supervisors if they perceive that they are treated fairly.

Organizational justice comprises distributive justice (DJ), procedural justice (PJ) and interactional justice (IJ) (Abraiz, Jawad, Raja & Tabassum, 2012). According to Crow, Lee and Joo (2011), DJ exists when the distribution of outcomes such as compensation, benefits and other rewards meet employees' expectations in relation to their inputs. Procedural justice relates to the perception of fairness in how decisions are reached (Samuel, 2018). Fujimoto, Hartel and Azmat (2013) describe IJ as employees' perceived fairness in relation to the quality of the interpersonal interaction with which employees are treated by management.

Recent studies have shown that OJ impacts OCB (Wan 2016). Organizational citizenship behavior is defined as discretionary individual behavior. The term discretionary means that the behavior is not an enforceable requirement of the role or the job description.

The behavior is rather a matter of choice, such that its omission is not generally understood as punishable (Selamat, Nordin & Fook, 2017).

Organizational citizenship behavior dimensions include altruism, conscientiousness, courtesy, sportsmanship and civic virtue (Akinyeni, 2012). Altruism involves the

tendency to help colleagues in solving work-related problems (Khalifa & Awad, 2018). Conscientiousness refers to the effort made by employees to do the right things for the organization (Tambe & Shanker, 2014).

Courtesy constitutes employee behavior to prevent work-related problems (Akinyeni, 2012). Sportsmanship refers to employee tolerance when experiencing unsatisfactory conditions at the workplace (Tambe & Shanker, 2014). Lastly, civic virtue is the behavior indicating the willingness to participate actively in the organization (Selamat *et al.*, 2017). Organization citizenship behavior seems to be incompatible with turnover intention since the nature of OCB reflects a willingness of the employee to stay with the employer (Qu, 2017).

Employee turnover has become a prominent issue in most organizations as it negatively affects the prospects of organizations (Kumari & Pradhan, 2014). Turnover intention is defined as the intention of an employee to voluntarily quit his or her job (Bang, 2015). However, most often, the decision to leave an organization is not a prompt one. Employees who intend to leave, usually keep analysing the pros and cons of leaving an organization for quite some time before actually leaving it. On the other hand, employees who intend to stay rarely think about the prospects of leaving the organization (Kumari & Pradhan, 2014).

Intention to stay, the outcome variable in this study, mirrors the employee's level of commitment. It refers to the employee's willingness to stay with the organization and reflects the employee's level of attachment to his or her organization and the willingness to remain employed in the same organization. Employees who intend to stay feel at home and have a stronger sense of belongingness. They try to do their best for the organization (Kumari & Pradhan, 2014).

Awang and Ahmad (2015) reveal that college lecturers would display OCB in exchange for the fair treatment they receive from the organization. Qu (2017) further adds that individuals engage in OCB as a form of reciprocity based on organizational treatment. These findings suggest that OJ plays a crucial role in influencing employees' OCB. Hence, it has become significantly important for management to nurture OJ (Masemola, 2011).

Organizational citizenship behavior among employees indicates that employees intend to stay with the organization and reciprocate the employer's care, support and

fair treatment. The more employees exhibit OCB, the less likely they are to leave the employer. When OCB is widespread, valued and sustained in an organization, the best employees tend to be retained. This means that organizations with high OCB will succeed in attracting and retaining the best employees (Qu, 2017).

The Social Exchange Theory (SET) and the Equity Theory (ET) of motivation constitute the basis for this study. The SET is a theory of social interactions and interpersonal relations (Blau, 1964). According to the SET, an expectation is formed when a favour is rendered and a sense of personal obligation is formed in the recipient (Khan, Memon & Ramayah, 2018). This theory suggests that the relationship between employees and the organization is essentially an exchange relationship. Because social exchanges are guided by a norm of reciprocity. Employees receiving beneficial treatment such as justice should be more prone to respond in kind with behavioral expectations beneficial to the party extending the desirable treatment (Haynie, Flynn & Baur, 2019).

The focus of the ET is an examination of how feelings of equity or inequity affect a person's motivation. Adams (1965), as the originator of this theory, found inequity to be present when individuals view the ratio of their inputs to outcomes and their performance as far greater than that of others in the same employment. Therefore, the elements of the ET are the inputs of an employee's improved performance, the outcomes achieved and the ratio of the input to the outcome.

RESEARCH DESIGN AND METHODOLOGY

This study made use of an explanatory research design (Babbie & Mouton, 2012) to provide insights into whether the phenomenon of OJ and OCB exists in HEIs and whether the dimensions of OJ influence OCB and employee retention in HEIs. A positivist paradigm following a quantitative approach was used in this study. A survey method was used to collect data by distributing questionnaires among employees in the demarcated area.

The study was restricted to Sedibeng College in Southern Gauteng. The target population was N=460 (HEDA 2017). A probability (simple random) sampling technique was used in this study. The population included lecturers, tutors and the support staff. The sample of n=200 was randomly selected from the population. Data was gathered using a modified questionnaire that was divided into four sections.

Section A comprised a biographical questionnaire to gather information regarding age, gender, race and reflection on the employment status of the employees in the demarcated area. Section B assessed the perception of the OJ of employees at Sedibeng College (Niehoff & Moorman, 1993), Section C determined the OCB (Jung & Yoon, 2012) and Section D determined employee ITS at Sedibeng College (Wayne, Shore & Liden, 1997). The responses were measured using a seven-point Likert type scale where a scale item of 1 denoted strongly disagree and a scale item of 7 denoted strongly agree (Ngoepe 2012).

MAIN STUDY RESULTS

A pilot study was not conducted as a standardized questionnaire with acceptable reliabilities was used. An analysis of the biographical data of respondents indicates that the average respondent was female, 25-34 years of age, in possession of a diploma/degree, appointed at the level of a senior administrator or lecturer and employed between 6-9 years. This is an indication of the ability of respondents to respond to the questionnaire.

ANALYSIS OF DESCRIPTIVE STATISTICS

The purpose of the mean scores is to examine employee perceptions of PJ, DJ, IJ and OCB as well as the employees' intention to stay. For the sake of brevity in discussions, the analysis is grouped as follows: scores 1 up to 3.5= disagree, scores from 3.6 to 4.4= neutral and scores 4.5 to 7 = agree.

Section B: Dimensions of organizational justice

The means for this section range from 3.65 to 3.97. The lowest mean reported was 3.65 for item B2 (Management makes sure that all employee concerns are heard before job decisions are made) followed by 3.75 for item B3 (To make job decisions, management collects accurate and complete information), which is an indication that most respondents held a neutral stance on whether management ensures that all employee concerns are heard before job decisions are made, and those job decisions are made by management after collecting accurate and complete information. Items B5 (All job decisions are applied consistently across all affected employees) and B6 (Employees are allowed to challenge or appeal job decisions by management) had mean scores of 3.77 and 3.89, respectively, so respondents were mostly on the fence on whether management applies job decisions consistently across all affected

employees, and whether employees are allowed to challenge or appeal decisions made by management. Item B1 (Job decisions are made by management in a fair manner) had the highest scale mean of 3.97 followed by Item B4 (Management communicates clearly and provides additional information when requested by employees) with a scale mean of 3.95 indicating that most employees were neither disagreeing nor agreeing with the statement that management made job decisions fairly, and that management provided them with information when needed. The overall means score for PJ was 3.83. Therefore, it can be concluded that employees were mostly neutral with respect to their perception of PJ in the organization. In Van Vuuren, Dhurup and Joubert (2016), an overall mean score of 4.22 was reported for PJ.

The mean scores of the DJ scale range from 3.34 to 5.32. The lowest means for DJ reported was 3.34 for item B8 (I think that my level of pay is fair) as well as item B10 (Overall, the rewards I receive here are quite fair), which is an indication that most respondents disagreed that they were being remunerated or rewarded fairly. For items B9 (I consider my workload to be quite fair) and B11 (I feel that my job responsibilities are fair) the scale means were 4.75 to 4.87, respectively, so respondents were slightly in agreement that their workload and responsibilities were fair. Item B7 (My work schedule is fair) had the highest scale mean of 5.32, which indicated that employees agreed that the work schedule was fair. The overall score for DJ was 4.38 and this shows that respondents took a neutral stance on whether they perceived DJ in the organization. Gounden, Dhurup and Joubert (2019) reported an overall mean score of 3.5 for DJ.

The means for IJ range from 3.78 to 4.12. The lowest means reported was 3.78 for item B14 (When decisions are made about my job, management is sensitive to my personal needs) followed by 3.79 for item B18 (Management offers adequate explanations for decisions about my job) and 3.82 for item B17 (Concerning decisions about my job, management discusses implications of the decisions with me) which is an indication that the majority of respondents did not agree nor disagree that management offers adequate explanations about job decisions and discuss the implications of job decisions with affected employees. For items B19 (When decisions are made about my job, management offers explanations that make sense to me), B20 (Management explains any decisions about my job clearly), B12 (When

decisions are made about my job, management treats me with kindness and consideration) and B15 (When decisions are made about my job, management deals with me in a truthful manner) the scale means range from 3.86 to 3.95, so respondents were again neutral regarding whether management provides clear explanations that make sense about job decisions, and that consideration is given to employees when these decisions are being made.

For the remaining items B16 (When decisions are made about my job, management shows concern for my rights as an employee) and B13 (When decisions are made about my job, management treats me with respect and dignity), the scale means range from 4.07 to 4.12, which confirm that respondents were mostly neutral on whether management when making job decisions, treats employees in a respectful and dignified manner whilst showing concern for the rights of the affected employees. The average score for IJ is 3.91, indicating that respondents were neutral in their responses in relation to perceptions of IJ. This is lower than the 4.26 that was reported by Gounden et al. (2019).

Section C: Organizational citizenship behavior

The means for OCB range from 5.38 to 6.30. The lowest mean reported was 5.38 for item C1 (I try to implement solutions to pressing organizational problems) followed by 5.91 for item C2 (I conscientiously follow organizational rules and procedures), which is an indication that most respondents agreed they conscientiously followed organizational rules and procedures and that they tried to provide solutions to workplace challenges. For items C3 (I never neglect to follow managers' instructions), C4 (I do my work even after working hours to achieve organizational goals) and C5 (I am always ready to help those around me) the scale means range from 5.92 to 6.30, which indicates that respondents agreed that they never neglected to follow managers' instructions and that they were always ready to help those around them. The overall mean score for OCB was 5.89; this means that respondents agreed that they displayed OCB in the organization. This is slightly lower than the mean score of 5.9 that was reported in Van Vuuren et al. (2016).

Section D: Intention to stay

The means for this section range from 3.91 to 5.19. The lowest mean reported was 3.91 for item D5 (I am not even planning on looking for a new job). This indicates that

employees disagreed with the statement that they were not looking for alternative work. Item D3 (I have no intention of leaving this company) had a mean score of 4.16, which is an indication that most respondents were neutral in their response concerning their intentions to leave the institution. For item D4 (I want to continue working 5 years from now in my current job), the mean score was 4.37, which is neutral. Item D1 (I will most probably stay in this company in the foreseeable future) had a mean score of 4.66. The highest mean reported was 5.19 for item D2 (I definitely intend to maintain my current relationship with this company). This shows that employees agreed that they would probably stay with the organization in the future. The overall score for ITS was 4.46 indicating that respondents were neutral on whether they were intending to remain in the employ of the College.

CORRELATION ANALYSIS

The correlation coefficient was used to respond to the following empirical objectives:

- To establish the relationship between OJ and OCB amongst employees at Sedibeng College in southern Gauteng
- To determine the influence of organizational justice and organizational citizenship behavior on the intention to stay of academics at Sedibeng College in southern Gauteng.

Table 1: Correlations

		PJ	DJ	IJ	OCB	ITS
PROCJUST	Correlation coefficient	1.000				
	Sig. (2-tailed)	.				
	N	152				
DISJUST	Correlation coefficient	0.559**	1.000			
	Sig. (2-tailed)	0.000	.			
	N	152	152			
INTJUS	Correlation coefficient	0.796**	0.594**	1.000		
	Sig. (2-tailed)	0.000	0.000	.		
	N	152	152	152		
OCB	Correlation coefficient	0.297**	0.288**	0.348**	1.000	
	Sig. (2-tailed)	0.000	0.000	0.000	.	

	N	152	152	152	152	
ITS	Correlation coefficient	0.527**	0.486**	0.631**	0.342**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	.
	N	152	152	152	152	152
**Correlation is significant at the 0.01 level (2-tailed)						

Strong positive correlations were found between PJ and DJ ($r= 0.559$; $p<0.000$). This indicates that, if employees at Sedibeng College perceive fairness in the process by which decisions are made, they will also regard the distribution of resources among employees as fair. This is consistent with the results in Van Vuuren et al. (2016), where positive correlations were found between procedural justice and distributive justice ($r= 0.393$; $p <0.000$).

Strong positive correlations were found between PJ and IJ ($r= 0.796$; $p<0.000$). This indicates that, if the employees perceive fairness in the process by which decisions are made, they will also perceive fairness in treatment when job decisions are made. This is consistent with the correlation results in Gounden (2019), where PJ was found to be positively associated with IJ ($r= 0.751$; $p<0.000$). Thus, employees must be treated with politeness, dignity and respect by the seniors within an organization, as this will impact the outcome (Abasi, Mohammadipour & Aidi, 2014).

Weak positive correlations were found between PJ and OCB ($r=0.297$; $p<0.000$). This indicates that, if employees perceive fairness in the process by which decisions are made by management, they will most likely display behavior that promotes the effective functioning of the organization. This is consistent with the results in Ajlouni, Kaur, & Al-Gharaibeh (2018), where a significant relationship between procedural justice and organizational citizenship behavior was found.

Strong positive correlations were found between PJ and ITS ($r= 0.527$; $p<0.000$). This indicates that, if the employees perceive fairness in the process by which decisions are made, employees will stay with the organization. These findings are not in line with the results reported by Johan, Talib and Mooketsag (2013), which indicated a negative relationship between PJ and turnover intention. It appeared that respondents are more concerned about the outcomes, which are fair pay, promotion, salary, annual increment, bonus and rewards when they decide whether to stay in an organization.

Strong positive correlations were found between DJ and IJ ($r= 0.594$; $p<0.000$). This indicates that, if employees at Sedibeng College perceive fairness in the distribution of resources, they will regard the decisions management makes concerning their jobs as fair. This is consistent with the findings of Usman (2013) who indicated a strong positive relationship between DJ and IJ.

Weak positive correlations were found between DJ and IJ ($r=0 .288$; $p<0.000$). This indicates that, if employees perceive fairness in the distribution of resources, they will most likely display voluntary behavior that promotes the efficient functioning of the organization. This is in line with Aljouni et al. (2018), who found that there is a significant relationship between distributive justice and organizational citizenship behavior. The results show that distributive justice influenced the organizational citizenship behavior of employees in the study. The implication is that employees perceived that fair treatment from employer/management will elicit good organizational behavior from them.

Weak positive correlations were found between DJ and IJ ($r= 0.486$; $p<0.000$). This indicates that, if the employees perceive fairness in the distribution of resources, they will most likely stay with the institution. This is consistent with the results of Johan *et al.* (2013) which showed that DJ affects turnover intentions in organizations.

Weak positive correlations were found between IJ and OCB ($r= 0. .348$; $p<0.000$). This indicates that, if employees perceive fairness in treatment with regard to what management decides concerning their jobs, they will most likely display OCB. Heydari and Gholtash (2014) also found that there is a significant relationship between interactional justice and OCB.

Strong positive correlations were found between IJ and ITS ($r= 0.631$; $p<0.000$). This indicates that, if employees perceive fairness in treatment with regard to what management decides concerning their jobs, they will most likely remain in the institution. Muzumdar (2012) also found that interactional justice was the strongest predictor of turnover intention.

Weak positive correlations were found between OCB and ITS ($r= 0.342$; $p<0.000$). This indicates that employees who display OCB are more inclined to stay with the institution. Khalid and AbdulRahman (2019) confirmed that turnover intention is significantly correlated with all five OCB dimensions.

REGRESSION ANALYSIS

The correlation analysis established the strength of correlations between the variables. A regression analysis was also conducted, as the correlation analysis measures only the strength of a relationship, but does not determine predictive relationships between variables. Regression analysis was executed to test whether the independent variables namely PJ, DJ and IJ predict the dependent variable OCB, and whether OCB as an independent variable will predict ITS. The dimensions of OJ were entered into the regression model as independent variables with OCB. OCB was then entered into the regression model as an independent variable, with ITS being the dependent variable.

Table 2: Regression analysis

Model 1:	Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
	<i>B</i>	Std. error	<i>Beta</i>	<i>T</i>	Sig	Tol	VIF
PJ	0.153	0.046	0.264	3.353	0.001	1.000	1.000
R ² =0.070 F Change = 11.245 * significant at p<0.05							
Model 2	Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
	<i>B</i>	Std. error	<i>Beta</i>	<i>T</i>	Sig	Tol	VIF
DJ	0.182	0.054	0.267	3.391	0.001	1.000	1.000
R ² = 0.071083 F Change = 11.496 * significant at p<0.05							
Model 3	Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
	<i>B</i>	Std. error	<i>Beta</i>	<i>T</i>	Sig	Tol	VIF
IJ	0.164	0.043	0.294	3.765	0.000	1.000	1.000
R ² = 0.086083 F Change= 14.177 * significant at p<0.05							
Model 4	Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
	<i>B</i>	Std. error	<i>Beta</i>	<i>T</i>	Sig	Tol	VIF
OCB	0.563	0.151	0.291	3.731	0.000	1.000	1.000
R ² =0.085083 F Change = 13.918 * significant at p<0.05							

Procedural justice explained approximately 7 percent (R² =0.070) of the variance in employees' OCB at Sedibeng College. PJ was shown to predict OCB positively (β =0.264 t=3.353, p=0.001). This indicates that PJ has an impact on OCB. Therefore,

hypothesis 1 is supported. This is consistent with the findings by Zeinabadi and Salehi (2011:1477) that PJ has a significant impact on OCB.

In regression model 2, DJ was entered as the independent variable and OCB was entered as the dependent variable. The findings indicated an R^2 of 0.071, signifying that 7.1 % of the OCB displayed by the employees at Sedibeng College, can be explained through their perception of DJ. In addition, DJ was shown to predict OCB positively ($\beta=0.267$, $t=3.391$, $p=0.001$). Therefore, hypothesis 2 was supported. These results are congruent with the results of a study conducted by Neveu and Kakavand (2019), where DJ was found to have been effective in explaining OCB at an automotive component manufacturer in the Western Cape.

In regression model 3, OCB was entered as the dependent variable and IJ was entered as the independent variable. The findings indicated an R^2 of 0.086, signifying that 8.6% of the OCB displayed by the employees at Sedibeng College, can be explained through their perception of IJ. In addition, IJ was shown to positively predict OCB ($\beta=0.294$, $t=3.765$, $p=0.000$). Therefore, hypothesis 3 was supported. In this study, IJ was found to be the strongest predictor of OCB. This resonates with the results of a study conducted by Zheng and Chen (2018), who found that interactional justice ($B=0,318$; $P<.01$) explains OCB meaningfully. The study was conducted among secondary school teachers in Turkey.

In regression model 4, ITS was entered as the dependent variable and OCB as the independent variable. The findings indicated an adjusted R^2 of 0.085, signifying that 8.5% of the employees can be explained through the level at which they display OCB. OCB was shown to positively predict happiness ($\beta=0.563$, $t=3.731$, $p=0.000$). Therefore, hypothesis 4 was supported. Similarly, Han (2020) reported a positive predictive relationship between ITS and OCB. The study was conducted among bank employees in the Coimbatore District, India.

Table 3 provides the reliability results of this study. De Vos, Strydom, Fouche and Delport (2011) regard values closer to one (0.8-0.9) as indicative of high reliability.

Table 3: Reliability of the scale

Sections of the questionnaire	Cronbach alpha (α)	Number of items
Section B: PJ	0.941	6

Section B: DJ	0.837	5
Section B: IJ	0.979	9
Section C: OCB	0.846	5
Section D: ITS	0.929	5
Average reliability	0.906	30

All the Cronbach alpha values in this study are high. This can be attributed to the fact that a standardized measuring instrument was used and that the population was homogeneous, i.e., they were all employed in the same organization. This means that they were exposed to the same organizational culture, policies and procedures.

VALIDITY

To ensure the content validity of the research instrument, a review of relevant literature was undertaken to see how other researchers measured the concept, and different sources of evidence were used. In addition, a draft questionnaire was sent to experts in the human resource management department at the Vaal University of Technology to scrutinise the instrument for suitability. The predictive validity of the study was determined through regression analysis. The construct validity of the scale was ascertained through the computation of Cronbach's alpha coefficients for the scale. Cronbach's alpha values for the individual scales ranged from 0.837 to 0.979, thus affirming the construct validity of the scale.

CONCLUSION

The study's primary objective was to investigate the relationship between OJ, OCB and ITS among employees at Sedibeng College in southern Gauteng. Additionally, theoretical and empirical objectives were formulated to assist and support the attainment of the primary objective.

Objective 1: To assess the perceptions of organizational justice amongst employees at Sedibeng College in southern Gauteng.

This objective was aimed at examining employees' perceptions of OJ at Sedibeng College. In achieving this objective, means analysis was undertaken to evaluate the academics' perceptions of OJ. The overall mean scores for the OJ dimensions were as follows:

- PJ: the mean score for this scale was 3.83; this means employees have a neutral stance on how they perceived PJ in the institution.
- DJ: the means score for this scale was 4.38, indicating that employees were mostly neutral in their responses to some items on the scale and agreed with other items.
- IJ: the means score for this scale was 3.91; this shows that employees were neutral in their responses to some items on this scale and disagreed with others.

The study concludes that the employees of Sedibeng College have a neutral perception of OJ.

Objective 2: To determine the employees' perceptions of organizational citizenship behavior at Sedibeng College in southern Gauteng.

This objective was aimed at examining employees' perceptions of OCB at Sedibeng College. In achieving this objective, descriptive statistical analysis of Section C of the measuring instrument was presented in Section 4.3.2. Means analysis was undertaken to evaluate employees' perceptions of OCB. The overall mean score for five items of OCB was 5.89, which implied that the majority agreed that they exhibited OCB. Thus, the study concludes that the perceived level of OCB among the employees of Sedibeng College is high.

Objective 3: To establish the relationship between organizational justice and organizational citizenship behavior amongst employees at Sedibeng College in southern Gauteng.

In achieving objective 3, correlation and regression analysis were conducted to assess how the dimensions of OJ influence employees' OCB. The outcomes are provided in Section 4.4. Weak positive correlations were found between IJ and OCB ($r= 0.348$). Weak positive correlations were also found between DJ and OCB ($r=0.288$) as well as between PJ and OCB ($r=0.297$). In addition, the results of the regression analysis indicated that the strongest predictor of OCB was IJ, with the highest beta weight ($\beta =0.294$). Thus, it can be concluded that there is a relationship between OJ and OCB, that is, if employees perceive that there is fairness in the organization, they will most likely display OCB. An increase in OJ will lead to increased OCB levels.

Objective 4: To explore the intention to stay of academics at Sedibeng College in southern Gauteng.

In achieving this objective, descriptive statistical analysis of Section D of the measuring instrument was presented. The mean score for this section is 4.46. This indicates that employees are also mostly neutral on whether they planned to stay with the institution in the future.

Objective 5: To determine the influence of organizational justice and organizational citizenship behavior on the intention to stay of academics at Sedibeng College in southern Gauteng.

The last objective aimed to determine whether a predictive relationship existed between employee perceptions of OJ, their OCB as well as their ITS. In achieving the last objective, correlation and regression analysis were conducted. Weak positive correlations were found between distributive justice and OCB ($r=0.288$; $p<0.000$), between procedural justice and OCB ($r=0.297$; $p<0.000$), between IJ and OCB ($r=0.348$; $p<0.000$) and between OCB and ITS ($r=0.342$; $p<0.000$).

Additionally, the regression analysis indicated that there was indeed a significant predictive relationship between the OJ dimensions, OCB and ITS. The results were as follows:

- Procedural justice explained approximately 7 percent ($R^2 =0.070$) of the variance in employees' OCB at Sedibeng College.
- Distributive justice explained approximately 7.1 percent ($R^2 =0.071$) of the variance in employees' OCB at Sedibeng College.
- Interactional justice explained approximately 8.6 percent ($R^2 =0.086$) of the variance in employees' OCB at Sedibeng College.
- Organizational citizenship behavior explained approximately 8.5 percent ($R^2 =0.085$) of the variance in employees' OCB at Sedibeng College.

The above correlation and regression results confirm that there is a significant and predictive relationship between OJ, OCB and ITS amongst employees of Sedibeng College.

The hypotheses outcomes are reported in Table 4.

Table 4: Hypotheses

HYPOTHESES	OUTCOMES
H1: There is a significant relationship between PJ and OCB among employees at Sedibeng College.	Supported
H2: There is a significant relationship between DJ and OCB among employees at Sedibeng College.	Supported
H3: There is a significant relationship between IJ and OCB among employees at Sedibeng College.	Supported
H4: There is a significant relationship between OCB and the ITS of employees at Sedibeng College.	Supported

RECOMMENDATIONS

The mean score for perceptions of PJ was the lowest of the three dimensions of OJ. To improve these perceptions, management should consider involving employees and encouraging them to participate in decision making. This can be done by establishing consultation forums in the workplace where employees can be consulted before any major decisions related to their work are taken. It is imperative that elected union representatives also be a part of these forums. The key focus of these forums will be for management to bring forth any decisions, developments or any proposed changes in the College's policies and procedures for consultation with employees and their representatives. This will allow employees to share their views on the proposed changes and make recommendations. During these consultation sessions, management should create a safe environment for employees to raise their concerns. When making decisions, management should take into consideration the concerns and suggestions made in these consultation forums, and not only treat this as a tick box exercise. Employees will feel more empowered and included when they view that management values their contributions. This will improve the employees' perception of PJ.

After decisions are made, whether they relate to new policies or processes, they should be clearly communicated to employees. The justifications and implications of such decisions should also be communicated to the employees. This will better enable employees to understand the rationale behind the decisions and they will be more receptive to such decisions compared to when decisions are made without consultations and no reasons are given. To further maintain a fair process, management should ensure that there is consistency in how policies are applied throughout the College.

To address the negative perceptions of DJ, management should ensure consistency and equity in how rewards and work are distributed in the College. There might be a need to review the current reward system. A fair and transparent reward system is needed. The first point would be to ensure that employees who do equal work are remunerated equally, meaning equal pay for work of equal value. Workloads should also be distributed evenly between employees at the same job level. In situations where some employees are rewarded more than others because of excellent performance, comprehensive reasons that outline the input-output comparison of colleagues should be provided. This is a necessary step in maintaining an equitable work environment.

The mean score for IJ was 3.91, which suggests that employees neither agreed nor disagreed that IJ practices were appropriately applied. This can partly be attributed to the fact that employees do not think that management communicates organizational decisions adequately and provides sufficient detail of the reasons. To improve these results, it is recommended that management considers involving employees in decision making as mentioned above. Another suggestion is to assess where leadership and communication training is required and provide the training. Managers should display social sensitivity and treat employees with dignity and respect when interacting with them.

A well-structured grievance channel should be established to grant employees an opportunity to provide management with their perceptions of unfair practices and highlight such practices anonymously. This can be done by creating a special hotline for employees to anonymously report any unfair practices they may have experienced or witnessed. This is specifically to cater for individuals who may not be comfortable with voicing their opinions or concerns in public, as well as for individuals who fear victimization or confrontation. This channel must be monitored to ensure that management acts immediately when they are made aware of these unfair practices.

Implementing these strategies will not only improve the overall perceptions of OJ at the College, but also the levels of OCB and ITS, as has been shown in Chapter 4 of this study that there are positive correlations between the dimensions of OJ, OCB and ITS.

The overall mean score for OCB in this study was 5.89. This means that respondents

agreed that they displayed OCB at the College. This is a satisfactory score and the College should ensure that they maintain these high levels of OCB or better yet, improve them. As stated above, IJ was found to be a strong indicator of OCB in this study. Therefore, if the College wants to maintain and improve the levels of OCB displayed by the employees, they should implement strategies that will ensure that there is interactional justice in the College. When employees perceive that there is interactional justice in the organization, they will in turn display OCBs.

The overall score for ITS was 4.458. This shows that respondents were neutral on whether they were intending to remain in the employment of the College. Strong positive correlations were found between IJ and ITS ($r= 0.631$; $p<0.000$), as well as between PJ and ITS ($r= 0.527$; $p<0.000$). This indicates that, if employees perceive fairness in treatment when management makes decisions concerning their jobs, and fairness in the process by which decisions are made, they will most likely stay with the organization. Therefore, management should strongly focus on ensuring that there is IJ and PJ in the organization, if they want to retain talent.

LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

A quantitative method was used to collect data. As such, respondents were limited in their responses. They were unable to fully articulate and provide justifications for their responses, as they would have been able to with a qualitative study. Therefore, it would be valuable to conduct a qualitative study related to the influence of OJ on OCB and ITS, which may provide an all-inclusive finding.

The study was conducted among employees at Sedibeng College in Southern Gauteng. There are more than 50 Technical and Vocational Education and Training (TVET) colleges in South Africa. A broader national sample would have offered additional insights, not limited to only one institution. Because the data was collected from only one college, the results obtained in this study can, therefore, not be generalised to all the existing South African TVET colleges. Since the current study is limited to a public TVET college, comparative studies could be conducted in private TVET colleges. This could provide useful comparisons of strengths and weaknesses in both sectors.

The findings of this study can be further advanced by investigating the relationship between OJ and other predictors of ITS. Even though a positive relationship exists

between OJ and OCB, the results of the study indicate a relatively weak correlation between perceptions of OJ and levels of OCB at the College. The results suggest that there are other factors besides perceptions of OJ, beyond the scope of this research project, which may influence levels of OCB. Future research should be directed at ascertaining which other factors influence employees to perform OCB, to improve levels of OCB and consequently, employees' ITS.

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Decolonisation and transformative constitutionalism: Rethinking the Reasonable Person Test in South Africa

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ABSTRACT

This article addresses the problem regarding the Eurocentric bias embedded in applying the reasonable person test within South African jurisprudence, which inadequately reflects the country's multicultural reality. The gap identified in the literature is the lack of integration of African cultural and spiritual values in the reasonable person standard, which remains influenced by colonial perspectives. Adding on to the argument, case law where a reasonable person test is applied fails to consider that what might be reasonable to a certain class of people might not be reasonable to the broader population of South Africa, more specifically to an African man who still resides in a marginalized community. The methodology employed in this research involves a critical analysis of case law and legal principles through the lens of decolonisation and transformative constitutionalism. This dual approach aims to establish a more inclusive and representative reasonable person test. As this study conceptualizes, decolonisation involves shifting from Eurocentric legal frameworks to recognize and incorporate South Africa's Indigenous populations' values, beliefs, and practices. Transformative constitutionalism refers to the idea that a country's constitution is not just a legal document, but a tool for promoting deep social, political, and economic change. It is about using the Constitution to transform society, making it more equal and just. Conceivably transformative constitutionalism will be used to attempt to transform the reasonable person test. The findings reveal that the current reasonable person test fails to account for the diverse cultural backgrounds of South Africans, leading to biased and unjust legal outcomes. By applying transformative constitutionalism, the study demonstrates that creating a more equitable reasonable person test that considers all South Africans' lived experiences and cultural contexts

is possible. The article concludes that decolonising the reasonable person test via transformative constitutionalism is essential for achieving substantive equality and fairness in the South African legal system. It recommends adopting a context-sensitive approach that incorporates both subjective and objective elements, reflecting individuals' diverse socio-economic and cultural realities. This approach aligns with constitutional values and promotes a more just and equitable legal system. The research underscores the need for continued legal education and judicial training efforts to foster an inclusive legal culture. Future studies will explore comparative lessons from other jurisdictions to further refine the reasonable person test in South Africa.

Keywords: Eurocentric Bias, Decolonisation, Transformative Constitutionalism, Reasonable Person Test, Multicultural Jurisprudence

INTRODUCTION AND BACKGROUND

The application of the reasonable person test in contemporary South African law is deeply influenced by historical and legal origins that trace back to colonial and apartheid-era jurisprudence (Zhang et al., 2023). Initially, Roman-Dutch law and English law heavily influenced South African law, which established the foundations for negligence and liability concepts (Mangini, 2022). The reasonable person standard emerged from this framework, aiming to create an objective measure for assessing conduct in various legal contexts (Zhang et al., 2023). During apartheid, legal standards often reflected the socio-political inequalities of the time, leading to a narrow interpretation of reasonableness that prioritized the interests of the ruling class (Mangini, 2022). However, the advent of the new Constitution in 1996 (herein referred to as the Constitution) marked a significant shift toward a more inclusive and transformative legal approach (Zhang et al., 2023). The Constitution emphasizes human rights, equality, and social justice, prompting a reevaluation of the reasonable person test to ensure it aligns with these values (Mangini, 2022). Basically the "reasonable person test" is a fundamental legal concept used to evaluate how an average individual, exercising ordinary caution, would act in specific circumstances. This test involves assessing situations objectively by considering how a hypothetical reasonable person would behave (Gardner, 2019). Legal decisions frequently hinge on the perceptions and thoughts of an idealized group known as the "reasonable

person," "average person," or "typical consumer" (Zhang et al., 2023). This concept has been extensively examined by legal and political theorists, emphasizing its complexity and significance within legal philosophy (Mangini, 2022). In the context of South African law, the examination of reasonableness is further influenced by the nation's commitment to transformative constitutionalism, which seeks to utilize the South African Constitution to achieve social justice and equality. Transformative constitutionalism is a lengthy process of enacting, interpreting, and enforcing a constitution to change a nation's political and social institutions and power dynamics toward democracy, participation, and equality (van der Merwe, 2023). In 1996, the Constitution of South Africa was created to rectify past injustices and build a society founded on democratic principles, social equality, and basic human rights (Ellis & Ellis, 2021). The reasonable person test progression throughout was the beginning of Common Law; the concept was initially utilised in negligence criminal law proceedings (Teo et al., 2017). However, courts utilised it to assess if an accused's actions were consistent with a typical individual's actions in comparable situations (Zhang et al., 2023), during the period in history between 1800 and 1899. The examination became more structured in the 19th century, especially in tort law (Oishi, van der Laan, & van den Brink, 2022). It offered a benchmark for evaluating conduct, aiding in setting a more impartial basis for responsibility (Azuwike, 2023). Even though the reasonable person test is utilised in many spheres of law, this paper is concerned with its application under the context of criminal law. In this study, I will employ both primary and secondary resources to conduct a comprehensive analysis. Primary resources will include relevant legislation, case law, and constitutional provisions, which will serve as the foundation for legal interpretation. Secondary resources, such as academic articles, books, and legal commentaries, will provide critical insights and contextual understanding. Case law will be used to illustrate the application of legal principles, and to explore judicial reasoning in relation to the concept of reasonableness within South African law. Case law will be selected, based on relevance to the reasonable person test; I will focus on judicial decisions where courts have explicitly applied or interpreted this legal standard. Cases will be chosen based on their relevance to key areas such as negligence, criminal law, and constitutional matters, particularly where the reasonable person test has been central to the court's reasoning. Priority will be given to landmark cases that have shaped the development

of this standard in South African law, as well as recent rulings that reflect contemporary interpretations aligned with transformative constitutionalism.

PROBLEM STATEMENT

The reasonable person test in South African law has been controversial due to its Eurocentric bias (Jaeger, 2018). The author implies that this refers to a worldview or perspective that centres around European culture, history, and values as the standard against which all other cultures and societies are measured (Smith, 2021). This bias often results in the marginalization or misrepresentation of non-European cultures, histories, and contributions (Jones, 2020). This prejudice results from South African law's historical and legal origins, greatly shaped by colonial rule and Western legal customs (Mokodompit et al., 2023). This test frequently does not accurately represent the country's diverse population, resulting in significant problems (Vuong et al., 2022). It is based on Western societal norms and may not consider the diverse cultural and spiritual traditions present in South Africa. This can lead to unfair outcomes in legal cases for individuals from non-Western backgrounds, as their behaviours and intentions may be misinterpreted under a Eurocentric lens. There is a need for a more inclusive and representative reasonable person standard that integrates African cultural and spiritual values. The current literature lacks critical analysis on adapting this standard to reflect South Africa's multicultural reality, highlighting the importance of interdisciplinary research to address this gap and ensure fair representation in legal proceedings (Alicke & Weigel, 2021). This paper will critically analyse case law and legal principles through the lens of decolonisation, and transformative constitutionalism, serving as a robust framework for establishing a more inclusive and representative reasonable person test. This critical analysis examines case law and legal principles related to the reasonable person test. It involves reviewing landmark cases and analysing legal principles to identify patterns of bias and shortcomings within past judicial decisions. Consequently, the decolonisation perspective seeks to challenge colonial structures in legal systems and incorporate indigenous perspectives, while transformative constitutionalism addresses historical injustices and promotes equality through the Constitution. Integrating both approaches achieves a more holistic and comprehensive view of legal analysis, ensuring that the reasonable person test is decolonised, transformative, and promotes social justice. Furthermore, practical implementation includes training judges and advocating for legislative

reforms to enshrine these principles into law. Ultimately, the goal is to reform the reasonable person test to be more inclusive, equitable, and reflective of a diverse society, aligning with contemporary constitutional values and promoting a just and fair legal standard for all. Notably, the study aims to develop a more inclusive reasonable person test reflecting various perspectives, examine biases in existing case law, challenge colonial influence in the legal system, promote transformative constitutionalism principles, and advocate for policy, judicial, and legislative reforms that incorporate decolonisation and transformative constitutionalism in the application of the reasonable person test. The study explores the limitations of the reasonable person test in legal standards, emphasizing the importance of inclusivity and transformation. Analysing case law and legal texts, the research applies decolonisation and transformative constitutionalism theories to identify biases and colonial legacies. Findings suggest reform proposals for the reasonable person test, indicating implications for legal practice and policy. The study contributes to academic research and highlights the need for future exploration in this area.

THEORETICAL FRAMEWORK

The study is framed by decolonisation and transformative constitutionalism (Klare, Karl, 1998), which are used to critically analyse and reform the reasonable person test. Decolonisation involves challenging colonial legacies in legal systems to include marginalized perspectives, while transformative constitutionalism aims to promote social justice through constitutional means (Liebenberg, 2017). These concepts are integrated to provide a comprehensive framework for reforming the reasonable person test, ensuring it aligns with principles of fairness and equality (Modiri, 2014). By applying this dual theoretical framework, the study seeks to create a more inclusive and representative legal standard that aligns with contemporary constitutional values. The principles of decolonisation and transformative constitutionalism work together to reinforce each other, ultimately leading to a legal system that reflects the diversity of society and promotes genuine equality in practice (Botha, 2006). The two theories underpinning the study are: postcolonialism, which is a critical academic study of colonialism and imperialism's cultural, political, and economic legacies, focusing on the impact of the human control and exploitation of colonised people and their lands (Molisa, 2017), and constitutionalism is a difficult concept to define; the term "constitutionalism" sometimes being used to describe a government that is

constrained by a written constitution. It describes a society in which elected politicians, judicial officers, and government officials must all follow the law, which derives its legitimacy and power from the constitution itself (Thomas, 2021). Incorporating both these theories, the approach involves analysing case law and existing legal principles through the lens of decolonial and transformative values, to develop a reasonable person test that is more equitable and just. Overall, the study aims to create a legal system that upholds the values of inclusivity, fairness, and social justice.

DECOLONISATION AND THE REASONABLE PERSON TEST

Definition of decolonisation

Decolonising the law in South Africa includes removing colonial impacts and integrating native viewpoints (Castilla-Beltrán et al., 2018). It recognises the influence of colonialism on the legal system and strives for a more diverse environment. Consequently, decolonisation is an important element that involves acknowledging past colonial control and apartheid, blending indigenous legal customs, ensuring varied participation in legal proceedings, addressing injustices related to land loss, encouraging the use of indigenous languages in legal matters, and improving legal access for marginalized communities. Currently, South Africa aims to create a more just and fair legal system by changing laws to represent indigenous and marginalized groups better, and honour the traditions and values of all citizens.

In the landmark case of *Alexkor Ltd v The Richtersveld Community* 2003 (6) BCLR 583 (SCA), the Constitutional Court recognised the Richtersveld community's right to their ancestral land based on their customary law and historical occupation. The court affirmed that indigenous land rights survived colonial rule and should be acknowledged within the contemporary legal framework. This case is a significant step towards decolonising the law as it respects and integrates indigenous legal traditions into the South African legal system. Through such cases and ongoing legal reforms, South Africa continues to progress towards a decolonised legal system that promotes justice, equality, and recognition of the country's rich cultural heritage.

Historical context of the reasonable person test in South African law

As previously submitted, the reasonable person test in South African law originated from English common law introduced during British colonial rule in the 19th century

(Eves, 2020). It is used to assess negligence, liability, and foreseeability in both criminal and civil law. During apartheid, the test was often biased and reflected the values of the white minority, marginalizing the perspectives of the black majority (Venter et al., 2020). However, after the end of apartheid in 1994, South Africa's new constitution emphasized equality and social justice, leading to a re-evaluation of legal standards like the reasonable person test (Sokolova et al., 2023). This has resulted in a more inclusive approach, considering diverse perspectives and cultural contexts. For example, the case of *S v Makwanyane* (CCT3/94) [1995] ZACC 3, which abolished the death penalty, and highlighted the importance of human dignity and the right to life, influencing the interpretation of legal standards in alignment with constitutional values (Bankins et al., 2022). Overall, the evolution of the reasonable person test in South African law reflects a transition from colonial and apartheid influences to a more inclusive and just legal system that considers the diverse values of contemporary South Africa (Dorfman, 2023). As mentioned, the reasonable person test in South African law has colonial origins from English common law principles, which are applied in tort law to determine the standard of care expected in similar circumstances. During apartheid, racial biases influenced the test, favouring white norms over black perspectives (Pretorius et al., 2021). Legal formalism overlooked social contexts (Alhazmi & Kaufmann, 2022). Post-apartheid reforms, including the 1996 Constitution, transformed legal standards to emphasize equality and human rights (Gumede & Biyase, 2020). Judicial interpretation, now considering South Africa's diverse contexts when applying the reasonable person test in cases like *Barnes v Minister of Justice* (996/2020) [2022] ZASCA 77 (30 May 2022), has influenced the application of the reasonable person test in South African law, particularly in negligence and foreseeability (Jaeger, 2018). There is growing recognition of the importance of incorporating diverse perspectives into legal standards, including the reasonable person test, to ensure fairness and justice for all members of society. The test continues to evolve in response to contemporary social, economic, and political realities, with scholars and practitioners advocating for reforms to address potential biases and limitations. Intersectionality is increasingly considered in legal analysis, examining how race, gender, socioeconomic status, and disability intersect with the reasonable person test. The historical context of the test in South African law reflects its transformation from colonial origins through apartheid to its current adaptation

under a democratic and rights-based legal framework as the country strives for inclusivity and justice.

Challenges in attempting to decolonise the reasonable person test

South Africa faces challenges in decolonising the reasonable person test, rooted in its colonial and apartheid legacies, institutional resistance, cultural diversity, and legal considerations (Meyerson, 2010). The legal system reflects Eurocentric norms and values, potentially marginalizing non-Western perspectives (Modiri, 2018). Resistance within legal institutions and the profession hinders reforms. The country's cultural diversity complicates establishing a universally applicable test that respects different norms and values. Intersectional factors like race, gender, and class further complicate this task (Klare, 1998). Balancing objectivity with cultural subjectivity is a significant challenge, as is re-evaluating existing legal precedents to shift towards a decolonised standard. These challenges highlight the complex process of decolonising the reasonable person test in South Africa's legal system. Implementing a decolonised reasonable person test in South Africa involves judicial training, legislative reforms, and public acceptance (Nhlapo, 2005). Judges and legal practitioners need education and sensitization programs to shift mindsets (Mbembe, 2016). Legal reforms must be carefully drafted and implemented, facing political and institutional constraints. Public understanding and acceptance are crucial, as resistance or lack of understanding may arise (Cornell & Muvangua, 2012). Learning from other jurisdictions is helpful, but South Africa's unique context requires a tailored approach (Himonga et al., A. (2013). The test must be applied contextually, considering each case's specific circumstances. Decolonizing the test is a complex challenge that requires considering historical legacies, cultural diversity, legal principles, and practical strategies (Quinot, 2014). It involves legal and judicial reforms and broader societal changes to ensure the law reflects and respects the diverse realities of all South Africans.

Assumptions embedded within conventional understandings of the reasonable person

The reasonable person test in legal contexts is often based on assumptions that shape its application and interpretation (Cohen, 2007). Key assumptions include the belief in

a universal standard of reasonableness that applies across all contexts, the idea of objectivity in determining behaviour without bias, the assumption that reasonable people act rationally and logically, and the incorporation of Western norms and values without considering cultural diversity (Barker, 2013). It also assumes that individuals have common knowledge and awareness of societal norms and laws, overlook individual differences, and presume predictability in human behaviour. Additionally, it expects gender-neutral conformity to legal norms, assumes a middle-class socioeconomic status, and implies adherence to universal ethical and moral standards (MacCormick, (2000). These assumptions may not account for diverse backgrounds and experiences, highlighting the need to challenge and revise them for a more inclusive and representative standard of reasonableness in legal settings (Crawford, 2016).

TRANSFORMATIVE CONSTITUTIONALISM

Definition of transformative constitutionalism

Transformative constitutionalism is a framework that aims to deeply transform a society's political, social, and economic structures, going beyond legal reforms to promote social justice, equality, and human rights (Klare,1998). In South Africa, this concept is particularly significant due to the history of apartheid and the ongoing efforts to address past injustices (Huma, 2017). Key elements of transformative constitutionalism include fundamental societal change, social justice, human rights protection, participatory democracy, legal and institutional reforms, socio-economic rights enforcement, and responsive governance (Scheppele, 2004). In South Africa, the 1996 Constitution is a model of transformative constitutionalism, featuring a comprehensive Bill of Rights, provisions for equality and non-discrimination, judicial activism, public participation mechanisms, and reparative measures to address apartheid injustices (Albertyn, 2008). Transformative constitutionalism aims to create a more just, equitable, and inclusive society by fundamentally altering societal norms and structures (Xaba,2020). In South Africa, it guides efforts to overcome apartheid legacies and build a democratic society that respects the dignity and rights of all citizens (Bickford, 2016).

Historical evolution of constitutional law in South Africa

As submitted, transformative constitutionalism is a framework that aims to fundamentally transform a society by changing its political, social, and economic structures (Klare,1998). It goes beyond legal reform to promote social justice, equality, and human rights. In South Africa, transformative constitutionalism is crucial, due to the country's history of apartheid and the need to address past injustices (Huma,2017). Key elements include fundamental societal change, emphasis on social justice and equality, protection of human rights, participatory democracy, legal and institutional reform, recognition of socio-economic rights, and inclusive governance (Scheppele,2004). In South Africa, transformative constitutionalism is exemplified by the 1996 Constitution, which includes a comprehensive Bill of Rights, guaranteeing civil, political, and socio-economic rights (Albertyn,2008). The Constitution promotes equality and prohibits discrimination based on various factors, and the judiciary plays an active role in interpreting and enforcing it to advance social justice (Bickford,2016). Public participation mechanisms ensure the constitution reflects the people's will, and reparative measures like affirmative action aim to redress apartheid injustices (Xaba,2020). Overall, transformative constitutionalism in South Africa aims to create a more just, equitable, and inclusive society by fundamentally altering the existing structures (Klare,1998). It guides the country in overcoming apartheid legacies and building a democratic society that upholds the dignity and rights of all citizens.

Objectives of transformative constitutionalism

Transformative constitutionalism in South Africa seeks to reshape society and its legal system to address past injustices from the apartheid era (Scheppele, 2004). The main goals are achieving substantive equality, socio-economic transformation, and constitutional law's intervention in private relationships (Albertyn, 2008). Substantive equality involves rectifying disparities in wealth, education, and resources for historically disadvantaged groups through affirmative action and legal reforms (Xaba, 2020). Socio-economic transformation aims to redistribute wealth, improve living standards, and promote sustainable development (Bickford, 2016). Constitutional law interference in private relations necessitates anti-discrimination measures, upholding human rights, and promoting social justice in private settings (Huma, 2017). Overall, transformative constitutionalism strives to create a more inclusive and equitable

society by dismantling systemic barriers and promoting true equality through various legal and societal reforms (Scheppelle, 2004).

APPLICATION OF TRANSFORMATIVE CONSTITUTIONALISM TO THE REASONABLE PERSON TEST

Transformative Adjudication and Legal Culture

Transformational constitutionalism in South Africa is not just an abstract idea, but a hands-on method to revamp the legal framework to reflect the principles of equality, dignity, and freedom outlined in the Constitution (Klare, 1998). This transformation agenda requires a significant change in how legal decisions are made and in the overall culture of the legal system, including updating established legal principles and standards to better align with the varied experiences of South African society. An example is the reasonable person standard typically applied in different legal fields like negligence, criminal law, and contract law (Scheppelle, 2004). In the past, there has been criticism of this test for reflecting mainly a Western, white, male point of view that does not consider the actual experiences and socio-economic backgrounds of most South Africans. In a constitution that aims to bring about significant change, it is important to make this examination more inclusive, considerate of the context, and aligned with South Africa's dedication to social justice and equality (Xaba, 2020). The reasonable person test is used as a standard for evaluating the actions of an ordinary, cautious individual in specific circumstances (Klare, 1998). This criterion is used for evaluating negligence, establishing the predictability of harm, and assessing the rationality of actions or choices. However, the conventional use of this assessment often overlooks the socio-economic and cultural background of South Africa, resulting in unfair results, especially for historically marginalized communities. Transformative constitutionalism requires re-evaluating this examination to include a broader, more diverse viewpoint. This includes acknowledging the variety in South African society and ensuring the reasonable person standard is used fairly and justly. This change necessitates a dedication to transformative adjudication, in which judges and legal professionals intentionally use constitutional values to interpret and advance the law

How Transformative Constitutionalism can reshape the Reasonable Person Test

Transformative constitutionalism in South Africa aims to reshape the legal landscape to address historical injustices and promote equality, dignity, and social justice

(Mureinik, 1994). The reasonable person test, rooted in Western legal traditions, must adapt to align with transformative goals (Davis, 2006). Transformative constitutionalism can reshape the reasonable person test by contextualizing the reasonable person through culturally sensitivity and socio-economic considerations (De Vos,2013). This involves recognizing diverse cultural backgrounds and lived experiences and factoring in socio-economic conditions that affect behaviour and decision-making (Klare,1998). Additionally, transformative constitutionalism emphasizes substantive equality by focusing on equitable outcomes and affirmatively considering marginalised groups' unique challenges. It also embeds constitutional values such as human dignity in applying the reasonable person test to ensure respect and promote individual dignity in various socio-economic contexts (Sachs, 2009). The interpretation of the reasonable person test about equality and freedom is crucial, ensuring it contributes to eradicating existing inequalities rather than perpetuating them. Traditional judicial approaches based on common law principles may not fully reflect the transformative aims of the Constitution (Chaskalson, 2000). A transformative approach, through judicial activism and setting precedents, encourages judges to actively engage with constitutional values. Precedents, like *Carmichele v. Minister of Safety and Security* (2001) and *K v. Minister of Safety and Security* (2005), demonstrate how the reasonable person test can be developed to align with transformative constitutional principles. In these cases, the courts emphasized the state's duty to protect individuals, particularly in cases of gender-based violence, and found the state vicariously liable for wrongful acts, highlighting the importance of considering broader societal inequalities and protective duties when applying the test.

Table 1: Case studies and examples illustrating the application of transformative principles

Case	Facts	Court's Approach	Transformative Application
<i>Carmichele v. Minister of Safety and Security</i> (2001)	Carmichele was assaulted by a man who was out on bail despite a history of violent behaviour. She sued the state for failing to protect her.	The Constitutional Court emphasized the need to develop common law in line with the spirit, purport, and objects of the Bill of Rights. The court stressed that the state has a constitutional	The court applied the reasonable person test with a focus on the state's duty to protect. This decision marked a shift towards a more context-sensitive application of the test, considering the

		duty to protect individuals from violence, particularly gender-based violence.	state's role in preventing harm and promoting gender equality.
<i>K v. Minister of Safety and Security (2005)</i>	A woman (K) was raped by three on-duty police officers. She sued the Minister of Safety and Security for the officers' actions.	The Constitutional Court found the state vicariously liable for the wrongful acts of its employees. The court noted that the common law must be developed to reflect constitutional values.	The court's reasoning included a broader context of societal inequality and the state's duty to protect vulnerable individuals. This case illustrated how the reasonable person test can be adapted to include considerations of state responsibility and the protection of human dignity.
<i>S v. Makwanyane (1995)</i>	The case challenged the constitutionality of the death penalty in South Africa.	The Constitutional Court abolished the death penalty, highlighting the importance of human dignity, equality, and the right to life.	Although not directly related to the reasonable person test, this case set a precedent for interpreting all legal standards, including the reasonable person test, through the lens of constitutional values. It underscored the necessity of aligning legal principles with the transformative aims of the Constitution.
<i>Government of the Republic of South Africa v. Grootboom (2000)</i>	A group of people, including children, were evicted from their informal homes and sought relief from the state for adequate housing.	The Constitutional Court held that the state has a duty to take reasonable legislative and other measures to achieve the progressive realization of the right to adequate housing.	The court's decision reflected a transformative approach by considering the socio-economic rights enshrined in the Constitution. This case illustrated the need for a reasonable person test that takes into account the socio-economic context and the state's obligations to fulfil constitutional rights.
<i>Bhe v. Magistrate, Khayelitsha (2004)</i>	The case involved the application of customary	The Constitutional Court declared the customary	The court applied the reasonable person test

	law rules of inheritance that discriminated against women and illegitimate children.	law rules of inheritance invalid as they were inconsistent with the Constitution's equality provisions.	by considering the discriminatory impact of the customary law, aligning the interpretation with constitutional principles of equality and non-discrimination. This case demonstrated how transformative constitutionalism requires adapting traditional legal standards to uphold constitutional values.
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Consequently, these landmark cases illustrate the dynamic interplay between common law principles and constitutional values in South African jurisprudence. Traditionally rooted in colonial legal frameworks, the reasonable person test has been progressively reinterpreted to reflect the diverse socio-cultural realities and constitutional commitments of post-apartheid South Africa. If constitutional values are applied to the reasonable person test, then this transformation will ensure that the law addresses historical injustices and promotes a more inclusive and equitable society, aligning legal standards with the fundamental rights and values enshrined in the Constitution.

Findings and results of the case study

Considering South Africans' varied cultural, social, and economic contexts, transformative constitutionalism has resulted in a more nuanced use of the reasonable person standard. Examples such as *Carmichele v. Minister of Safety and Security* (2001) and *K v. Minister of Safety and Security* (2005) show how the reasonable person standard has been modified to account for the state's responsibility to safeguard marginalized individuals, especially in gender-based violence and social disparities. The reasonable person test has developed from focusing on formal equality to prioritizing substantive equality, guaranteeing fair and just outcomes for everyone. The case of *Bhe v. Magistrate, Khayelitsha* (2004) demonstrates how the court rejected discriminatory customary laws to support equality and non-discrimination, ultimately advancing substantive equality. Courts have been

incorporating constitutional values like dignity, equality, and freedom increasingly into the reasonable person test to ensure that the legal standards reflect the transformative goals of the Constitution. The precedent set by *S v Makwanyane and Another* (CCT3/94) [1995] ZACC 3, involved interpreting legal standards based on constitutional values, even in non-related areas to the reasonable person test. Judges have been actively shaping common law to mirror constitutional values by embracing a more proactive approach in applying the reasonable person test. In the *Grootboom* (2000) case, the courts showed how the reasonable person test can be applied to deal with socio-economic rights and the state's duty to uphold constitutional rights in South Africa. Past studies frequently criticized the reasonable person test for not considering the diverse socio-cultural realities of South Africa. This study demonstrates that transformative constitutionalism is actively working to fill this void.

DISCUSSION

Decolonising the reasonable person test in South Africa aims to promote inclusivity and fairness in legal outcomes by recognizing diverse backgrounds and experiences. This can enhance social justice by addressing historical injustices and systemic inequalities, aligning these with transformative constitutionalism goals. Reflecting constitutional values, such as human dignity and equality, a decolonised test empowers marginalized communities by considering their perspectives. Challenges include resistance to change from traditionalists and the practical implementation of new standards, which may require extensive training for legal professionals. Decolonising the reasonable person test is essential for creating a more just and equitable legal system that respects the rights of all individuals, irrespective of their background or socio-economic status. Establishing a decolonised reasonable person standard is challenging without clear guidelines, potentially leading to fragmented application. Over-correction risks, swinging the legal system too far, could create unjust outcomes for non-marginalized groups. Decolonisation and transformative constitutionalism aim to promote equality and justice, reflecting South Africa's diversity in legal standards. Historical power structures can be dismantled for a more inclusive society by decolonising the reasonable person test. Human rights are central in both approaches, ensuring dignity for all individuals. Broader legal reform is needed to align with transformative constitutionalism, revisiting other legal standards. To overcome resistance to modifying the reasonable person test, a strategic approach involving

multiple stakeholders and collaboration is needed. This includes engaging in open dialogues, highlighting the benefits of a decolonized test, involving legal practitioners in the process, implementing comprehensive training programs, introducing pilot programs, building alliances with civil society organizations, advocating for legal reforms, and establishing mechanisms for ongoing evaluation and feedback. These strategies aim to create a more equitable and societally acceptable approach, dispel misconceptions, and provide evidence of effectiveness. Additionally, forming coalitions with civil society organizations and advocating for institutional reforms can provide a support network for navigating resistance. Continuous evaluation and feedback from stakeholders can help identify and address concerns during the implementation process.

CONCLUSIONS AND RECOMMENDATIONS

The research has thoroughly investigated the reasonable person standard in South African law, delving into its origins, utilization, and consequences in a post-apartheid legal framework. The reasonable person assessment, derived from colonial legal practices, contains biases that may not reflect the varied socio-cultural landscapes of contemporary South Africa. The test has been applied inconsistently, often reflecting the viewpoints of dominant cultural groups, which undermines its fairness and equity. It is crucial to update the test to mirror the principles and values outlined in the South African Constitution, which promotes justice, equality, and human dignity. Suggestions for enforcing a decolonised and transformative reasonable person examination:

- Modifying the test to account for the socio-cultural and economic environments of participating individuals. This involves acknowledging various community norms and backgrounds.
- Promoting the selection and education of a diverse group of judges who can offer different perspectives when interpreting and applying the reasonable person test.
- Modifying laws to specifically mandate the inclusion of various backgrounds and situations of individuals in applying the reasonable person standard.

- Encouraging more interaction with communities to comprehend their norms, values, and expectations, guaranteeing that these are considered in the legal standards utilized.
- Incorporating decolonized legal principles into the education and training of legal professionals to foster a more comprehensive perspective on justice.

More research is needed to back up the continuous evolution of the reasonable person assessment. Specific guidelines must be established to modify the reasonable person test and adopt a decolonized approach that incorporate relevant socio-cultural factors.

These include:

- recognizing the diverse cultural backgrounds of individuals involved in legal matters;
- understanding their socio-economic status;
- acknowledging historical injustices, and
- incorporating local community standards. Cultural context is crucial, as cultural norms and values influence perceptions of reasonableness. Understanding the socio-economic circumstances of individuals can provide insight into their actions and decisions, especially in cases involving marginalized communities.

Acknowledging the historical context of systemic inequality and discrimination can help to achieve a more nuanced understanding of what constitutes reasonable behaviour. Incorporating local community standards into the reasonable person test can provide a more representative measure of what is deemed reasonable behaviour. Ultimately, courts should engage with community leaders or organizations to understand these standards better, as well as their influence on legal interpretations.

To implement the decolonized approach, guidelines for judicial training should be developed, case law examples should be published, and forums for community engagement should be established. By incorporating these socio-cultural factors and implementing a clear framework, the recommendations for modifying the reasonable person test can be made more feasible and effective, fostering a legal environment that is equitable and just for all.

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Exploring local attitudes and influences on tourism development in ethnic minority regions: evidence from Sichuan, China

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ABSTRACT

Tourism is a crucial engine for driving economic and social development in ethnic minority regions. However, its growth must consider the interests of local residents, including employment, ecological environment, and cultural adaptability. This study aims to delve into the attitudes of local residents towards tourism development, analyze their influencing factors, and explore potential non-linear relationships.

Existing studies predominantly focus on linear relationships between influencing factors, neglecting the long-term impacts of tourism on the local environment, culture, and social structure. This research, based on a questionnaire survey, collected data on attitudes towards tourism development from residents in the Yi and Tibetan Autonomous Prefectures of Sichuan Province, China (N=861). Quantitative analysis was conducted using structural equation modelling (SEM). A theoretical model was constructed and, through hypothesis testing, key factors' influence on residents' attitudes towards tourism were identified, revealing the interrelationships among these factors. Furthermore, machine-learning algorithms were incorporated to enhance the prediction accuracy and adaptability of the study, uncovering the potential complexity and non-linearity in residents' tourism attitudes.

The study found that factors such as improving economic income levels, promoting regional development, protecting the ecological environment, strengthening cultural exchange, improving living conditions, and perceiving the risks of tourism development significantly influence residents' attitudes. The findings suggest that promoting tourism development should prioritize the long-term interests of local residents and pay

attention to potential negative impacts on the ecological environment, livelihoods, and ethnic culture. This study provides new perspectives and research methodologies for understanding residents' attitudes toward tourism, contributing to a more scientific and effective approach to promoting sustainable tourism development in ethnic minority regions.

Keywords: tourism development, ethnic minority regions, resident attitudes, influencing factors, non-linear relationship

INTRODUCTION AND BACKGROUND

Tourism has emerged as a powerful engine for economic and social development, particularly in minority regions with limited economic development opportunities. However, achieving sustainable tourism development necessitates considering the interests and well-being of local residents, as their lives are directly impacted by tourism development (Honey & Raymond, 2009). Tourism has become the preferred development driver and economic alternative to more traditional secondary and tertiary industries in developing countries (Opperman & Chon, 1997). Many developing countries see tourism as a means of development, and due to its rapid and continued growth and its potential economic contribution, it is widely considered an effective means of achieving development and poverty reduction in non-industrialized countries (Binns & Nel, 2002). This study explores the attitudes of local residents towards tourism development in Liangshan, Ganzi, and Aba, three minority areas in Sichuan Province, China, as well as the influencing factors and potential linear and non-linear relationships between these factors, including personal income, ecological environment, cultural protection, quality of life, and perceived risk.

Existing research on residents' attitudes toward tourism has primarily focused on linear relationships between influencing factors (Perdue et al., 1990; Ko and Stewart, 2002; McGehee & Andereck, 2004; Vargas-Sánchez et al., 2009; Latkova & Vogt, 2012). While these studies offer valuable insights, they often overlook the potential long-term impacts of tourism on local environments, cultures, and social structures (McGehee & Andereck, 2004; Pham, 2012). To address this gap, this study employs a quantitative research methodology combining structural-equation modelling and machine-learning algorithms.

Liangshan, Ganzi, and Aba are important autonomous prefectures within Sichuan Province, each boasting unique and abundant natural and cultural resources. Liangshan, located in southwest Sichuan, covers an area of 60,400 square kilometers with a registered population of approximately 5.48 million, of which over half are the Yi ethnic minority. In 2023, the economy grew steadily, reaching a GDP of 226.11 billion yuan. Ganzi, the largest autonomous prefecture in Sichuan, spans 149,700 square kilometers with a resident population of approximately 1.1074 million, predominantly Tibetan, achieving a GDP of 53.34 billion yuan. Aba, covering 84,200 square kilometers, had a resident population of approximately 825,000 in 2023. It is renowned for its unique Tibetan and Qiang cultures and experienced rapid economic growth in 2023, achieving a GDP of 50.31 billion yuan. According to statistics from the Sichuan Provincial Department of Culture and Tourism, the tourism industry in the three prefectures exhibited robust growth in 2023, with a combined tourist count exceeding 150 million and total tourism revenue surpassing 15.5 billion yuan. This signifies the significant importance of these areas for the economic and social development of Sichuan Province and the nation as a whole.

This research investigates multidimensional factors influencing local residents' attitudes towards tourism development, including economic benefits, environmental issues, cultural protection, and social well-being. Exploring potential linear and non-linear relationships between these factors and residents' attitudes contributes to a more comprehensive and profound understanding of the key factors driving sustainable tourism success in minority regions. The findings can provide valuable insights and recommendations for policymakers and tourism stakeholders to foster sustainable tourism development in minority areas. Moreover, this comparative study, using a combined quantitative approach of structural equation modelling and machine learning algorithms, presents a beneficial exploration in academia.

LITERATURE REVIEW

Local residents are not a homogenous group (Tosun, 2000) and play a crucial role in tourism development. Their active participation is considered key to sustainable tourism community development (Cole, 2006; Tosun, 2006; Saufi, O'Brien, & Wilkins, 2014). The willingness of local residents to participate in tourism development and their attitudes towards tourists are important indicators of tourism sustainability (Jurowsky & Gursoy, 2004; Choi & Shirakaya 2010; Saufi et al., 2014).

Social exchange theory is widely used to explain residents' attitudes towards tourism, suggesting that residents weigh the benefits and costs associated with tourism and decide whether to support tourism development based on the perceived balance of these benefits and costs (Jurowski et al., 1997b; McGehee & Andereck, 2004). If residents believe their community or individuals derive greater economic benefits from tourism, they are more likely to hold positive attitudes towards tourism activities (Lankford & Howard, 1994). The exchange method can also be viewed from the perspective of social interaction and intangible benefits (Emerson, 1976). Wang and Pfister (2008) argue that residents' attitudes towards tourism are influenced by non-economic values.

Numerous studies have focused on exploring local residents' attitudes towards tourism, and identifying the factors influencing their attitudes. Early research mainly focused on the economic benefits of tourism development, suggesting that residents' support for tourism is directly related to the personal benefits they derive from it (Lankford & Howard, 1994; Liu & Var, 1986; McGehee & Andereck, 2004). Economic benefits are one of the key factors influencing residents' attitudes. Local residents tend to support tourism development that brings economic benefits, such as job creation, increased income, and enhanced local economic vitality (Andereck et al., 2005; McGehee & Andereck, 2004; Wang & Pfister, 2008). Tourism development can impact the socio-cultural aspects of local communities, including cultural exchange, the preservation of traditional customs, and changes in lifestyle. Some studies indicate that residents may hold positive attitudes towards the cultural exchange brought by tourism, but may also worry about tourism destroying local cultural traditions and lifestyles (Tosun, 2002; Cooper et al., 2008). The environmental impact of tourism includes environmental pollution, excessive exploitation of natural resources, and ecosystem destruction. Residents with strong environmental protection awareness may be more inclined to support sustainable tourism development methods, while those indifferent to environmental issues may be more likely to support short-term economic benefits (Andereck et al., 2005). Residents with a strong sense of belonging to their community may be more inclined to support tourism development that benefits the community, while those without a strong sense of belonging may be more inclined to focus on personal interests (Lankford & Howard, 1994; McGehee & Andereck 2004). Residents' personal experiences and the extent of their contact with tourism

can also affect their attitudes. For instance, residents engaged in tourism-related work typically hold more positive attitudes towards tourism (Deccio & Baloglu 2002; Haralambopoulos & Pizam 1996).

Minority regions often possess unique cultures, natural landscapes, and historical relics, providing immense potential for tourism development. However, tourism development in minority regions faces unique challenges, such as balancing cultural protection, economic development, and environmental protection, as well as the complexities of local residents' attitudes towards tourism. Researchers seek to understand the attitudes of residents in minority regions towards tourism development and identify factors influencing their attitudes, such as economic benefits, environmental protection, cultural heritage, and social welfare (Pham, 2012; Ko & Stewart, 2002; McGehee & Andereck, 2004; Vargas-Sánchez et al., 2009; Latkova & Vogt, 2012). Researchers focus on the impact of tourism on minority cultures, such as cultural commodification, changes in traditional customs, and the protection of cultural heritage (Tosun, 2002; Cooper, et al. 2008), exploring how to balance tourism development with environmental protection and proposing sustainable tourism development models (Honey & Raymond, 2009; McGehee & Andereck, 2004), and analyzing the impact of tourism on economic development in minority regions, such as job creation, income growth, and adjustments in industrial structure (Binns & Nel, 2002; Andereck et al., 2005).

However, as the negative impacts of tourism development become increasingly evident, residents' attitudes may shift. As tourism development levels increase, residents' attitudes may transition from initial enthusiastic support to negative evaluations, or even lead to resistance (Doxey, 1976; Gunn, 1988; Nemethy, 1990). Traditional tourism development research often assumes a linear relationship between influencing factors and residents' attitudes. However, the actual situation may be more complex. In recent years, some scholars have begun to pay attention to the potential non-linear relationship between influencing factors and residents' attitudes (McGehee & Andereck, 2004; Pham, 2012). Carrying capacity theory posits that when tourism development exceeds the carrying capacity of a local community, negative impacts emerge, leading to changes in residents' attitudes (Butler, 1980). Threshold theory suggests that, when tourism development reaches a certain threshold, residents' attitudes shift negatively, no longer supporting further tourism development (Long et

al., 1990). However, some research suggests that there is no direct linear relationship between tourism development levels and residents' attitudes. Allen et al. (1993) argue that residents' attitudes towards tourism depend on the economic development level of the local community. In communities with a higher economic development level, residents exhibit higher support for tourism development, while in communities with a lower economic development level, residents may be more sensitive to the negative impacts of tourism.

Investigating the challenges faced by tourism development in minority regions, such as protecting and preserving minority cultures, achieving coordination between tourism development and environmental protection in minority regions, ensuring that the benefits of tourism development reach local residents, identifying factors influencing local residents' attitudes towards tourism, and utilizing diverse empirical analysis methods to explore the complex structural relationships between these factors, holds significant academic value and practical implications.

RESEARCH DESIGN

Research hypothesis

Based on the research findings of scholars, combined with the economic and social characteristics of Liangshan, Ganzi, and Aba in Sichuan and the realities of tourism development, this study identified six influencing factors affecting local residents' attitudes towards tourism: personal income, economic development, quality of life, ecological environment, local culture, and perceived risk. The following hypotheses are proposed:

H1: Personal income has a significant positive impact on loyalty.

H2: Economic development has a significant positive impact on loyalty.

H3: Ecological environment has a significant positive impact on loyalty.

H4: Local culture has a significant positive impact on loyalty.

H5: Quality of life has a significant positive impact on loyalty.

H6: Perceived risk has a significant negative impact on loyalty.

Questionnaire design and distribution

The questionnaire is divided into two parts: the first part gathers basic demographic information like gender and age, while the second part focuses on measuring key variables, including items assessing influencing factors and residents' attitudes towards local tourism. The measurement items for influencing factors are based on existing domestic and international research. The questionnaire identifies six latent variables representing these factors: personal income (Liu, 1987; Haralambopoulos & Pizam, 1996; Holloway, 2006), economic development (Gursoy, 2022; Honey, 2009; Yu, 2016), quality of life (Grayson, 1994; Liang, 2016; Dissart, 2017; Spencer, 2013), ecological environment (Madrigal, 1993; Latkova, 2012; Pham, 2012; Uysal, 2016), local culture (Mathieson, 1982; Hillery, 2001; Mbaiwa, 2005; Wang, 2008), and perceived risk (Milman, 1988; Jurowski, 1997; Ko, 2002; Nunkoo, 2010; Woo, 2015). A five-point Likert scale is used for scoring the measurement items, with "Very Dissatisfied" assigned 1 point, "Dissatisfied" assigned 2 points, "General" assigned 3 points, "Satisfied" assigned 4 points, and "Very Satisfied" assigned 5 points.

This study utilized the Wenjuanxing online platform for questionnaire distribution and data analysis. The questionnaire was disseminated through WeChat friend forwarding, targeting local residents in Liangshan, Ganzi, and Aba prefectures in Sichuan Province. A total of 881 valid questionnaires were collected.

Sample descriptive statistics

Descriptive statistical analysis was conducted on demographic information, using SPSS26 software. The results showed that Han Chinese respondents constituted the largest proportion, accounting for 58.5%, followed by Yi and Tibetan respondents at 22.4% and 13.8%, respectively. Regarding education level, the highest proportion of respondents had a college diploma, accounting for 58.2%, followed by those with a bachelor's degree, accounting for 25.7%.

Table 1: Sociological characteristics of the respondents

Information	Group	Frequency	Percentage
What is your ethnicity?	Han	515	58.5%
	Manchu	9	1%
	Mongolian	4	0.5%

	Hui	12	1.4%
	Tibetan	122	13.8%
	Miao	4	0.5%
	Yi	197	22.4%
	Zhuang	3	0.3%
	Buyi	1	0.1%
	Tujia	3	0.3%
	Qiang	10	1.1%
	Gelao	1	0.1%
What is your education level?	Junior high school or below	38	4.3%
	High school/Vocational school	51	5.8%
	College diploma	513	58.2%
	Bachelor's degree	226	25.7%
	Master's degree or above	53	6%

Source: Researcher's findings

A multiple response set analysis was conducted using SPSS26 software on the multiple-choice question "What are your ways of participating in local tourism resources?" The results indicated that, among the six options listed in the study, "Restaurant operation" was chosen most frequently, with a proportion of 23.5%. This was followed by "Accommodation operation" at 21.6%, "Agricultural and specialty product production and sales" at 18.1%, and lastly by "Handicraft production and sales", "Working for a tourism company", and "Other", with proportions of 15.3%, 13.9%, and 7.6%, respectively.

Table 2: What are your ways of participating in local tourism resources?

Measurement Item	Option	Response		Case Percentage
		Number of cases	Percentage	
Q18.What are your ways of participating in local tourism resources?	Restaurant Operation	571	23.50%	64.80%
	Accommodation Operation	524	21.60%	59.50%
	Handicraft Production and Sales	371	15.30%	42.10%
	Agricultural and Specialty Product Production and Sales	439	18.10%	49.80%

Working for a Tourism Company	337	13.90%	38.30%
Other	185	7.60%	21.00%
Total	2427	100.00%	275.50%

Source: Researcher findings

A multiple response set analysis was conducted on the multiple-choice question "Which of the following aspects do you think contribute most to increased income through all-for-one tourism?" The results indicated that, among the five options listed in the study, "Operational income" was selected most frequently, accounting for 33% of responses. This was followed by "Wage income" at 23.8%, "Property income" at 20.1%, "Transfer income", and "Other income" at 13.5% and 9.5%, respectively.

Table 3: In your opinion, which of the following aspects do all-round tourism mainly promote to increase income?

Measurement Item	Option	Response		Case Percentage
		Number of cases	Percentage	
Q19. In your opinion, which of the following aspects do all-round tourism mainly promote to increase income?	Operational income	792	33.00%	89.90%
	Wage income	572	23.80%	64.90%
	Property income	483	20.10%	54.80%
	Transfer income	325	13.50%	36.90%
	Other income	229	9.50%	26.00%
	Total	2401	100.00%	272.50%

Source: Researcher's findings

A multiple response set analysis was conducted on the multiple-choice question "Where is your current place of residence and work?" The results indicated that, among the four options listed in the study, the highest proportion of respondents (54.9%) lived in Liangshan Prefecture, followed by Aba Prefecture at 22.1%. Ganzi Prefecture and Other areas accounted for 14.5% and 8.4% of responses, respectively.

Table 4: Where do you live and work?

Measurement Item	Option	Response		Case Percentage
		Number of cases	Percentage	
	Liangshan	484	54.90%	54.90%

Q22. Where do you live and work?	Aba	195	22.10%	22.10%
	Ganzi	74	8.40%	8.40%
	Other	128	14.50%	14.50%
	Total	881	100.00%	100.00%

Source: Researcher's findings

DATA ANALYSIS

Based on structural equation

Reliability analysis

Reliability testing assesses the consistency of questionnaire results when administered to the same respondents at different times and locations. Cronbach's Alpha coefficient is a common measure of internal consistency and reliability, ranging from 0 to 1. Values between 0.65-0.70 are minimally acceptable, 0.7-0.8 indicate good results, and 0.8-0.9 signify very good reliability. To ensure internal consistency and reliability of the empirical data collected for each latent variable and its underlying dimensions, SPSS software was used to calculate Cronbach's Alpha coefficients. The specific test results are presented below.

Table 5: Reliability test of the questionnaire as a whole and each variable

Variable	Measurement Item	CITC	Cronbach's Alpha (Item Deleted)	Cronbach's Alpha
Personal Income	PI1	0.822	0.851	0.903
	PI2	0.808	0.861	
	PI3	0.797	0.869	
Economic Development	ED1	0.818	0.873	0.910
	ED2	0.824	0.868	
	ED3	0.818	0.873	
Ecological Environment	EE1	0.843	0.897	0.926
	EE2	0.849	0.893	
	EE3	0.856	0.888	
Local Culture	LC1	0.888	0.898	0.938
	LC2	0.840	0.934	
	LC3	0.887	0.897	

Quality of Life	QL1	0.826	/	0.904
	QL2	0.826	/	
Perceived Risk	PR1	0.800	0.772	0.870
	PR2	0.725	0.841	
	PR3	0.737	0.835	
Overall Questionnaire				0.840

Source: Researcher's findings

The reliability analysis results presented in the table above demonstrate the satisfactory reliability of the questionnaire used in this study. A total of 17 measurement items were used to measure 6 latent variables. The overall questionnaire reliability, as measured by Cronbach's Alpha is 0.840. Individual Cronbach's Alpha values for each latent variable are: 0.903 for personal income, 0.910 for economic development, 0.926 for ecological environment, 0.938 for local culture, 0.904 for quality of life, and 0.870 for perceived risk. These results indicate that all variables in this study exhibit reliability coefficients exceeding the commonly accepted standard of 0.7, suggesting that the questionnaire possesses good credibility and consistency.

Validity analysis - exploratory factor analysis

To examine the construct validity of the research questionnaire, the authors employed exploratory factor analysis. This method is a widely used practice in statistics for evaluating the validity of scales. This study utilized SPSS software to assess the validity of the questionnaire. When employing factor analysis for validity analysis, two essential conditions must be met. Firstly, the KMO value should exceed the standard threshold of 0.7. Secondly, the p-value for Bartlett's sphericity test should be less than 0.05. If both of these conditions are met, it provides strong evidence that the research questionnaire designed for this study possesses good construct validity.

Table 6: KMO and Bartlett's sphericity test

KMO		0.904
Approximate Chi-Square		12630.382
Bartlett's Test of Sphericity	Degrees of Freedom	136
	Significance	0.000

Source: Researcher's findings

The construct validity test results presented in the table indicate that the research questionnaire used in this study meets the required criteria for exploratory factor analysis. The KMO value, at 0.904, exceeds the acceptable threshold of 0.7. Additionally, the Bartlett's test of sphericity yielded a significant p-value of 0.000, less than the 0.05 significance level, with an approximate chi-square value of 12630.382. This confirms that the research questionnaire has passed the basic validity tests and can be further examined for construct validity.

Table 7: Explained total variance

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %
1	8.509	50.052	50.052	8.509	50.052	50.052	2.653	15.603	15.603
2	1.848	10.872	60.924	1.848	10.872	60.924	2.58	15.176	30.78
3	1.274	7.494	68.418	1.274	7.494	68.418	2.576	15.155	45.934
4	1.114	6.554	74.972	1.114	6.554	74.972	2.544	14.966	60.9
5	1.005	5.913	80.885	1.005	5.913	80.885	2.504	14.732	75.632
6	0.877	5.159	86.044	0.877	5.159	86.044	1.77	10.412	86.044
7	0.361	2.123	88.167						
8	0.274	1.611	89.779						
9	0.269	1.583	91.362						
10	0.24	1.413	92.775						
11	0.231	1.358	94.133						
12	0.217	1.277	95.41						
13	0.204	1.201	96.61						
14	0.173	1.018	97.629						
15	0.152	0.894	98.523						
16	0.141	0.832	99.355						
17	0.11	0.645	100						

Source: Researcher's findings

During the exploratory factor analysis, the authors employed principal component analysis to extract a fixed number of common factors from the 17 measurement items. Seven common factors were extracted, and the analysis revealed that these

factors collectively explained over 60% of the total variance, with a specific value of 86.044%. This finding suggests that the research questionnaire possesses good construct validity.

Table 8: Factor rotation matrix

Measurement Item	Component						Factor communality
	1	2	3	4	5	6	
PI1				0.830			0.855
PI2				0.832			0.846
PI3				0.774			0.820
ED1	0.823						0.846
ED2	0.835						0.848
ED3	0.851						0.853
EE1		0.817					0.867
EE2		0.823					0.877
EE3		0.809					0.871
LC1			0.832				0.913
LC2			0.793				0.871
LC3			0.849				0.911
QL1						0.832	0.915
QL2						0.840	0.914
PR1					0.861		0.842
PR2					0.848		0.792
PR3					0.857		0.788

Source: Researcher's findings

The table above displays the rotated factor matrix. An orthogonal rotation using the Varimax method was applied to the factors. This resulted in the 17 measurement items being categorized into 6 distinct factors. Each measurement item has a loading greater than 0.5, and there are no instances of high loadings on two factors simultaneously. Additionally, the measurement items within each dimension are clustered together according to theoretical distribution, indicating that the questionnaire exhibits good content validity.

Validity test-AMOS confirmatory factor analysis

Confirmatory factor analysis (CFA) is a statistical method primarily used to examine whether the relationship between a factor (or construct) in a questionnaire and its corresponding measurement items aligns with the researcher's pre-defined variable structure and whether this structure demonstrates a certain level of validity. It is a commonly used method for assessing questionnaire validity. The CFA analysis is typically conducted using software such as AMOS, analyzing the collected data from the questionnaire. The specific results of the CFA are presented below.

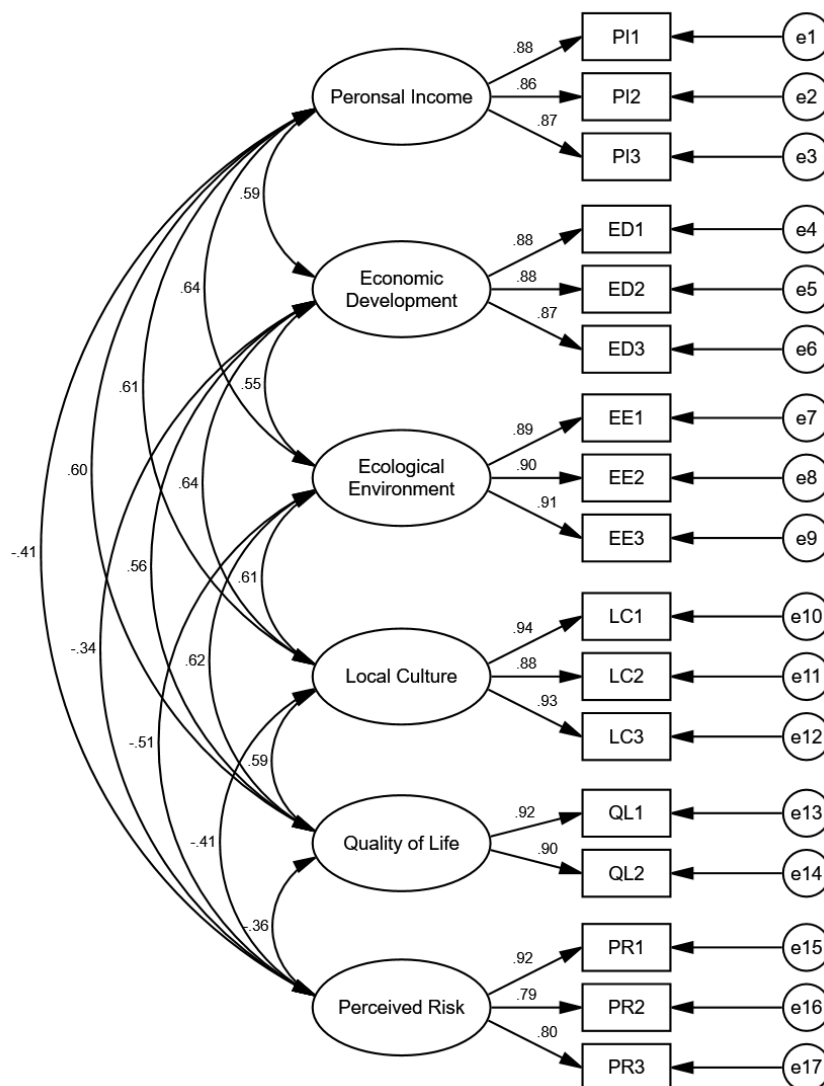


Figure 1. Confirmatory factor analysis model

Model goodness-of-fit test

After establishing a confirmatory factor analysis (CFA) model, evaluating key fit indices is crucial. Ideally, the chi-square statistic divided by degrees of freedom (X^2/df) should

be less than 3, with values less than 5 considered acceptable. Goodness-of-fit Index (GFI), Adjusted Goodness-of-fit Index (AGFI), and Normed Fit Index (NFI) values greater than 0.8 indicate a satisfactory model fit, with values over 0.9 preferred. For a Tucker-Lewis Index (TLI) and a Comparative Fit Index (CFI), values greater than 0.9 are essential for a good model fit. Lastly, a Root Mean Square Error of Approximation (RMSEA) less than 0.08 suggests a good model fit.

Table 9: Confirmatory factor analysis model fit index

Fit index	Judgment criteria	Actual value
X ² /df	< 5 acceptable; < 3 ideal	3.877
GFI	> 0.8 acceptable; > 0.9 ideal	0.947
AGFI	> 0.8 acceptable; > 0.9 ideal	0.921
NFI	> 0.8 acceptable; > 0.9 ideal	0.968
IFI	> 0.9	0.976
CFI	> 0.9	0.976
NNFI(TLI)	> 0.9	0.969
RMSEA	< 0.08	0.057

Source: Researcher's findings

These results collectively demonstrate that the confirmatory factor analysis model established in this study conforms to the established standards, passes the goodness-of-fit test, and exhibits excellent fit.

Table 10: Standardized factor loading values, composite reliability (CR), and convergent validity (AVE)

Variable	Measurement Items	Estimate	S.E.	T	P	CR	AVE
Personal Income	PI1	0.881					
	PI2	0.863	0.026	33.536	***		
	PI3	0.869	0.027	33.876	***	0.904	0.759
Economic Development	ED1	0.882					
	ED2	0.883	0.029	35.251	***		
	ED3	0.870	0.029	34.452	***	0.910	0.772

Ecological Environment	EE1	0.890					
	EE2	0.897	0.026	38.616	***		
	EE3	0.910	0.024	39.66	***	0.927	0.808
Local Culture	LC1	0.938					
	LC2	0.876	0.023	42.06	***		
	LC3	0.931	0.021	49.594	***	0.939	0.838
Quality of Life	QL1	0.918					
	QL2	0.900	0.029	31.959	***	0.905	0.826
Perceived Risk	PR1	0.916					
	PR2	0.786	0.030	27.336	***		
	PR3	0.797	0.035	27.858	***	0.873	0.697

Source: Researcher's findings Note : ***为 $P < 0.001$

The confirmatory factor analysis (CFA) model results demonstrate strong construct validity and reliability. Standardized factor loadings for all measurement items range from 0.786 to 0.938, exceeding the standard threshold of 0.5 and indicating that each item effectively measures its corresponding dimension. Standard errors for each item are below 0.5, further confirming the strong measurement quality.

The composite reliability (CR) values, exceeding 0.7 for all constructs, indicate good internal consistency among the items within each construct. Similarly, average variance extracted (AVE) values surpass 0.5, demonstrating strong convergent validity. These results confirm that the composite reliability and convergent validity of the constructs and measurement items meet the theoretical requirements, indicating the questionnaire's consistency and effectiveness.

Table 12: Discriminant validity

	Personal Income	Economic Development	Ecological Environment	Local Culture	Quality of Life	Perceived Risk
Personal Income	0.871					
Economic Development	0.535	0.879				
Ecological Environment	0.588	0.502	0.899			
Local Culture	0.562	0.583	0.58	0.915		
Quality of Life	0.545	0.51	0.565	0.556	0.909	

Perceived Risk	-0.371	-0.303	-0.448	-0.379	-0.313	0.835
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Source: Researcher's findings

The table shows that the correlation coefficients between each latent variable are all less than the upper limit of 0.85, indicating that there is a certain degree of correlation between the variables. Additionally, the square root of the AVE for each variable is greater than the correlation coefficients between those variables, confirming that the variables exhibit good discriminant validity.

Correlation analysis

This study employs Pearson correlation analysis to investigate the potential interrelationships between the variables involved. By conducting a correlation analysis, we aim to determine if statistically significant relationships exist between these variables.

Table 12: Correlation analysis

	Personal Income	Economic Development	Ecological Environment	Local Culture	Quality of Life	Perceived Risk	Loyalty
Personal Income	1						
Economic Development	.535**	1					
Ecological Environment	.588**	.502**	1				
Local Culture	.562**	.583**	.580**	1			
Quality of Life	.545**	.510**	.565**	.556**	1		
Perceived Risk	-.371**	-.303**	-.448**	-.379**	-.313**	1	
Loyalty	.460**	.476**	.475**	.528**	.477**	-.327**	1

Source: Researcher's findings

Note : *P<0.05, **P<0.01

The correlation analysis results presented in the table show that the Pearson correlation coefficients between all pairs of the seven latent variables in this study are greater than 0.1, and their corresponding p-values are all less than the significance level of 0.05. This indicates that the correlation coefficients are statistically significant,

confirming a significant correlation between each pair of the seven latent variables used in this study.

Structural Equation Model

Structural Equation Modelling (SEM) is a multivariate statistical technique that analyzes relationships between variables using their covariance matrix. Combining multiple regression and factor analysis, SEM assesses interconnected causal relationships, and models complex scenarios involving latent variables, correlated independent variables, and measurement error. SEM evaluates the acceptability of theoretical models using sample data.

Based on the theoretical model, a structural equation model was established using AMOS 21 (see Figure 2 below).

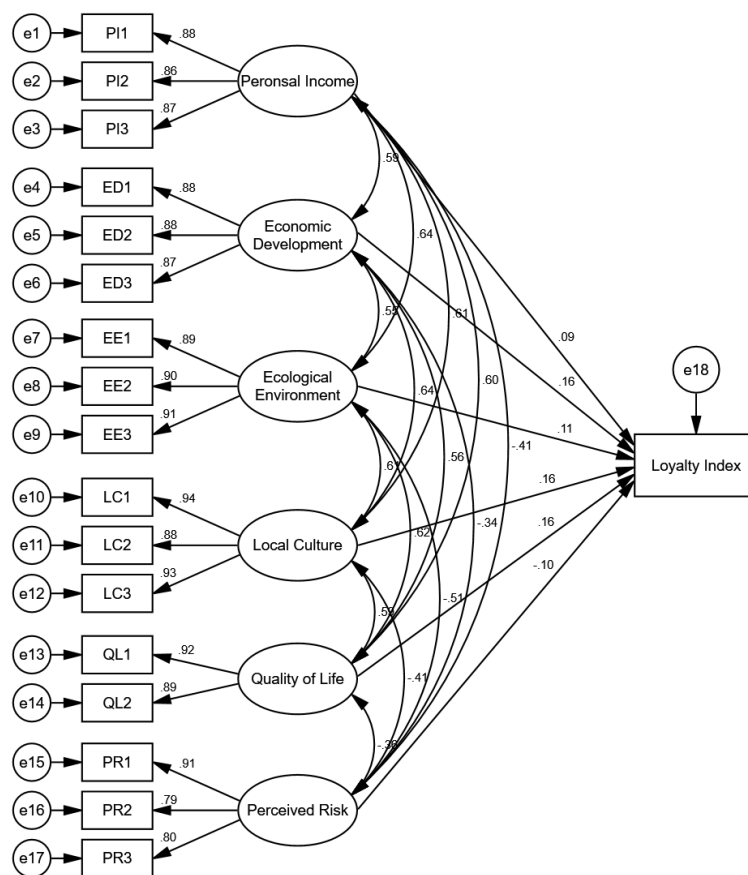


Figure 2: Structural equation model diagram

Model goodness-of-fit test

When evaluating structural equation models, several fit indices are used to assess model fit. Ideally, X^2/df should be less than 3, with values under 5 considered acceptable. GFI, AGFI, and NFI values above 0.8 indicate satisfactory fit, while values

exceeding 0.9 are preferred. TLI and CFI values greater than 0.9 are crucial for good model fit. Finally, an RMSEA below 0.08 suggests a good model fit.

Table 13: Structural equation model fit indicators

Fit index	Judgment criteria	Actual value
X ² /df	< 5 acceptable; < 3 ideal	3.682
GFI	> 0.8 acceptable; > 0.9 ideal	0.947
AGFI	> 0.8 acceptable; > 0.9 ideal	0.921
NFI	> 0.8 acceptable; > 0.9 ideal	0.968
IFI	> 0.9	0.976
CFI	> 0.9	0.976
NNFI (TLI)	> 0.9	0.968
RMSEA	< 0.08	0.055

Source: Researcher's findings

As shown in the table above, all the goodness-of-fit indices in the structural equation model established in this study meet or exceed the commonly accepted threshold values, demonstrating that the model is valid and exhibits a good fit with the collected data.

Table 14: Path hypothesis test results

Hypothetical path			Estimate	S.E.	t	P
Loyalty	<---	Personal Income	0.092	0.114	2.070	0.038*
Loyalty	<---	Economic Development	0.161	0.108	3.876	***
Loyalty	<---	Ecological Environment	0.111	0.109	2.441	0.015*
Loyalty	<---	Local Culture	0.158	0.104	3.698	***
Loyalty	<---	Quality of Life	0.160	0.106	3.782	***
Loyalty	<---	Perceived Risk	-0.104	0.070	-3.028	0.002**

Source: Researcher's findings

Note : ***P < 0.001, **P < 0.01, *P < 0.05

The path analysis results of the structural equation model, as shown in the table above, reveal the significant relationships between various factors and tourist loyalty. Personal income, economic development, ecological environment, local culture, and

quality of life all exhibit significant positive impacts on loyalty, supporting hypotheses H1-H5. Standardized path coefficients range from 0.092 to 0.161, with corresponding t-values and p-values demonstrating statistically significant relationships. Conversely, perceived risk demonstrates a significant negative impact on loyalty, validating hypothesis H6, with a standardized path coefficient of -0.104 and a significant p-value.

Table 15: Summary of research hypothesis verification results

Hypothesis Number	Hypothesis Statement	Verification Status
H1	Personal income has a significant positive impact on loyalty.	Confirmed
H2	Economic development has a significant positive impact on loyalty.	Confirmed
H3	Ecological environment has a significant positive impact on loyalty.	Confirmed
H4	Local culture has a significant positive impact on loyalty.	Confirmed
H5	Quality of life has a significant positive impact on loyalty.	Confirmed
H6	Perceived risk has a significant negative impact on loyalty.	Confirmed

Source: Researcher's findings

Based on a random forest clustering algorithm

Random Forest is an ensemble learning model based on the Bagging (Bootstrap Aggregating) strategy. It effectively handles non-linear problems and excels in managing large datasets with numerous samples and features. Additionally, Random Forest focuses on reducing variance. The Bagging method enables parallel training because the base learners are independent during the training process. By integrating multiple models, it effectively addresses overfitting issues, enhancing model prediction accuracy and generalisation ability. Random Forest consists of numerous independent decision trees (ranging from dozens to hundreds). During the training of each decision tree, specific evaluation criteria (such as information gain or Gini impurity) are used to select the optimal feature for splitting. By continuously repeating these two steps, a large number of decision trees are constructed. The Random Forest algorithm effectively handles high-dimensional data without requiring feature selection. Furthermore, it can assess the importance of variables, providing valuable insights for understanding the dataset.

The principle behind Random Forest feature importance ranking is based on the contribution of each feature during the decision tree construction process. Specifically, Random Forest assesses feature importance by observing the reduction in impurity at the tree node splits. A greater reduction in impurity indicates a higher contribution of that feature to the model's prediction accuracy, resulting in a higher position in the feature importance ranking. This evaluation method considers not only the direct impact of features on model predictions, but also their randomness in the random process, providing a relatively objective assessment of feature importance.

This study included 21 features for Random Forest feature selection, comprising 17 measurement items that influence residents' attitudes, along with their profession, age, ethnicity, and education level. The distribution of feature importance is presented as follows:

Table 16: Random forest feature importance ranking

Feature Name	Importance
PR1	0.136481226
PI3	0.097765785
LC2	0.076470846
LC3	0.069886961
PI2	0.068129707
EE1	0.062145913
LC1	0.054691258
PI1	0.052324538
PR3	0.046638502
QL1	0.04624338
ED2	0.045956016
ED1	0.039462085
QL2	0.034906628
Job	0.030981236
ED3	0.029697282
EE2	0.025187121
Edulev	0.024145035
EE3	0.021297368

PR2	0.014335884
Nation	0.012512323
AgeLev	0.010740905

Source: Researcher's findings

The Random Forest feature importance ranking results, as shown in the table above, reveal the top five most influential factors impacting local residents' attitudes towards tourism:

PR1: The development of tourism might cause damage to the local natural environment. This demonstrates that the government's philosophy of "lucid waters and lush mountains are invaluable assets" has taken root among residents in minority regions.

PI3: Tourism effectively promotes the prosperity of local residents. This highlights the impact of tourism on personal income, especially its positive influence on the overall income of residents in the region, making it a significant factor influencing their attitudes toward tourism.

LC2 and LC3: Local residents recognize that tourism increases cultural exchange, particularly in areas where diverse ethnic cultures coexist. This positive impact on local culture development is also a significant factor.

PI2: Tourism can promote local employment. This reiterates that economic benefits are a crucial factor influencing residents' attitudes towards tourism.

The importance of economic benefits is also reflected in the sociological characteristics of the respondents. For instance, occupation has a greater impact on residents' tourism attitudes compared to education level, ethnicity, or age. Education level has a stronger impact than ethnicity or age. The influence of characteristics like ethnicity and age is relatively minor.

This study utilizes a Random Forest algorithm with the following parameters: 20 features, 20 trees, a tree depth of 4, and the Gini index as the evaluation criterion. The model evaluation results are presented as follows:

Table 17: Model evaluation results

Index	Value					
confusion matrix	True prediction	1	2	3	4	5
	1	0	5	0	0	0
	2	0	6	3	0	2
	3	0	2	4	27	20
	4	0	0	8	34	31
	5	0	0	2	14	102
Accuracy	0.561538462					
weighted precision	0.493432529					
weighted recall	0.561538462					
weighted F1 score	0.512590414					
Class 1.0 precision	0					
Class 1.0 recall	0					
Class 1.0 F1 score	0					
Class 1.0 falsePositiveRate	0					
Class 1.0 truePositiveRate	0					
Class 2.0 precision	0.461538462					
Class 2.0 recall	0.545454545					
Class 2.0 F1 score	0.5					
Class 2.0 falsePositiveRate	0.02811245					
Class 2.0 truePositiveRate	0.545454545					
Class 3.0 precision	0.235294118					
Class 3.0 recall	0.075471698					
Class 3.0 F1 score	0.114285714					
Class 3.0 falsePositiveRate	0.062801932					
Class 3.0 truePositiveRate	0.075471698					
Class 4.0 precision	0.453333333					
Class 4.0 recall	0.465753425					
Class 4.0 F1 score	0.459459459					
Class 4.0 falsePositiveRate	0.219251337					
Class 4.0 truePositiveRate	0.465753425					

Class 5.0 precision	0.658064516
Class 5.0 recall	0.86440678
Class 5.0 F1 score	0.747252747
Class 5.0 falsePositiveRate	0.373239437
Class 5.0 truePositiveRate	0.86440678

Source: Researcher's findings

The Random Forest model achieved an overall accuracy of 0.5615, correctly predicting 56.15% of the samples. While the model demonstrated moderate performance in identifying residents with "Somewhat Agree" attitudes towards tourism, it struggled with other classes, particularly "Strongly Disagree" and "Ambivalent". The model performed best in identifying "Strongly Agree" attitudes, achieving a precision of 0.6581 and a recall of 0.8644. This indicates the model effectively captured the factors influencing strong agreement towards tourism, highlighting the importance of the measurement items used. The higher false positive rate for Classes 4 and 5 suggests a need for further investigation into the complex factors driving negative attitudes towards tourism.

The model's poor performance in identifying "Strongly Disagree," "Somewhat Disagree," and "Ambivalent" attitudes towards tourism suggests complex factors influencing these stances. While structural equation modelling adequately captured these factors, the Random Forest algorithm's non-linear approach exhibited weaker predictive power for these classes. Conversely, strong performance in identifying "Strongly Agree" attitudes indicates clear drivers of these attitudes captured by the measurement items. Further investigation into the factors driving negative attitudes is needed due to higher false positive rates for "Somewhat Agree" and "Strongly Agree" classifications.

CONCLUSION

This study investigated the influencing factors of local residents' attitudes towards tourism development, using 881 questionnaires collected from Liangshan, Ganzi, and Aba prefectures in Sichuan Province. The study employed structural equation modelling and random forest algorithms. The results indicated that personal income, economic development, ecological environment, local culture, and quality of life had significant positive impacts on residents' tourism attitudes, while perceived risk had a significant negative impact. The structural equation model validated all hypotheses,

demonstrating the significant positive influence of these factors on residents' tourism attitudes. The random forest algorithm further revealed key factors influencing residents' tourism attitudes: natural environmental damage, wealth generation through tourism, cultural exchange, job opportunities, and personal income growth within perceived risk. These findings suggest that residents' attitudes towards tourism development are shaped by multiple factors, with ecological environmental protection awareness, economic benefits, and cultural exchange being particularly crucial.

It is noteworthy that the random forest algorithm performed poorly in predicting the attitudes of residents who strongly disagree with tourism. This suggests that there may be more complex factors influencing residents' negative attitudes towards tourism that require further exploration. Moreover, the algorithm also performed poorly in predicting the attitudes of residents with ambivalent tourism attitudes. This may be related to the more complex cognitions and emotions associated with this group towards tourism development, necessitating further analysis.

Overall, the study findings provide a novel perspective on understanding local residents' attitudes towards tourism development and offer theoretical support and practical guidance for promoting sustainable tourism development in minority regions. Future research should delve deeper into the more complex factors influencing residents' negative attitudes towards tourism and conduct more in-depth analyses, considering regional variations to provide more precise recommendations for promoting tourism development in minority regions.

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An empirical study on the digital economy driving rural revitalization in ethnic areas of Sichuan China

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ABSTRACT

The digital economy has become a primary driving force of global economic development, providing valuable opportunities for urban growth and rural revitalization. However, ethnic minority areas in China, typically located in remote rural regions, face significant challenges such as limited infrastructure, cultural diversity, and restricted access to education. In this complex context, the impact of the digital economy on rural revitalization in ethnic minority areas remains underexplored, which is crucial for achieving social equity and common prosperity. This paper theoretically explains the impact mechanism of the digital economy in empowering rural revitalization in ethnic minority areas, and empirically examined the driving effects and heterogeneity characteristics of the digital economy on rural revitalization in ethnic minority areas, using panel data from three ethnic minority areas—Liangshan Prefecture, Ganzi Prefecture, and Aba Prefecture—over the years 2010 to 2022. Both the evaluation of digital economy development and rural revitalization are based on calculated indices. The results indicate that the digital economy significantly drives rural revitalization in ethnic minority areas and the benefits of the digital economy vary among different ethnic minority regions. This conclusion remains valid after considering endogeneity issues and a series of robustness tests. This study provides a theoretical basis and policy insights for deepening the integration of the digital

economy with agriculture in ethnic areas and formulating differentiated digital economy development strategies to promote rural revitalization in such ethnic areas.

Keywords: digital economy; rural revitalization; ethnic areas; driving effects

INTRODUCTION

The rural revitalization strategy is the overarching framework for the "Three Rural" (agriculture, rural areas, and farmers) work in the new era. The 14th Five-year Plan outlines the need to "prioritize agricultural and rural development, and comprehensively promote rural revitalization," while also emphasizing the importance of "accelerating digital development and building a digital China." As a crucial driver of China's high-quality economic development, the digital economy, centered on internet and big data technologies, is rapidly extending into and penetrating the agricultural and rural sectors, providing new opportunities for rural revitalization in ethnic areas. However, how the digital economy drives rural revitalization in ethnic areas, whether this driving effect is effective, and whether there is heterogeneity among different ethnic areas still requires in-depth empirical research. Therefore, this paper is taking advantage of the calculated Digital Economy Development Index and the Rural Revitalization Index for ethnic areas, analyzing the impact of the digital economy on rural revitalization in these areas, quantitatively. This has significant implications for guiding the development of the digital economy and promoting the implementation of the rural revitalization strategy in ethnic areas.

Research on the digital economy primarily addresses three aspects. First, the concept of the digital economy. For example, Bukht and Heeks (2018) defined it as economic activities based on digital technologies. Second, the statistical classification and measurement of the digital economy, as explored by Barefoot et al. (2018). Third, empirical studies on the digital economy, such as Chen et al. (2023), examining its impact on high-quality urban development. Extant literature predominantly focuses on national or developed regions, with limited research on the digital economy's development in ethnic areas.

Research on rural revitalization focuses on three main aspects. First, the role of key stakeholders, such as Liu et al. (2019), analyzing the role of local governments in China's rural revitalization. Second, pathways to rural revitalization, with Su et al.

(2012) exploring the role of cultural heritage. Third, the development of evaluation index systems, as demonstrated by Li et al. (2021) who constructed an evaluation index system for rural revitalization in China. However, research specifically on rural revitalization in ethnic areas remains insufficient.

Research on the impact of the digital economy on rural revitalization presents the following key viewpoints: first, the digital economy can enhance agricultural quality and efficiency, boosting rural economic development (Salemink et al., 2017). Second, the digital economy can facilitate rural construction and governance (Roberts et al., 2017). However, these studies mainly focus on developed countries or regions, with limited research on ethnic areas in China.

In summary, existing research has the following shortcomings: (1) a lack of empirical studies on the relationship between the digital economy and rural revitalization in ethnic areas; (2) insufficient consideration of the relationship from a holistic perspective and a lack of in-depth exploration of the influencing mechanisms; (3) neglect of the unique characteristics of ethnic areas. Therefore, this paper's main contributions are as follows. We empirically examine the driving effect of the digital economy on rural revitalization in ethnic areas, using an evaluation index for the digital economy and rural revitalization suitable for ethnic areas. Moreover, we investigate the heterogeneity among different ethnic areas to provide a basis for differentiated policy formulation. This research will deepen the theoretical understanding of the relationship between the digital economy and rural revitalization and provide practical guidance for promoting rural revitalization in ethnic areas.

MECHANISM ANALYSIS AND RESEARCH HYPOTHESES

Direct effects of the digital economy on rural revitalization in ethnic areas

The existing theoretical framework delves into how the digital economy promotes high-quality economic development in multiple dimensions. From a micro perspective, the digital economy, particularly emerging technologies represented by the internet, creates a unique economic ecosystem that integrates economies of scale, economies of scope, and the long-tail effect. This system precisely matches supply and demand, optimizes market structures, and fosters a more rational and efficient price formation mechanism (Zhang, 2022; Tang et al., 2022; Xu et al., 2023). This process not only enhances market responsiveness, but also promotes a higher equilibrium state

in the economic system, injecting vitality into sustainable economic development. From a macro perspective, the digital economy drives high-quality economic development by introducing new production factors, significantly improving resource allocation efficiency, and boosting total factor productivity. These new factors, including big data and cloud computing, expand the boundaries of the production function and improve resource allocation by enhancing information flow and decision-making efficiency. Additionally, the increase in total factor productivity means more output can be generated with the same resource input, which is crucial for improving economic growth quality and achieving sustainable development (Hong, 2018; Jing & Sun, 2019).

In terms of the pathways for the rural revitalization strategy, the digital economy, as a rapidly emerging economic form, is widely recognized as a key solution to overcoming bottlenecks such as the restricted flow of production factors and inefficiencies in the value and supply chains. Its high quality, efficiency, and precision provide strong support for addressing various obstacles in the rural revitalization process. Specifically, Li et al. (2019) emphasizes that the digital economy not only grows rapidly, but also has strong diffusion capabilities and cost-reduction effects, driving innovations in economic development and governance models. Li et al. (2019) point out that the digital economy serves as a bridge connecting rural areas with external markets, enhancing agricultural production efficiency, and significantly stimulating rural innovation potential. Chen et al. (2021) further elaborate on the advantages of the digital economy in optimizing resource allocation, reducing transaction costs, and mitigating market information asymmetry, noting these benefits have a significant multiplier effect on promoting agricultural modernization, advancing rural progress, and fostering individual farmer development. Qiu (2021) highlights the digital economy's exceptional performance in reducing industry and product homogenization and supporting industrial prosperity. Additionally, Young (2019) suggests that the digital economy, by creating a virtual space integrating the physical and digital worlds, injects new vitality into agricultural production, rural goods circulation, social governance, lifestyles, and cultural concepts, making it an innovative and powerful

tool for achieving comprehensive rural revitalization.

Hypothesis 1: The digital economy can significantly drive rural revitalization.

Heterogeneity in the driving effect of the digital economy on rural revitalization across regions

Given the differences in resource conditions and development stages, the prosperity of the digital economy and the overall quality of economic development exhibit significant heterogeneity across regions. Consequently, the impact of the digital economy on driving urban economic transformation to high-quality development is likely to vary by region and city level (Zhao et al., 2020).

Hypothesis 2: The driving effect of the digital economy on rural revitalization exhibits heterogeneity across regions.

Model design and variable description

Model design*

To examine the impact of the digital economy on rural revitalization in ethnic areas, this study establishes the following baseline model:

$$Rural\ Revital\ Index_{it} = \beta_0 + \beta_1 Digi\ Econ_{it} + \beta_2 Controls_{it} + Region\ FEs + \varepsilon_{it} \quad (1)$$

where *Rural Revital Index_{it}* represents the level of rural revitalization in region *i* at time *t*; *Digi Econ_{it}* represents the level of digital economy in region *i* at time *t*; *Controls_{it}* represents a set of other control variables affecting the level of rural revitalization; *Region FEs* represents individual fixed effects¹; and ε_{it} represents the random error term. Robust standard errors are also set in the model.

To address the endogeneity issue in the model, an instrumental variable is selected for the key explanatory variable *Digi Econ_{it}*, and a two-stage least squares regression is conducted. The first and second stage models are shown in equations (2) and (3), respectively:

$$Dig-i\ Econ_{it} = \alpha_0 + \alpha_1 IV_{it} + \alpha_2 Controls_{it} + Region\ FEs + \vartheta_{it} \quad (2)$$

1 The sample consists of panel data from 2010 to 2022 for the regions of Aba, Ganzi, and Liangshan. Given that there are only three observations per year, using time fixed effects would be too restrictive. Therefore, time fixed effects are not used in the model specification.

$$Rural\ Revital\ Index_{it} = \beta_0 + \beta_1 Digital\ Econ_{it} + \beta_2 Controls_{it} + Region\ FEs + \varepsilon_{it} \quad (3)$$

The variables and model setup in equations (2) and (3) are the same as in equation (1).

In the heterogeneity analysis, due to the sample size limitation, it is not possible to conduct regressions for each of the three regions separately. Therefore, a pairwise combination approach of the three regions is used to study the differences in the driving effect of the digital economy on rural revitalization after excluding one region. The heterogeneity analysis employs the instrumental variable method (equations (2) and (3)) to address the endogeneity issue.

Variable Description

The level of rural revitalization

The rural revitalization strategy encompasses five integrated objectives: thriving industries, livable ecology, civilized rural customs, effective governance, and prosperous living. These objectives address how to achieve agricultural prosperity, rural development, and increased farmer income. This study draws on the rural revitalization level indicator system proposed by Zhang et al. (2022). By surveying relevant economic and social indicators in the Aba, Ganzi, and Liangshan regions, a rural revitalization level indicator *Rural Revital Index_{it}* was constructed.

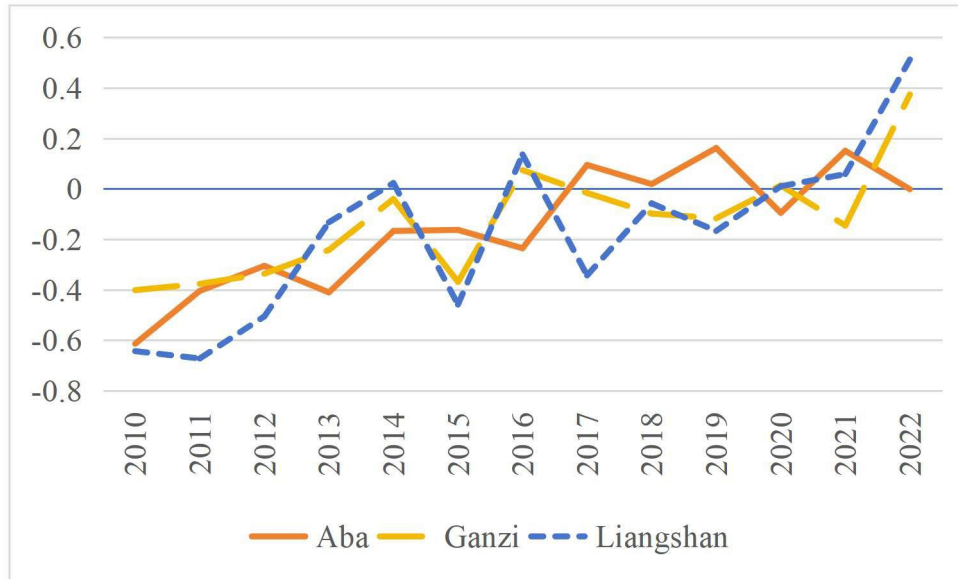
The level of digital economy

Currently, most literature on the quantitative assessment of the digital economy focuses on the provincial level. For instance, Liu et al. (2020) constructed a provincial digital economy assessment framework covering three dimensions: informatization progress, internet penetration, and digital transaction prosperity, and conducted measurements based on data from 30 provinces between 2015 and 2018. He et al.

(2022) used panel data from 30 provinces and cities in China from 2011 to 2018 to empirically test the driving effect, mechanisms, and heterogeneity characteristics of the digital economy on rural revitalization, based on the calculated digital economy development index and rural revitalization index. This study draws on Zhao et al. (2020) to measure the comprehensive level of digital economy development in cities at or above the prefecture level. Data were collected for the Aba, Ganzi, and Liangshan regions on five indicators: number of internet users per 100 people ($User_Pct_{it}$), proportion of employees in computer services and software ($Prof_Pct_{it}$), per capita telecom business volume ($Carrier_per_Person_{it}$), number of mobile phone users per 100 people ($Mobile_Pct_{it}$), and the digital inclusive finance index ($Inclusive_Fin_Ind_{it}$). Using principal component analysis, these five standardized indicators were combined to obtain the digital economy level index ($Digi_Econ_{it}$).

Figure 1 shows the digital economy level index for Aba, Ganzi, and Liangshan. As depicted, the digital economy levels in all three regions exhibited a fluctuating upward trend throughout the sample period. Relatively speaking, Liangshan had the weakest digital economy level at the beginning of the sample period, but by the end of the sample period in 2022, it surpassed the other two regions, reaching the highest level.

Figure 1: The level of digital economy in Aba, Ganzi, and Liangshan



Control variables

Based on the industrial development in the Aba, Ganzi, and Liangshan regions, and considering data availability, the control variables used in this study are as follows: population ($Log_Population_{it}$), total retail sales of consumer goods (domestic trade indicator) ($Trade_{it}$), percentage of the tertiary industry in GDP ($Ind_3rd_Pct_{it}$), and proportion of rural residents' expenditure on education, culture, and entertainment over total income ($Enter_Ratio_{it}$).

Instrumental variable

On July 14, 2014, the Ministry of Commerce and the Ministry of Finance of the People's Republic of China jointly issued document Cai Ban Jian [2014] No. 41, "Notice on Carrying Out Comprehensive Demonstration of E-commerce in Rural Areas," aimed at accelerating the promotion and application of e-commerce in rural areas. Following the issuance of this notice, each demonstration province and region selected counties for demonstration through competitive allocation, formulated specific implementation plans, and received additional funding from the central government. This policy continued until 2022. By collecting data on the demonstration counties and their participation times in the Aba, Ganzi, and Liangshan regions, the annual data for the proportion of demonstration counties in each region (

Treated_Pct_{it}) were constructed. Participation in the demonstration county project reflects the local government's emphasis on digital economy development, making this variable relevant to the digital economy level variables. Although the project involved a small number of financial subsidies, it did not directly lead to rural economic development. Therefore, this variable meets the requirements for an instrumental variable in the model.

DATA SOURCES

This study examines the three ethnic autonomous prefectures of Aba, Ganzi, and Liangshan in the Sichuan Province from 2010 to 2022, constructing a panel dataset of 36 prefecture-years. The primary data sources include the "China Rural Statistical Yearbook" and the statistical bureaus of the Aba, Ganzi, and Liangshan regions. The "Rural Digital Inclusive Finance Index" was sourced from the "Peking University Digital Inclusive Finance Index." Tables 1 and 2 present the summary statistics and correlations of the variables used in this study.

Table 1: Summary statistics

Variable	Obs	Mean	Median	SD	Min	Max
Dependent Variable						
<i>rural_revi_ind</i>	39	0.250	0.252	0.036	0.191	0.315
Independent Variables						
<i>digl_econ_ind</i>	39	-0.151	-0.132	0.265	-0.672	0.513
<i>user_pct</i>	39	20.010	20.243	2.702	15.175	27.363
<i>prof_pct</i>	39	0.049	0.049	0.007	0.035	0.063
<i>carrier_per_person</i>	39	0.090	0.088	0.012	0.070	0.119
<i>mobile_pct</i>	39	23.432	23.269	3.391	17.722	32.597
<i>log_inclusive_fin</i>	39	4.558	4.883	0.607	3.219	5.185
Control Variables						
<i>log_population</i>	39	5.106	4.707	0.760	4.401	6.193
<i>ind_3rd_pct</i>	39	0.397	0.366	0.096	0.282	0.600
<i>enter_ratio</i>	39	2.083	1.908	0.728	0.778	3.835
<i>trade</i>	39	51.566	40.808	30.372	21.644	147.707
Instrumental Variable						
<i>treated_pct</i>	39	0.428	0.231	0.447	0.000	1.000

Table 2. Correlation between variables

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) <i>rural_revi_ind</i>	1.000											
(2) <i>digi_econ_ind</i>	0.625*** (0.000)	1.000										
(3) <i>user_pct</i>	0.519*** (0.001)	0.945*** (0.000)	1.000									
(4) <i>prof_pct</i>	0.223 (0.173)	0.672*** (0.000)	0.593*** (0.000)	1.000								
(5) <i>carrier_per_person</i>	0.497*** (0.001)	0.870*** (0.000)	0.880*** (0.000)	0.488*** (0.002)	1.000							
(6) <i>mobile_pct</i>	0.507*** (0.001)	0.940*** (0.000)	0.918*** (0.000)	0.571*** (0.000)	0.836*** (0.000)	1.000						
(7) <i>log_inclusive_fin_ind</i>	0.744*** (0.000)	0.820*** (0.000)	0.667*** (0.000)	0.370** (0.020)	0.594*** (0.000)	0.692*** (0.000)	1.000					
(8) <i>log_population</i>	-0.046 (0.781)	-0.051 (0.758)	-0.053 (0.750)	-0.079 (0.634)	-0.054 (0.746)	-0.030 (0.858)	-0.026 (0.873)	1.000				
(9) <i>ind_3rd_pct</i>	0.547*** (0.000)	0.418*** (0.008)	0.437*** (0.005)	0.182 (0.267)	0.331** (0.039)	0.383** (0.016)	0.371** (0.020)	-0.305* (0.059)	1.000			
(10) <i>enter_ratio</i>	0.068 (0.681)	0.261* (0.108)	0.236 (0.148)	0.167 (0.308)	0.174 (0.291)	0.193 (0.240)	0.301* (0.062)	-0.404** (0.011)	0.158 (0.336)	1.000		
(11) <i>trade</i>	-0.230 (0.160)	-0.132 (0.423)	-0.108 (0.512)	0.013 (0.938)	-0.039 (0.813)	-0.072 (0.663)	-0.243 (0.136)	-0.429*** (0.006)	-0.070 (0.673)	0.079 (0.634)	1.000	
(12) <i>treated_pct</i>	0.814*** (0.000)	0.650*** (0.000)	0.591*** (0.000)	0.312* (0.053)	0.547*** (0.000)	0.523*** (0.001)	0.649*** (0.000)	-0.055 (0.738)	0.707*** (0.000)	0.147 (0.372)	-0.245 (0.132)	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

EMPIRICAL ANALYSIS

Baseline results

Based on model (1), a regression was conducted on the Aba, Ganzi, and Liangshan samples from 2010 to 2022, using an individual fixed-effects model with robust standard errors. Table 3 reports the estimated results of the digital economy level's impact on rural revitalization. As shown in column (1), the digital economy index, constructed using principal component analysis, is significantly positively correlated with rural revitalization, validating hypothesis (1).

In columns (2) to (5), the digital economy level in the model is replaced by the five individual indicators that constitute the index. The results indicate that, except for the proportion of employees in computer services and software, the other four indicators—number of internet users per 100 people, per capita telecom business volume, number of mobile phone users per 100 people, and the digital inclusive finance index—show significant positive correlations. In column (7), when all five individual indicators constituting the digital economy level are simultaneously included in model (1), the results show that the significance loads on the digital inclusive finance index, while the other individual indicators do not show significance. This indicates that the digital inclusive finance index plays a dominant role in driving the digital economy level.

Table 3. The driving effects of the digital economy on rural revitalization in ethnic areas

Variable	<i>rural_revi_ind</i>						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>dig_i_econ_ind</i>	0.061*** (0.021)						
<i>user_pct</i>		0.004* (0.002)					-0.002 (0.004)
<i>prof_pct</i>			0.908 (0.822)				-0.144 (0.846)
<i>carrier_per_person</i>				0.976*			0.758

					(0.489)		(0.776)
<i>mobile_pct</i>					0.003**		-0.002
					(0.002)		(0.003)
<i>log_inclusive_fin</i>					0.039***		0.043***
					(0.007)		(0.008)
<i>log_population</i>	-0.076	-0.043	-0.050	-0.085	-0.105	-0.091	-0.100
	(0.224)	(0.234)	(0.243)	(0.229)	(0.236)	(0.184)	(0.196)
<i>ind_3rd_pct</i>	0.119*	0.131**	0.170***	0.146**	0.137**	0.117**	0.127**
	(0.059)	(0.059)	(0.057)	(0.057)	(0.058)	(0.050)	(0.056)
<i>enter_ratio</i>	0.004	0.007	0.011	0.008	0.009	-0.005	-0.006
	(0.011)	(0.010)	(0.009)	(0.010)	(0.010)	(0.009)	(0.010)
<i>Trade</i>	-0.000*	-0.001*	-0.001**	-0.000*	-0.000*	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.578	0.334	0.384	0.506	0.608	0.453	0.477
	(0.978)	(1.015)	(1.060)	(0.992)	(1.026)	(0.807)	(0.868)
Regions Fes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	39	39	39	39	39	39	39
R-squared	0.567	0.501	0.453	0.506	0.503	0.677	0.694

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Endogeneity test — Instrumental variable method

The baseline regression analysis concludes that the digital economy significantly promotes rural revitalization. However, this evaluation may be influenced by potential endogeneity bias stemming from two main sources: First, rural revitalization is a complex process involving multiple dimensions and factors. Despite including several control variables, this study might still miss some potential confounding factors. If unobserved variables closely related to the digital economy are omitted, estimation bias could be introduced. Second, given that the digital economy heavily relies on digital technology, it significantly enhances economic growth and production efficiency. Conversely, economic development and improved production efficiency, as core goals of rural revitalization, naturally demand higher levels of digital technology (Li et al., 2021). This interaction suggests a possible reverse causal relationship between the digital economy and rural revitalization, further complicating the endogeneity issue.

To address endogeneity problems arising from omitted variables and reverse causality, this study uses the proportion of comprehensive demonstration counties for e-commerce in rural areas as an instrumental variable and employs the 2SLS method for re-estimation. Participation in the demonstration county project reflects the local government's emphasis on digital economy development, thereby leading to a higher level of digital economy development, meeting the relevance requirement for the instrumental variable. Additionally, although the project involves some financial subsidies, their amounts are not sufficient to directly spur rural economic development, thereby meeting the exogeneity condition. Table 4 shows the results after using the instrumental variable, demonstrating that the digital economy level significantly promotes rural revitalization. The digital economy level and its five secondary indicators all show significant positive effects, validating hypothesis (1).

Table 4: The second stage of IV method testing the driving effects of the digital economy on rural revitalization in ethnic areas

<i>rural_revi_ind</i>						
Variable	(1)	(2)	(3)	(4)	(5)	(6)
<i>digl_econ_ind</i>	1.134*** (0.029)					
<i>user_pct</i>		0.016*** (0.005)				
<i>prof_pct</i>			6.433*** (2.175)			
<i>carrier_per_person</i>				3.800*** (1.104)		
<i>mobile_pct</i>					0.013*** (0.004)	
<i>log_inclusive_fin</i>						0.060*** (0.010)
<i>log_population</i>	-0.096 (0.233)	0.002 (0.305)	0.011 (0.368)	-0.159 (0.317)	-0.240 (0.320)	-0.109 (0.183)
<i>ind_3rd_pct</i>	0.041 (0.062)	-0.015 (0.090)	0.090 (0.091)	0.037 (0.084)	-0.001 (0.091)	0.081* (0.046)
<i>enter_ratio</i>	-0.006 (0.010)	-0.006 (0.014)	0.006 (0.015)	-0.003 (0.014)	-0.002 (0.014)	-0.015* (0.009)
<i>Trade</i>	-0.000	-0.000	-0.001*	-0.000	-0.000	0.000

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.717	-0.024	-0.091	0.632	1.038	0.449
	(1.024)	(1.343)	(1.623)	(1.387)	(1.397)	(0.804)
Regions Fes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	39	39	39	39	39	39
R-squared	0.360	-0.094	-0.593	-0.177	-0.178	0.604
Standard errors in parentheses				*** p<0.01, ** p<0.05, * p<0.1		

Heterogeneity analysis

Due to differences in resource endowment and development levels among the three autonomous prefectures of Aba, Ganzi, and Liangshan, there are inevitably significant disparities in digital economy development across regions. Do these disparities significantly affect regional rural revitalization? Given the small sample size of this study, it is not feasible to conduct separate regressions for each of the three prefectures. Instead, this study performs heterogeneity analysis by excluding the sample from one prefecture at a time. Table 5 presents the heterogeneity analysis results of the digital economy's promotion effect on rural revitalization, using the instrumental variable. Panel A excludes the Aba Prefecture, focusing on the subsample of the Ganzi and Liangshan Prefectures, where the digital economy's promotion effect on rural revitalization is not significant. Panel B, consisting of the Aba and Liangshan Prefectures, shows a significant promotion effect of the digital economy on rural revitalization. Panel C, consisting of the Aba and Ganzi Prefectures, reveals that only some digital economy indicators are significant, with weaker significance compared to Table 4 and the results for the Aba and Liangshan subsample. These findings indicate that the promotion effect of the digital economy on rural revitalization varies across regions, validating hypothesis (2).

Table 5: The second stage of IV method testing the heterogeneity in driving effects of the digital economy on rural revitalization in ethnic areas

Panel A: Ganzi and Liangshan						
	<i>rural_revi_ind</i>					
变量	(1)	(2)	(3)	(4)	(5)	(6)
<i>digi_econ_ind</i>	0.192					

		(0.171)				
<i>user_pct</i>		0.028				
		(0.037)				
<i>prof_pct</i>		14.248				
		(30.073)				
<i>carrier_per_person</i>		3.190				
		(2.548)				
<i>mobile_pct</i>		0.031				
		(0.058)				
<i>log_inclusive_fin</i>		0.093				
		(0.065)				
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26	26	26	26	26	26
R-squared	-0.753	-2.997	-8.831	-0.408	-6.836	-0.072

Panel B: Aba and Liangshan

	<i>rural_revi_ind</i>					
Variable	(1)	(2)	(3)	(4)	(5)	(6)
<i>digi_econ_ind</i>	0.137***					
	(0.031)					
<i>user_pct</i>		0.015***				
		(0.004)				
<i>prof_pct</i>			5.581***			
			(1.875)			
<i>carrier_per_person</i>				3.798***		
				(1.248)		
<i>mobile_pct</i>					0.013***	
					(0.004)	
<i>log_inclusive_fin</i>						0.076***
						(0.017)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26	26	26	26	26	26
R-squared	0.555	0.324	0.038	0.080	0.110	0.595

Panel C: Aba and Ganzi

	<i>rural_revi_ind</i>					
Variable	(1)	(2)	(3)	(4)	(5)	(6)

<i>digl_econ_ind</i>	0.216**					
	(0.086)					
<i>user_pct</i>		0.027*				
		(0.015)				
<i>prof_pct</i>			10.347			
			(6.741)			
<i>carrier_per_person</i>				4.919**		
				(2.368)		
<i>mobile_pct</i>					0.032	
					(0.026)	
<i>log_inclusive_fin</i>						0.096***
						(0.035)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26	26	26	26	26	26
R-squared	0.139	-0.795	-1.328	-0.271	-2.820	0.260

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

CONCLUSIONS AND IMPLICATIONS

This paper is grounded in the fact that the digital economy significantly impacts rural revitalization in ethnic regions. Using panel data from three ethnic areas in the Sichuan Province (Liangshan, Ganzi, and Aba) from 2010 to 2022, we employed a panel fixed-effects model and heterogeneity analysis to empirically examine the driving effects and heterogeneity characteristics of the digital economy on rural revitalization in ethnic areas. The main conclusions are as follows: First, the digital economy significantly promotes rural revitalization in ethnic regions and has become an important force in advancing rural revitalization in the new era. This conclusion remains robust even after introducing instrumental variables for verification. Second, among the three study areas, Liangshan Prefecture has the highest level of digital economy development, likely due to its relatively better economic foundation, transportation conditions, and earlier commencement of digital construction. Third, heterogeneity analysis reveals that the promotion effect of the digital economy on rural revitalization is most significant in the Liangshan Prefecture, indicating that regions with higher levels of digital economy development have stronger driving effects on

rural revitalization, showing a certain Matthew effect. Fourth, the impact of the digital economy on rural revitalization varies across regions, reflecting differences in digital infrastructure, human capital, and industrial structures among different ethnic areas, highlighting the need for tailored digital economy development strategies.

In addition to providing empirical evidence for the role of the digital economy in driving rural revitalization in ethnic areas, the conclusions of this paper offer the following policy implications: First, given that the digital economy can drive rural revitalization in ethnic areas, investments in digital infrastructure in these regions should be increased, especially to support areas lagging in digital economy development, narrow the digital divide, and promote digital rural construction. Second, considering the significant level of digital economy development and its impact on rural revitalization in the Liangshan Prefecture, its experiences should be fully summarized and contextually applied to other ethnic regions. Third, the integration of the digital economy should be deepened with the characteristic agriculture of the ethnic regions, new industries and new business forms fostered, and the level of agricultural modernization enhanced. This requires strengthening the application of digital technology across the entire agricultural product value chain, from production to processing to sales, while also protecting and developing ethnic characteristic agriculture. Fourth, differentiated digital economy development strategies should be formulated, based on the actual conditions of different ethnic regions. For areas with a good digital economy foundation, developing high-end digital industries should be the focus; for areas with weaker foundations, improving the digital infrastructure and enhancing the residents' digital literacy should be prioritized.

The main contributions of this study are as follows: Firstly, it empirically examines the driving effects of the digital economy on rural revitalization in ethnic regions, enriching the research on the relationship between the digital economy and rural revitalization. Secondly, through heterogeneity analysis, it reveals the differences in digital economy development levels and their impacts on rural revitalization among different ethnic regions, offering a basis for formulating

differentiated policies. Finally, by focusing on ethnic regions, this study fills a gap in the existing research, providing theoretical support and policy recommendations for advancing rural revitalization in these areas.

However, this study has some limitations. For example, the sample is limited to three ethnic regions in the Sichuan Province, which may not fully represent the situation in ethnic regions nationwide. Future research could expand the sample to include more ethnic regions for comparative analysis. Furthermore, this study does not deeply explore the specific pathways through which the digital economy impacts rural revitalization in ethnic regions, which could be a direction for further research.

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Challenges encountered by African immigrants in South African business environments

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ABSTRACT

The aim of this article was to delve into the challenges that African foreign entrepreneurs encounter while operating in South Africa. South Africa's democratic transition in 1994 signalled a departure from the apartheid-era anti-black migration laws and legislation. To domesticate the international agreements it ratified, the African National Congress (ANC) drove the government to introduce democratic migration legislation and policies such as the Refugees Act no. 130 of 1998 and the Immigration Act no. 13 of 2002. These enhancements, together with Pretoria's economic clout and political stability, helped to make South Africa a popular destination for African migrants. As a result, the severe economic competitiveness in the business environment has fuelled xenophobia and violence toward African immigrant entrepreneurs. Furthermore, xenophobic attacks on African immigrant entrepreneurs have resulted in a number of stores closing and losing goods as a result of violent activities. Qualitative research methodology was utilized and secondary data was collected. The secondary data was collected through archival data and interpreted data such as textbooks, journal articles, newspapers, and government records. The generated data were analysed through content analysis. The findings indicate that there is no support from the government for African immigrant entrepreneurs. Moreover, immigrant entrepreneurs encounter challenges such as xenophobic attacks, violence, lack of access to finance and language barriers. The paper recommends that the government of South Africa should support African immigrant entrepreneurs through programmes, since they also create employment prospects for the hosts. The government of South Africa should develop strategies on how to

monitor businesses established by African immigrant entrepreneurs to ensure that they are legally registered and comply with the laws of the country.

Keywords: challenges of African foreigners, Immigrant entrepreneurship, benefits of foreign entrepreneurship, xenophobia and violence

INTRODUCTION

South Africa is a democratic country that experiences an annual increase in the number of African immigrant entrepreneurs who are actively pursuing economic possibilities in both formal and informal sectors (Moyo & Gumbo, 2021). African immigrant entrepreneurs engage in various business types, notably excelling in small and micro-enterprises. Nonetheless, they encounter challenges including xenophobia and violence in the course of their operations (Kilonzo & Iwara, 2022). Moreover, Muchineripi, Chinyamurindi, and Chimucheka (2019) contend that African immigrant entrepreneurs encounter daily hurdles that induce dread, leading to the closure of several enterprises. Xenophobia is characterised by the emergence of animosity from hosts against foreigners, resulting in discrimination and violence against them (Mogekwu, 2005; Aldamen, 2023). Furthermore, Tewolde (2020) has revealed that hostility towards foreigners arises from competition within the business sector. African immigrant entrepreneurs are progressively predominant in numerous townships and rural regions, displacing local people from the commercial sector. The economic rivalry has resulted in increased hostility towards foreign enterprises. Hostility towards African immigrants has intensified into xenophobic attacks due to fierce competition in the markets (Aldamen, 2023).

The proliferation of enterprises owned by African immigrants is perceived as a threat to local businesses in South Africa (Tawodzera & Crush 2023). The economic sector includes enterprises owned by local locals and African foreign entrepreneurs. The heightened competition from African immigrant entrepreneurs has contributed to the demise of countless local enterprises, thus inciting xenophobic assaults against foreigners (Muchineripi et al., 2019; Tewolde, 2020). South Africa is a developing nation where a substantial segment of the population depends on small and micro-enterprises for their sustenance to mitigate socio-economic issues. The presence and influence of African foreigners in the country has adversely affect their capacity for self-sustainability.

African immigrant entrepreneurs in South Africa operate with trepidation, owing to their precarious status in the host nation (Tewolde, 2020). Some of these persons hold the requisite legal documentation to stay in South Africa; however, others lack permission. The Bantu Laws Amendments Act No. 76 conferred to the South African government the power to prohibit black Africans from entering urban areas if they were hired as farm managers by white employers (Ehrenreich-Risner, 2018). The Bantu Laws Amendment Act No. 76 was amended; nonetheless, the South African government failed to control the influx of African immigrants into the nation. The substantial presence of undocumented African foreigners in South Africa who have been deported, raises concerns. This circumstance exacerbates the hostility experienced by the local populace and constrains the mobility and activities of African expatriates. Mkuti's research (2022) indicates that every nation undergoes a transitional phase in which xenophobia may be associated with globalisation. Xenophobia is a prevalent phenomenon affecting both established and developing nations, especially those experiencing transformation (Mkuti, 2022).

METHODOLOGY

The method for analysing the challenges encountered by African immigrant entrepreneurs involved a comprehensive review of secondary data sources. This includes scholarly research, official reports from government agencies, and industry publications that provide significant insights into the experiences of African immigrant entrepreneurs. The study underscores two critical concerns: discrimination and xenophobia. These obstacles are evident in diverse social and institutional contexts, obstructing corporate operations and hindering growth. Furthermore, immigrant entrepreneurs often encounter challenges in securing loans and other financial services due to their insufficient credit history and absence of collateral, rendering access to capital a significant impediment. Regulatory issues, including the necessity to manoeuvre through complex legal and bureaucratic processes, may provide considerable obstacles. Furthermore, African immigrants frequently encounter difficulties in establishing relationships and accessing markets, exacerbated by cultural and linguistic barriers. The use of a secondary data approach facilitates a comprehensive and contextual understanding of the intricate challenges encountered by African immigrants in South Africa. This method entails examining existing research

and data to deliver a comprehensive assessment of the business landscape for entrepreneurs.

THEORETICAL FRAMEWORK

The integration of cultural assimilation and social capital theory provides a robust framework for examining the difficulties faced by African immigrants in South African corporate environments. The theory of cultural assimilation posits that immigrants must adhere to the cultural norms and values of their host nation to attain success. This sometimes requires significant modifications in attitude, communication methods, and corporate operations. Nonetheless, African immigrants in South Africa may face resistance and bias, hindering their ability to fully assimilate. In contrast, social capital theory emphasises the importance of networks, contacts, and community ties in achieving economic success. African immigrants sometimes encounter difficulties in accessing existing networks, which are crucial for acquiring market knowledge, securing financial resources, and developing customer bases, in South Africa. Xenophobic emotions and economic competition further intensify these impediments, thus constraining their opportunities for integration and development. The challenging and even adversarial economic environment for African immigrants in South Africa stems from the interaction between the need for cultural assimilation and the limitations on obtaining social capital.

A succinct summary of the history of immigrant entrepreneurs in South Africa

It is essential to view xenophobia from a historical perspective. Several black South Africans pursued economic opportunities and refuge in various countries during the apartheid era (Smith, 2023). In comparison to other African countries, the South African economy has been experiencing a robust recovery, which has created opportunities for foreign individuals from Africa to pursue. South Africa is classified as a developing country, characterised by political instability, social inequality, severe poverty, and pervasive unemployment (Quinn, Howard, Chen, Coffee, Quintela, Parker & Smith, 2018). In order to maintain their desirable standard of living by generating profits, African immigrants persistently pursue economic opportunities in both formal and informal sectors in the face of socio-economic challenges. The study conducted by Mankgele and Fatoki (2018) investigated the substantial influx of immigrants, who are addressing market shortages by establishing their own

enterprises, into South Africa. The Democratic Republic of Congo, Zimbabwe, Somalia, Rwanda, Burundi, Nigeria, and Angola are among the African nations from which foreign entrepreneurs originate (Ogbole & Ogochukwu, 2022).

Mistreatment, marginalisation, and discrimination are frequently inflicted upon African expatriate entrepreneurs in South Africa, who are frequently derisively referred to as "Makwerekwere" (Ekanade, 2021). In spite of this, the treatment of foreigners is deemed inappropriate because it has a negative effect on the harmony and stability of both the host community and the foreign individuals. In the country in which they are domiciled, foreign entrepreneurs from Africa are entitled to rights, and their human rights should be protected. Having a constructive relationship with community members and contributing to social cohesion are crucial. The Southern Africa Development Community (SADC)'s primary goal is to promote unity by fostering greater cohesion and regional collaboration among African nations (Slom, 2024). In an effort to alleviate xenophobic assaults, Mngomezulu and Dube (2019) contend that individuals should actively pursue peace and establish an inclusive environment in which all individuals can coexist harmoniously. The establishment of enterprises will be facilitated, thereby fostering social cohesion.

It is imperative to acknowledge the economic contributions of immigrants, including job opportunities (Tawodzera & Crush 2023). In order to prosper in a host country and sustain a long-term market presence, African expatriate entrepreneurs depend on their business acumen. The widespread joblessness and pervasive destitution in South Africa have compelled individuals to pursue opportunities in predominantly informal enterprises as a means of generating revenue or wages. Starting a microbusiness has the advantage of requiring minimal initial investment and being simpler to maintain than a formal enterprise (Makgamatha & Meso, 2018). Therefore, the minimal initial investment necessary for micro-enterprises has facilitated and expanded market competitiveness, even attracting African immigrants who are seeking a segment of the market to ensure their survival. African immigrant entrepreneurs have both attracted consumers and incited xenophobic violence by employing a pricing strategy that involves offering their products at reduced prices (Muchineripi et al., 2019). According to Makgamatha and Meso (2018), a company may implement numerous management strategies to attract consumers and guarantee its long-term sustainability. Entrepreneurs who adopt a specific business plan and accomplish strong

performance, may become the focus of attention, particularly if they are African foreigners, when a specific company implements the plan.

DESCRIBING IMMIGRANT ENTREPRENEURS

An immigrant entrepreneur is an individual who relocates from their country of origin to a different country and establishes a business venture. This entrepreneurship is typically driven by the desire to enhance economic impact, creativity, and prospects (Kaluarachchige, 2024). These entrepreneurs utilise their diverse cultural backgrounds and experiences to contribute a multiplicity of unique perspectives, skills, and creativity to the economy of the country in which they are located. Foreign-born entrepreneurs frequently identify niche markets and opportunities that may be overlooked by entrepreneurs who are native to a specific country. They leverage their profound comprehension of foreign markets and extensive global connections to create innovative products and services (Tawodzera & Crush, 2023). Immigrant entrepreneurs contribute significantly to economic development by fostering cultural diversity in the business environment, creating jobs, and fostering innovation. They are essential for the revitalisation of local industries, particularly in regions that may be experiencing economic stagnation. Their tenacity, resolve, and flexibility frequently lead to the successful establishment and expansion of their enterprises, despite the fact that they face substantial challenges, including language barriers, cultural disparities, regulatory obstacles, and occasionally stringent immigration restrictions (Muchineripi et al., 2019). The establishment of vibrant and competitive firms is frequently the result of the robust work ethic and willingness to take risks that immigrant entrepreneurs display (Kaluarachchige, 2024). In addition to providing individuals with economic autonomy and satisfaction, the entrepreneurial spirit also fosters economic vitality and cultural vibrancy within the broader community.

Thus, the political instability in African nations served as an incentive for African immigrants to relocate to other African countries, such as Botswana, Zambia, Zimbabwe, South Africa, and Lesotho (Utete, Zhou, & Ajani, 2023). Micro-enterprises are the predominant economic force in South Africa's townships and rural areas (Makgamatha & Meso, 2018). Therefore, the xenophobic assaults are primarily conducted in the informal sector, as opposed to the formal sector, which has led to

concerns about the animosity directed towards African immigrants (Massay & Susan, 2023).

DEFINING XENOPHOBIA IN THE SOUTH AFRICAN CONTEXT

According to Ramachandran (2009:5), the term xenophobia originates from Greek word, with "xeno" signifying foreign and "phobia" denoting dread or aversion. Xenophobia is the expression of disdain and hostility by members of one society towards individuals from foreign nations. Khosa and Kalitanyi (2014) also provide a thorough definition of xenophobia as a harmful attitude marked by the mistreatment, rejection, and exclusion of individuals from foreign countries. Historically, individuals have exploited the term xenophobia to instill fear among outsiders. A prevalent misconception exists that most African foreigners in South Africa are erroneously categorised as illegal immigrants and seen as societal threats. Furthermore, Fuller (2008) contends that the South African hosts not only attribute blame to immigrants but also allege their involvement in unlawful activities (Sichone, 2020).

A study by Hunter and Skinner (2003:311) revealed concerning disparities in the treatment of black foreign entrepreneurs relative to their white counterparts, as reported by immigrant entrepreneurs. Mamabolo's (2015) research revealed xenophobic occurrences in Alexandra in 2008, notably endangering the safety of African foreign businesses. Xenophobic assaults result in deaths, property destruction, and the deprivation of livelihoods. The xenophobic acts in Alexandra have raised considerable alarm among African entrepreneurs, preventing them from remitting funds to their families. The influx of African expatriate entrepreneurs establishing firms in the host nation has incited feelings of insecurity and hostility among the local populace towards them (Sichone, 2020).

THE CHALLENGES ENCOUNTERED BY AFRICAN FOREIGN ENTREPRENEURS IN SOUTH AFRICA

The xenophobic attacks against African immigrant entrepreneurs in South Africa attracted global scrutiny, highlighting the brutal and barbaric character of these incidents. African immigrant entrepreneurs in South Africa have various challenges, which will be discussed in details below:

- **Access to finance**

Entrepreneurs, regardless of immigration status, encounter significant challenges in securing financial resources (Murshed, 2023). Insufficient financial access has hindered the progress of many businesses. The South African government supports small and medium enterprises by providing resources, including financial assistance (Hewitt & van Rensburg, 2020). African immigrant entrepreneurs in host countries do not receive financial assistance from the government (Murshed, 2023). They depend on personal savings, complicating the process of firm development. African overseas entrepreneurs encounter challenges in securing funding to establish and operate a business, primarily due to limited capital and an inadequate credit history (Mankgele & Fatoki, 2018). African overseas entrepreneurs bear the financial obligation of supporting their families, remitting funds to their home countries, and accumulating capital for their enterprises (Fatoki, 2016). Consequently, numerous immigrants participate in low-wage employment to generate adequate income for establishing their own businesses. Furthermore, the influx of immigrants offering various occupations and low-cost labour has created challenges for the native populations of host countries, leading to instances of xenophobic violence (Mankgele & Fatoki, 2018).

A study by Habiyakare, Owusu, Mbare, and Landy (2009:65) revealed that 74% of entrepreneurs utilised personal savings as their main funding source for business establishment, whereas 7% obtained financial assistance from relatives and friends. Immigrant entrepreneurs benefit from forming alliances and providing mutual aid to establish businesses, as they typically do not receive governmental assistance in their adopted country. The South African government created financial institutions, including the Small Enterprise Agency (SEFA) and the Small Enterprises Development Agency (SEDA), to support local entrepreneurs (Makgamatha, 2022). Furthermore, African foreign entrepreneurs contribute to the national economy (Fatoki, 2016; Worku, 2016). Nwobi, Nwokoma, and Uzozie (2020) assert that xenophobic attacks on African immigrant entrepreneurs have significantly harmed the local economy in which they function. Xenophobic acts adversely affect the financial stability of immigrants, resulting in substantial losses of their possessions and impeding their advancement.

- **Language as an obstacle**

Language may serve as a barrier for immigrants, resulting in mistreatment and discrimination due to their non-native language. The main obstacle encountered by many immigrants moving to South Africa is language acquisition, necessitating the learning of one of the local languages to enable effective communication (Babane, 2020). Furthermore, community members can identify foreigners by their accent when pronouncing particular words. As a result, these individuals experience physical assaults and unfounded accusations of job theft in their host country (Fatoki, 2016). Hisrich (2016: 46) defines language as the primary means through which individuals express their values, utilising both verbal and nonverbal skills. Thompson and Anthonissen (2019) identified that specific African overseas entrepreneurs encounter language barriers, prompting them to employ South Africans to facilitate effective communication and customer engagement. Immigrants need considerable time to adjust to their home country. The lack of proficiency in English, the host country's language, can lead to frustration and a decrease in confidence among many individuals.

- **Consistent violence**

Immigrants in South Africa encounter violence that includes xenophobic attacks and acts of inhumanity (Tewolde, 2020). The discord between African foreign entrepreneurs and the host community is centred on economic factors, resulting in sentiments of envy, animosity, and instances of violence directed at immigrants. Xenophobia is linked to racism, wherein individuals are stigmatised as foreigners based on their country of birth (Khosa & Kalitanyi, 2014; Babane, 2020). The struggle for economic opportunities encompasses various factors, including social elements, that may contribute to violence against African foreign entrepreneurs. Mnyaka (2003) found that xenophobic attacks on immigrants arise from the belief that they are dominating corporate sectors in South Africa and attracting women from the local population. As a result, the hosts engage in violence to retaliate against and dismantle the enterprises of African foreign capitalists. The ongoing conflict between native inhabitants and immigrants is an unavoidable phenomenon; however, violence is not an effective solution to the economic and social inequalities (Tewolde, 2020). In 2002, the South African government enacted the Immigrant Act, which superseded the

Control Act of 1991. The Immigrant Act underscores the principle of equal treatment for all genders, irrespective of their backgrounds (Ruedin, 2019). The new legislation provides clear support for ensuring that immigrants receive respect, equitable treatment, and the right to life. Chinomono and Maziriri (2015) indicate that some immigrants have a high level of education and can provide support to the South African population. Murshed (2023) agrees with Chinomono and Maziriri (2015) that immigrants in South Africa do not take away employment opportunities from others. Nonetheless, they offer significant services. Chimbga (2013) defines xenophobia as the phenomenon where individuals lose their possessions and lives, endure violence - especially women and children - and are confronted by increased unemployment, poverty, and political instability in their host countries.

Landau (2010) revealed concerning evidence that immigrants experience sexual abuse from both the host communities and law enforcement personnel. This situation is particularly concerning given the expectation that police should ensure the safety of all individuals in South Africa. The police are implicated in the sexual abuse of immigrant women and their children (Mamabolo, 2015). Furthermore, the literature reveals multiple instances in which immigrants have reported violence and abuse to law enforcement, yet arrests remain limited. These efforts remain inadequate. Alongside the abuse endured, immigrants experienced the destruction and theft of their valuable assets, such as cars and houses, leading to homelessness (Fatoki, 2018). The socio-economic challenges in South Africa, including poverty and unemployment, frequently lead to expressions of resentment towards African immigrants, manifesting in acts of violence. Mamabolo's (2015) research offers additional evidence that host communities articulate their economic difficulties through violent actions directed at immigrants. It is unjustifiable to exploit poverty and unemployment as mechanisms for mistreating African foreign entrepreneurs.

Wilkinson's study (2015:1) indicates that 32.65% of individuals in the informal sector are foreign immigrants, 16.57% are non-migrants, and 17.97% are domestic migrants. Immigrants engaged in informal sectors in South Africa pursue wages to sustain their families or to initiate their own enterprises. However, when confronted with violence, individuals experience disheartenment.

Often cited negative aspects of African immigrant entrepreneurs regularly stem from societal and economic tensions

- **Economic competition**

Economic competition presents a significant challenge for African immigrant entrepreneurs in South Africa (Tewolde, 2020). Immigrant entrepreneurs are actively involved in the informal sector, establishing various small businesses such as retail stores, spaza shops, and service-oriented enterprises (Makgamatha, 2022). Recent studies indicate that immigrant-owned enterprises represent approximately 20-30% of the informal sector in significant areas such as Johannesburg and Cape Town (Maisela, 2024). These enterprises often offer products and services at lower prices, driven by optimised operational costs and extended hours, thereby achieving a competitive edge over local businesses. Research shows that, in specific townships and low-income regions, approximately fifty percent of small businesses are owned by immigrants, intensifying local entrepreneurs' perceptions of exclusion from their own markets (Makgamatha, 2022).

- **Perceived impact on jobs**

The impact of African immigrant entrepreneurs on job opportunities in South Africa generates considerable tension, especially among residents. A significant number of South Africans perceive that immigrants are occupying jobs and business opportunities that could otherwise have advantaged citizens from their own country, particularly in industries such as retail, manufacturing, and small-scale enterprises (Asoba, 2020). A 2019 survey by the South African Migration Project indicated that approximately 57% of South African respondents believed that immigrants from other African nations were usurping job opportunities from local citizens, especially in urban regions with a significant informal sector (Hiropoulos, 2020). The Department of Home Affairs estimated that approximately 4 million foreign nationals reside in South Africa, with a considerable number involved in small businesses or informal trading, raising concerns regarding job displacement (Toh, 2022).

- **Overcrowded informal markets**

African immigrant entrepreneurs in South Africa have contributed to overcrowding in specific informal markets, resulting in economic and social tensions. A substantial

number of these entrepreneurs function within the informal sector, which is estimated to represent around 30% of South Africa's GDP, as indicated by recent reports from the South African Reserve Bank (Etim & Daramola, 2020). Many of these enterprises, including street vendors, small retail shops, and service providers, are frequently located in urban centres such as Johannesburg, Pretoria, and Cape Town (Makgamatha, 2022). In certain cases, these markets have become saturated with a significant number of immigrant-owned businesses, leading to increased competition for finite customer bases.

The Central Business District (CBD) of Johannesburg has witnessed an increase in businesses owned by African entrepreneurs, particularly those from Zimbabwe, Nigeria, and Somalia. Estimates indicate that approximately 60% of the informal sector in these urban areas is currently dominated by foreign nationals (Zack & Landau, 2022). The heightened concentration of businesses may result in challenges, as local entrepreneurs frequently experience pressure or difficulty in attracting customers due to intense competition. High concentrations of informal traders can result in urban inefficiencies, including diminished pedestrian traffic flow and cluttered public spaces, exacerbating tensions between local and immigrant entrepreneurs.

Overcrowded informal markets can strain the limited resources of local governments, which may lack the capacity to effectively regulate these expanding sectors (Levy, Hirsch, Naidoo & Nxele, 2021). The absence of oversight can sustain the cycle of informal trading, allowing both local and immigrant businesses to operate without adherence to essential business permits, tax obligations, or health regulations. The increasing prevalence of immigrant-owned businesses in specific regions intensifies perceptions of economic inequality and unfair competition, occasionally leading to social unrest or, in severe instances, xenophobic violence (Moyo & Gumbo, 2021).

THE ECONOMIC CONTRIBUTIONS OF AFRICAN FOREIGN ENTREPRENEURS IN HOST COUNTRIES

Various strategies exist to promote a nation's economic growth. Zubair (2018) posits that ethnic entrepreneurship can significantly contribute to the economic activities of the host country. The South African economy depends heavily on businesses for employment generation and poverty alleviation. Hosts and African foreign entrepreneurs should not be excluded or marginalised, as both groups contribute

significantly to the economy by creating job opportunities and facilitating income access for individuals (Odeyemi, Oyewole, Adeoye, Ofodile, Addy, Okoye & Ololade, 2024). Basu (2011:1) indicates that ethnic entrepreneurs are progressively entering marketplaces and contributing to the development of host societies. The elevated unemployment and poverty rates in numerous African countries have resulted in a marked rise in migration to South Africa (Babane, 2020). Upon arrival in the host country, these migrants demonstrate a strong inclination to participate in entrepreneurial activities to ensure their livelihoods. South Africa operates as a permissive state regarding trade, permitting both citizens and immigrants to participate in commercial activities, and generate profits. The study identifies language as a major barrier encountered by immigrants. To resolve this issue and enhance marketing efforts, they continue to employ local individuals. Khoza and Kalitani (2014) highlighted that immigrants engage in the consumption of commodities from businesses owned by the local population to sustain themselves. Kalitani and Visser (2010) collected empirical data indicating that 73% of the surveyed African entrepreneurs were from Nigeria, 90% from Senegal, and 70% from other African nations.

African foreign entrepreneurs assert their contribution to governmental efforts in addressing socio-economic issues through the employment of a significant number of local residents (Kalitani & Visser, 2010; Ruedin, 2019; Odeyemi et al., 2024). Immigrants assert that they hire South Africans; however, they also engage their own personnel to ensure mutual support and the efficient operation of their enterprises. Tengeh (2013), in conjunction with other researchers, has examined the extent to which African foreign entrepreneurs contribute significantly to the economy of their host country. This study suggests that a firm's level of formality may indicate its economic contribution. Micro-enterprises, characterised by a limited workforce, are anticipated to make a comparatively lower contribution. African overseas entrepreneurs contribute innovative ideas, skills, and business expertise that can positively impact the economy (Tengeh, 2013; Dzomonda & Fatoki, 2018).

RECOMMENDATIONS

The government should enhance the clarity of the Refugee Act No. 130 of 1998 and Immigration Act No. 13 of 2002, regarding the functioning of businesses founded by African foreign entrepreneurs in a host nation (Klaaren & Sprigman, 2003). Research

findings indicate that the African foreign entrepreneurs who are most susceptible to xenophobic attacks, are those who own micro-enterprises and operate in townships and rural areas. The report suggests that the government should safeguard both established and unregistered businesses through legislation and foster cohesion among entrepreneurs, including both local residents and immigrants, through business workshops. The business seminars that bring together the hosts and immigrant entrepreneurs can foster collaboration, solidarity, and compassion, thus mitigating the animosity and violent behaviour between them. The level of togetherness between hosts and immigrants should be such that they actively assist each other and engage in mutual commerce; thus diminishing any feelings of jealousy between them.

A planned strategy is essential for African foreign entrepreneurs in organising entrepreneurial workshops and engaging local entrepreneurs from South Africa. The workshops aim to discuss effective company strategies and examine methods to address specific challenges. The study indicates that xenophobic attacks may be partially linked to the lower prices of goods offered by the targeted group relative to those of the local population. It is crucial to promote collaboration between host and immigrant entrepreneurs to tackle these issues and achieve consensus on the pricing of particular items. African overseas entrepreneurs ought to participate in Corporate Social Responsibility (CSR) initiatives directed at the communities where they conduct business. Corporate Social Responsibility (CSR) initiatives undertaken by immigrant entrepreneurs may alleviate xenophobic attacks by benefiting the community and actively contributing to the welfare of underprivileged families within their operational contexts.

The report recommends that the South African government establish a centralised database for the registration of all African foreign entrepreneurs, particularly those managing informal enterprises. Utilising that database would enable the government to maintain a comprehensive record of the number of unregulated businesses owned by immigrants and the total number of individuals employed in each of those organisations.

This analysis seeks to examine the employment practices of African foreign entrepreneurs concerning the South African workforce. If the government identifies a

business that employs a substantial segment of the South African population, it can provide assistance to that business. Foreign firms in Africa, listed in the database, merit financial assistance owing to their substantial role in the economic development of South Africa. To secure financial assistance from the host country, African foreign entrepreneurs are required to employ a workforce comprising at least 90% South African nationals. This will facilitate employment opportunities for South Africans and reduce instances of xenophobic violence directed at immigrant entrepreneurs. African overseas entrepreneurs have the opportunity to create their own financial agency for business loans. It is essential for the South African government to oversee the agency to avert any unlawful activities.

CONCLUSION

This study aimed to investigate the challenges encountered by African foreign entrepreneurs in South Africa, and this objective was successfully achieved. The findings reveal that African foreign entrepreneurs encounter substantial obstacles that threaten their livelihoods, as they operate their businesses under conditions of fear. Immigrant businesses encounter a considerable challenge, due to xenophobic attacks prevalent across all nine provinces of South Africa. African foreign entrepreneurs encounter various challenges, such as restricted financial resources, crime, and language barriers. Despite the challenges encountered by immigrant entrepreneurs, the study offers substantial recommendations to address these issues. The economic contribution of African foreign entrepreneurs in South Africa warrants acknowledgement and appreciation from both citizens and policymakers. Despite cultural and value differences among countries, it is essential for Africans to unite, express mutual affection, and treat one another with respect and dignity. The infliction of bodily harm or causing the deaths of African foreigners due to their economic success, is not a justifiable rationale for ending lives. South Africa has successfully integrated a considerable number of immigrants from various countries, and any misunderstandings can be addressed to ensure the safety of all individuals within the nation's borders. South Africa is a nation characterised by its commitment to the principle of individual significance, advocating that all individuals should embody this ethos through expressions of love rather than harbouring animosity.

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The role of community development projects in tackling socio-economic issues in South Africa

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ABSTRACT

The role of community development projects in tackling socio-economic issues within South Africa's borders is explored in this paper. South Africa is characterized by socio-economic issues such as inequality, poverty, and unemployment. A number of socio-economic issues worsened as a result of the COVID-19 pandemic, which impeded development. Despite government intervention through programmes and policies, socio-economic issues continued to intensify. Using a qualitative approach, secondary data was gathered. Information was obtained via electronic media, scholarly journals, government documents, and journals. The results revealed that bureaucratic roadblocks and a lack of finance are two major obstacles encountered by community development projects. To optimize resources and knowledge, the paper recommends that the government forms a collaboration with NGOs, enterprises, and local communities. Furthermore, the introduction of vocational training programmes would help community members become more employable and boost their chances of starting their own businesses by giving them practical skills. Additionally, it is imperative to establish comprehensive monitoring and evaluation systems to appraise the results of community development projects.

Keywords: development, community development projects, poverty and inequality, socio-economic issues, unemployment

INTRODUCTION

South Africa is a developing country that experienced apartheid and continues to grapple with socio-economic issues (Vivek, 2024). Therefore, after 1994, there was a rise of community development projects as a tool of addressing socio-economic issues such as poverty, high unemployment, and inequality as these became more prevalent (Matyana and Thusi, 2023). As a result, experts have emphasized that community development projects are controlled and/or owned by host communities with the exclusive intent of generating advantages for the larger community. Therefore, public participation is crucial in the planning and implementation of community projects. In the participation process, community members will learn planning and implementation techniques, in order to gain knowledge and skills to maintain their development projects. A paternalistic view sees participation as a form of empowering the local people by guiding and giving them more responsibility of their own development (Makgamatha & Moikanyane, 2018; Servaes & Servaes, 2021). According to Setokoe's (2021) study conducted in the Eastern Cape, the community established a lodge that provided employment for locals. In the article respondents revealed that *"there was nothing to do and we were unemployed. We can now support our families and use our talents to earn a living"* (Setokoe, 2021: 31). Empirical data validates the hypothesis that community projects do, in fact, raise people's living standards. Moreover, the discourse surrounding sustainable community development projects aligns with the role projects play in addressing uncertainty and meeting community needs in a sustainable manner (Setokoe, 2021). This is because sustainable projects are based on the responsible management of resources within the host community, and aim to promote the socio-economic well-being and livelihood of the local community, while maintaining the satisfaction of tourist needs (Malik & Bhat, 2015; Kajiita & Kang'ethe, 2023).

The advantages of community projects are that they promote cooperative formation, skills development, and entrepreneurship programmes (Gatignon & Capron, 2023). Therefore, equipping individuals with the tools to generate an income, will cause poverty and unemployment to decline and economic goals to be met. However, there are obstacles to overcome with community development projects, such as financial access, red tape from the government, and a lack of infrastructural facilities (Wiid & Cant, 2021). The South African government has done well in introducing financial

agencies that focus on enterprises. However, funding for community development projects might be used to carry out more outreach campaigns, training sessions, and projects that deal with socio-economic issues (Dube & Nhamo, 2021). Fund disbursement could be hampered by complicated government procedures (Dube & Nhamo, 2021). Therefore, with or without funding, socio-economic issues drew communities together to plan and improve their standards of living (Keikelame & Swartz, 2019; Kajjita & Kang'ethe, 2023). Additionally, the government could work with Local Economic Development (LED) coordinators, and it can offer additional support in the form of financial aid and skills transfer.

THEORETICAL FRAMEWORK

This paper has adopted a community development theory as it focuses on how projects can improve the economic, social, and environmental well-being of communities. The theory emphasises that community members are given the right to identify their own needs and develop solutions together with the government development practitioners (Aldunce, Beilin, Handmer & Howden, 2021). In developmental projects community members should be involved in decision-making, identifying projects, setting up goals, and implementing strategies for positive change (Wang, Zhao, Gao & Gao, 2021). The theory also governs the formation of communities in terms of relationships, social values and trust amongst the members with the projects. Most community development fails due to lack of trust and corruption. Community development projects not only create employment opportunities for local people, but also empowers individuals with skills and knowledge, thus enabling them to sustain themselves (Aldunce et al., 2021).

METHODOLOGICAL INTERPRETATION

The research methodology employed in this study is qualitative in nature, relying primarily on secondary data. This approach was chosen to provide a comprehensive and detailed understanding of the role community development projects play in addressing socio-economic issues in South Africa. By using secondary data, the study leverages existing literature, official reports, academic publications, government documents, and reputable non-governmental organization (NGO) sources to analyze trends, patterns, and the impacts of community development initiatives. The qualitative methodology allows for an in-depth exploration of the social, economic, and cultural

dimensions of community development projects (Agarwal, Lenka, Singh, Agrawal & Agrawal, 2020). It facilitates the examination of case studies, policy frameworks, and historical data to contextualize the effectiveness of such projects in mitigating challenges like poverty, unemployment, and inequality. Through content analysis, the research identifies recurring themes, best practices, and gaps in existing strategies, offering a nuanced perspective on the subject matter. This method ensures that the study is rooted in evidence, drawing from a wide range of credible sources to create a well-rounded narrative. By synthesizing information from various contexts and timeframes, the research provides insights into the successes, challenges, and potential areas for improvement in South Africa's community development efforts.

LITERATURE REVIEW

The concept of community development projects

Though definitions of the notion of “community development projects” have changed since the 1920s, their duties have remained consistent. The term “community development projects” has no agreed-upon definition. However, this manuscript has adopted the definition that “community development projects” are projects where community members come together to continuously improve the economic, social, and cultural conditions they live in through projects (Gutierrez, 2022). Furthermore, through community development projects, members of the community identify problems, set developmental objectives and devise solutions (Anderson, Blair & Shirk, 2018). The history of South Africa explains why community development projects have become more popular. Tracing back in history, the majority of black communities relied on community development projects to survive, as a result of the fact that black people historically faced significant poverty, unemployment, and prejudice (Makgamatha & Moikanyane, 2018; Vivek, 2024). Nowadays, it is impossible to overlook the importance of community development projects. It is clear from the diverse interpretations of the term, that community development projects do contribute to the fight against poverty in South African communities.

Indicators of socio-economic development

International organizations have identified socio-economic indicators to help monitor development progress and performance globally. South Africa has adopted the international organizations’ indicators to address socio-economic issues (Masuku &

Nzewi, 2021). The socio-economic development indicators track the advancement of communities by examining social and economic variables like social cohesion, household and community assets, employment, educational attainment, employment, economic growth, and health, safety, and security (Wernecke, Mathee, Kunene, Balakrishna, Kapwata, Mogotsi, Sweijid, Minakawa & Wright, 2021; Awojobi, Kwabia & Adeniji, 2023). The risks associated with social imbalances must be recognized by developing nations, such as South Africa, as they can significantly impede economic growth and make it more difficult to address issues of poverty, income inequality, and mortality rates, as well as the extension of life expectancy (Masuku & Nzewi, 2021). The South African government places a strong emphasis on providing opportunities for the impoverished to engage in productive activities as a means of combating poverty (Matos & Hall, 2021). The goal is to integrate these individuals into productive sectors, which should improve the economic standing of most towns (Wernecke et al., 2021). According to Krugman, Wells, & Graddy (2014), these communities will grow into fully operational, economically active communities that are engaged in a variety of sectors. Strengthening the abilities of these people and communities to empower themselves to improve their lives, is encouraged.

- **Poverty and inequality**

In developing countries such as South Africa, poverty and inequality are major socio-economic issues (Matos & Hall, 2021; 2024). Poverty is the root of many households' struggles. Indicators, including the poverty rate, depth of poverty, and poverty gap, are used to quantify poverty, which is defined as the inability to meet basic needs because of a lack of financial resources (Wijekoon, Sabri & Paim, 2021). Inequality is defined as the unequal distribution of opportunities and financial resources among people or groups; and it is measured by means of indices such as the Gini coefficient and indicators such as differences in wealth and income (Sitthiyot & Holasut, 2020). Poverty and inequality are closely related, and their prevalence is influenced by a number of factors, including health, employment, education, and prejudice. The Gini coefficient is utilized to analyse and compare income and wealth disparities within countries. This formula shows how unequal the nation's income distribution is between the rich and the poor. The Gini coefficient is a crucial instrument for comprehending economic and social conditions, and it has the power to influence decisions on public policy that attempt to reduce inequality (Sitthiyot & Holasut, 2020). About half of the

people of South Africa live in poverty, making it one of the nations in the world with the largest income disparity gaps. The UNDP (2014) and StatsSA (2015) define the poverty lines as follows: people who live on the food poverty line, are people who live on R624 and less per person per month; while the lower-bound poverty line, refers to living on R890 and less per person per month; and the upper-bound poverty line, R1335 and less per person per month.

- **Household community assets**

The term "household community assets" refers to the combined material and immaterial resources that support a residential community's health and activities (Capici, 2021). These resources include a variety of components, such as physical infrastructure like parks, playgrounds, and common areas that encourage social contact amongst neighbours (Capici, 2021). Community assets also include common areas, such as libraries, schools, and neighbourhood businesses that contribute to the general well-being of the neighbourhood (Forrester, Kurth, Vincent & Oliver, 2020). Important intangible elements that support a robust community, include social ties, a sense of belonging, and cultural diversity. Household community assets can be recognized and utilized by inhabitants to foster a collaborative and resilient atmosphere that enhances the overall quality of life (Awojobi, Kwabia & Adeniji, 2023).

- **Education**

A key socio-economic indicator that has an enormous influence on people's and societies' growth and well-being, is education. Various scholars, such as Brown and James (2020); and Tyagi, Vishwakarma, Rishi and Rajiah (2020) argue that having access to high-quality education is essential for promoting social mobility, economic growth, and general human development. A population's educational attainment is a good indicator of its capacity for innovation, productivity, and general competitiveness in the international market. The quality of education offered, enrolment rates at various educational levels, and literacy rates are important considerations when evaluating socioeconomic indicators linked to education (Pretorius & Spaul, 2022). The percentage of people who are literate in South Africa, has increased from 73% in 2002 to 95.33% in 2021 (Pretorius & Spaul, 2022). Moreover, an educated workforce contributes positively to economic growth and technical advancements., Higher literacy rates are often associated with better economic outcomes (Tyagi et al., 2020).

The accessibility and inclusion of the educational system are reflected in the elementary, secondary, and postsecondary enrolment rates. Furthermore, a major determinant of education's influence on socio-economic development, is its quality. Developing critical thinking, imparting pertinent skills, and encouraging lifelong learning are the main goals of an effective educational systems, which go beyond simple enrolment figures. Differences in access to education, whether due to a person's gender, socio-economic background, or place of residence, can amplify existing inequities and impede progress (Tyagi et al., 2020). In an attempt to address these disparities, South Africa began restructuring its higher education system. The level of fundamental skills, particularly reading and writing should be addressed in a nation with the socio-economic background of South Africa, so that higher education can focus on fostering the development of higher abilities (Playfoot & Hall, 2011).

- **Social cohesion**

For community development projects to be successful and sustainable, social cohesion is essential. The strength of relationships and camaraderie among community members is embodied in this idea, which paves the way for successful projects meant to improve the general well-being of people (Muntaner, Lynch & Oates, 2020). Trust thrives in societies with strong social cohesion, which facilitates easy cooperation and resource sharing. Development efforts have greater effect when a community is cohesive, since it is more likely to express and work toward a unified vision and goals (Wilkinson, 2020). Furthermore, social cohesiveness encourages inclusion and the active involvement of many groups in decision-making. Communities that are interconnected, are also better able to resolve conflicts and mobilize resources in an efficient manner due to their resilience. Cohesion serves as a storehouse of social capital that makes it easier to share information and knowledge, which helps community development initiatives succeed (Muntaner et al., 2020). Social cohesiveness is a necessary precondition for the development of vibrant, long-lasting communities, rather than just a result.

COMMUNITY DEVELOPMENT PROJECTS ON TACKLING SOCIO-ECONOMIC ISSUES

The hypothesis is that the role of community development is to establish inclusivity and sustainability in order to ensure that the socio-economic issues are addressed.

The conception of community development in South Africa emphasises participation aspects, but in practice these initiatives seem to be farfetched. Debates have been taking place between the public, government and scholars on whether this development approach actually 'practices what it preaches'. Community development projects tackle socio-economic problems by relying on the following:

- **Job training and skills development programmes**

The government uses training programmes to enhance the skills of community members. Programmes for skills development and job training are essential for giving people the knowledge and skills they need to succeed in the present fast-paced, competitive labour market (Govender & Madden, 2020). The skills and experience gained can assist community members in searching for better economic opportunities. These programmes are intended to improve participants' capacities and guarantee that they have the necessary skills that employers in a variety of industries require (Makgamatha & Moikanyane, 2019). Successful job training programmes prioritize soft skills, including problem-solving, collaboration, and communication in addition to technical knowledge, and creating a workforce that is flexible and well-rounded. To develop and carry out these programmes that cater for the changing demands of the labour market, governments, academic institutions, and business entities usually work together. Societies may empower individuals to obtain gainful employment, improve their career prospects, and make significant contributions to economic growth and innovation by investing in job training and skills development (Govender & Madden, 2020).

- **Micro-finance and entrepreneurship projects**

Micro-finance and entrepreneurship projects play a crucial role in fostering economic growth and development by empowering local communities. Micro-finance provides community members with access to savings which can assist the communities in developing financial resilience (Taher, Radieah & Wan Norhaniza, 2021). Projects pertaining to microfinance and entrepreneurship have the potential to significantly advance gender parity, financial inclusion, poverty reduction, and general community development (Taher et al., 2021). Such initiatives, which give people the tools to start and grow small enterprises, have the ability to make a long-lasting, beneficial difference in people's lives, as well as the lives of those in the larger community. By

forming community financial networks, the money can be used to identify potential new businesses that might be established by the community to tackle unemployment and poverty in the area (Rachekhu & Makgamatha, 2022).

- **Community gardens and agricultural projects**

South Africa consists of vast areas of land that can be used for community agricultural projects. Community gardens may be established to support sustainable farming practices and give locals access to wholesome and fresh produce (Malberg Dyg, Christensen & Peterson, 2020). To improve agricultural productivity, training programmes on modern agricultural techniques and sustainable agricultural practices may be introduced. Projects involving community gardens and agriculture are essential to building resilient and sustainable communities (Rogge, Theesfeld & Strassner, 2020; Okesanya, Adigun, Shomuyiwa, Noah, Olabode, Micheal, Adebimpe, Atewologun, Ogaya, Manirambona & Lucero-Prisno III, 2024). By fostering a sense of shared responsibility for the environment and food production, these projects bring people together. Community gardens give people a place to grow their own fresh produce, which strengthens their relationship to it, and encourages better eating habits (Malberg Dyg et al., 2020). By offering reasonably priced, locally farmed food options, these projects also support the local biodiversity and fight food insecurity.

CONCLUSION AND RECOMMENDATIONS

The manuscript's aim was to investigate how community development projects can lessen socio-economic issues in South Africa. Several community projects fail due to a lack of accountability and transparency among stakeholders. The aim has been accomplished and this paper presents some recommendations: People and organisations should be held accountable for developing and executing community projects. Government projects should involve external and private parties to oversee and ensure that the regulations and guidelines are followed. The officials and community members overseeing the project, must receive progress reports at the end of each project phase. The recommendations of this research are that, in order to generate ideas and initiate community projects, the South African government should offer resources and cooperate with communities in collaboration with the local municipalities. Development projects, especially from a paternalistic standpoint, ought to follow a participatory approach, in order to provide people with the skills and

knowledge associated with sustainability. To ensure that people and institutions are freed from poverty and unemployment, skills development programmes must be implemented for those who lack education, or the knowledge or skills to support their own development. Entrepreneurship, business acumen, vocational training, and administrative skills are to be pursued. The ability to make the most of one's existing resources, talents, and advantages is something that people must learn. For some of the programmes, acquiring the skills necessary to guarantee and improve livelihood sustainability should be the ultimate goal. It is imperative to restructure policy in order to prioritize community development programmes that aid the individuals and communities most affected by COVID-19.

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Effects of demographics on social media marketing strategies: A case of South African banks

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ABSTRACT:

Demographic variables are useful in segmenting the market since they group consumers into people with homogenous needs, but little is known about them in profiling the customers of banking services, especially within the South African social media space. Ultimately, the Big Four Banks would strategically manage banking services in social media spaces.

Methodology: The data was analysed using the generalised linear model. This data analysis technique was used to assess whether there is a significant difference between perceived risk, E-Word-Of-Mouth and demographic variables. This study constitutes 311 eligible respondents. The sample frame was drawn from the generation X and Y cohorts within the Gauteng Province.

Findings: The study demonstrates that user demographics, such as log-on frequency, age, and bank length have a significant influence on perceived risk. Furthermore, the findings highlight that E-Word-Of-Mouth is significantly different from log-on frequency. However, log-on duration, gender and population group were not found to differ significantly from perceived risk and E-Word-Of-Mouth within the Big Four Banks on social media. The findings confirm that the demographic variables (log-on frequency, duration, age and bank length) have an influence on perceived risk contents. Similarly, findings further suggest that E-Word-Of-Mouth communication has a significant influence on log-on frequency.

Conclusion and recommendation: This indicates that banks should segment their markets, using these demographics as bases when designing their media schedules and creating the brand content strategies of their banking services to encourage

continuous social media usage. In situations where there are high perceived risks and negative E-Word-Of-Mouth comments, brand managers should shape brand contents making use of young, employed youth for their brand endorsements.

Keywords: social media marketing strategies; perceived risk; e-word-of-mouth, SA Big Four Banks

INTRODUCTION AND BACKGROUND

For the past decade, brand and product strategies have been transformed across many organisations globally with the emergence of social media (Majhi, 2020; Hu & Zhu, 2022; Cabales, Carungay, Legaspi, Bacatan & Bacatan, 2023). It is now a priority for every organisation to manage its own social media marketing activities to reduce perceived risk and negative E-Word-Of-Mouth communication (E-WOM), especially among the generation X and Y cohorts (Dülek & Saydan, 2019). During the past decade, consumers in every country have adopted online shopping due to its flexibility to purchase products without being restricted by geographic and time boundaries (Igbal, 2019). Moreover, social media have become a vehicle that has empowered consumers to navigate their own brand contents to their affiliated users (Gupta & Kumar, 2021). Again, social media allow customers to actively participate in content creation through sharing, commenting on, and liking brand content (Dülek & Saydan, 2019).

At a global level, based on recent figures released by Statista (2024), there are approximately 5.44 billion internet users across the globe and this accounts for 67.1 percent of the global population. From this percentage, 5.07 billion, or 62.6 percent of the world's population have been reported to be social media users. At a national level, Kemp (2024) reports that there are 45.34 million internet users in South Africa, which include 26 million social media users equating to 42.8 percent of the total population in the country.

Regrettably, this huge number of social media users is vulnerable to being victimised by hackers on social media and digital platforms. It is not surprising that Mohamed (2022) has reported that South Africa has experienced an increase of more than 200% in cybercrimes since 2019. SABRIC (2023) has also revealed a 30% increase in banking fraud as opposed to previous years. According to Accenture records, it is estimated that South Africa loses approximately \$127 million per year from a range of

cybercrime attacks (Cyber Security, 2023). Unlike before, customers now evaluate the quality of these social media marketing activities, based on the levels of risk they are subject to while engaging with the brands (Hinterstein, 2020).

This has necessitated all organisations to refine their business models, especially when interacting with customers on social media (Febriyantoro, 2020; Smith, Johnson & Davis, 2024). Every effort performed by brand managers of these firms across these social media platforms is translated into social media marketing activities. This can only be possible if there is a social media platform that acts as an interface between the brands and the customers (Majhi, 2019). For this study, a definition of social media marketing activities (SMMA) will be adopted from Lilembalemba and Phiri's (2024) study that refers to SMMA as "the strategic utilisation of social media platforms within marketing activities to enhance stakeholder value." The goal of enhancing social media marketing activities is to maximise traffic across social media platforms (Smith, Johnson & Davis, 2024). Empirically, Cabales, Carungay, Legaspi, Bacatan and Bacatan (2023) prove that the quality of brand content entices customers towards social media adoption.

Despite the higher usage of online shopping and social media in South Africa, the generation X and Y cohorts are still reluctant to engage in social media within the retail banks due to a lack of trust (Qalati, Vela, Li, Dakhan, Thuy & Merani, 2021). At this stage, it is not clear which demographic variables influence a higher consumption of social media among the generation X and Y customers within the local banks. It is for this reason that the present study attempts to determine which demographic variables could be used to segment markets, especially towards the generation X and Y cohorts in the South African banking sector.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Social exchange theory

Various past research studies have attempted to provide a conceptualisation of social exchange theory. For example, Emerson (1976), Gerber, Ward and Goedhals-Gerber (2014), Cropanzano, Anthony, Daniels and Hall (2017), Olajide and Olayiwola (2021), and Ahmad, Nawaz, Ishaq, Khan and Ashraf (2023) view the social exchange theory as a situation where individuals try to maximise their rewards while also minimising their losses. For instance, in a personal relationship, there are various factors that

these individuals use to assess the level of the rewards they may accrue in advance, such as appearance, education, income, and health, among others. These factors become lenses to predict the benefits of an interaction or relationship before it even arises. Hall and Widén-Wulff (2008) view three types of variables that govern the interaction between two parties. Firstly, it is direct or restricted, where two parties enter a deal with each other with the view of reciprocation; secondly, “generalized, where a number of actors belonging to a group trade.” Lastly it is productive, where parties enter into an exchange with the view to have mutual benefits. Cropanzano and Mitchell (2005) add that the basic principle of social exchange theory is that relationships will eventually develop, depending on the mutual trust, loyalty and mutual commitment developed among the parties involved in the relationship. As these aspects constitute the rule of engagement among parties, within the context of the current study, the extent to which consumers will be actively engaged in social media will be dependent on the risk level perceived by the consumers, and these risks will be assessed among peers across the various social media platforms using E-Word-Of-Mouth communication. Within the context of this present study, the social exchange theory will be used to explain why certain variables are applicable to the banking industry, as opposed to others.

Perceived risk content

Unlike face-to-face business transactions, online shopping has been perceived as a threat to many customers across the globe (Gerber, Ward & Goedhals-Gerber, 2014). This is due to the level of perceived risks threatening consumers during the purchase. Various authors have attempted to provide a definition of perceived risk. Bauer (1960) defined perceived risk as the risk that consumers actively perceive because they do not understand product information. Sharma and Kurien (2017), and Zhang and Yu (2020) refer to perceived risk as types of uncertainties and the danger involved in performing a transaction. In most cases, customers would have formed a set of criteria to judge the quality of services and perceived risk levels based on past experiences (Zhang & Yu 2020).

Past research shows that some authors treat perceived risk as a unidimensional construct and others as a multidimensional concept (Alrawad, Lutfi, Alyatama, Al Khattab, Alsoboa, Almaiah, Ramadan, Arafa, Ahmed, Alsyouf & Al-Khasawneh,

2023). For example, Cox and Rich (1964), and Alrawad, Lutfi, Alyatama, Al Khattab, Alsoboa, Almaiah, Ramadan, Arafa, Ahmed, Alsyouf and Al-Khasawneh (2023) group perceived risk into four categories. Firstly, all the uncertainties that deal with the purchasing of products and services; secondly, the uncertainties associated with the service providers, system and procedures of purchases; thirdly, all the financial and psychological implications that relate to the purchase decision; and the fourth component deals with all other forms of subjective uncertainties related to customers' experiences concerning their decisions to purchase a product online. Gerber, Ward and Goedhals-Gerber (2014) classify perceived risk into five components, namely *functional risk*, *physical risk*, *financial risk*, *social risk*, *psychological risk* and *time risk*. The authors elaborated further on each of these dimensions. *Functional risk* is also viewed as performance risk, pertaining to the level of uncertainty and envisaged negative consequences of a product not meeting the consumer's expectations. *Physical risk* assumes that a product that is purchased by consumers could result in personal injury. *Financial risk* is based on the probability of suffering financial loss associated with purchasing a product online. *Social risk* deals with the way other consumers and friends would perceive a perpetrator after experiencing any form of loss on social media, and conversely, *psychological risk* deals with personal dissatisfaction in oneself due to poor product choice. Finally, *time risk* refers to the duration of time after which a customer is no longer satisfied with a product, since it has become obsolete prematurely. Another scholar, Igbal (2019), groups perceived risk into *product risk*, *financial risk*, *security risk*, *social risk*, and *time risk*. Shoki, Ariff, Sylvester, Zakuan, Ismail and Ali (2014), and Alrawad, Lutfi, Alyatama, Al Khattab, Alsoboa, Almaiah, Ramadan, Arafa, Ahmed, Alsyouf and Al-Khasawneh (2023) group perceived risk into *financial risk*, *performance risk*, *time risk*, *delivery risk*, *privacy risk*, *psychological risk* and *social risk*.

Empirically, a study conducted in India by Sharma and Kurien (2017) found that *financial* and *performance risks* are significant during online purchases. Another study done in China by Zhang and Yu (2020) found that *perceived product effect risk* and *perceived service risk* were significant with regard to consumer trust. Interestingly, South African research carried out by Gerber, Ward and Goedhals-Gerber (2014) shows that consumers are subjected to three types of risk, namely *personal risk*, *social risk* and *performance risk*. Additionally, Igbal's (2019) study on the acquisition of

fashion apparel, confirmed *product* and *financial risk* to be significant. However, other factors such as *security*, *social*, and *time risk* were found to be insignificant. Referring to comparative studies undertaken by Alrawad, Lutfi, Alyatama, Al Khattab, Alsoboa, Almaiah, Ramadan, Arafa, Ahmed, Alsyouf and Al-Khasawneh (2023) in Jordan, Kuwait and Saudi Arabia, three different types of perceived risk were confirmed to be relevant, and these were *financial risk*, *information risk*, and *privacy risk*. Yet, *functional*, *physical*, *delivery*, *psychological*, and *social risks* were found to have no significant effect on online purchase intention. Early studies by Shoki, Ariff, Sylvester, Zakuan, Ismail and Ali (2014) found that *product risk*, *financial risk*, and *non-delivery* are negatively affecting consumers' attitude towards online shopping. It seems that the customers in different countries do not perceive online shopping risks to be the same. It would be interesting to observe how demographics affect perceived risks from the South African perspective especially in the banking space.

E-Word-Of-Mouth

Since the emergence of social media, E-Word-Of-Mouth has been gaining momentum in expressing negative sentiments about the different brands of organisations through Facebook, Instagram, Blogs, Twitter etc., unlike via the traditional media (Zhang & Yu, 2020). Huete-Alcocer (2017) defines E-Word-Of-Mouth as any form of communication that takes place between customers or organisations regarding brands, which are perceived to be independent of any form of commercial influence. Jan and Bhat (2021) view E-Word-Of-Mouth as any positive or negative personal communication about organisations' brands, products or services, in which the audience or recipients perceive the sender as not having any commercial intent to honour the advertisement.

These E-Word-Of-Mouth communications have largely enabled customers to question, rate further evaluate products on social media (Gupta & Kumar, 2021). Hinterstein (2020) points out that E-Word-Of-Mouth is expressed by ordinary consumers who are not affiliated with the organisation, unlike organisation brand advertisements that may be biased for commercial reasons. From the organisation's perspective, brand managers can now have direct interaction with consumers, unlike with traditional media communication (Gupta & Kumar, 2021). Ultimately, this has created an opportunity for organisations to obtain customer feedback and engage with

their customers in navigating content and on their perception of the organisation's brand and services (Malanda, 2020).

Empirically, a survey was conducted among university students to determine the level of use of social media and other electronic E-Word-Of-Mouth communications, and found that 59% of the respondents agreed to always engaging in online reviews and comments before making a final decision to purchase a product (Hinterstein, 2020; Gupta & Kumar, 2021). Jan and Bhat (2021) warn that the anonymity of E-Word-Of-Mouth raises credibility issues, thereby posing risks to the organisation's brand. It is for this reason that this study was undertaken to establish how these risks can be managed across the social media platforms.

AIM OF THE STUDY

The aim of this study is to determine whether demographic variables could be used to segment markets, especially towards the generation X and Y cohorts within the South African banking sector.

PROBLEM STATEMENT

It is undeniable that banks across the globe are no longer safe from cybercrime or social media hackers. This was evidenced through an incident that occurred in a Bangladesh bank back in 2016 when fraudsters hacked official bank computers and used it to perform criminal activities at the Federal Reserve Bank of New York to accounts in the Philippines (Gopalakrishnan & Mogato, 2016; Cyber Security, 2023). Similarly, the report published by the South African Banking Risk Information Centre (SABRIC) back in 2020 has shown an increase of 19% in cybercrime attacks among South African banking customers (Cyber Security, 2023). The extent of these sophisticated crimes has posed a threat to both banking organisations and their customers (Cyber Security, 2023). If brand managers of local banks are not effective in tackling these cybercrimes, the consequences can be severe since it will result in financial loss, reputation damage and legal liability. An effective response by brand managers can be possibly if banks understand which demographics are applicable to their industry, thereby tailoring their brand contents consistent to their needs and wants.

Various past authors have reported that demographics such as age, gender, income, and education do influence social media usage, especially among the younger generations (Hoda, Abdul-Rahim & Melibari, 2014; Feng, Zhang & Lin, 2019; Brandt, Buckingham, Buntain, Anderson, Ray, Pool & Ferrari, 2020; Saha, Yousuf, Hickman, Gupta, Tay & Dechoudhury, 2021). For instance, Igere and Achugbue (2022) revealed that age and gender influence social media addiction. In contrast, Kilic and Guzeler's (2017) study found that females spend more time daily on social media as opposed to their male counterparts. It does, however, remain to be investigated whether the specific demographic variables appeal to the generation X and Y cohorts in the social media space within the context of the local retail banking industry. It is for this reason that the current study intends to analyse the effects of demographics on social media marketing strategies, particularly perceived risk and E-Word-Of-Mouth, among generation X and Y consumers within South African banks.

RESEARCH QUESTIONS

Do demographic characteristics (log-on frequency, log-on duration, gender, age, population group, and bank length) cause significant differences in perceived risk and E-Word-Of-Mouth?

RESEARCH AIM

The aim of this study is to determine whether demographic characteristics such as log-on frequency, log-on duration, gender, age, population group, and banking length cause significant differences in perceived risk and E-Word-Of-Mouth.

RESEARCH OBJECTIVES

The study is guided by the following objectives:

- To assess whether log-on frequency causes a significant difference in (Perceived risk and E-Word-Of-Mouth).
- To determine whether log-on duration causes a significant difference in (Perceived risk and E-Word-Of-Mouth).
- To test if gender has a significant influence on (Perceived risk and E-Word-Of-Mouth).

- To ascertain if age has a significant influence on (Perceived risk and E-Word-Of-Mouth).
- To evaluate if population group has a significant influence on (Perceived risk and E-Word-Of-Mouth).
- To analyse if length of banking session has a significant influence on (Perceived risk and E-Word-Of-Mouth).

RESEARCH METHODS

According to Pandey (2015), "Research method is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance." Two types of research methods are distinguished, namely the quantitative and qualitative research methods. This study used the quantitative method instead of the qualitative method. Walied and Bhuvan (2017) view this method as a way of gathering and analysing datasets based on numbers, thereby explaining a phenomenon.

The quantitative method is mostly associated either with descriptive or experimental design. In this research study, the descriptive method was used to conduct the study, since it is perceived as the best technique to portray a precise profile of consumers or any event, according to Queirós, Faria and Almeida (2017), and Sileyew (2019).

The quantitative method was utilised in this study for a few reasons, which are listed below.

- It is possible to generalise findings to a large population.
- It is possible to make quantitative predictions through the findings.
- It can be used to analyse a large amount of data.
- It is especially suitable when you are researching many populations of interest.

Furthermore, the present study used purposive sampling, as fieldworkers chose eligible respondents using their own personal judgement. The screening questions on the respondent's age, and length of social media usage with the Big Four Banks were elicited before carrying out the survey. The fieldworkers asked eligible respondents screening questions such as their age and extent of social media consumption with

regard to banking services, before interviewing them. The advantage of purposive sampling is that it produces accurate and valid data to resolve the research problem at hand (Kelly, 2010; Campbell, Greenwood, Prior, Shearer, Walkem, Young, Bywaters & Walker, 2020). This study sought data from individuals who fall within the following boundaries in terms of age: firstly, the generation X cohort (1965-1984), followed by the generation Y cohort (1985 to 2001). Other than the age factor, bank length was used as the second criterion to qualify the respondents for participation in the survey.

Additionally, the primary researcher employed a research company called MEGA South Africa to carry out the data collection. Primarily, a sample size of 400 questionnaires were distributed among the members of the generation X and Y cohorts. Eventually, only 311 eligible questionnaires were used to analyse the data, amounting to a 78 percent response rate. The decision to select a sample size of 400 was based on previous similar research studies. For example, Sharma, Banerjee and Paul (2022) used 482, while Dewindaru, Syukri, Maryono, and Yunus (2022) opted for 400; and Haudia, Musnainic, Teguh, Endang, Wijoyoe, Yonataf, Kohog and Cahyonog (2022) carried out a survey using 450 questionnaires. Kachuei, Korhani and Kosari (2022) chose a sample size of 384, and Ali (2021) used a sample size of 400. Due to the unavailability of a sample frame, the present study carefully chose the following malls within the Gauteng Province, namely Mall of Africa, Sandton City Shopping Centre, Maponya Mall, and Menlyn Mall. The types of retail outlets that are catered for at these malls, were considered suitable for the design of the sample frame.

The study adapted and revised questionnaires from past related studies. For example, items linked to perceived risk were taken from Masoud (2013) and Seo and Park (2018). Items for E-Word-Of-Mouth (EWOM) were extracted from Kim and Ko (2012), Hossain, Jahan, Fang, Hoque and Hossain (2019), and Seo and Park (2018). This study used the mall intercept survey to gather the required data from the generation X and Y cohorts in the Gauteng Province of South Africa. Henley and McCoy (2018) regard the intercept survey as capturing data quickly and eliciting fewer costs. It is for this reason that the intercept survey was chosen.

Finally, the generalised linear model (GLM) was used to analyse the data in the current study. This technique was considered to be appropriate, since it is easy to describe

and interpret the data (Wickens, 2004). Lindsey's (1988) study found that GLM offers a harmonised method that can cater for most statistical procedures across applied statistics. Interestingly, Zheng and Agrest (2000) verify that GLM is perceived to be a reliable model, which has predictive power, thereby assisting brand managers and research scholars to arrive at valid conclusions.

RESULTS AND DATA ANALYSIS

Respondents' profile

Generation X and Y respondents totalled 311, representing South Africa's demographic group. A comprehensive review of the consumption factors and demographic characteristics is given in Table 1.

Table 1: Consumption factors and demographic characteristics.

Variable	Category	Frequency (n)	Percentage (%)
Log-on frequency	Several times a day	182	58.5
	Daily	97	31.2
	2-4 a week	23	7.4
	Once a week	7	2.3
	2-4 a month	1	0.3
	Once a month	1	0.3
Log-on duration	≤ 1 hour	185	59.5
	2 hours	73	23.5
	3 hours	29	9.3
	4 hours	12	3.9
	≥ 5 hours	12	3.9
Gender	Male	167	53.7
	Female	144	46.3
Age	15-20	5	1.6
	21-25	13	4.2
	26-30	64	20.6
	31-35	78	25.1
	36-40	42	13.5
	41-45	51	16.4
	46-50	40	12.9
	51+	18	5.8
Your population group?	Black	199	64.0
	Coloured	30	9.6
	White	57	18.3
	Indian	24	7.7
	Asian	1	0.3

Variable	Category	Frequency (n)	Percentage (%)
Bank length (of membership)	< 1 year	5	1.6
	1-5 years	49	15.8
	6-10 years	108	34.7
	> 10 years	149	47.9

Source: Author's own compilation

Measurement Model

The Statistical Package of Social Science (SPSS) was used to determine the reliability and validity measures of the study by means of confirmatory factor analysis. The attitudinal scales of the study were measured using Cronbach's Alpha (α) and composite reliability (CR). Based on Table 2, the values of Cronbach's Alpha (α) were ranging from 0.786 to 0.878. The values of composite reliability were ranging from 0.855 to 0.923. Bagozzi and Yi (2012) suggested that the standard scale of 0.70 is deemed appropriate for universal reliability and the present study, exceeded this threshold. Additionally, the study measured the convergent validity of the attitudinal scales, using average variance extracted (AVE and factor loadings). Based on the results presented in Table 2, the values for AVE were ranging from 0.666 to 0.800 and the values of the factor loadings ranged from 0.720 to 0.947 for PR and from 0.837 to 0.950 for VA, thus meeting the acceptable value of .50 according to Bagozzi and Yi (2012).

Table 2: Confirmatory factor analysis

Research constructs		Items	Factor loadings	AVE	CR	α value
Perceived risk	PR1	The social media of this bank alleviated my concern(s) in this regard.	0.765	0.666	0.855	0.786
	PR2	The social media of this bank alleviated my concern(s) about using the bank's services.	0.947			
	PR3	The information provided through the bank's social media helped decrease my perceived financial risks.	0.720			
Value content	VA1	I get my value by finding information about my interests in the social media of this bank.	0.837	0.800	0.923	0.878
	VA2	I get my value by learning about new things in the social media of this bank.	0.950			
	VA3	I get my value by finding information about products and services in the social media of this bank.	0.894			

Generalised linear model (GLM)

To test the differences between demographics and perceived risk, as well as E-Word-Of-Mouth, GLM was performed. The rationale behind computing the GLM was to ascertain if the variables have significant differences among each other. The summary of the significant differences between the independent variables, with their means and standard of perceived risk, are illustrated in Table 3, as per the GLM's results.

Table 3: Influence of demographic variables on perceived risk (PR)

	Perceived risk				Perceived risk				Perceived risk		
	M	SE	<i>p</i>		M	SE	<i>P</i>		M	SE	<i>P</i>
Log-on frequency				Age				Bank length			
Daily	4.49	0.276	0.000***	30-35	3.93	0.179	0.006**	10 years	4.03	1.68	0.042*
2-4 a week	1.80	0.491		41-45	3.66	180		1 year	3.43	0.254	

*** Wald chi-square test showed a significant difference at $p < 0.001$

** Wald chi-square test showed a significant difference at $p < 0.01$

* Wald chi-square test showed a significant difference at $p < 0.05$

The data was computed through GLMs to test if significant differences existed between the PR and the following independent variables, namely log-on frequency, log-on duration, gender, age, population group and bank length. Furthermore, the Bonferroni correction pairwise post hoc measure was also used to determine the location of the independent variables with significant differences (see Table 5). The results of the GLMs further found that there were significant differences between log-on frequency, age, and bank length when measured against PE.

The summary of the significance differences of the independent variables, with their means and standard of E-Word-Of-Mouth (E-WOM), are illustrated in Table 4, as per the GLM's results. Table 4 shows that significant differences exist between log-on frequency and E-Word-Of-Mouth (E-WOM).

The data was manipulated using GLMs to determine if significant differences existed between the E-WOM, following independent variables such as log-on frequency, log-on duration, gender, age, population group and bank length. Additionally, the Bonferroni test was employed to ascertain the location of the independent variable with significant differences (see Table 5). Based on the result of the GLMs, it emerged that there was a significant difference between the log on frequency, when measured with E-WOM.

Table 4: Influence of demographic variables on E-Word-Of-Mouth (E-WOM)

	E-Word-Of-Mouth		
	M	SE	<i>p</i>
Log-on frequency			
Daily	2.60	0.264	0.026*
Once a month	1.64	0.358	

*** Wald chi-square test showed a significant difference at $p < 0.001$

** Wald chi-square test showed a significant difference at $p < 0.01$

* Wald chi-square test showed a significant difference at $p < 0.05$

Table 5: Influence of demographic factors on perceived risk and E-Word-Of-Mouth

Independent variables	PR	E-WOM
Log-on frequency	0.000***	0.026*
Log-on duration	0.325	0.543
Gender	0.659	0.312
Age	0.006**	0.884
Population group	0.053	0.291
Bank length	0.042*	0.843

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

DISCUSSION OF RESULTS

The results suggest that perceived risk has significant differences regarding log-on frequency, age, and bank length. In addition, E-Word-Of-Mouth was found to have a significant difference with log-on frequency. The comprehensive detail of the research findings is discussed next.

Perceived risk and log-on frequency

Perceived risk ($p < 0.01$): Social media users who logged on daily ($M=4.49$, $SE=0.276$) yielded higher perceived risk levels than those who logged on 2-4 times a month ($M1.80$, $SE=0.491$). This finding shows that there is a relationship between perceived risk and log-on frequency on social media within the Big Four South African banks. This suggests that respondents who actively spend their time on the bank's social media, do perceive the management of the Big Four Banks to provide adequate

information through social media to alleviate their perceived financial risks and protect their private information across social media platforms. The results of this study presuppose that the frequent brand advertisements of the banking service could entice the generation X and Y cohorts to consume various banking products especially when the risks perceived by consumers are low across the social media platforms. This finding is consistent with past research studies. Interestingly, Duffett (2015) revealed that the generation Y cohort, that had logged on frequently on Facebook, had suddenly developed a positive attitude towards it. Duffett, Edu and Negricea (2019) found that generation Y's consumers tend to develop positive cognitive attitude responses when frequently exposed to many YouTube adverts. In support of this view, Duffett (2016) has observed that consumers who spent more time on social media, are more exposed to different brand advertisements and other general online advertisements. Another study undertaken by Nzeku and Duffett (2021) shows that consumers who frequently log onto social media more often, resulted in a positive response towards cognitive and behavioural attitudinal components. This implies that brand managers of local banks could entice more customers to consume banking services on social media, but only if proactive measures are put in place that preserve their privacy and financial risks.

Perceived risk and age

Perceived risk (**p < 0.01): Social media users who were in the age range between 30 and 35 years yielded a higher perceived risk dimension (M=3.93, SE=0.179) than those in the age range between 41 and 45 years (M=3.66, SE=180). This confirms that a relationship between age and perceived risk does exist. This result suggests that the younger consumers perceive the social media platform of the Big Four Banks to be less risky, as opposed to their older counterparts. This finding is consistent with past research studies. Ngubelanga and Duffett's (2021) research found that teenagers were more tolerant towards risk, as was demonstrated by the high adoption of new mobile commerce applications compared to older respondents. Among others, Sharma and Kurien (2017) show that younger respondents were more likely to take a risk towards online purchases compared to middle-aged and older adults in India.

By contrast, older consumers were reported to express positive sentiments towards YouTube organic eWOM, as opposed to their younger counterparts (Duffett, 2022).

Concomitantly, this author further found that older consumers were found to have a financial capacity to purchase products that were recommended via electronic word-of-mouth communications. Other past studies, such as Bolton, Parasuraman, Hoefnagels, Migchels, Kabadayi, Gruber, Loureiro and Solnet (2013), Zhang, Omran, and Cobanoglu (2017), and Duffett (2022) show that there could be differences in spending patterns among generational cohorts based on employment, discretionary income and education level across life stages. Within the context of the current study, the finding implies that brand managers of South African banks could attract more customers on social media if their brand advertisements were geared towards young individuals.

Perceived risk and bank length

Perceived risk (* $p < 0.05$): Respondents who had used social media for more than 10 years ($M=403$, $SE=1.68$), showed increased levels of perceived risk compared to those who had used social media for one year ($M=343$, $SE=0.254$). This result further shows that perceived risk does exert an influence on bank length. Bank length predicts perceived risk, and therefore the relationship between these two variables was supported and significant. This finding assumes that respondents who had stayed longer with a Big Four Bank, did perceive less harm from social media platforms, compared to consumers who had been with the bank for a lesser amount of time. The results of the present study validate previous results. For instance, Duffett (2016) highlighted that consumers who are well experienced and exposed to a specific social media platform, tend to spend less time during decision-making processes. This assertion is echoed by Ngubelanga and Duffett (2021) in their study that shows that respondents who used mobile commerce applications for more than one year, showed positive customer satisfaction responses compared to respondents who used it for less than one year. Additionally, Nzeku and Duffett (2021) revealed that younger consumers who had been using social networking sites for over five years, displayed more positive cognitive attitudes than those who had only used them for a year. This implies that the brand managers of South African banks should use loyal customers to spread positive E-Word-Of-Mouth to disloyal customers on social media, regarding their financial risks and their privacy information. This strategy can be effective, provided these loyal customers are being incentivised by the bank to spread a positive E-Word-Of-Mouth to customers.

E-Word-Of-Mouth and log-on frequency

E-Word-Of-Mouth (* $p < 0.05$): Social media users who logged on two to four times a week ($M=2.60$, $SE=0.264$) yielded a more positive favourable response towards E-Word-Of-Mouth than those who logged on once a month ($M1.64$, $SE=0.358$). This finding shows that log-on frequency does influence E-Word-Of-Mouth within the Big Four Banks, regarding social media. This suggests that the members of generation X and Y cohorts who spend time on social media mostly express their positive or negative feelings on social media. This finding is in line with past studies. Ngubelanga and Duffett's (2021) study found that millennials who are mostly exposed to brand advertisements, positively respond to the organisation's offering compared to respondents who are rarely exposed to the organisation's brand promotion.

Unfortunately, no significant difference was found between log-on duration, gender and population group all perceived risk and E-Word-Of-Mouth within the Big Four Banks on social media.

CONCLUSION AND IMPLICATIONS OF THE STUDY

The purpose of the present study was to assess the effects of demographics on social media marketing strategies (perceived risk and E-Word-Of-Mouth) within the Big Four South African Banks. The findings prove that log-on frequency, age and bank length have a significant difference regarding perceived risk. The study results further show that log-on frequency was found to have a significant difference regarding E-Word-Of-Mouth.

Using the lenses of the social exchange theory, it can be inferred that if local banks segment their brand contents, using log-on frequency, duration, age and bank length, eventually customers will be enticed to utilise social media and other platforms to interact with the bank. This is because a cohort of customers are persuaded that their financial risks and privacy concerns are being prioritised, and this will ultimately reduce their anxiety at utilising various social media platforms.

Theoretically, this study will assist in understanding the conceptualisation of social media marketing, particularly perceived risk and E-Word-Of-Mouth and the effects that demographic variables could have on them from the banking perspective. This

provides a basic understanding of the application of the theory regarding the South African banking industry, especially among the generation X and Y cohorts.

Based on practical perspectives, this study shows that the influence of demographics in designing appropriate social media marketing strategies is crucial, particularly when aimed at both the generation X and Y cohorts on social media. This present study highlights that it is important for brand managers of local banks to use demographic variables to position their brand content towards the generation X and Y consumers, especially log-on frequency, age and bank length. In case the brand content uploaded on social media by the local bank is not well received by the intended audience, necessary adjustments should be made to the demographics to align them with the market. However, attention should be given to log-on frequency, since it had higher significant differences regarding perceived risk, as compared to age and bank length. Unfortunately, the results did not confirm any significant differences between the log-on duration, gender, and population group towards both perceived risk and E-Word-Of-Mouth. Additionally, E-Word-Of-Mouth did not have a significant difference regarding age and bank length. It remains a challenge for the brand managers of the Big Four Banks to craft appealing brand content that is neutral to different gender groups, diverse racial groups and for various consumers despite how much time they spend on social media.

LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

Unfortunately, there are some limitations that exist regardless of the theoretical and practical implications that were discussed in the study. These limitations, however, have implications for future researchers. This study was restricted to the generation X and Y cohorts within the Gauteng Province in South Africa. It is suggested that future research should include other provinces such as the Western Cape, KwaZulu-Natal and the Eastern Cape, to compare the findings among other racial groups. The study used a sample size of 311 respondents. It is recommended that a larger sample size should be used to generalise the results to a wider range of the population. Unfortunately, no significant differences were found between log-on duration, gender, population group and perceived risk, as well as E-Word-Of-Mouth. It is, therefore, important to undertake other studies to further explore these demographics in different research areas, such as educational institutions, health, groceries, and the automobile

industry. Perhaps a different conclusion can be reached. This study was focused on the South African Big Four Banks, particularly the retail sector. It is recommended that future research should focus on other sectors such as commercial banks, investment banks and foreign banks, either locally or on the international landscape. The current study used the generalised linear model to analyse the relationship between demographics and research constructs. It is suggested that future research should use confirmatory factor analysis, regression analysis and correlation analysis.

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The influence of consumer demographics towards brand awareness within the South African Big Four Banks

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ABSTRACT

Most recent studies have found that demographic variables such as age and gender play a major role when creating brand awareness within the social media space. Interestingly, Greenfield (2024) reported that the largest users of Facebook comprise men in the age range of 25 and 34 years, accounting for 18.4 percent of global users, and the second largest population of Facebook users comprises men aged 18 to 24 years.

Methodology: The present study employed the quantitative method for the study. A sample size of 311 respondents were considered in the study. The data was collected by means of purposive sampling. The generalised linear model (GLM) was adopted to analyse the data.

Findings: The study's results show that brand awareness-sharing behaviour has a significant difference in log-on frequency, log-on duration and population group.

Conclusion and recommendations: The study's findings show that log-on frequency, log-on duration and population group have a significant difference with brand awareness-sharing behaviour (BASB). The brand managers of local banks should develop its brand content towards the African young consumers who frequently log into social media, and reward them based on the amount of time that they spend on social media sharing banking content among peers. This can be done by means of offering these heavy users of social media daily reward points that could ultimately be converted into data for later usage.

Keywords: brand awareness, consumer demographics, log on frequency, log on duration

INTRODUCTION

Most recent studies have found that demographic variables, such as age and gender, play a major role in creating brand awareness within the social media space (Markus 2017; Dülek & Saydan, 2019; Ahmad & Guerrero, 2020; Sang, Tran, Vi, Vi, Duyen & Thao, 2023; Smith, Johnson & Davis, 2024). For example, it is revealed that the largest group of users of Facebook comprises men in the age range of 25 to 34 years, accounting for 18.4 percent of global users, and the second largest population of Facebook users comprises men aged 18 to 24 years (Greenfield 2024). It is estimated that about 3.065 billion users are active on Facebook daily, while YouTube has about 2.491 billion users to date. This figure is followed by 2 billion Instagram users, yet TikTok users account for 1.7 billion, and Twitter has about 364 million users (Backlinko Team 2024). These figures are dominated by the generation Y cohorts, compared to their predecessors, the generation X, since the Gen Y mostly use social media to buy food, obtain transportation, manage money and borrow using technology, and book airline tickets and other online services preferably on their mobile phones (Alshari & Lokhande, 2022, Zote 2024). This has subsequently prompted banking managers to embrace social media into their brand promotion strategy.

It is for this reason that the banking sector has been instrumental in adopting social media in its brand management strategies for its banking services. For example, Margaret and Ngoma (2013), and Elaresh, Habes, Safori, Attar, Al adwan and Al-Rahmi (2023) observe that most banks use a combination of social media platforms to interact with customers. Regrettably, the banking sector is a bit fragile since banks' products and services are perceived to be very individual and private in nature, due to the financial information that could compromise customers' safety (da Silva, 2019). There seem to be conflicting findings on the effects of demographics on consumers. For example, Markus (2017) argues that younger individuals tend to influence each other compared to older generations. Hinterstein (2020) observed that social media platforms are used by different generational cohorts, although university students were at the top of the list. This is probably attributed to the fact that social media is dominant among younger generations. Majhi (2019) found that sociable consumers are more likely to utilise social media to express their ideas as opposed to introverted individuals. Lennon, Rentfro and Curran (2023) observed that the demographic profiles of social media users are not complete and further research is warranted to

understand the variables of different demographic profiles to better understand their behaviours from a social media context.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Generational cohort theory

The concept of generational cohort theory (GCT) has been widely researched in the past literature (Markus, 2017; Ivanova, Flores-Zamora, Khelladi & Ivanaj, 2018; Ellis, 2021; Rentfro & Curran, 2023; Clements, 2024). Markus (2017), and Ivanova, Flores-Zamora, Khelladi and Ivanaj (2018) described “a generational group as a cohort, as a collective group of people born and raised in a similar location, who have experienced similar historical and social events” The most common types of recognised generational groupings are baby boomers, who are individuals who were born between 1943 and 1960, followed by generation X, who were born between 1961 and 1981. This cohort is followed by generation Y (born 1982-1991) and generation Z (born from 1992 onwards) (Payachee 2017). Furthermore, Ellis (2021) is of the view that a cohort encompasses all individuals who had critical life experiences that occurred during the same time, for example becoming a parent or employed at some point in time. Clements (2024) concludes that individuals with similar demographic variables, such as age, display similarities with fixed boundaries regarding their social norms, lifestyles and values. By contrast, Markus (2017) disagreed with the fact that all individuals who were born at the same time tend to have the same values, as these are different individuals with feelings and emotions. Consequently, Lennon, Rentfro and Curran (2023) show that more research studies are needed to understand the characteristics of different cohorts, especially within the African context. Within the context of this study, it is assumed that the members of the generation Y and X cohorts would display the same attitudes and hold the same perceptions towards the banking services of the local banks in South Africa, especially within the social media space.

Brand awareness

Various studies have attempted to conceptualise brand awareness (Aaker, 1991; ElAydi, 2018; Dülek & Saydan, 2019; Febriyantoro, 2020; Sang, Tran, Vi, Vi, Duyen & Thao, 2023). Sang et al., (2023) define brand awareness as the process of consumers’ recall and brand recognition of its name, logo, colour, slogan and other related signs. Malanda (2020) reaffirms that brand recognition measures the strength of brand

awareness towards brand promotion. During the brand recognition state, consumers will rely on their memory to retrieve any familiar brand that is associated with the current brand advertisement (ElAydi, 2018). This suggests that the more an organisation advertises its brand, the higher the likelihood that the brand will be recognised, and some attributes can be remembered about the brand in subsequent encounters (Febriyantoro, 2020).

Unlike before, most consumers, especially the generation Y cohort, utilise social media and websites to make their purchases (Febriyantoro, 2020). This sentiment is supported by Sang et al.'s (2023) study, which found that 30% of consumers had purchased brands that they were exposed to before seeing them online. Social media platforms such as Facebook, Twitter, Instagram and blogs have changed brand promotion dramatically since the communication process is no longer unilaterally controlled by the organisation (Dülek & Saydan, 2019; Deng, Hine, Ji & Wang, 2020).

Viet-Blaszczyk and Lerman (2020), Majhi (2020), and Gupta and Kumar (2021) are of the view that each social media platform performs a unique function. Concomitantly, Facebook is perceived to be a preferred platform to socialise with friends due to its liking, sharing and posting features, while Twitter is mostly known for the #hashtag, and therefore is used for critical trending events. Instagram offers users the opportunity to combine photos or videos following a subtitle, and Snapchat provides users the opportunity to integrate pictures and recordings.

There is limited information on the type of content strategy that is suitable across demographics and that is consistent with all the platforms (Ahmad & Guerrero, 2020; Gupta & Kumar, 2021; Robson, Banerjee & Kaur, 2022; Smith, Johnson & Davis, 2024). Empirically, Antoniadis, Paltsoglou and Patoulidis' (2019) study has shown that most consumers get attracted to a post that has a higher vividness and such posts are likely to receive more shares across various social media platforms. Sánchez-Torres, Montoya and Potes-Arce's (2018) study has found that Instagram is mostly used to create a favourable brand identity, as it was found that it received more likes than other platforms.

Deng, Hine, Ji and Wang's (2020) research reveals that emotional brand posts are more appealing to most consumers. Furthermore, Lai and Liu (2020) and Ferreira, Robertson and Reyneke's (2022) studies have found that a brand post with more likes

will suddenly influence the acceptance of a product on the market. This finding is supported by Robson et al. (2022), who found that a brand post that receives more positive comments and fewer negative ones should demonstrate brand post popularity. Interestingly, past studies have found that brand posts with more comments, likes and shares suddenly result in increased sales (Chang, Li, Yan & Kumar, 2019; Unnava & Aravindakshan, 2021; Achen, Stadler-Blank & Sailors, 2024).

PROBLEM STATEMENT

Previous studies have attempted to examine the effects of demographics in the social media space (Khan, Al-balushi, Algaith & Al-shihi, 2017; Alshari & Lokhande, 2022; Lennon, Rentfro & Curran, 2023; Ezurike, 2024). For instance, a study conducted by Jenik (2022) that sought to examine the consumers' influence of inclusive digital banks among South African consumers affiliated with Tyme bank. Thus, found that customers' perceived value to be inversely associated with income, consequently poorer customers expressing a higher degree of satisfaction. It is disappointing to observe that very little studies considered the following demographics such as log-on frequency, log-on duration, age, gender and population group. Most of the studies that explored these demographic variables from social media context especially in the banking sector were done in the Western countries and Asia. Very few studies focused on the African continent, especially South Africa. It is for this reason that the present study attempts to investigate the influence of demographics on customer awareness within the banking context among the generation X and Y cohorts.

RESEARCH QUESTIONS

Do demographic characteristics (log-on frequency, log-on duration, gender, age, population group, and bank length) display significant differences with regard to perceived risk and e-word-of-mouth?

RESEARCH AIM

The aim of this study is to determine whether consumer demographics, such as log-on frequency, log-on duration, gender, age, population group, and bank length do have significant differences on perceived risk and e-word-of-mouth.

RESEARCH OBJECTIVES

The study is guided by the following objectives:

- To assess if log-on frequency, log-on duration, gender, age and population group display significant differences on BASB.
- To ascertain if log-on frequency, log-on duration, gender, age and population group do have significant differences on brand awareness-creating behaviour (BACB).

RESEARCH METHODS

The present study employed the quantitative method to conduct the study. This method was chosen because it has the ability to quantify attitudes, opinions, as well as other specified constructs and ultimately generalise results from a bigger sample population (Sharma 2018). Shrestha and Giri (2021) assert that the quantitative method is rooted in positivism philosophy, since it relies on quantitative methods to arrive at objective findings in the conclusions. Concomitantly, the authors further suggest that positivism assumes that true knowledge is confirmed only through the senses it affirms as knowledge. Furthermore, purposive sampling was used to select eligible respondents who provided relevant information consistent with the research questionnaire (Campbell, Greenwood, Prior, Shearer, Walkem, Young, Bywaters, & Walker, 2020). Similarly, Rai and Thapa (2004) emphasise that purposive sampling concentrates on the population that is of interest and will be suitable for answering the research questions accurately. As such, the nature of every study guided by its aim will influence the type of purposive sampling to select for that study. Within the context of this study, the duration and length of time of participants regarding the Big Four banks were used to screen the eligibility of the data collection processes. The target population comprised individuals who were in this age group (1965-1984), and thereby represented generation X and this was followed by individuals born in the 1985 to 2001 age bracket, and therefore represented the generation Y cohort. Both population groups were of interest to the researchers since they were born at different times, and consequently their taste and preference towards social media usage will vary significantly. Regarding the sample size, about 311 eligible respondents were collected and analysed in the study. Through the lenses of previous similar studies, this sample size was deemed appropriate (Ali, 2021; Kachuei, Korhani, & Kosari, 2022).

Among other data collection methods, the present study used the mall intercept survey that was focused on various selected malls in South Africa, particularly the Gauteng Province. Bruwer, Haydam and Lin (1996) advocate for the mall intercept survey due to its lower cost advantage and utilisation of a central location that mostly attracts the most eligible participants. Out of the 30 biggest shopping malls across the Gauteng Province, the researcher has conveniently sampled the following malls: Mall of Africa, Sandton City Shopping Centre, Maponya Mall, and Menlyn Mall. The reason was the unavailability of a sample frame, and these malls were perceived as the most attractive destinations due to the number of retail outlets they hosted, e.g. banks, grocery stores, fashion boutiques and furniture stores. Bruwer et al. (1996) advised that three conditions should be met when designing the sampling frame, such as comprehensiveness, probability of selection and efficiency. All these conditions were fulfilled in the study, since fieldworkers were positioned at different entrances to these malls and this was done on different days of the week. This study extracted and adapted questions from past studies. For example, the items on BACB and BASB were taken from the studies by Mohamed (2016:32-34), Chiang, Lo and Wang (2017:204), and Khan, Yang and Shafi (2019:7-8). The reliability and validity tests for this study were evaluated using confirmatory factor analysing through the Statistical Package for the Social Sciences (SPSS).

In conclusion, the generalised linear model (GLM) was used to analyse the data. Miller and Haden (2013) assert that GLM is a suitable analytical tool to test any dependent variable (DV) that can be measured numerically (age, income, and education, but not categorical (DV) like eye colour). These authors further state that GLM is suitable for predicting relationships (regression) that differ between groups (ANOVA). Within the context of this study, the differences between the following variables, namely log-on frequency, log-on duration, gender, age and population group were sought against BACB and BASB.

RESULTS AND DATA ANALYSIS

Table 1 illustrates the results of the descriptive statistics.

Table 1: Descriptive statistics results

Variable	Category	Frequency (n)	Percentage (%)
Log-on frequency	Several times a day	182	58.5
	Daily	97	31.2
	2-4 times a week	23	7.4
	Once a week	7	2.3
	2-4 times a month	1	0.3
	Once a month	1	0.3
Log-on duration	≤ 1 hour	185	59.5
	2 hours	73	23.5
	3 hours	29	9.3
	4 hours	12	3.9
	≥ 5 hours	12	3.9
Gender	Male	167	53.7
	Female	144	46.3
Age	15-20	5	1.6
	21-25	13	4.2
	26-30	64	20.6
	31-35	78	25.1
	36-40	42	13.5
	41-45	51	16.4
	46-50	40	12.9
	51+	18	5.8
Your population group?	Black	199	64.0
	Coloured	30	9.6
	White	57	18.3
	Indian	24	7.7
	Asian	1	0.3

Source: Author's own compilation

Measurement Model

The reliability and validity tests were evaluated using confirmatory factor analysing from SPSS. The Cronbach's Alpha (α) and composite reliability (CR) of the attitudinal scales were evaluated to represent the reliability of the study. From Table 2, it is depicted that the Cronbach's Alpha (α) were ranging from 0.977 to 0.978 and values of composite reliability were ranging from 0.953 to 0.978. This was above the threshold of 0.70, as proposed by Pallant (2020), thus indicating a robust reliability in this study. Furthermore, the convergent validity of the study was evaluated using factor loadings and average variance extracted (AVE). The results illustrated in Table 2, show that the values of factor loadings for brand awareness sharing (BAS) ranged from 0.937 to 0.990, whilst for brand awareness creating (BAC) was ranging from 0.937 to 0.979 and

the values for average variance extracted (AVE) was ranging from 0.917 to 0.917 based on Table 3. The results of the current study met the acceptable value of 0.50 as suggested by Bagozzi and Yi's (2012).

Table 2: Confirmatory factor analysis

Research constructs		Items	Factor loadings	AVE	CR	α value
Brand awareness-sharing behaviour	BAS1	I will share the link or information about the brand on social media	0.941	0.918	0.978	0.977
	BAS2	I will invite my friends to click the Like button on social media.	0.990			
	BAS3	I will tag my friends with a message to share social media promotion.	0.962			
	BAS4	I will send pictures on related information of brand to my friends by private message.	0.937			
Brand awareness-creating behaviour	BAC1	I will upload personal creative/feature experiences on social media's feed.	0.937	0.917	0.953	0.978
	BAC2	I will invite other friends to create new topic/content about the brand.	0.964			
	BAC3	I will record the skills of using the brand as a film/ animation.	0.979			
	BAC4	I will discuss with friends and provide suggestion about brands.	0.951			

Generalised linear model (GLM)

This study employed Generalised Linear Models (GLMs) to test if there was a significant difference between brand awareness measured using brand awareness-creating behaviour (BACB), as well as brand awareness-sharing behaviour (BASB) and the independent variables namely log-on frequency, log-on duration, gender, age, and population group. The mean, standard errors and significant differences for each independent variable are exhibited in Table 3.

Table 3: Influence of demographic variables on brand awareness-sharing behaviour (BASB)

	Brand awareness-sharing behaviour				Brand awareness-sharing behaviour				Brand awareness-sharing behaviour		
	M	SE	<i>p</i>		M	SE	<i>p</i>		M	SE	<i>P</i>
Log-on frequency				Log-on duration				Population group			

Several times a day	1.88	0.271	0.002**	2 hours	1.24	0.165	0.041*	Black	1.84	0.291	0.050*
Daily	2.14	0.276		4 hours	1.93	0.431		Indian	1.23	0.355	
2-4 a week	2.17	0.331									
1 a week	0.68	0.448									

*** Wald chi-square test showed a significant difference at $p < 0.001$

** Wald chi-square test showed a significant difference at $p < 0.01$

* Wald chi-square test showed a significant difference at $p < 0.05$

The GLMs were utilised to reveal if significant differences existed between the BASB and the following independent variables, namely log-on frequency, log-on duration, gender, age, and population group. Table 3 summarises the significance differences among all the independent variables, with their means and standard errors and significant differences for each independent variable. The Bonferroni correction pairwise post hoc measure was employed to show the location of the independent variables with significant differences (see Table 4). Based on Table 4, the GLMs revealed no significant differences for log-on frequency, log-on duration, gender, age, and population group towards BACB. Table 4 however shows a significant difference for log-on frequency, log-on duration and population group towards BASB.

Table 4: Influence of demographic factors on brand awareness

Independent variables	BACB	BASB
Log-on frequency	0.329	0.002**
Log-on Duration	0.332	0.041*
Gender	0.513	0.379
Age	0.953	0.950
Population group	0.496	0.050*

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

DISCUSSION OF RESULTS

The study's results show that brand awareness-sharing behaviour (BASB) has a significant difference in log-on frequency, log-on duration and population group. Unfortunately, there was no significant difference found between brand awareness-sharing behaviour (BASB) and gender and age. On the other hand, no significant

difference was found between brand awareness-creating behaviour (BACB) and demographic variables such as log-on frequency, log-on duration, gender, age and population group. A detailed discussion of the study findings is presented in the next section.

Brand awareness sharing and log-on frequency

Brand awareness sharing ($p < 0.01$): Respondents who logged onto social media several times a day ($M=1.88$, $SE=0.271$), daily ($M=2.14$, $SE=0.276$), and 2-4 times a week ($M=2.17$, $SE=0.331$) showed more favourable significant brand awareness sharing sentiment compared to those who logged on once a week ($M=0.68$, $SE=0.448$). This finding shows that there is a relationship between brand awareness sharing and log-on frequency on social media. This suggests that the members of generation X and Y cohorts who log on frequently on social media are willing to share the brand information of banking services among peers.

These findings are consistent with past research studies. For example, Duffet's (2017) study, conducted among South African University students, found that most respondents logged onto social media several times a day using their mobile phones. This finding assumes that frequent brand promotion of banking services on social media will reinforce brand usage among the generation X and Y cohorts. An early study by Thoma and Williams (2013) shows that consumers were willing to purchase products that were exposed to them repeatedly. An earlier study by Hussain, Sweeney and Mort (2007) revealed that brand recall was highly considered, especially for a once-off pop-up advertisements on social media, as compared to a static advertisement with single advertisement exposure. It is not surprising that Guest, Estes, Gibbert and Mazursky (2016) found that consumers perceived unfamiliar brand names to be provoking, thereby producing a negative response, despite how appealing the brand advertisement was. This suggests that the more brand managers promote their banking services, the higher the brand recall and brand recognition among generation X and Y consumers will be.

Brand awareness and log-on duration

Brand awareness-sharing behaviour (BASB) ($p < 0.05$): Respondents who spent 4 hours ($M=1.93$, $SE=0.431$) per log-in on social media revealed more positive significant brand awareness-sharing attitudes in relation to respondents who spent 2

hours ($M=1.24$, $SE=0.165$) per log-in. This finding shows that there is a relationship between brand awareness-sharing behaviour (BASB) and log-on duration on social media.

This finding suggests that respondents who spend more time on social media ultimately develop interests resulting in brand purchases of banking services among members of the generation X and Y cohorts across social media platforms. The findings assume that regular updates about banking services could entice consumers, mostly heavy users of social media consumption, to purchase banking services, especially when it is done during peak hours. This finding is consistent with the previous research studies. For example, Duffett's (2015) study shows that respondents who logged on for ≤ 1 hour resulted in lower liking than those who remained logged on for 2 hours or more. Concomitantly, social networking site (SNS) users who logged on for ≤ 1 hour demonstrated a lower preference level than those who remained logged on for over 2 hours (Duffett 2015). Again, Duffett's (2016) research shows that respondents who logged on for less than 1 hour resulted in lower purchase intention levels as opposed to those who logged on for 2 hours or more. Among others, Cao, Meadows, Wong and Xia's (2021) study, done in Europe, found that the majority of respondents spent over 13 hours on social media per week. Additionally, Gibson's (2018) study, done in the US, found that 63% of respondents reported that they spent at least 3 hours or more on social media per day. It seems that most respondents spend more than 2 hours per log in on social media across various countries and this can be indicative of higher dependence on social media. This has a positive effect on usage behaviour towards banking service among the generation X and Y cohorts.

Brand awareness and population group

Brand awareness sharing ($p < 0.05$): Respondents from the black population group ($M=1.84$, $SE=0.291$) displayed more favourable significant brand awareness-sharing predispositions toward banking services on social media in comparison to those from the Indian population group ($M=1.23$, $SE=0.355$). This finding proves that there is a relationship between brand awareness sharing and population group. This presupposes that the black population is more active on social media, as opposed to their Indian counterparts, and consequently they stand a chance to share information related to banking services among peers. Ijabadeniyi, Govender and Veerasamy's

(2015) study sought to analyse the cultural diversity among Africans and Indians in South Africa regarding marketing communication, and found that Africans were found to be collective in nature. However, the collectivistic inclinations do not influence their perceptions about marketing communication. Concomitantly, Indian respondents demonstrated individualistic inclinations regarding marketing communication as opposed to their African counterparts. Interestingly, most Indian respondents indicated that the views of their peers do not influence their purchasing decisions, so long as the brand promotion is persuasive. Both ethnic groups largely expressed that they are influenced by advertisements that reflect family values and portray personal achievements.

It is disappointing to find conflicting findings regarding population groups. Duffett (2021) and Duffett's (2022) study found that the white generation Z cohort demonstrated a positive attitude towards YouTube organic E-WOM (electronic-word-of-mouth), as opposed to black and other mixed respondents. Again, Duffett's (2020) research found that white consumers were found to be active in creating brand awareness as compared to young black, coloured, and Indian/Asian consumers on online video digital channels (OVDC). Among others, Duffett's (2014) research shows that white consumers revealed less intention to purchase online brands compared to their black and coloured counterparts.

It seems that each population group has its own social media preferences, based on the interests, lifestyles, education, and income background of the groups. Historically, black South Africans were reported to live below poverty levels due to job losses and the COVID-19 coronavirus pandemic in comparison to the white minority who exhibited the highest income, employment and education status (Duffett, 2020; Duffett, 2022).

Ijabadeniyi, Govender and Veerasamy (2016) asserted that, as much as cultural values are shared, their manifestations will differ based on contexts. Bakir (2012) argues that global trends have influenced cultural values and norms to converge across different cultures.

Brand awareness and age

The study's results show no significant difference between brand awareness and age. Conflicting findings were reported in other countries. A study by Iqbal, Hamza and

Sainudheen (2023), conducted in Asian countries, found no significant difference between age groups such as the youth and older consumers, but it did have a significant difference for middle-aged consumers.

McDade (2024) argues that consumers' finances are a personal issue that is managed differently across age groups in South Africa; for example, most millennials aged 18 to 35 years are more concerned about savings, yet their counterparts, from 35 years and above, are mostly concerned with protecting their assets. Interestingly, this author furthermore predicts that both the generation Y and X cohorts will have a great deal more in common as they evolve through different stages of their lives. Therefore, both the generation X and Y cohorts tend to behave the same towards social media, depending on their expectations and needs at that moment. This suggests that either generation X or Y could share brand posts about banking services on social media, as long as it appeals to their interests and needs.

Brand awareness and gender

Based on the results of this study, there was no significant difference between brand awareness and gender. A study conducted in India found that no significant difference exists between brand awareness and gender (Baghmar & Agarwal, 2014). Again, a study among Asian consumers found that there were no significant differences between males and females among Asian consumers (Iqbal, Hamza & Sainudheen, 2023). Leszkiewicz's (2021) study sought to investigate the impact of gender stereotypes towards a brand advertisement for a fast-moving consumer good (FMCG). This study showed that respondents who were shown the main advertisement (treatment) that was inspired by gender stereotypes, have less likelihood to pay higher prices than the respondents who were shown an unrelated advertisement (control). Eisend (2019) emphasised that gender stereotypes are mostly negatively perceived by women. This assumes that brand managers of banks should not create brand promotions with gender stereotypes in mind, as this could alienate or discourage the opposite gender to advocate or share such brand posts among their peers across social media platforms.

CONCLUSION AND IMPLICATIONS OF THE STUDY

The aim of this study was to examine the relationship between demographic variables and brand awareness (BACB and BASB) among the generation X and Y cohorts within

local banks. The study findings show that log-on frequency, log-on duration and population group show a significant difference with BASB. This suggests that log-on frequency, log-on duration and population group have an influence on BASB.

This study was positioned in the theory of generational groupings, and therefore postulated that individuals who share the same age groupings are likely to express the same sentiments towards brand awareness regarding their creating and sharing behaviour across social media platforms. This was the case with African consumers who were favourable towards sharing behaviour towards the South African banking services. This was unfortunately not the case with age and gender among the generation X and Y cohorts. These inconsistencies are in line with Markus' (2017) assertion that suggests that all individuals who were born at the same time do not necessarily have the same values, as these are different individuals with different feelings and emotions.

From a theoretical perspective, this study will further contribute to the conceptualisation of brand awareness, especially based on sharing behaviour across social media platforms and the influence that demographics could have on local banks' brand strategy. Practically, the brand managers of local banks could navigate their brand content towards young African consumers who frequently log on to social media and reward them based on the amount of time they spend on social media sharing the banking content among peers. This can be done by means of offering these heavy users of social media reward points that could ultimately be converted into data for later usage. Nevertheless, more attention must be prioritised for log-on frequency, since it had higher significant differences towards brand awareness-sharing behaviour (BASB), as compared to log-on duration and population group.

Regrettably, no significant difference was confirmed between BASB and age and gender. On the same note, no significant differences were reported between BACB and log-on frequency, log-on duration, population group age and gender. Therefore, it is still expected of brand managers of local banks to devise creative strategies that can promote the creation of contents on social media towards banking services, since most members of the generation X and Y cohorts are perceived to be consumers rather than brand creators.

LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

In as much as positive highlights were shed in this present study, some limitations exist that warrant further investigation. This study was restricted to generational theory, which suggests that more robust theories, such as the theory of reason action, the theory of planned behaviour and the social identity theory, be considered for future research studies. Moreover, this study was biased towards the BASB, since it is the only construct that had a significant difference, and this unfortunately influenced or limited the perspective of the primary researcher in this direction. It is suggested that future researchers explore BACB and BASB in other contexts like education, food, pharmaceutical and furniture industries. Additionally, the present study only viewed brand awareness through the lenses of BASB and BASB, and it is recommended that future studies should consider other concepts such as brand posts, likes and reviews. Again, the implications that were observed in the present study were through the lenses of the findings observed in this study, and it is therefore proposed that new studies within other contexts, using different concepts to arrive at different perspectives and research implications, should be conducted. In conclusion, the current researcher opted for a quantitative survey to conduct the study; it is suggested that future research should use qualitative or mixed methods and compare the results.

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Lessons learnt from a review of the Kuyasa project nine years post implementation

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ABSTRACT

The United Nations Sustainable Development Goals (UNSDGs) 7 and 13 prioritize the provision of affordable and clean energy and the promotion of climate action. This study examines the lessons learned from a project implemented under the clean development mechanism (CDM) to finance energy-efficient interventions in the Kuyasa low-income community in Khayelitsha, Cape Town. The project involved retrofitting 2,309 Reconstruction and Development Programme (RDP) houses in Kuyasa with renewable energy-efficient technologies such as solar water heaters (SWH), insulated ceilings (IC), and compact fluorescent light bulbs (CFL). The project aimed to enhance access to affordable and clean energy (SDG 7) and contribute to the reduction of global warming and greenhouse gas emissions (SDG 13). However, after installation, the project encountered financial challenges in sustaining maintenance activities through the CDM financial mechanism. Revenue streams from the sale of Certified Emission Reductions (CERs) were affected by delays and a decline in CER credit values. The study's theoretical framework integrated Sustainability theory, Systems theory, Community engagement and participation theory, and Energy access and transition theory. Data was collected from 10 energy experts and over 300 project beneficiaries and analyzed using descriptive statistics and content analysis. Most respondents confirmed the continued benefits of the installation of renewable energy-efficient technologies (REETs), noting improvements in the health of household members. However, concerns were raised regarding the ongoing maintenance and repair of REETs. Energy experts emphasized that although

the project had social and environmental benefits, it was not financially sustainable, with a negative Net Present Value (NPV) and high transaction costs impeding its financial viability. Recommendations include adopting holistic approaches to engage all stakeholders throughout the project lifecycle, planning for post-project funding needs, and identifying sustainable revenue streams to ensure project financial sustainability.

Keywords: Clean development mechanism; financial mechanisms; low-income community; renewable energy-efficiency technologies; lessons learnt

Highlights

- Awarded a gold standard by the United Nations Clean Development Mechanism (UNCDM) for the successful implementation of renewable energy-efficiency technologies (REETs) in a low-income community in South Africa. These technologies include solar water heaters, insulated ceilings, compact fluorescent light bulbs, and hot pots.
- The financing of the REETs' maintenance posed a challenge due to the high transaction costs associated with the Clean Development Mechanism (CDM) financial mechanism.
- A need exists to identify and recommend alternative financial mechanisms to fund sustainable maintenance activities, either in conjunction with or separate from the CDM mechanism.
- The recommendations are based on a quantitative and qualitative methodology, guided by theories of systematic approach, community empowerment and participation, energy access and transition, and sustainability.
- Project scalability and replication in low-income communities.

INTRODUCTION

South Africa is in urgent need of additional sources of low-cost electricity to drive the economy towards a higher developmental trajectory (Ledger, 2024). The most expedient way to achieve this is through the rapid deployment of renewable energy (Ledger, 2024). One example of such a project is the Kuyasa renewable energy-

efficient Clean Development Mechanism (CDM) project. By increasing the electricity supply, municipalities can put an end to load shedding and promote socio-economic development (Ledger, 2024). The City of Cape Town Municipality, in collaboration with the non-governmental organization SouthSouthNorth, has initiated the Kuyasa renewable energy-efficient CDM project (Goldman, 2010).

Renewable energy-efficient projects have the potential to bridge the gap caused by a reduction in electricity supply, which is coinciding with rising electricity tariffs. These tariffs are increasing significantly, surpassing the rate of inflation or average wage hikes (Ledger, 2024). Research conducted by Erion (2007) and Wlokas (2011), who interviewed households benefiting from the Kuyasa project, reveals that the use of solar water heaters (SWHs) has had a positive impact on electricity costs, improved health and well-being (including respiratory, orthopedic, and rheumatic conditions), and enhanced quality of life for residents in 2,309 homes. The REETs helped reduce about 2.09 tonnes of greenhouse gas (GHGs) per household per year (Goldman, 2010). To put that into perspective, it is equivalent to the total carbon emission of a flight from Lagos, Nigeria, to Surabaya in Indonesia (Siyabona Africa, 2024). Overall, the project generated over 6, 000 tonnes of carbon emission savings per annum (Siyabona Africa, 2024). Through the CDM financial mechanism these carbon emission savings could be converted to Carbon Credits (Maphosa et al., 2020). One major challenge is the high transaction costs of the carbon emission savings monitoring and evaluation accredited audit organization (Maphosa et al., 2020).

Solar water heaters (SWH)

The Kuyasa beneficiaries were provided with 100-litre evacuated tube solar water heaters, which operated at low pressure (Goldman, 2010). These heaters were strategically mounted on stands to ensure optimal sun orientation. As a result, they replaced the community's widely used method of heating water, which involved electric kettles (Walsh et al., 2011). However, due to severe storm damage on the 11th of June 2017, some Kuyasa houses had their solar water geysers removed. It is worth noting that the Kuyasa residential area is prone to floods and high winds during heavy rainstorms (Walsh et al., 2011). Unfortunately, the project developer did not replace the damaged devices due to insufficient funds to implement the maintenance program, despite having a maintenance plan in place. Over time, some solar water heaters

started to leak, causing damage to the walls of the houses. The leaks resulted in water accumulation in the ceilings, leading to their eventual collapse.

Insulated ceilings (IC)

Research has demonstrated that the most efficient measure for enhancing the thermal efficiency of RDP houses, such as the Kuyasa houses, entails the installation of an insulated ceiling (Goldman, 2010). The houses provided by the government in Kuyasa were constructed without ceilings (Walsh et al., 2011). Consequently, these houses lacked sufficient thermal insulation, resulting in excessive heat during summer and inadequate warmth during winter. Approximately half of the residents (50.3%) reported being satisfied or very satisfied, while 27.3% expressed negative perceptions.

Compact fluorescent light bulbs (CFL)

In addition to the CDM project initiative to install CFLs in all Kuyasa households from 2008 to 2010, Eskom's Demand Side Management Programme (now Integrated Demand Management Programme) provided CFLs to households in 2007/8 and discouraged the use of incandescent light bulbs (Goldman, 2010; Walsh et al., 2011, p. 18). Most respondents demonstrated that CFL globes are more expensive than incandescent light bulbs. Incandescent light bulbs range in price from R15 to R18 for a 60 W bulb, whereas a CFL bulb costs R20 to R25. Consequently, some residents have resumed purchasing incandescent light bulbs, as 43.5% of them earn less than R2,000 (29.2%) and are unemployed (30.8%). These findings align with a study conducted by Walsh et al. (2011, p. 32) in which Kuyasa residents were asked which technology they would choose should their CFLs fail; only 65% indicated they would choose a CFL over an incandescent bulb.

Sustainable livelihood opportunities

The Kuyasa project provided community participation and training sessions for the installation of REETs, as affirmed by Wlokas (2011). According to Goldman (2010) and Walsh et al. (2011), accredited training and on-the-job experience helped some temporary project staff to secure permanent employment outside of the project. Additionally, certain residents received training in REET installation, while some project employees became entrepreneurs in various fields such as carpentry, steelwork, education, tourism, and plumbing. These entrepreneurial activities not only

contributed to the project's green objectives by reducing energy production costs, but also stimulated job creation, and foreign investment, and garnered support from local stakeholders (Jain & Jain, 2017, p. 721). However, it is worth noting that the project did not adequately address long-term employment opportunities.

Project maintenance initiatives

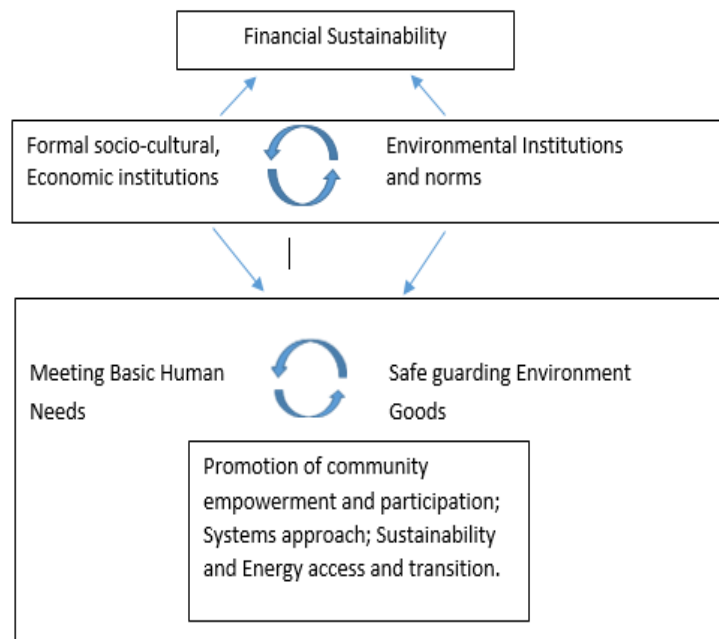
Regarding the contribution to project maintenance, a considerable number of respondents expressed concerns about the maintenance of their REETs. A question was posed to gauge their willingness to cover any shortfalls if the CDM failed to finance ongoing maintenance. It was found that 57% of the respondents deemed it challenging to contribute towards the maintenance of their REETs. They firmly believed that the responsibility for maintenance costs lies with the project developer and designer.

Theoretical perspectives

Govindarajuet et al. (2015) defines financial sustainability as a project having sufficient funds to acquire all its resources and meet its financial obligations for the planned life cycle of the project. Additionally, we propose that financial sustainability entails meeting compatible and competing socio-cultural-economic-environmental well-being goals through a set of institutions, policies, and cooperative structures (Figure 1). In this case financial sustainability is achieved when such goals are met in a manner that enables the maintenance of Renewable Energy and Environmental Technologies (REETs).

The following simplified framework outlines the integration of sustainability institutions that facilitate the achievement of financial sustainability for REETs projects. The question remains, however, whether this model fosters cooperation between community members and energy experts to achieve financially sustainable outcomes?

Figure 1: Framework for financial sustainability



Source: Developed for this study by the researcher.

These variables (socio-cultural, economic, and environmental) collectively form the financial sustainability framework. They play a crucial role in meeting fundamental human needs, preserving environmental resources, making a significant impact on reducing greenhouse gas emissions, and ensuring the longevity of renewable energy and energy technologies (REETs). Furthermore, financial sustainability is attained through community empowerment and participation, an open systems approach, and a sustainable energy access and transition strategy.

The following section delves into the study's problem statement.

STATEMENT OF THE PROBLEM

The percentage of African renewable energy-efficient projects that achieve financial sustainability remains very low (Ntuli, 2012). Similarly, there is little research on the economic sustainability of CDM renewable energy-efficient projects in African countries, including South Africa (Naidoo, 2018). This study aims to investigate whether REE projects, such as Kuyasa, can achieve financial self-sustainability, particularly in funding repair and maintenance activities for REETs even after implementation. The project required significant capital investment, along with substantial expenses on transactions, project evaluators, and direct costs. Evaluating

the project's feasibility in serving an impoverished community poses a major challenge.

The objective of this research is to extract valuable lessons that can be applied by those undertaking similar projects. Moreover, previous research on Kuyasa focused on specific energy-efficient interventions such as solar water heaters, compact fluorescent lights, and insulated ceilings (Goldman, 2010; Wlokas, 2011; Naidoo, 2018). However, this study is unique as it explores community members' perspectives on these three interventions approximately 10 years after their installation

METHODOLOGY AND ANALYSIS

The collected data from the questionnaire and interview schedule were presented. Overall, the results confirmed the findings of previous research. The data collected from 370 Kuyasa residents was obtained through a questionnaire, while conversations with energy experts were guided by an open-ended qualitative template. Ten renewable energy organizations in Cape Town were identified as experts in the field and purposively selected for their extensive knowledge of the Kuyasa project. Both the questionnaire and qualitative interview protocol were piloted.

A mixed-methodology approach was chosen, specifically utilizing the concurrent triangulation design (Creswell, Plano Clark et al., 2003). This design aims to gather different but complementary data on the same topic (Morse, 1991, p. 122) to gain a comprehensive understanding of the research problem.

How does systems questioning theory look in practice?

The Systems Questioning Theory highlights that everything is connected (Heil, 2017). Systems can be closed or open, but only open systems can be studied (Heil, 2017), for example, the Kuyasa CDM project. Open systems have inputs and outputs; they are not self-sustaining (Heil, 2017). The systems questioning theory enables project developers and designers to pose specific questions prior to the implementation of a project within a community. Some of these questions include: What would be the projected impact of the project in terms of sustainability, community participation and empowerment, and energy transition? How would it affect the community? What would be the implications for public safety? And in this case: How would it impact Eskom? How would it impact the City of Cape Town? When applying the systems questioning

theory, the project should not only consider its own questions, but also how it integrates into the existing system in question; in this case the energy supply system. How will it contribute to existing financial mechanisms for financing energy-efficient projects in low-income communities? How will it contribute to the knowledge base?

The outcomes of this analysis can be presented in the following manner:

Renewable Energy Efficiency Technologies (REETs)

Detailed findings about sections B and C of the questionnaire are presented below. Out of the 2,309 Reconstruction and Development Program houses in Kuyasa, a significant number (75%) had been retrofitted with renewable energy-efficient technologies (REETs) such as Solar Water Heaters (SWH), Insulated Ceilings, and Compact Fluorescent Light (CFL) bulbs. It is worth noting that most respondents (98.6%) still rely on CFLs, while 75% utilize SWH and 91.4% have insulated ceilings. Although only one respondent out of the 800 households benefiting from hot box cooking had a hot box, respondents observed its advantages.

Solar water heaters

The survey findings unveiled that approximately 75% of the residents still possessed their solar water heaters (SWH), and that 54.3% expressed satisfaction with their SWH. However, roughly 25% of participants reported dissatisfaction with their SWH due to reduced heating during winter, rusting of the SWH stands, and instances of leakage, all of which were deemed significant concerns among the residents. Furthermore, respondents expressed discontent with the lack of maintenance provided for their SWHs, which could explain why 25% of the SWHs were no longer in operation.

Insulated ceilings

Of the residents, 91.4% have ceilings, with 50.3% expressing satisfaction with their installed ceilings, while 27.3% reported dissatisfaction. The reasons for satisfaction included the aesthetic improvement it brought to their homes, as well as the enhanced thermal insulation it provided, making their houses cooler in summer and warmer in winter. Conversely, some residents expressed dissatisfaction due to issues such as susceptibility to rat infestation, poor quality materials, and frequent detachment.

Furthermore, it is worth noting that there has been a lack of maintenance for these ceilings.

Compact fluorescent light bulbs

Of the Kuyasa residents, 98.6% still have their CFL or energy-saving globes installed. However, some residents have chosen to use incandescent light bulbs in certain rooms. These residents have found that incandescent light bulbs are cheaper when compared to energy-saving globes. In some cases incandescent light bulbs are priced R5 to R10 less. On the other hand, 88.9% of the residents expressed satisfaction or high satisfaction with the energy-saving globes. They provided several reasons for their contentment, including the fact that these globes have a longer lifespan than a month, are of a better quality than incandescent light bulbs, and are beneficial for eye health. Only 11.1% of the residents reported being dissatisfied with the energy-saving globes. The reasons for their dissatisfaction include the higher cost compared to incandescent light bulbs, the tendency to attract insects, and the occurrence of fusing (possibly earlier than expected).

Electricity for cooking

Of the residents, 67% (which constitutes the majority), utilize electricity as their primary cooking source. Additionally, 21% of the residents employ a combination of electricity and gas. Interestingly, only one resident reported using a hot box for cooking. The residents expressed satisfaction with electricity as a cooking source due to its accessibility and efficiency. However, a few residents expressed dissatisfaction with electricity as their main cooking source, citing the high costs of electricity units. The residents also had concerns about the perceived danger associated with gas.

Energy costs

Several residents emphasized that they allocated approximately R400 towards energy expenses from their monthly salaries of around R4000. Findings from this study revealed that the residents were able to cut their energy costs by 25%. Siyabona Africa (2024) even reported that the project beneficiaries managed to cut their electricity costs by 35% a year.

However, it is noteworthy that 60% of the participants were unaware of the project's financing, suggesting that the residents may have had limited involvement in its

establishment or that the importance of consistent information sharing among beneficiaries may have been overlooked. Additionally, more than 90% of the respondents expressed their willingness to receive information through printed materials, such as pamphlets and electronic media.

Sustainable livelihood opportunities

The study revealed that the project's livelihood opportunities were primarily restricted to employment within the project. Several respondents acknowledged their involvement in the installation of REETs and the training received in this regard. Specifically, 20% of the participants actively took part in the installation process. This not only facilitated job creation, but also fostered the development of sustainable entrepreneurship skills, as evidenced by previous research (Jain & Jain, 2017). Nevertheless, there have been limited post-project completion livelihood opportunities, including entrepreneurship ventures. Only one resident appeared to have successfully capitalized on the skills acquired from the project to generate a sustainable livelihood.

Technical knowledge

When asked about the benefits of the training in installing SWHs, 8 out of 16 respondents stated that they now have a good understanding of how the geyser works and can perform maintenance on it. Two respondents mentioned that they are now able to do maintenance work within the community. One respondent expressed the potential of becoming an entrepreneur by repairing SWHs. However, it was noted in my research diary that some residents still lack a clear understanding of how the device heats water.

Regarding the training in installing insulated ceilings, 5 out of 7 respondents mentioned that they had become carpenters as a result.

When asked about the benefits of training in installing energy-saving globes, most respondents stated that they were now capable of replacing malfunctioning globes without assistance. They have also gained knowledge of energy.

Additionally, it was expected that providing former employees with the tools used during the project would help them establish their businesses (Goldman, 2010). The former Kuyasa site manager now owns a registered business called Kuyasa Energy Services and Projects, which involves repairing and maintaining SWHs and electric

wiring. The business has expanded to include education tourism, collaborating with the Coffee Beans Company in Cape Town's Central Business District. Tourists from around the world are invited to learn about Kuyasa Township. The respondents also highlighted that other former employees had secured jobs in the Cape Town Municipality and other reputable organizations due to the skills acquired from the Kuyasa project.

Non-technical knowledge

In addition to acquiring the technical skills necessary for installing the REETs, most respondents (84.3%) emphasized that the project provided them with valuable non-technical knowledge. This includes gaining an appreciation for the REETs, learning about energy-saving methods, and identifying the project designers/developers and funders, as well as conducting further research on technology maintenance. On the other hand, 15.7% of respondents stated that the project did not provide them with non-technical knowledge.

Maintenance of the REETs

Solar water heaters

Of the residents, 96% confirmed that the solar water heaters (SWHs) did not undergo any maintenance. This lack of maintenance can be attributed, in part, to the insufficient funds allocated to the project planners for the maintenance of the renewable energy equipment technologies (REETs). Only 4% of residents, across all income bands, reported that their SWHs had undergone maintenance.

Of those surveyed, 62.9% stated that their SWHs were still in good working condition. However, 37.1% experienced one or more breakdowns with their SWHs. The lack of maintenance may have contributed to these breakdowns. In contrast, 17.1% of residents mentioned that their SWHs were repaired when they malfunctioned. This 17.1% likely includes the 23 residents who received replacement SWHs from the installers, as well as some residents who hired a local repair person (69%) possibly trained by the project installers. Some residents chose not to repair their SWHs, leaving them broken.

It is peculiar that 82.9% of respondents indicated that their SWHs were not fixed when they experienced breakdowns, considering that only 37.1% reported any breakdowns.

Could it be possible that the SWHs were not repaired because they did not break down? Additionally, a significant finding was that 90% of the residents were unaware of who was responsible for the maintenance of the SWHs. On the other hand, a minority of residents took on the responsibility of maintaining their own geysers.

Insulated ceilings

Of the residents, 2.4% reported requiring maintenance work to their ceilings, while a majority of 97.6% confirmed that no maintenance was needed, due to the varying conditions of the ceilings. Some ceilings were found to be in good condition, while others were in a poor state or on the verge of collapsing. Those residents who did require maintenance services mentioned that they sought assistance from local carpenters.

The subsequent sections will investigate the residents' willingness to pay and other project financing strategies for the maintenance of the REETs.

Willingness to pay and other project financing

Of the respondents, 61.7% (which represents the majority), indicated their willingness to pay for the maintenance of SWH (solar water heaters). On the other hand, 38.3% stated that they were unwilling to cover SWH maintenance costs. Most residents expressed their readiness to contribute a minimum of R20 towards the maintenance of the SWH, with the potential to generate a significant amount of R554 160 if every household participated. These funds could then be allocated for maintenance purposes.

Regarding the ceilings, 58.6% of the respondents were willing to pay for maintenance, while 41.4% were not. The reasons given by those unwilling to pay included their ability to fix the REETs themselves, unemployment, the responsibility of the installers, and an inability to afford the proposed amounts. Of the respondents, 56.2% expressed their willingness to contribute to a maintenance fund by signing a contract that binds them to a monthly payment. However, 43.8% stated that they were not willing to sign such a contract.

Residents proposed a few strategies to finance the maintenance of their REETs, including seeking funding from banks and international organizations. Another suggestion was to deduct a maintenance fee when purchasing electricity units.

DISCUSSION

In addition, systems questioning theory emphasizes the importance of frequent and open communication among participating agents as a prerequisite for involvement in renewable energy efficiency projects. The participating agents in the Kuyasa project included the Kuyasa community members, the Government through the Department of Energy, the former Department of Environmental Affairs and Tourism (DEAT), the project owner (City of Cape Town), and the project implementer (SouthSouthNorth). Eskom, the South African electricity power utility, felt excluded from the project (ESMAP, 2012). Therefore, the successful implementation of financial mechanisms relied on prior agreement among the partners.

From a systems theory perspective, the REET project should be viewed as part of a comprehensive framework. As the price of CERs declined, the funding for repair and maintenance diminished. The findings demonstrate that many residents were willing to contribute towards the repair and maintenance of the REETs. This supports the insights of the community empowerment and participation theory, which highlights the improvement of project outcomes through community engagement.

By applying the theory of energy access, and transitioning to examining emerging themes, it becomes evident that REE CDM projects targeting low-income communities can catalyze local energy transition, as exemplified by the case of Kuyasa. Through the lens of energy access and transition theory, it becomes apparent that decentralized energy-efficient technologies can lead to reduced energy costs in low-income communities. The project facilitated technology transfer by discouraging the use of traditional fuels like paraffin in favor of modern technologies such as insulated ceilings. This finding aligns with the insights of Pangaribowo and Dinar Iskandar (2023), who argue for policy interventions aimed at reducing the reliance on firewood for energy in households, as observed in Kuyasa.

The theory of community empowerment and participation, contends that sustainable livelihood opportunities should be integrated into these projects, a goal that the Kuyasa project was partially able to achieve. However, based on respondents' feedback, it appears that many were not adequately consulted, and there was no post-project community forum established to oversee the project beyond the former lead person involved on the ground. This represents a significant flaw in ensuring the long-term

success of such a project. However, this oversight may be attributable to the time lapsed (many years after installation) and the community's subsequent forgetfulness of the initial consultation process. From the questionnaire, important empirical information was gathered. It was found that approximately 75% of the residents still had their solar water heaters (SWH), and 54.3% of them were satisfied with the SWH. Additionally, 91.4% of the residents had installed ceilings, with 50.3% expressing satisfaction. Furthermore, 98.6% of the Kuyasa residents still had their compact fluorescent lamps (CFL), and 88.9% reported satisfaction with them. Analyzing these findings through the theoretical framework, it becomes clear that recipient dissatisfaction stemmed from the lack of maintenance and repair services, which ultimately undermined the sustainability of the initiatives. Nonetheless, the fact that many of the renewable energy and energy efficiency (REE) interventions were still in place, demonstrates that decentralized investments in REE initiatives for low-income communities lead to long-lasting local benefits

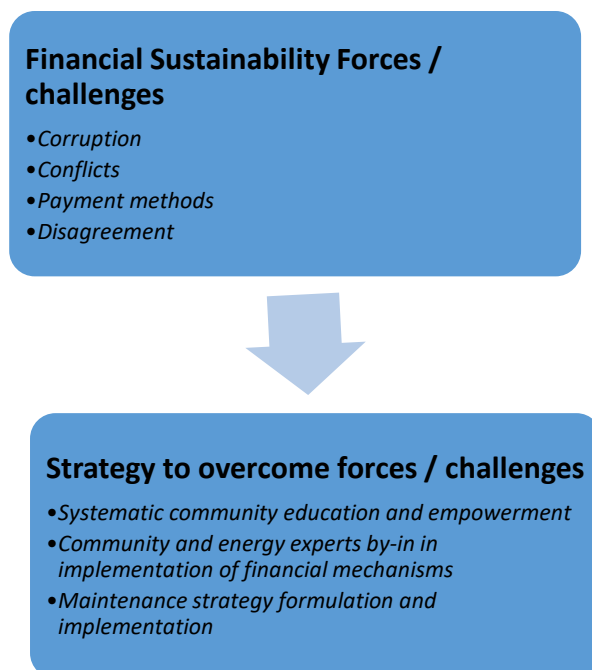
In their study, Schomer and van Asselt (2018) examine the possibilities of scaling up the Kuyasa Clean Development Mechanism (CDM) project in South Africa, using carbon finance. They encountered challenges in scaling up the project due to institutional constraints, such as the absence of clear national standards and regulations, as well as a lack of local skills and institutional capacity. Additionally, there was a discrepancy in expectations between the project developers and government officials. While the developers believed that the government would provide ongoing subsidies for carbon offset projects, officials refused to get involved and offer further funding (Schomer & van Asselt, 2018). The authors explain that the South African government recognized the significance of such interventions, but faced difficulty in gaining support for energy upgrade projects. This is because municipalities rely on selling energy, such as electricity, to supplement their budgets. As a result, they may risk losing income if energy upgrade interventions are mandated (Schomer & van Asselt, 2018).

RECOMMENDATIONS

The researchers propose the following strategies or mechanisms for ensuring the financial sustainability of future projects for key stakeholders, which are discussed below.

Of the respondents, 45% emphasized the necessity of a maintenance plan that involves all project stakeholders. The respondents also expressed the need for a solar water heating system that is effective in all weather conditions. Additionally, 15% of the respondents highlighted the importance of community members agreeing to contribute to the maintenance of their renewable energy technologies. Furthermore, 18% of the respondents emphasized the need for effective communication between the project beneficiaries and project developers/designers regarding project activities. Some of the respondents also mentioned the need for a feasibility study before project implementation.

Figure 2. Framework for financial sustainability forces/challenges



Source: Developed for this study by the researcher.

Although most residents were willing to pay for the maintenance of the REETs, several challenges needed to be addressed. These challenges included disagreements on the contribution amount, payment methods, corruption, and crime. To overcome these challenges, certain recommendations were made.

Disagreements

The findings in this chapter reveal that not all respondents agreed on the amount they should contribute, signed the contract to bind themselves to contribute, agreed on a contribution methodology, or established a contribution system. The researcher

believes that project developers should engage potential beneficiaries from the beginning of the project and continue to do so throughout its implementation to resolve any disagreements. It is essential for project objectives to be clear and agreed upon from the start. Once the project is completed, developers should commit to and communicate their ongoing maintenance plan to beneficiaries.

Payment-methods

The payment methods used were typically traditional, such as the house-by-house contribution collection mechanism. However, the community faced issues related to crime. To avoid disagreements in implementing contribution collection mechanisms, the researcher suggests adopting safer payment methods for the ongoing maintenance of these REETs. This could involve banking institutions, the Department of Energy, and CDM financial mechanisms.

Corruption and crime

The findings confirm that certain residents have emphasized that corruption and crime pose obstacles to the project's financial sustainability. The researcher recommends that, to prevent corruption and crime, the project developer should refrain from collecting maintenance funds individually in cash, as this would attract criminal activity. Furthermore, the researcher suggests that conducting regular audits should be a crucial step, as the lack of thorough auditing of the collected funds could lead to corruption. High levels of corruption and crime could potentially render the project financially unviable.

Conflicts

Project beneficiaries must address the challenges arising from conflicts, including determining which community member should be entrusted with overseeing the finances. Factors such as political affiliation, educational background, income level, marital status, employment status, and trustworthiness should be taken into consideration. It is strongly recommended that the community establish a democratically elected committee to supervise the project's financial matters, as well as repair and maintenance activities.

Best practices for a successful energy-efficiency financial strategy

Some respondents emphasized that governments should aim to mobilize energy efficiency finance in two comprehensive ways. Firstly, by establishing overarching regulatory and incentive frameworks that encourage investment in renewable energy on a macro level. Secondly, by utilizing targeted public funding to address specific financing gaps and barriers. Regulatory frameworks can incorporate energy policy mechanisms (such as feed-in tariffs, quotas, and tax incentives), as well as finance policy mechanisms (including banking regulations, interest rates, other monetary policy approaches, Green Bonds schemes, and new financing institutions). Simultaneously, deregulation within local energy markets is crucial to enable the free entry and exit of new energy efficiency players and promote competition among providers. Targeted intervention involves combining or coordinating energy efficiency public finance mechanisms with accompanying non-financial interventions, such as capacity building and knowledge management in energy efficiency (IRENA, 2012, p. 18). Some of the best practices for a successful energy efficiency project are discussed below.

Availability charge on the pre-paid electricity meters

Respondent One emphasized that one solution currently being explored by the project involves implementing an "availability charge" on prepaid electricity meters utilized in RDP houses. Over the last fifteen years, Eskom has retrofitted or installed prepaid electricity meters in low-income households. In this system, the household acquires a token from various retailers and inputs the encoded 20-digit number via the meter's keypad to access electricity. Once the available credit is depleted, the electricity supply is disconnected until a new token is purchased and entered.

Monetizing the basic energy grant

Some respondents have emphasized the need to monetize the government's basic energy grants of 50 kWh per month, which are provided to all low-income households, including the 2,309 households in Kuyasa. This in-kind grant is sufficient to cover essential lighting, water heating through a kettle, ironing, and access to TV and radio.

Engaging energy-efficiency technology investors

As stated by IRENA (2012, p. 12), stakeholders involved in energy efficiency (EE) projects in developing countries, including government departments or ministries, banks, equity firms, insurance companies, pension funds, industry bodies, clean energy companies, and start-up project developers, should collaborate to ensure the sustainable success of EE initiatives. Notably, there is an increasing interest in EE investment from local pension funds and insurance companies in developing countries like India and Brazil.

Grants from donors

The National Treasury (2013b), municipalities, and provincial governments are provided with risk-free seed capital (i.e., interest-free). However, they are required to meet predetermined performance targets and provide reports on the utilization of the funds to the donors. It is crucial to establish robust networks to stay informed about funding opportunities. For instance, in the case of the Kuyasa project, the City of Cape Town, as the project developer, needs to secure a grant from donors to fund maintenance activities.

Innovative debt funding

According to the National Treasury (2013b, p. 51), innovative debt funding is an additional financing strategy to support ongoing project activities. In line with project finance principles, it is theorized that the cash flow savings generated can be used to recoup the investment cost of an energy efficiency (EE) project.

Financing by banks

The energy-efficiency financing services provided by banks encompass corporate lending, project finance, mezzanine finance, and refinancing.

Corporate lending

This term refers to the provision of financial support to companies for their day-to-day operations. These bank facilities impose minimal restrictions on the use of funds, if specific general conditions are fulfilled. The company's financial strength and stability are evaluated, and the pricing of debt is determined accordingly.

Project finance

When banks offer project finance (or limited recourse finance), they provide borrowed debt specifically for the project. The amount of debt available is determined by the projected revenue of the project over time, which serves as the means to repay the debt. This amount is then adjusted to account for inherent risks, such as power production and sales.

Mezzanine finance

Mezzanine financing is a form of lending that falls between senior bank debt and the equity ownership of a project or company (IRENA, 2012, p. 26). Mezzanine loans entail more risk than senior debt because repayments for mezzanine loans are made after those for senior debt.

Green bonds

Green bonds (GB) aim to expand funding resources for low-carbon investments by creating a financial instrument that appeals to the debt market, particularly institutional investors. They seek to increase low-carbon investments by reducing debt risk premiums for this type of project and activity. Many institutions promote green bonds, and several have been issued in the past five years. However, the funds generated are relatively small compared to the required investment flows.

Challenges to implementing the strategies

A finding from the study that may impede the implementation of the strategies is a lack of community cohesion. Some community members do not seem to agree with the proposed financial mechanisms, arguing that only those who are employed and better educated should contribute financially to the upkeep of the REETs. Lessons drawn from the UCT study revealed that a sense of community spirit appears to be lacking in Kuyasa. For instance, unemployed individuals feel disconnected and marginalized from most of the decision-making forums (Walsh et al., 2011).

Another challenge is obtaining funds from Eskom. In October 2019, Eskom reintroduced load shedding. One-fifth of Eskom's power stations are out of commission, and the financial burden of maintenance is substantial (Eberhard, 2019, p. 1). Steyn (2018, p. 1) highlighted Eskom's financial troubles. Despite the Eskom

system adequacy reports indicating that South Africa is experiencing a shortage of power and faces a high risk of further power outages, no new grid-connected electricity generation capacity has been acquired since November 2014 (Eberhard, 2019, p. 1). Given this context, Eskom has been struggling financially to maintain its plants since 2011. Consequently, financing the Kuyasa and other renewable energy efficiency projects can be challenging.

CONCLUSION

This document presents an exposition of the findings from the Kuyasa community, who were beneficiaries of the CDM in Khayelitsha Township in Cape Town, South Africa. The CDM project served as a commendable exemplar for renewable energy-efficiency projects in low-income communities in South Africa. The replicability of this project offers a valuable opportunity for other developers and designers to gain insights from the experiences of this project and implement financially sustainable projects that involve resident contribution/participation through suitable financial mechanisms. The systematic rollout of energy-efficient interventions can be facilitated by incorporating a financial maintenance component.

The collected data from the questionnaire and interview schedule have been presented. In general, the results affirm the findings of previous research. The emerging findings from the analysis can be summarized as follows:

1. Many of the respondents expressed satisfaction with their status as recipients of a REETS intervention, which resulted in cost savings for them.
2. The respondents acknowledged that the project significantly improved the health of household members.
3. The shift in energy expenditure was observed and corroborated by seven energy experts who acknowledged the cost-saving effects of the interventions for the recipients.
4. The project did not contribute significantly to sustainable livelihood opportunities on a large scale, and it was confirmed that only a few residents received training for the installation of REETs interventions. However, some residents did derive certain benefits.

5. The ongoing maintenance and repair of REETs emerged as a significant issue raised by project beneficiaries.
6. Energy experts have proposed certain strategies that could be recommended to stakeholders, including measures that residents can undertake to address the challenges of financial sustainability for the maintenance and repairs of the REETs post-installation.
7. Most of the energy experts confirmed that the project was well-designed, as evidenced by its prestigious gold-class project status awarded by the UN, which led to improved living standards for the residents and reduced greenhouse gas emissions. It was emphasized that repair and maintenance were neglected when the price of carbon credits declined.
8. Most energy experts highlighted that high transaction costs continue to hinder the financial sustainability of CDM projects.
9. Consequently, in addition to potentially reaping benefits as a registered CDM project, there is a need to explore alternative strategies to finance project maintenance activities.
10. The project displayed a negative NPV. Thus, alternative financial mechanisms ought to be recommended and implemented.
11. The testing for financial sustainability, including post-installation repairs and maintenance, encompassed various variables from the questionnaire: monetizing incentives, the presence of a contribution mechanism, availability of a pool of funds, willingness to contract, sustainable livelihood opportunities, and willingness to pay or contribute towards maintenance.
 - a. A significant finding was that residents expressed a willingness to contribute, but the presence of sustainable livelihood opportunities was crucial.
12. Key insights from the discussion section include:
 - a. The need for incorporating systems that include sustainability when designing renewable energy projects in low-income communities.
 - b. The importance of valuing community participation in project implementation.

This study presents an overview of the findings obtained from project beneficiaries and project developers/designers. The study identified both positive and negative aspects. On a positive note, the Kuyasa project demonstrated significant improvements in financial (economic), social, and environmental sustainability, sustainable livelihoods, and living standards. Moreover, it received recognition by achieving a gold standard for successfully addressing cooking challenges. However, a notable drawback was the project's failure to meet certain standards, specifically in terms of incorporating sufficient financial mechanisms to cover maintenance and repair costs. Consequently, this aspect remained unfunded, rendering the project unsustainable. To address this issue, I propose mechanisms to ensure that the maintenance and repair of renewable energy projects can be sustained in the Kuyasa project, as well as for future similar projects targeting low-income recipients, based on the input of project beneficiaries and energy experts. Scalability is crucial for the broader impact of such projects, especially under global frameworks like the SDGs. Future studies should explore whether the lessons learned from Kuyasa can inform similar initiatives elsewhere, and what factors need to be adapted for different contexts.

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Urban agriculture and food security: A case study of open-space farming in Esikhaleni Township, KwaZulu-Natal

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ABSTRACT

This research examines the relationship between urban agriculture and food security through the lens of open-space farming practices in Esikhaleni Township. Using a mixed-methods approach, this study investigates how residents utilize urban spaces for agricultural purposes, and evaluates the socio-economic impacts of these practices. Through structured interviews with local farmers and municipal officials from uMhlathuze Municipality, the research identifies key motivating factors, including economic necessity, cultural traditions, and community development. The findings demonstrate that urban agriculture significantly contributes to household food security, provides supplementary income, and promotes sustainable land use practices. The study concludes with recommendations for integrating urban agriculture into municipal planning frameworks to ensure long-term sustainability and community benefits.

Keywords: urban agriculture, food security, open-space farming, supplementary income, sustainable food-production practices

INTRODUCTION

The intersection of urban development and agricultural practices presents unique opportunities and challenges in contemporary South African townships. As urban populations continue to grow, the need for sustainable food-production systems becomes increasingly critical. Urban agriculture has emerged as a vital strategy for addressing food security concerns while promoting community development and environmental sustainability. This dynamic relationship between urbanization and agriculture is particularly significant in South African townships, where historical spatial planning patterns have created both challenges and opportunities for food production.

In South African townships, the legacy of apartheid's spatial planning has left distinctive patterns of land use that now present unique opportunities for urban

agriculture. Large open spaces, originally designed as buffer zones, have become potential sites for agricultural development. These spaces, often underutilized and neglected, offer valuable resources for community-based farming initiatives. Recent research by Thompson and Harris (2024) indicates that such spaces in townships could potentially support agricultural production for up to 30% of the local household food needs when properly utilized.

The rapid urbanization in South African cities has created pressing challenges for food security and sustainable development. Current projections indicate that urban populations in South African municipalities will increase by approximately 40% by 2050 (Urban Development Institute, 2024). This demographic shift necessitates innovative approaches to food production and distribution within urban areas. Urban agriculture has emerged as a promising solution, offering multiple benefits beyond mere food production.

In urban environments, the utilization of vacant land and open spaces for agricultural purposes has gained significant attention for its potential to address various socio-economic and environmental challenges. Recent studies emphasize the role of urban agriculture in promoting food sovereignty and building resilient communities (Smith et al., 2023). By converting underutilized spaces into productive agricultural areas, urban farming contributes to a more sustainable and equitable food system. Furthermore, these agricultural spaces serve as green infrastructure, providing essential ecosystem services such as improved air quality, reduced urban heat-island effects, and enhanced biodiversity.

The economic implications of urban agriculture in township contexts are particularly noteworthy. Research conducted by Martinez and Nkosi (2024) demonstrates that urban farming initiatives can reduce household food expenditure by 15-25% while providing supplementary income through surplus produce sales. This economic benefit is especially significant in townships where unemployment rates often exceed national averages. Moreover, urban agriculture creates opportunities for skills development and microenterprise development, contributing to local economic resilience.

The environmental sustainability aspects of urban agriculture in South African townships present both opportunities and challenges. Water scarcity, a pressing

concern in many South African regions, necessitates innovative approaches to irrigation and water management in urban farming. Recent technological adaptations, including drip irrigation systems and rainwater harvesting techniques, have shown promising results in township agricultural projects. Studies by Williams et al. (2024) indicate that such water-efficient farming practices can reduce water consumption by up to 40% compared to traditional irrigation methods.

The social dimensions of urban agriculture in township settings extend beyond food production. These spaces often serve as community hubs, fostering social cohesion and knowledge transfer between generations. Research by Johnson and Mbatha (2023) highlights how urban farming initiatives in townships have contributed to:

- strengthened community bonds through shared agricultural activities;
- the preservation and transmission of traditional farming knowledge;
- enhanced food literacy and nutritional awareness;
- the development of community leadership and organizational capacity, and
- the creation of platforms for intergenerational learning and exchange

Policy frameworks supporting urban agriculture in South African townships have evolved significantly in recent years. Municipal governments increasingly recognize the value of integrating urban agriculture into spatial development frameworks. However, challenges remain in areas such as land-tenure security, access to resources, and technical support. Recent policy innovations in some municipalities have introduced:

- zoning regulations specifically accommodating urban agriculture;
- support programs for urban farmers;
- the integration of urban agriculture into climate resilience strategies, and
- partnerships between municipal authorities and farming communities.

The technological landscape of urban agriculture in townships is rapidly evolving. Digital platforms and mobile applications now support knowledge-sharing among urban farmers, while innovative farming techniques adapt to limited space and resource constraints. These technological adaptations demonstrate how traditional

agricultural practices can be enhanced through modern innovations, while maintaining cultural relevance and accessibility.

As climate change impacts become more pronounced, urban agriculture in township settings takes on additional significance as a climate adaptation strategy. Local food production reduces transportation-related emissions while building community resilience to food-system disruptions. Green spaces created through urban agriculture also contribute to climate mitigation efforts by increasing urban vegetation cover and improving local microclimate conditions.

LITERATURE REVIEW

Contemporary perspectives on urban agriculture

Recent scholarship has highlighted the evolving role of urban agriculture in addressing food-security challenges. Studies by Johnson and Smith (2023) demonstrate how urban farming initiatives contribute to both food security and community development. The integration of urban agriculture into public green spaces has gained traction as a means to enhance urban biodiversity and ecosystem services (Williams, 2024).

Contemporary research reveals increasingly sophisticated understandings of urban agriculture's multifaceted impacts. Thompson et al. (2024) document how urban farming practices not only address immediate food security needs, but also contribute to broader sustainability goals. Their research demonstrates that well-managed urban agricultural spaces can reduce urban heat-island effects by 2-3°C, while providing essential ecosystem services such as improved air quality and enhanced biodiversity.

The social dimensions of urban agriculture have received particular attention in recent literature. Martinez and Anderson (2024) highlight how urban farming initiatives foster community cohesion and social capital development. Their study of 15 urban farming projects across South Africa revealed that participants reported strengthened community bonds, improved knowledge-sharing networks, and enhanced social-support systems. These findings align with Roberts and Ngcobo's (2024) research, that documents how urban agriculture serves as a platform for intergenerational knowledge transfer and cultural preservation.

Economic analyses have also evolved, with recent studies examining the financial sustainability of urban farming initiatives. Research by the Economic Development

Institute (2024) indicates that well-structured urban farming projects can reduce household food expenditure by 15-25% while providing supplementary income through surplus produce sales. Additionally, studies by Harris et al. (2024) demonstrate how urban agriculture creates opportunities for microenterprise development and skills training, particularly benefiting women and youth in township communities.

The technological integration in urban agriculture has emerged as a significant theme in contemporary literature. Davidson and Mkhize (2024) document the increasing adoption of smart farming technologies, including IoT sensors for monitoring soil conditions and mobile applications for crop management. Their research suggests that appropriate technology adoption can increase productivity by up to 30%, while reducing resource consumption.

Recent studies have also highlighted the role of urban agriculture in climate change adaptation. Wilson and Ndlovu (2023) demonstrate how urban farming practices contribute to climate resilience through improved water management, enhanced soil health, and increased biodiversity. Their findings suggest that urban agriculture could play a crucial role in helping communities adapt to changing climate conditions while maintaining food security.

These contemporary perspectives collectively point to urban agriculture's evolution from a simple food production strategy to a complex, multifunctional approach to urban sustainability. The literature increasingly recognizes urban farming as a crucial component of resilient urban food systems, capable of delivering multiple benefits across social, economic, and environmental dimensions.

Climate change and urban agriculture

A significant addition to urban agriculture discourse is the impact of climate change on farming practices. Research indicates that urban agriculture can play a crucial role in climate change adaptation and mitigation strategies (Thompson, 2024). Urban farming practices help reduce the heat-island effect and contribute to carbon sequestration in city environments.

Recent studies have deepened our understanding of the climate-agriculture nexus in urban settings. Davidson et al. (2024) demonstrate that urban farming practices can

reduce local temperatures by up to 4°C through increased vegetation cover and evapotranspiration. Their research across multiple South African cities reveals that urban agricultural spaces act as crucial thermal regulators, particularly in densely populated township areas where heat-island effects are most pronounced.

The adaptation potential of urban agriculture has received considerable attention in contemporary literature. Williams and Nkosi (2024) document how urban farmers are developing innovative responses to climate variability, including drought-resistant crop selection, water-efficient irrigation systems, and modified planting calendars. Their longitudinal study of township-farming practices shows that farmers who adopted climate-smart agricultural techniques, maintained productivity despite the increasing weather variability, while traditional methods showed declining yields.

Research by the Climate Resilience Institute (2024) quantifies the carbon sequestration potential of urban agriculture, estimating that well-managed urban farms can sequester between 1-3 tons of carbon per hectare annually. This finding is particularly significant, given the dual benefits of food production and climate mitigation. Furthermore, Roberts et al. (2023) demonstrate how urban agriculture reduces carbon emissions through shortened food supply chains, estimating a 60% reduction in transportation-related emissions for locally grown produce.

The intersection of indigenous knowledge and climate adaptation strategies has emerged as a vital area of study. Martinez and Thompson (2024) document how traditional farming practices, when integrated with modern climate science, create resilient agricultural systems capable of withstanding extreme weather events. Their research highlights the importance of preserving and incorporating local ecological knowledge into urban farming practices.

These contemporary perspectives establish urban agriculture as a crucial component of climate-change response strategies, offering both adaptation and mitigation benefits while enhancing food security in vulnerable urban communities. The literature increasingly recognizes the need to integrate climate considerations into urban agricultural planning and development.

Technology and innovation in urban farming

Contemporary urban agriculture increasingly incorporates technological innovations. The adoption of smart irrigation systems, vertical farming techniques, and digital monitoring tools has enhanced productivity and resource efficiency (Martinez, 2024). These technological advances make urban farming more viable and sustainable.

Recent research by the Digital Agriculture Institute (2024) documents the transformative impact of technology adoption in urban farming contexts. Their study of 200 urban farms reveals that implementing smart irrigation systems reduces water consumption by up to 40%, while improving crop yields by 25%. Thompson and Roberts (2024) further demonstrate how IoT sensors and automated monitoring systems enable precise resource management, allowing farmers to optimize inputs and reduce waste significantly.

The emergence of vertical farming technologies in urban settings has garnered particular attention. Wilson et al. (2024) analyze how space-efficient vertical farming solutions address land constraints in township environments, documenting productivity increases of up to 400% per square meter compared to traditional farming methods. Their research highlights how these systems, when adapted to local conditions, can operate sustainably even in resource-constrained environments.

Mobile technology integration has revolutionized knowledge-sharing and market access. Davidson and Mbatha (2023) examine how digital platforms connect urban farmers with markets, technical expertise, and support networks. Their study reveals that farmers using agricultural apps, report 30% higher income through improved market access and reduced post-harvest losses. The research also highlights how digital communities facilitate peer learning and best-practice sharing among urban farmers.

Hydroponic and aquaponic innovations have expanded the possibilities for urban agriculture. Recent studies by the Agricultural Technology Center (2024) demonstrate how these soilless growing systems enable year-round production in urban environments, while using 90% less water than conventional farming methods. However, Johnson and Nkosi (2024) note important considerations regarding the accessibility and adaptability of these technologies in township contexts, emphasizing the need for locally appropriate technological solutions.

These contemporary perspectives establish technology as a crucial enabler of sustainable urban agriculture, while highlighting the importance of ensuring innovations remain accessible and relevant to local contexts. The literature increasingly emphasizes the need to balance technological advancement with social equity and cultural considerations in an urban farming development.

STUDY AREA AND METHODOLOGY

Geographic context

Esikhaleni Township, situated within the uMhlathuze Municipality in KwaZulu-Natal, serves as the study area. The township's location, near Richards Bay and Empangeni, provides unique opportunities for urban agriculture due to its semi-urban character and available open spaces.

Established in the 1970s as part of South Africa's industrial development program, Esikhaleni occupies a strategic position approximately 15-20 kilometers from both Richards Bay's industrial hub and Empangeni's commercial center. The township's development was initially driven by the need to house workers employed in Richards Bay's expanding industrial sector, resulting in a planned settlement with distinctive spatial characteristics that now influence agricultural possibilities.

The area's physical geography significantly impacts agricultural potential. Located in KwaZulu-Natal's subtropical coastal belt, Esikhaleni experiences an average annual rainfall of 1200 mm, predominantly during summer months (October to March). The region's climate is characterized by warm temperatures all year-round, with average maximums of 28°C in summer and 23°C in winter, creating favorable conditions for diverse crop production. Recent climate data (Weather Institute, 2024) indicates increasing rainfall variability, influencing farming practices and crop selection.

Topographically, Esikhaleni features a gently rolling terrain interspersed with natural drainage lines and wetland systems. The township's elevation ranges from 50 to 120 meters above sea level, creating microclimates that support various agricultural activities. Soil analysis conducted by the Environmental Research Institute (2024) reveals predominantly sandy loam soils with moderate fertility, requiring specific management practices for optimal agricultural productivity.

The township's planned layout, divided into H and J sections, encompasses approximately 2.5 square kilometers. This spatial organization includes significant open spaces, originally designed as buffer zones, which now present opportunities for urban agriculture. Municipal land-use data (uMhlathuze Municipality, 2024) indicates that approximately 30% of these open spaces are potentially suitable for agricultural development, though currently underutilized.

Demographic patterns also influence agricultural practices. With a current population of approximately 50,000 residents (Statistics SA, 2024), Esikhaleni represents a mix of formal and informal settlements, creating diverse demands for food production and varying approaches to land utilization. The township's population density averages 20,000 people per square kilometer, highlighting the importance of efficient land use for agricultural purposes.

The proximity to major transport routes, including the N2 highway and regional road networks, facilitates market access for urban farmers. This strategic location enables agricultural producers to potentially serve markets in both Richards Bay and Empangeni, enhancing the economic viability of urban farming initiatives.

RESEARCH DESIGN

This study employed a mixed-methods approach to comprehensively investigate urban agriculture practices in Esikhaleni Township. The research design integrated both qualitative and quantitative methodologies to capture the complex dynamics of urban farming and its impacts on community food security. Through this methodological triangulation, the study aimed to develop a nuanced understanding of urban agricultural practices, while ensuring robust data validation.

The primary data collection involved structured interviews with 50 urban farmers, selected through a stratified random sampling method to ensure representation across different farming scales, locations, and demographic groups. These interviews followed a standardized protocol, capturing quantitative data on farming practices, crop yields, and economic impacts, while also allowing for qualitative insights into farmers' experiences and challenges. The sample size, though relatively modest, represents approximately 25% of all registered urban farmers in Esikhaleni, providing a statistically significant representation of the farming community.

In-depth interviews with municipal officials from various departments, including Urban Planning, Agriculture, and Environmental Management, provided crucial institutional perspectives on urban agriculture. These semi-structured interviews explored policy frameworks, support mechanisms, and future development plans affecting urban farming. Additionally, interviews with local agricultural extension officers offered technical insights into farming practices and the challenges faced by urban farmers.

Community surveys on the impact of food security were conducted using a structured questionnaire, targeting both farming and non-farming households. These surveys assessed household food-security status, dietary diversity, and the role of urban agriculture in local food systems. The survey instrument, adapted from standardized food-security assessment tools, was pilot-tested and refined to ensure cultural appropriateness and clarity. Data collection was conducted by trained local research assistants who were familiar with the community context and local languages.

The mixed-methods approach enabled comprehensive data triangulation, with quantitative data providing measurable impacts and trends, while qualitative insights offered a deeper understanding of contextual factors and lived experiences. This methodological framework proved particularly effective in capturing both the tangible and intangible impacts of urban agriculture on community well-being and food security.

RESULTS

Distribution of urban-agriculture practices

The spatial analysis of urban agriculture in Esikhaleni Township revealed distinct patterns in the distribution and concentration of farming activities across the area. Survey results demonstrated a slightly higher concentration of agricultural activities in the H-section, accounting for 52% of all farming practices, while the J-section contained the remaining 48% of agricultural activities. This relatively even distribution suggests that agricultural opportunities are not significantly influenced by sectional boundaries, but rather by other environmental and infrastructural factors.

The analysis of farming locations revealed a strong correlation between agricultural activities and access to water resources. The majority of urban farms clustered along natural drainage lines and water sources, forming linear patterns of agricultural development that follow the township's natural hydrological features. This distribution

pattern indicated that water accessibility serves as a primary determinant in site selection for urban farming initiatives. Geographic Information System (GIS) analysis identified that approximately 75% of all farming plots were located within 100 meters of a water source, highlighting the critical relationship between water access and agricultural site selection.

The spatial distribution also showed interesting variations in plot sizes and farming intensities between the two sections. H-section farmers typically maintained larger plot sizes, averaging 250 square meters, while J-section plots averaged 180 square meters. This variation appears to be influenced by the original township planning layout, which allocated different spatial configurations to each section. Furthermore, the study identified several agricultural "hotspots," where multiple small-scale farmers concentrated their activities, creating informal farming communities that shared resources and knowledge.

The environmental analysis of farming locations revealed that soil quality and topography also influenced the spatial distribution of agricultural activities. Areas with well-draining soils and gentle slopes showed higher concentrations of farming activities, particularly in the northeastern portions of both sections. This pattern suggests that farmers have developed a sophisticated understanding of local environmental conditions and the suitability of the land for agricultural purposes, even in the absence of formal land- capability assessments.

Technological integration

An analysis of technological adoption patterns among Esikhaleni's urban farmers revealed a significant trend toward the modernization of agricultural practices. The study documented an emerging digital transformation in farming techniques, with 35% of farmers having implemented smart irrigation systems within the past two years. These systems, ranging from basic automated watering timers to more sophisticated moisture-sensor-controlled networks, have demonstrated measurable improvements in water-use efficiency and crop yields. Farmers utilizing these systems reported average water savings of 30% compared to traditional irrigation methods, while maintaining or improving production levels.

Digital community engagement emerged as another significant technological trend, with 28% of farmers actively participating in digital farming communities through

mobile applications and social media platforms. These digital networks serve multiple functions, facilitating knowledge sharing, market access, and collective problem-solving among urban farmers. Participants in these digital communities reported higher rates of innovation adoption and better access to market information, leading to improved pricing strategies for their produce. The digital platforms have also fostered connections between experienced and novice farmers, creating informal mentorship relationships that strengthen the overall farming community.

Vertical farming methods, though less widespread, showed promising adoption rates with 15% of farmers implementing various forms of vertical growing systems. These innovations have proven particularly valuable in space-constrained areas, allowing farmers to maximize production in limited spaces. The vertical farming adopters reported production increases of up to 200% per square meter compared to traditional horizontal farming methods, though initial setup costs remained a significant barrier to wider adoption. These early adopters have become important demonstration sites, influencing other farmers' perceptions of technological innovation in urban agriculture.

This technological integration represents a significant shift in urban farming practices, indicating a growing recognition among Esikhaleni's farmers of the potential benefits of modern agricultural technologies. However, the study also noted that access to capital and technical training remained key constraints to broader technological adoption, suggesting the need for targeted support programs to facilitate further modernization of urban farming practices.

Gender dynamics in urban farming

An analysis of gender patterns in Esikhaleni's urban-agriculture sector revealed distinct characteristics in farming practices and management approaches between male and female farmers. The study documented a significant female majority in urban farming activities, with women constituting 65% of active urban farmers. This gender distribution reflects broader patterns in urban agriculture across South Africa, where women often take primary responsibility for household food security and agricultural production in urban settings.

Women-led farms demonstrated notably higher levels of crop diversity, averaging 7.3 different crop types per plot compared to 4.2 in male-managed farms. Female farmers typically integrated both traditional and market-oriented crops, maintaining a balance

between household food security and income generation. The higher crop diversity in women-led farms also contributed to enhanced resilience against crop failures and market fluctuations. These farms showed particular emphasis on leafy greens, indigenous vegetables, and herbs, which serve both nutritional and cultural purposes within the community.

Male farmers, representing 35% of the study population, displayed a stronger orientation toward commercial production. Their farming operations typically focused on high-value crops with established market demand, such as tomatoes, peppers, and cabbages. Male-managed farms averaged 40% higher market sales by volume compared to women-led farms, but showed less emphasis on crop diversity and household consumption. This commercial focus often translated into higher investments in infrastructure and technology, with male farmers being 30% more likely to implement modern farming systems.

The study also revealed interesting patterns in knowledge-sharing and community engagement across gender lines. Women farmers demonstrated stronger participation in informal farming networks and knowledge-sharing circles, with 75% actively participating in community farming groups. These networks played crucial roles in disseminating agricultural knowledge, sharing resources, and maintaining traditional farming practices. This finding highlights the significant role of women in preserving and transferring agricultural knowledge within the urban farming community.

DISCUSSION

Climate resilience through urban agriculture

Urban farming practices in Esikhaleni Township demonstrate remarkable adaptability and resilience in response to changing climatic conditions. The study revealed sophisticated strategies employed by urban farmers to enhance their agricultural systems' resilience to climate variability. An analysis of farming practices showed that farmers have developed complex adaptive responses to climate challenges, combining traditional knowledge with innovative approaches to ensure sustainable production.

Crop diversity emerged as a primary resilience strategy, with farmers maintaining an average of 6.5 different crop varieties per plot. This diversification serves as a risk management approach, where farmers intentionally select crops with varying drought tolerance, growth cycles, and water requirements. The study documented that plots with higher crop diversity demonstrated 40% better resilience to extreme weather events, compared to monocultural systems. Farmers particularly favored indigenous crop varieties known for their hardiness and adaptation to local conditions, complemented by climate-resilient hybrid varieties.

Water conservation practices have evolved significantly in response to increasing rainfall variability. Farmers implemented multiple water-management strategies, including mulching, rainwater harvesting, and efficient irrigation scheduling. The study found that 70% of the farmers used organic mulching materials to reduce soil water evaporation, resulting in 25% lower irrigation requirements. Additionally, 45% of the farmers had installed basic rainwater harvesting systems, ranging from simple collection drums to more sophisticated storage tanks, significantly reducing their dependence on municipal water sources during dry periods.

Sustainable soil management techniques have become increasingly central to climate resilience strategies. Farmers demonstrated a sophisticated understanding of soil health principles, with 80% practicing crop rotation and 65% incorporating organic matter through composting. These practices have led to measurable improvements in soil structure and water retention capacity, with soil analysis showing 30% higher organic matter content on well-managed plots compared to conventional farming areas. The enhanced soil quality has proven particularly valuable during periods of climate stress, providing better buffering against both drought and excessive rainfall events.

Community-based agricultural education

The study revealed a robust and evolving system of agricultural education within Esikhaleni's farming community, characterized by diverse learning approaches and knowledge transfer mechanisms. The assessment of educational initiatives demonstrated how informal and formal learning networks had become integral to the development and sustainability of urban agriculture in the township. These educational

systems combine traditional knowledge with modern agricultural practices, creating an effective hybrid learning environment.

Peer-to-peer knowledge exchange emerged as the most prevalent and effective form of agricultural education, with 85% of farmers participating in some form of informal knowledge-sharing network. These networks operate through regular meetings, informal field demonstrations, and spontaneous problem-solving sessions. The study documented that experienced farmers typically mentor 3-4 newcomers each growing season, creating a multiplier effect in knowledge dissemination. This informal system has proven particularly effective in transferring context-specific farming techniques and local environmental knowledge, with new farmers reporting 60% faster skill acquisition compared to formal training alone.

Youth engagement programs have gained significant traction, with three established initiatives reaching approximately 120 young people annually. These programs combine practical farming skills with entrepreneurship training, creating pathways for youth participation in urban agriculture. The study found that youth participants were twice as likely to initiate their own farming projects compared to non-participants. Furthermore, these programmes have successfully integrated modern agricultural technologies with traditional farming practices, appealing to younger generations while preserving valuable indigenous knowledge.

Technical training workshops, organized through partnerships between the municipality and agricultural extension services, provide structured learning opportunities for urban farmers. The study documented twelve workshops conducted over the research period, covering topics from soil management to market access strategies. These workshops reached 45% of the farming community and resulted in measurable improvements in farming practices, with participants showing 35% higher adoption rates of sustainable agricultural techniques compared to non-participants. The combination of theoretical knowledge and practical demonstrations has proven particularly effective in promoting the adoption of new farming methods.

Technology integration challenges

An analysis of technological adoption patterns in Esikhaleni's urban farming community, revealed significant barriers despite the evident potential of modern agricultural technologies. The study identified complex challenges that impede the

widespread implementation of technological solutions, affecting both individual farmers and the broader agricultural community. These obstacles create a notable digital divide within the farming population, potentially exacerbating existing socioeconomic disparities.

Limited access to digital resources emerged as a primary constraint, with 65% of farmers reporting insufficient access to basic digital tools and internet connectivity. The study found that, while most farmers owned mobile phones, only 30% had smartphones capable of running agricultural applications or accessing online resources. Internet connectivity presented additional challenges, with farmers reporting average monthly data costs equivalent to 15% of their farming income. This digital infrastructure gap significantly impacts farmers' ability to access online markets, weather forecasts, and agricultural information systems that could enhance their productivity.

The need for technical training represented another significant barrier, as 75% of farmers expressed difficulty in understanding and implementing new agricultural technologies without proper guidance. The study documented that, even when farmers acquired technological tools, adoption rates remained low due to limited technical literacy. Traditional farmers, particularly those over 50 years old, showed the highest resistance to technological adoption, with only 20% successfully integrating new technologies into their farming practices. The lack of consistent, accessible training programs has created a knowledge gap that hinders effective technology utilization.

Cost barriers posed perhaps the most significant challenge to technology adoption, with initial investment requirements often exceeding farmers' financial capabilities. The study calculated that, implementing basic smart farming technologies, required an average investment equivalent to six months of farming income. Only 25% of the farmers reported having sufficient savings or access to credit to make such investments. Additionally, ongoing maintenance costs and subscription fees for digital services created long-term financial burdens that discouraged many farmers from pursuing technological solutions, even when they recognized their potential benefits.

RECOMMENDATIONS

Policy integration

Policy integration requires a comprehensive approach to incorporating urban agriculture into existing municipal frameworks. Municipal development plans should explicitly recognize and support urban farming as a legitimate land use, ensuring protection for existing agricultural spaces, while identifying potential areas for expansion. Specific zoning regulations need development to accommodate various scales of urban farming, from household gardens to community farming projects, with clear guidelines for land-use and development rights. The municipality should create targeted incentives for sustainable farming practices, including tax benefits, reduced water tariffs for certified sustainable farms, and priority access to municipal support services for farmers implementing environmentally sound practices.

Technology support

Technology support initiatives must focus on building digital capacity within the farming community. Establishing comprehensive technology training programs should be prioritized, offering both basic digital literacy and advanced agricultural technology skills through regular workshops and hands-on training sessions. The municipality should implement subsidy programs for farming innovations, particularly focusing on essential technologies like irrigation systems, soil monitoring equipment, and basic digital tools. Creating dedicated digital platforms for knowledge sharing would facilitate communication between farmers, agricultural experts, and market players, while providing accessible information resources and technical support.

Climate adaptation

Climate adaptation strategies need to focus on building resilient agricultural systems. The promotion of climate-resilient farming techniques should include training in drought-resistant crop selection, soil conservation methods, and adaptive farming calendars. Comprehensive water conservation guidelines must be developed, incorporating both traditional and modern water management practices suitable for local conditions. Supporting biodiversity enhancement requires establishing seed banks of climate-resilient varieties, promoting crop diversification, and developing guidelines for maintaining ecological balance in urban farming systems.

Community development

Community development initiatives should prioritize strengthening existing farmer networks, while creating new opportunities for collaboration and growth. Efforts to strengthen farmer networks should include establishing formal farmer associations, creating mentorship programs, and facilitating regular community meetings for knowledge exchange. Educational programs need expansion to reach more community members, particularly the youth and newcomers to farming, with curricula covering both technical skills and business management. Specific support for women-led farming initiatives must include targeted training programs, access to resources, and marketing support to enhance the success of women farmers who form the majority of the urban farming community.

CONCLUSION

This research demonstrates the evolving nature of urban agriculture in Esikhaleni Township, highlighting its crucial role in food security, climate resilience, and community development. The integration of modern technology, consideration of gender dynamics, and focus on climate adaptation, provide new perspectives on urban farming practices. These findings suggest that urban agriculture, if properly supported and integrated into municipal planning, can contribute significantly to sustainable urban development and food security.

The study's findings reveal the complex interplay between traditional farming knowledge and modern agricultural innovations in urban settings. Urban agriculture in Esikhaleni has evolved beyond mere subsistence farming to become a sophisticated system of food production that addresses multiple community needs. The research demonstrates how urban farming practices have adapted to meet contemporary challenges while maintaining cultural relevance and social significance. Particularly noteworthy is the emergence of hybrid farming systems that combine indigenous knowledge with technological innovations, creating resilient and productive agricultural practices suited to urban environments.

The gender dynamics uncovered in this research highlight the vital role of women in urban agriculture and their significant contribution to household food security. Women farmers' emphasis on crop diversity and sustainable practices suggests a model of urban agriculture that balances commercial viability with community food security

needs. This gendered perspective offers valuable insights for policy development and support programs, emphasizing the need for targeted interventions that recognize and build upon women's leadership in urban farming.

Climate resilience strategies documented in this study provide a framework for adapting urban agriculture to environmental challenges. The sophisticated water management techniques, diverse cropping systems, and soil conservation practices developed by Esikhaleni's farmers demonstrate the potential for urban agriculture to contribute to climate change adaptation. These practices not only enhance food security, but also provide valuable ecosystem services to the urban environment, including improved soil health, reduced urban heat-island effects, and enhanced biodiversity.

The technological integration patterns observed, suggest an emerging transformation in urban farming practices, though challenges remain in ensuring equitable access to these innovations. The study reveals how technology adoption, when properly supported, can enhance productivity and resource efficiency, while creating new opportunities for knowledge-sharing and market access. However, the identified barriers to technology adoption highlight the need for comprehensive support programmes that address both technical and financial constraints.

The research findings have significant implications for urban planning and policy development. They suggest that urban agriculture should be viewed, not as a temporary land-use but as an integral component of sustainable urban development. The documented multi-functional benefits of urban farming - from food security to climate resilience and community cohesion - provide strong justification for its integration into formal urban planning frameworks.

Looking forward, this research points to several promising areas for future development. The potential for scaling up successful farming practices, expanding technology adoption, and strengthening community education programs could further enhance the impact of urban agriculture in Esikhaleni and similar urban settings. The study also highlights the need for continued research into innovative farming techniques, climate adaptation strategies, and effective support mechanisms for urban farmers.

In conclusion, this research provides compelling evidence for the vital role of urban agriculture in building sustainable, resilient communities. The findings from Esikhaleni Township demonstrate how urban farming, when properly supported and integrated into urban planning, can address multiple development challenges simultaneously. The success of these urban agricultural initiatives offers valuable lessons for other communities seeking to enhance food security, build climate resilience, and promote sustainable urban development through agricultural innovation.

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Impact of protectionism on services trade flows in the common market for the Eastern and Southern Africa Region

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ABSTRACT

The study aimed to analyse the impact of services trade regulatory restrictions on cross-border services exports in the Common Market for Eastern and Southern Africa (COMESA) region from using the gravity model Poisson Pseudo Maximum Likelihood (PPML) estimator.

The econometric results show that restrictive regulations are associated with significantly lower exports of business, financial, insurance, telecommunication and transportation services. Empirical results for impact assessment by mode of supply show a cross-model complementarity in business, financial and telecommunication services, but a cross-modal substitution in transportation services. Our results reveal the significance of addressing both general and sector-specific restrictive regulations in order to boost trade in services in the COMESA region.

Keywords: services, trade restrictiveness, services exports, Poisson pseudo maximum likelihood

INTRODUCTION

Services are increasingly an integral component of global economic and trade performance. Globally, the services sector accounts for 70 percent of the Gross Domestic Product (GDP), 60 percent of the employment and 46 percent of the exports in value added terms (International Trade Centre, 2020)¹. The economic and trade performance of any economy is now dependent upon the efficiency of its services sector. National economies do not only derive the bulk of their employment and income from the service sector, but services like financial, telecommunications and

¹ <https://www.intracen.org/itc/sectors/services/>

transport are vital intermediate inputs for other sectors (World Trade Organisation, 2019).

As the services sector grows in significance relative to other sectors around the globe, so does the prominence of services trade. The increasing share of services in trade has made services trade policy reforms become the top priority agenda of services trade facilitators at both bilateral and multilateral levels. The integration of services markets requires, among other policies, the reduction of barriers and obstacles to services markets integration, which stem from services trade laws and regulations as well as anti-competitive product market regulations. In addition, the meaningful services trade liberalisation can only be realised by concentrating more on the regulatory environment that would determine market access for foreign services suppliers and conditions for national treatment.

Given the intangible nature of services, which makes tariffs imposition impossible, policy-induced barriers to trade in services take the form of specific regulations. These regulations may discriminate against foreign service suppliers, for instance, in case of regulatory restrictions which place limits on a number of foreign services suppliers. In addition, these regulations may not be non-discriminatory, but may act as barriers to trade in services, for instance, licensing requirements which apply to both domestic and foreign services suppliers. The impact of regulatory restrictions on services trade can be mediated through rising fixed costs of exporting, which are in the form of licensing requirements. In an African context, few studies have tested the common sense that claims that the removal of specific regulations increases trade in services.

This study seeks to empirically assess the impact protectionism on services trade flows in the Common Market for the Eastern and Southern Africa (COMESA) region. The empirical work that deals with regulatory policy indicators, instead of assessing the effects of observed restrictions, has continued to infer a magnitude of trade costs from perceived services trade patterns and structures, with free trade as their benchmark (Fontagné, Guillin & Mitaritonna, 2011; Miroudot & Shepherd, 2012; Guillin, 2013; Miroudot, Sauvage & Shepherd, 2013; Gervais & Jensen, 2013; Anderson, Milot & Yotov, 2014; Miroudot & Shepherd, 2015). Their findings show that services trade costs are substantially higher than trade costs in goods. Nonetheless, by design, the indirect methods which they applied do not dichotomise barriers into

natural barriers (e.g. geographical and cultural differences) and policy-induced or regulatory barriers. Thus, such methods cannot relate the estimated trade costs to actionable policies or specific services trade restrictions.

Our empirical analysis employs the gravity model to analyse more directly the effects of services trade restrictiveness on trade in services. Even though the gravity model was designed for merchandise trade, both earlier studies (e.g. Francois, 1993; Freund & Weinhold, 2002; Grunfeld & Maxnes, 2003; Walsh, 2004; Kimura & Lee, 2006; Schwellnus, 2007; Kox & Nordus, 2007; Lennon, 2008) and recent studies (Guillin, 2013; Van der Marel & Shepherd, 2013; Hellmanzik & Schmitz, 2016; Nordås & Rouzet, 2017; Jungmittag, 2018; Gregori & Nardo, 2020; Eris, 2020) employed the gravity model and proved that standard variables from merchandise trade literature are also applicable to total services trade. Nonetheless, the empirical strategies employed vary significantly across these studies; and a review of the literature points out that earlier work does not employ theoretically-consistent gravity model specifications, for instance, the one developed by Anderson and Wincoop (2003). One may reasonably argue that the differences in estimated magnitudes of coefficients can be attributed to the use of the theoretically-inconsistent gravity model used.

Sector-specific analyses in the gravity framework are scarce in services trade literature, thus studies tend to focus on total services. The issue of aggregation is not only in the services trade flows measures, but also in the policy variables. For instance, Nordås and Rouzet (2017) use a more disaggregated data on services trade flows, but only include a overall exporter and importer services trade restrictiveness index (STRI) to capture the regulatory effects of both origin and destination countries. Although the study covers 12 services, it obscures the sectoral effects of regulations. A study by van der Marel and Shepherd (2013) includes both the overall and sectoral measures of services trade restrictiveness, using a dyadic version of STRI to capture the regulatory effects of both the importer and exporter on services trade flows. Although the dyadic version of the STRI captures exporter and importer regulatory effects, it does not explicitly disclose which of the exporter or importer has more impact. Therefore, an in-depth sectoral analysis using sector-specific data for both services trade flows and regulatory policy indicators is required, particularly in an African context where a continental free trade area with a protocol on trade in services has just been implemented.

METHODOLOGY

The gravity model has remained the workhorse of international trade empirics since the pioneering seminal work of Jan Tinbergen in 1962. International trade empirics has heavily relied on the gravity model because of its good fit for trade data and robust results for international trade analysis. The model predicts that trade flows, T_{ij} , from exporter country i to importer country j are directly proportional to the product of their economic sizes, measured by Y_i and Y_j , and inversely related to trade costs, t_{ij} , measured by geographical distance between trading partners and all other factors that might create trade friction or resistance. In general, the estimated trade flows from country i to j is expressed as follows:

$$T_{ij} = \alpha_0 Y_i^{\alpha_1} Y_j^{\alpha_2} t_{ij}^{\alpha_3} \quad (1)$$

where: Y_i is exporter country i 's output; Y_j is importer country j 's expenditure; t_{ij} represents the trade costs between country i and j . $\alpha_0, \alpha_1, \alpha_2$ and α_3 are unknown parameters to be estimated.

The analogy between the physical force of gravity and international trade, nonetheless clashes with the observation that there are no parameters for which equation (1) will precisely hold for arbitrary observations. Empirical literature accounts for these theoretical deviations by employing a stochastic version of equation 1, which has the form:

$$T_{ij} = \alpha_0 Y_i^{\alpha_1} Y_j^{\alpha_2} t_{ij}^{\alpha_3} \varepsilon_{ij} \quad (2)$$

where ε_{ij} is an error term with $E(\varepsilon_{ij} / Y_i, Y_j, t_{ij}) = 1$, and is statistically independent of regressors, leading to $E(T_{ij} / Y_i, Y_j, t_{ij}) = \alpha_0 Y_i^{\alpha_1} Y_j^{\alpha_2} t_{ij}^{\alpha_3}$

The traditional gravity equation (1) applied by Tinbergen (1962) in the international trade context, was not theoretically founded. Anderson and van Wincoop (2003) argue that the traditional gravity model is not theoretically consistent, as it does not account for multilateral trade resistance. The authors argue that it is important to include bilateral trade costs between trading partners and each country's total trade costs with the rest of the world (multilateral resistance). To account for multilateral resistance,

the authors suggest that the gravity model can be augmented with importer- and exporter-fixed effects. Their theory-founded gravity model, which incorporates multilateral resistance, is given by:

$$T_{ij} = \alpha_0 Y_i^{\alpha_1} Y_j^{\alpha_2} t_{ij}^{\alpha_3} e^{\theta_i d_i + \theta_j d_j} \quad (3)$$

where T_{ij} denotes exports value from country i to country j . Y_i is the GDP of the exporter country; Y_j is the GDP of importer country. t_{ij} measures the trade costs between country i and j . $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \theta_i$ and θ_j are unknown parameters to be estimated, while d_i and d_j are dummies identifying country i and j , respectively.

The multiplicative structural gravity equation (3) can be log-linearised as follows:

$$\ln T_{ij} = \ln \alpha_0 + \alpha_1 \ln Y_i + \alpha_2 \ln Y_j + \alpha_3 \ln t_{ij} + \theta_i d_i + \theta_j d_j + \ln \varepsilon_{ij} \quad (4)$$

As noted by Silva and Tenreyro (2006), model 4 omits bilateral services trade data containing zero values because the natural logarithm of zero is indeterminate. In addition, the model has an error term heteroscedasticity problem which results in biased estimates. Silva and Tenreyro (2006, 2011) proposed the Poisson Pseudo-Maximum Likelihood (PPML) estimators as the econometric solution. The PPML method solves the problem of zero trade flows by including them as they are reported, as opposed to log-linearised OLS which drops them because the natural logarithm of zero is undefined. Moreover, the estimator avoids Jensen Inequality bias, and does not suffer from the equi-dispersion problem of assuming similar mean and variance of the dependent variable (Silva & Tenreyro, 2011).

The PPML assumes count dependent variable, or non-negative integer trade flows (Cameron & Trivedi, 2005). It can be specified as follows:

$$\sum_{ij} [T_{ij} - \exp(\ln \alpha_0 + \alpha_1 \ln Y_i + \alpha_2 \ln Y_j + \alpha_3 \ln t_{ij} + \theta_i d_i + \theta_j d_j + \ln \varepsilon_{ij})] X_{ij} = 0 \quad (5)$$

where $X_{ij} = [1, \ln Y_i, \ln Y_j, \ln t_{ij}]$ and parameters $\ln \alpha_0, \alpha_1, \alpha_2, \alpha_3, \theta_i$ and θ_j are estimated by a poisson regression model for each services exports category on X_{ij} . To be consistent, export flows should not be a Poisson or integer for PPML estimator. The conditional mean can be correctly specified as:

$$E(T_{ij}/X_{ij}) = \exp(\ln \alpha_0 + \alpha_1 \ln Y_i + \alpha_2 \ln Y_j + \alpha_3 \ln t_{ij} + \theta_i d_i + \theta_j d_j + \ln \varepsilon_{ij}).$$

This is because the PPML estimator does not completely correct for heteroscedasticity, and inferences depend on a white robust covariance matrix estimator, which handles the problem of heteroscedasticity (Kandilov & Grennes, 2010).

Equation 5 can be re-written as follows:

$$T_{ij} = \exp(\ln \alpha_0 + \alpha_1 \ln Y_i + \alpha_2 \ln Y_j + \alpha_3 \ln t_{ij} + \theta_i d_i + \theta_j d_j + \ln \varepsilon_{ij}) \quad (6)$$

Although the empirical work based on equation 6 accounts for multilateral resistance terms by including importer and exporter fixed effects in the estimations (Anderson & van Wincoop, 2004), analysing the effects of services trade restrictions on services trade flows using the gravity model has a major difficulty which arises from the non-existence of country-pair dimensions of the services trade restrictiveness index (STRI). In a standard gravity model, STRI is a country-specific variable because it assumes that one country's trade with all trading partners is affected identically by that country's services trade restrictions. In addition, in the presence of real country-specific variables like GDP, the STRI variable constitutes such a real country-specific variable. The inclusion of importer- and exporter-year fixed effects is not feasible because the services trade restrictiveness index (STRI) is measured only at one point in time; thus, country-fixed effects would absorb the impact of STRI on services trade flows and prevent us from separating effects of STRI from country-specific features (Nordås & Rouzet, 2017).

To quantify the effects of services trade restrictiveness on services trade flows, Nordås and Rouzet (2017) excluded importer and exporter fixed effects, but included Services Trade Restrictiveness Index (STRI) for exporter and importer countries separately and specified their cost function as,

$$t_{ij}, \text{ as: } \ln t_{ij} = \beta_1 STRI_i + \beta_2 STRI_j + \beta_3 Z_{ij},$$

where Z_{ijt} is the vector of covariates including: distance; contiguity of borders; common official language; colonial links; common legal heritage; time zone differences; and regional trade agreements. Following Nordås and Rouzet (2017), the gravity model,

where the dependent variable T_{ijkt} is the value of bilateral cross-border services exports in sector k from COMESA country i to importer country j at time t , is specified as follows:

$$T_{ijkt} = \exp(\alpha_{0,k} + \alpha_{1,k}Y_{it} + \alpha_{2,k}Y_{jt} + \beta_{1,k}STRI_{ik} + \beta_{2,k}STRI_{jk} + \beta_{3,k}Z_{ijt} + \delta_{kt} + \varepsilon_{ijkt}) \quad (7)$$

where: Y_i is the logarithm of GDP of exporter country; Y_j is the logarithm of GDP of importer country; $STRI_{ik}$ and $STRI_{jk}$ are the exporter and importer country's services trade restrictiveness indices on a scale 0 to 100; and Z_{ijt} is the vector of covariates.

Contrary to Nordås and Rouzet (2017), who excluded importer and exporter fixed effects, Benz and Jaax (2020) argue that including internal trade flows permits the examination of the effects of the non-varying multilateral policy variables without excluding the multilateral resistance terms. In this case, the multilateral policy effect is identified from the same data as in the gravity model without internal trade, whereas multilateral resistance terms are identified from information on domestic services consumption (Benz & Jaax, 2020). The gravity model holds and remains effective for $i=j$, and this makes variable t_{ij} to measure internal trade costs within a country, while d_i and d_j capture the outward and inward multilateral resistance of the same country². When a country's internal trade is calculated as the value of gross services output consumed domestically, its addition aligns gravity estimations with the choices of modelling between foreign and domestic services (Yatov et al., 2016; Benz & Jaax, 2020).

To include internal trade flows in gravity analysis, Benz and Jaax (2020) specified the trade cost function, t_{ij} , as an additive function which includes the international border dummy and interaction term (Border*STRI), and is given by: $\ln t_{ij} = \alpha_1 border * STRI + \alpha_2 border + \alpha_3 Z$, where Z is a vector of gravity control variables. If friction to cross-border services trade exists, the coefficient of the international border dummy should be negative and significant. The impact of regulatory restrictions on export flows is identified from the interaction term in the

² Anderson and van Wincoop (2003) note that the outward and inward multilateral resistance are identical with symmetric trade.

model (*border* * *STRI*) which varies across importer countries, as internal trade flows do not cross international borders (Benz, 2017). Importer- and exporter-fixed effects do not dissolve this interacted term, and this allows for the identification of the impact of multilateral regulatory restrictions without excluding fixed effects which control for multilateral resistance. A negative coefficient indicates that countries with higher STRI scores trade less with partners than countries with lower STRI scores (Benz, 2017).

The empirical model following Benz and Jaax (2020) can be specified as follows:

$$X_{ij,k} = \exp[\beta_1 Border_{ij} * STRI_{ij,k} + \beta_2 Border_{ij} + \lambda Z_{ij} + \eta_{i,k} + \mu_{j,k} + \varepsilon_{ij,k}] \quad (8)$$

Models (7) and (8) were estimated differentiated by the dependent variable: business services; communications; financial; insurance and transport. The parameter estimates of interest for model (7) are $\beta_{1,k}$ and $\beta_{2,k}$, which are the elasticities which measure the sensitivity of export flows to the restrictiveness of services regulations. For model (8), β_1 is the coefficient of interest, which measures the effect of the changes in STRI score of importer country j on services export flows from country i to j relative to domestic services consumption in importer country j.

Data and data sources

To estimate the gravity equation specified above, the data for the outcome variable of interest, cross-border services exports, disaggregated by sector, came from the OECD-WTO Balanced Trade in Service (BaTiS) Database. The data is available for the period 1995-2012. The World Trade Organisation (WTO)³ provided time series data on trade in services for the period 2009-2017, but the data has 1000 observations and covers 29 countries only. The BaTiS provide a comparatively comprehensive data for 51 African countries and 12 services sectors.

To assess the impact of regulatory restrictiveness on services exports, we used the Services Trade Restrictiveness Index (STRI) obtained from the World Bank's Services Trade Restrictiveness Database (STRD), which captures the pertinent policy regulations in the particular countries and services sectors. To capture the effects of both domestic and foreign regulations, we included the STRI separately for both exporter and importer, disaggregated by sector and mode of supply. To capture the

³ <https://timeseries.wto.org/>

effects of regional trade integration forces in services, we included the regional integration agreement (RTA) dummy variable. This accounts for the average effect of belonging to an RTA, which comprises additional discriminatory policy measures besides STRI. The data for RTA came from the Centre d'Études Prospectives et d'Informations Internationales (CEPII). This was another dummy variable equal to unit when both countries are members of COMESA were included to control for economic integration and institutional coordination among the COMESA member states (Benz & Jaax, 2020).

The control variables required to estimate the gravity model are the GDP of exporter and importer countries and the geographical distance between each pair of countries. Data for GDP and distance were obtained from CEPII.⁴ According to empirical trade literature, the augmented gravity model includes various country-pair information that may influence cross-border trade in services, specifically: time zone difference; common official language; colonial links; contiguity and common legal origin (Source: CEPII). Table 1 shows the descriptive statistics used to describe our variables, which include mean, minimum, maximum and standard deviation.

Table 1: Descriptive statistics

Variable	Source	Mean	Std.Dev	Min	Max
<i>Category of services (000)</i>					
Total	BaTis	27.282	147.602	0.0003	2579.006
Business	BaTis	2.067	10.1242	0	265.5271
Financial	BaTis	0.2334	1.3813	0	73.353
Insurance	BaTis	0.2350	2.0964	0	63.5567
Telecommunications	BaTis	0.8464	5.1975	0	109.4526
Transportation	BaTis	7.7599	44.3147	0	855.8219
<i>Bilateral Variables</i>					
GDP Origion	CEPII	3.15E+10	5.19E+10	1.36E+09	2.63E+11
GDP Destination	CEPII	6.00E+11	1.74E+12	1.36E+09	1.62E+13
Distance	CEPII	6780.91	3630.453	162.182	18556.12
Common language	CEPII	0.2285	0.4199	0	1
Contiguity	CEPII	0.0264	0.1603	0	1
Colonial Links	CEPII	0.1131	0.3168	0	1
Time differences (Hours)	CEPII	3.1415	2.8175	0	11.5
Common Legal Origin	CEPII	0.4578	0.4982	0	1
Regional Trade Agreement	CEPII	0.1041	0.3054	0	1
<i>Restrictiveness Indexes</i>					
Overall STRI	STRD	28.309	14.890	6.196	88.232
STRI Mode 1	STRD	29.876	18.442	1.803	84.896
STRI Mode 3	STRD	26.677	16.829	0	93.221

⁴ The database is available at <http://www.cepii.fr>. Mayer and Zignago (2011) offer additional details on the construction of the CEPII's database on geographical distance.

RESULTS AND DISCUSSION

Baseline results

The estimation results for Model (7) are presented in Table 2. The coefficients of the standard gravity model variables, such as geographic distance, importer GDP, exporter GDP, common official language and colonial links, exhibited the expected signs. The exports of services increase with both exporter and importer GDPs, with coefficients significant at 1% level of significance and in line with our priori expectations. The coefficients of distance have a negative sign across all six the models, but insignificant for business and financial services. Historical colonial links and common language increases bilateral exports in all five the sectors. The coefficient for common legal has a negative sign across all sectors, but is statistically significant for insurance and transportation services only. Time differences have mixed results, but the coefficient is negative and statistically significant for business services only.

The coefficient of the regional integration dummy is positive and statistically significant in business and insurance services. This suggests that regional integration could significantly boost trade in these two sectors only. We also included a dummy for COMESA membership. The inclusion of both RTA and COMESA dummies allows us to measure the effects of RTAs on services trade flows to see whether COMESA has extra trade boosting effects. The coefficient for the COMESA dummy is positive and statistically significant for telecommunications, financial, insurance and transportation services. This emphasizes that commitment by COMESA countries to deepen regional integration, including reductions in behind-the-border barriers and regulatory reforms, could result in genuine services trade liberalisation.

Table 2: PPML Estimation Results by Services Sector – Model (7)

	2	3	4	5	6
	Business	Telecoms	Financial	Insurance	Transportation
In Exporter GDP	0.937*** (0.063)	0.893*** (0.060)	0.946*** (0.066)	1.041*** (0.078)	0.904*** (0.067)
In Importer GDP	0.723*** (0.109)	0.860*** (0.083)	0.821*** (0.089)	0.936*** (0.109)	1.299*** (0.080)
In Distance	-0.118 (0.253)	-1.158*** (0.285)	-0.016 (0.349)	-0.395* (0.554)	-0.779*** (0.278)
Common language	0.315** (0.174)	0.473** (0.250)	0.949*** (0.210)	0.334 (0.220)	0.362** (0.173)
Contiguity	2.237*** (0.753)	-0.970* (0.551)	0.204 (0.588)	1.681*** (0.902)	0.253 (0.518)
Colonial Links	0.845*** (0.258)	0.513 (0.368)	0.459 (0.508)	2.731*** (0.506)	1.409*** (0.225)

Common Legal	-0.015 (0.131)	-0.037 (0.171)	-0.162 (0.236)	-0.351** (0.164)	-0.308*** (0.148)
Time differences	-0.091** (0.044)	0.065 (0.061)	-0.089 (0.059)	0.091 (0.074)	0.012 (0.037)
RTA	0.568** (0.296)	0.293 (0.305)	-0.131 (0.409)	0.930** (0.526)	0.060 (0.278)
COMESA	0.141 (0.461)	1.108*** (0.323)	0.904*** (0.286)	1.049*** (0.278)	0.783*** (0.255)
STRI Exporter	-0.285 (0.443)	-0.968*** (0.396)	-1.002*** (0.488)	-2.656*** (0.029)	-1.119*** (0.265)
STRI Importer	0.861 (0.608)	-0.937* (0.229)	-1.775*** (0.363)	1.147 (0.614)	-0.633* (0.504)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	6630	6630	6630	6630	6630

Notes: The dependent variable is bilaterally exported by sector, X_{ijkt} . ***, ** and * indicate statistical significance at 1%; 5% and 10%, respectively. The robust standard errors, clustered by exporter and importer, are in parentheses. COMESA indicates simultaneous COMESA membership of both the exporter and importer.

The coefficient for the exporter's STRI is negative in all sectors, while the coefficient for the importer's STRI is negative for telecommunications, financial and transportation services. Even though not all estimates are significantly different from zero, they indicate that there is a negative relationship between services trade restrictiveness and services export competitiveness, as well as between services trade restrictions and services import penetration. The findings suggest that countries that impose services trade regulatory restrictions in these sectors discourage cross-border imports of the respective services. For COMESA countries, the findings suggest that services trade regulatory restrictions do not only reduce import penetration, but also services export competitiveness. Excitingly, the coefficients of the exporter country's STRI tends to be of greater magnitude and more accurately estimated than those of the importer country's STRI. A more restrictive regime is associated with lower exports in financial, insurance, telecommunications, transportation and total services trade. Our finding corroborates the results of Nordås and Rouzet (2017) who employed the same model to estimate the impacts of STRI on services trade. The authors also found that the estimated coefficients of the exporter country's STRI tend to be of greater magnitude. The positive and statistically insignificant coefficient of STRI for insurance services confirms the findings by Shepherd and van der Marel (2013).

Model (7) omitted the multilateral resistance terms because the services trade restrictiveness index (STRI) is measured only at one point in time. Thus, country-fixed effects would absorb the impact of the STRI on services trade flows and prevent us from separating effects of the STRI from country-specific features. This may render the estimated coefficients biased. To account for the multilateral resistance terms, Benz and Jaax (2020) argue that we should include internal trade flows. In this case

the coefficient of the STRI is identified from the data with importer-dimension, exporter-dimension and time dimension, and importer-year and exporter-year fixed effects are included to account for multilateral trade resistance. These fixed effects also absorb other country-specific variables. These methodological improvements make the results estimated using Model (8) more reliable than those estimated using Model (7).

The estimation results for Model (8) are presented in Table 3. Similar to Model (7), the coefficients of the standard gravity control variables, such as distance, common official language and colonial links, exhibit the expected signs. The coefficients of distance have a negative sign across all six the models, but are insignificant for business and financial services. Historical colonial links and common language increases bilateral exports in all five the sectors. The coefficients for common legal origin are negative and significant for financial, insurance and transportation services. The coefficient of the international border dummy is negative and significant in all cases. The significant negative coefficient of the border dummy suggests that friction to cross-border services trade exists. The coefficients of RTAs are positive and statistically significant in business, telecommunications and transportation services. These findings show that bilateral RTAs could significantly boost services exports in these three sectors in the year of entry into force. This justifies the fact that RTAs take time to be negotiated and ratified; thus, businesses can adjust in advance if they expect potential outcomes.

For all sectors, our results show that a more restrictive regime is associated with significantly lower values of services exports relative to the domestic consumption of these services. The coefficients are negative and significant across all services sectors. The negative effect corresponds to 85.3% for business services, 96.9% for financial services, 91.6% for telecommunication services, 68.8% for insurance services and 67.3% for transportation services. These findings suggest that the countries that the impose services trade regulatory restrictions in these sectors, discourage cross-border imports of the respective services. In addition, the results suggest that the reduction or elimination of some services trade regulatory restrictions could lead to higher values of services exports in the year of liberalisation. These results corroborate the findings by Benz and Jaax (2020) as well as Benz (2017), who also employed the same approach and found a negative and significant relationship between services trade restrictiveness and export flows of business, telecommunications, financial, insurance and transportation services. Shepherd and

van der Marel (2013) also examined the relations between services trade restrictions and services and found that services trade restrictions have a depressing effect on the exports of business and financial services. However, the authors found paradoxical results that more restrictive regulations are associated with increased exports of transportation services.

Table 3: PPML Estimation Results by Services Sector – Model (8)

	1	2	3	4	5
	Business	Telecoms	Financial	Insurance	Transportation
In Distance	-0.050 (0.238)	-0.803*** (0.351)	-0.451 (0.304)	-1.675*** (0.454)	-0.684*** (0.271)
Common language	0.485 (0.320)	1.176*** (0.404)	1.524*** (0.281)	0.939*** (0.481)	0.864*** (0.456)
Contiguity	1.167** (0.555)	-0.410 (0.576)	-0.723 (0.493)	-1.260*** (0.755)	-0.484 (0.501)
Colonial Links	-0.587* (0.315)	-1.302*** (0.367)	-1.625*** (0.443)	-1.802*** (0.582)	-0.810*** (0.354)
Time differences	0.127 (0.084)	0.245*** (0.092)	0.159** (0.077)	0.521*** (0.137)	0.224*** (0.075)
Common legal origin	-0.359 (0.257)	-0.191 (0.274)	-0.561** (0.278)	-1.106*** (0.323)	-0.582** (0.256)
RTA	1.056*** (0.326)	1.069*** (0.315)	0.054 (0.426)	0.152 (0.587)	0.977*** (0.323)
COMESA	-2.069*** (0.242)	-1.054*** (0.216)	-1.616*** (0.253)	-1.989*** (0.498)	-1.650*** (0.224)
International Border	-12.571*** (0.671)	-9.740*** (0.924)	-11.537*** (0.794)	-10.041*** (0.744)	-8.660*** (0.822)
International Border*STRI	-1.914*** (0.412)	-2.472*** (0.655)	-3.484*** (0.924)	-1.165** (1.476)	-1.118* (0.753)
Constant	14.400*** (1.381)	17.020*** (1.963)	13.594*** (1.715)	22.540*** (2.808)	14.509*** (1.348)
Importer Fixed Effects	Yes	Yes	Yes	Yes	Yes
Exporter Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	4017	4017	4017	4017	4017

Notes: The dependent variable is bilateral exports by sector, X_{ijkt} . ***, ** and * indicate statistical significance at 1%, 5% and 10%, respectively. The robust standard errors clustered by exporter and importer are in parentheses.

Although the negative relationship between services trade regulatory restrictions and trade flows is confirmed in both the Model (7) and Model (8) estimations, the results from Model (8) are more robust and reliable. Because Model (8) proved to be superior to Model (7), analysis by mode of supply was done using model (8).

Impact analysis by mode of supply

The STRI includes regulatory restrictions on cross-border trade (mode 1) and commercial establishment of services producers in host countries (mode 3), so impact analysis by mode of supply is interesting, to identify whether there are inter-modal relations through complementarity and substitution effects. This section provides empirical analysis on the relationship between mode 1 (cross-border supply) and mode 3 (commercial presence) restrictions and export performance in restricted sectors. This approach allows us to identify with accuracy the types of regulations that

are critical for particular services sectors. Although the available data covers mode 1 only, we included mode 3 restrictions for the reason that there could be inter-modal relations through complementarity and substitution effects. This approach allows us to specifically measure whether restrictions in the mode 3 form of services trade, make mode 1 type of services trade more appealing for business. Because of the possibility of a correlation between mode 1 and mode 3 restrictions, two separate regressions were run for each services sector. Since the gravity variables exhibit consistent sign patterns, our discussion focuses on the additional policy variables only. The regressions results are shown in Table 4 below.

Table 4: Modal Estimation Results – PPML Estimations

	(1) Business		(2) Financial		(3) Insurance		(4) Transport		(5) Telecoms
	Mode 1	Mode 3	Mode 1	Mode 3	Mode 1	Mode 3	Mode 1	Mode 3	Mode 3
In Distance	-0.140 (0.252)	-0.154 (0.237)	-0.411 (0.298)	-0.453 (0.307)	-1.640*** (0.435)	-1.680*** (0.440)	- (0.273)	-0.641** (0.285)	-0.803*** (0.351)
Common language	0.747* (0.315)	0.773** (0.307)	0.909*** (0.286)	1.530*** (0.298)	0.810** (0.415)	0.869* (0.507)	0.923** (0.435)	0.737** (0.461)	1.176*** (0.404)
Contiguity	1.154** (0.562)	0.941* (0.543)	-0.860* (0.508)	-0.805* (0.494)	-1.341* (0.787)	-1.210* (0.728)	-0.470 (0.488)	-0.276 (0.497)	-0.410 (0.576)
Colonial Links	-0.623* (0.332)	-0.631** (0.320)	- 1.698*** (0.449)	- 1.615*** (0.431)	-1.964** (0.630)	-1.795*** (0.576)	-0.666* (0.351)	-0.723** (0.341)	-1.302*** (0.367)
Time differences	0.118 (0.088)	0.113 (0.079)	0.183** (0.077)	0.159** (0.081)	0.523*** (0.123)	0.543*** (0.144)	0.203*** (0.073)	0.233*** (0.081)	0.245*** (0.092)
Common legal origin	-0.476** (0.257)	-0.422* (0.255)	-0.370 (0.272)	-0.601** (0.276)	-0.958*** (0.257)	-1.104*** (0.320)	-0.622** (0.262)	-0.646** (0.259)	-0.191 (0.274)
RTA	0.857*** (0.309)	0.809*** (0.301)	0.057 (0.452)	0.058*** (0.428)	0.126 (0.530)	0.018 (0.639)	0.670** (0.321)	0.984*** (0.339)	1.069*** (0.315)
COMESA	- 2.248*** (0.269)	- 1.840*** (0.248)	- 1.896*** (0.286)	- 1.695*** (0.245)	-2.235*** (0.554)	-2.005*** (0.442)	- 1.402*** (0.265)	- 1.616*** (0.234)	-1.054*** (0.216)
Border	- 11.92*** (0.675)	- 10.72*** (0.552)	- 11.55*** (0.675)	- 11.86*** (0.792)	-9.784*** (0.713)	-10.54*** (0.749)	- 7.772*** (0.851)	- 9.240*** (0.862)	-9.740*** (0.924)
Border*STRI	- 1.238*** (0.283)	-1.392** (0.647)	- 3.422*** (0.539)	- 2.303*** (0.807)	-1.436** (0.673)	0.442 (1.255)	-1.431** (0.700)	1.100** (0.576)	-2.472*** (0.655)
Constant	14.288* ** (1.495)	13.847* ** (1.488)	16.024* ** (1.766)	15.541* ** (1.846)	20.640*** (2.642)	22.646*** (2.710)	18.093* ** (1.562)	17.798* ** (1.605)	17.020*** (1.963)
Exporter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Importer FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4017	4017	4017	4017	4017	4017	4017	4017	4017

Notes: The dependent variable is bilaterally exported by sector, X_{ijkt} . ***, ** and * indicate statistical significance at 1%; 5% and 10% respectively. The robust standard errors, clustered by exporter and importer, are in parentheses. Border refers to international border.

Our estimation results show that mode 1 (cross-border supply) restrictions are associated with significantly lower exports in financial, insurance and transportation

services. This suggests that restrictions on cross-border trade (mode 1) in the financial, insurance and transportation sectors have detrimental effects on export competitiveness and a discouraging impact on imports. The negative effect corresponds to 96.7% for financial services, 76.2% for insurance, and 76.1% for transportation services. For business services, the coefficient of mode 1 regulatory restrictions is positive and significant, suggesting that mode 1 restrictions are significantly associated with higher export values.

The coefficients of mode 3 restrictions have a statistically significant negative for business, financial and telecommunication services, suggesting that mode 1 and mode 3 are complements in these three sectors. Thus, restrictions on cross border trade (mode 1) tend to reduce foreign establishments or restrictions on commercial presence tend to reduce cross-border trade (Shepherd and van der Marel, 2013). On the contrary, for insurance and transportation, mode 3 restrictions are associated with increased trade flows. The coefficient of mode 3 is positive and significant for transportation services indicating that restrictions on foreign establishments or mode 3 trade cause services suppliers to substitute away to cross-border supply of transportation services. Specifically, cross-border trade in transport sector acts as a substitute for foreign establishments sales. The positive coefficient observed in the case of insurance services is not statistically significant; therefore, we cannot conclude that they are substitutes

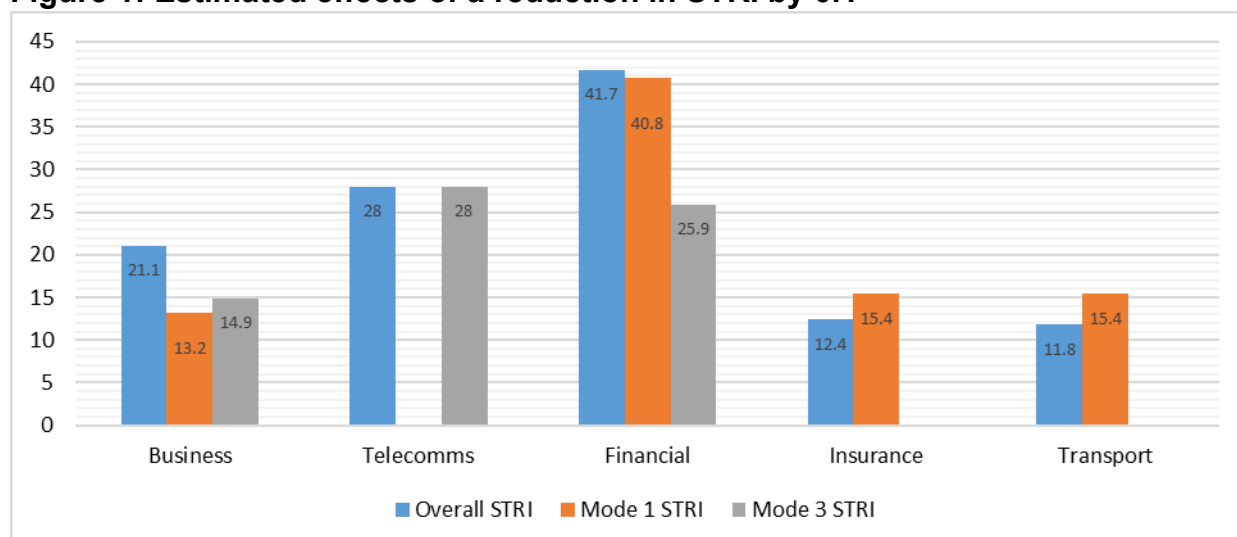
Estimating effects of services trade liberalisation on services exports

The negative relationship between services trade restrictions and cross-border services export suggests that the reduction or elimination of some barriers or regulations could boost export competitiveness in the COMESA region. This section quantifies the effect of a reduction in STRI by 0.1, and the estimated effects are shown in Figure 1 below. At aggregate level, a reduction in STRI by 0.1 could boost exports in all services sectors. Financial services exports could experience the greatest increase of 41.7%, followed by telecommunications services (28%), and business services (21.1%). As shown by Figure 8, the expected increases in insurance and transportation services exports are 12.4% and 11.8%, respectively. Benz and Jaax (2020) also found that a reduction in STRI by 0.1 could have greater export benefits

in financial, communication and business services. However, their estimated magnitudes of trade elasticities are higher.

The liberalisation of services could also be done by mode of supply, and the effects on export competitiveness differ according to sector. A reduction in cross-border supply (mode 1) restrictions by 0.1 could boost financial services exports by 40.8%, whereas exports of insurance and transportation services could both increase by 15.4%. A reduction in restrictions in the commercial establishment of services producers in host countries (mode 3) has complementary effects and the possibility to boost exports of business (14.9%), financial (25.9) and telecommunications (28%) services.

Figure 1: Estimated effects of a reduction in STRI by 0.1



Source: Authors' calculations based on the PPML estimations shown in the Tables

CONCLUSION AND POLICY IMPLICATIONS

The paper investigated the impact of services trade restrictions on the cross-border services trade performance of the restricted sectors in the COMESA countries, using the World Bank Services Trade Restrictiveness Index (STRI). The paper also shows how STRI captures barriers to services trade at the sectoral level. As in much of the previous empirical work, our findings show that the STRIs are negatively linked to exports of services in all sectors. The negative relationship between restrictive regulations and services trade became more robust when impact analysis by mode of supply was carried out to determine the complementarity and substitution between modes of supply. For instance, restrictive regulations on mode 3 trade have

complementary negative effects on mode 1 trade in business, telecommunications and financial services, whereas it can produce substitution-related increases in transportation services exports.

Although regulatory restrictiveness is an important determinant of services trade, differences in restrictive regulations also pose barriers to bilateral services trade. More so, the marginal effect of reducing one country's services trade barriers is greater on exports to export markets with similar a regulatory framework. This finding indicates that services trade integration in the COMESA region could have larger trade-enhancing effects among member states. Thus, services trade agreements focusing on regulatory co-operation and aiming to achieve regulatory convergence in the future, are critical for COMESA countries to boost services trade in the region.

From a policy perspective, our findings show the significance of addressing both general and sector-specific restrictive regulations in order to boost trade in services in the COMESA region. The nature of services trade regulations and the importance of cross-sectoral heterogeneity require high ingenuity in negotiating for services trade integration at both regional and multilateral levels. Sectoral regulatory bodies need to be engaged in comprehensive services trade liberalization. However, it may pose some capacity issues for developing countries in the region.

Another policy implication is that well-designed and well-regulated domestic regulations can reduce trade costs, thereby enhancing the competitiveness of local service suppliers in foreign markets. These regulations could be more beneficial when they are subjected to international harmonization. However, it is important to note that stringent regulations do not only restrict foreign service providers from entering the domestic market, but can also effectively restrict local service suppliers from entering foreign markets.

At regional level, liberalisation in services should go hand in hand with regulatory reforms. It has been shown in this study that services trade liberalisation could improve export flows significantly; thus, lowering barriers through regulatory reform could complement it. For regional agreements that aim to deepen services markets integration, the mutual recognition or harmonization of standards, license agreements and qualification requirements could speed up the market integration.

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The implementation of management information systems in the South African Public Service

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ABSTRACT

Given the growing significance of Management Information Systems (MIS) to economic growth, improving the quality of services, and expanding competitive advantage, the techniques and experiences of designing information systems have greatly advanced. There is a dearth of research on the application of MIS in the South African public sector, with few studies offering a comprehensive picture of the difficulties, advantages, and results related to this practice. To fill this gap in the literature and guide policy and practice, a comprehensive review is required. The objective of this study is to assess the current implementation practices, challenges, and outcomes of MIS within the South African public sector, with a view to developing practical recommendations that enhance MIS adoption, optimize service delivery, and promote effective data-driven decision-making. The study utilized a systematic scoping review methodology that involved an extensive exploration of academic databases, government publications, and pertinent grey literature. PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) criteria were followed in this review. The inclusion criteria focused on studies and publications from the SABINET, Ebscohost, Emerald insight, and Scopus databases that were published between 2015 and 2024 and that addressed

the administration, impact, and use of MIS in South African public service organizations. The results showed that staff resistance to change, a lack of technical expertise, a lack of money, and poor training are common hurdles. A public service that successfully implements MIS benefits from better data management, improved decision-making procedures, increased transparency, and more effective service delivery. The analysis made clear that stronger legislative frameworks, with more precise rules and norms, were required to facilitate the implementation of MIS. It also suggested allocating sufficient funding to assist the creation, implementation, and upkeep of MIS. Investment in thorough training programs is needed to give public employees the skills they require to use MIS efficiently. Organized change management procedures should be implemented to reduce staff opposition and foster adoption.

Keywords: Management Information Systems (MIS), South African public sector, systematic scoping review, service delivery improvement, data management

INTRODUCTION

Organizations, especially those in the public sector, cannot function effectively in the quickly changing technological landscape of today unless Management Information Systems (MIS) are implemented correctly (Matlala, Ncube & Maphoto, 2023:249). Organizations in the public sector have realized how important it is to their success to apply MIS effectively in today's organizational operations (Vinten 2002). As a result, in an attempt to boost productivity and enhance service delivery, the public sector has invested heavily in MIS (Devadoss, Pan & Huang, 2002). This is because MIS gives businesses the chance to improve and change their markets, processes, relationships with suppliers, goods, and services (Sambamurthy & Zmud, 1999). According to Chowdhury and Salahuddin (2017:72), MIS offer the vital infrastructure required for businesses to successfully manage their operations. According to Nath and Badgujar (2013), better collaboration and intercommunication within institutions can lead to increased organizational performance and efficiency by facilitating the appropriate information from the right sources to the right people at the right time.

Global public sectors must adjust to a social and environmental situation that is changing quickly, with technology acting as both a catalyst for change and a means of coping with it (Shoham & Perry, 2009). Essentially, MIS are integrated user-machine

systems that support operations, process information, and provide data input and output (Olabanji, Gonese & Tafadzwa, 2014:200). Data conversion into information is an information system's primary goal (Olabanji, Gonese & Tafadzwa, 2014:200). The system makes use of databases, manual processes, models or analysis, planning, control, and decision-making, as well as computer hardware and software (Ramachandra & Srinivas, 2012). MIS are intended to improve an organization's overall effectiveness, transparency, and efficiency by enabling informed decision-making processes and a smooth flow of information between divisions.

MIS have the ability to facilitate interoperability and improve communication channels. Moreover, MIS are essential in bridging the gaps that exist between different government agencies and activities. Information, people, and technology are the three main resources that make up MIS, according to Kenneth (2009). Organizations can improve the quality, timeliness, and consistency of information available to decision-makers by using these systems to cross-reference data sets from various sources (Görgens & Kusek, 2009:325). In the public sector, where quick access to reliable information is crucial for efficient governance and service delivery, the capacity to integrate data from many sources is especially advantageous (Matlala, Ncube & Maphoto, 2023).

Furthermore, the public sector's adoption of MIS entails a complex interplay of informational, technical, and human resources in addition to technology. As O'Brien (2010) and Kenneth and Jane (2016) point out, a comprehensive strategy that takes into account the requirements and abilities of the users of the systems, the existing technological infrastructure, and the type of information being managed is necessary for the successful implementation of MIS. The deployment of MIS offers both potential and challenges in South Africa, as public sector institutions frequently struggle with issues, including scarce resources, bureaucratic lethargy, and uneven degrees of technological adoption.

PROBLEM STATEMENT

The South African public sector increasingly recognizes the role of MIS in enhancing efficiency, transparency, and service delivery. Aligned with the National Development Plan (NDP) 2030, MIS are expected to support strategic planning, decision-making, and innovation within the public administration (DPSA, 2019; Nokuthula, 2015). MIS

facilitates real-time communication between departments, which theoretically should lead to improved efficiency (Nath & Badgujar, 2013). However, despite substantial investments and MIS integration efforts, many government agencies have encountered persistent challenges that prevent the full operationalization and effectiveness of these systems (Barbier & Tengeh, 2022).

These challenges include insufficient departmental integration, poor user training, resistance to change, and a lack of supporting infrastructure, all of which inhibit MIS from delivering its intended benefits (Ndlovu, 2015; Kimani, 2013; Sawe & Rotich, 2016). Consequently, the public sector struggles to realize MIS's potential to improve service delivery, leading to a disconnect between strategic intentions and actual outcomes. These obstacles hinder MIS from achieving its intended impact, leaving a gap between MIS potential and actual outcomes in public service improvement (Ndlovu, 2015; Kimani, 2013). This study aims to bridge this gap by examining the critical factors for successful MIS implementation, identifying best practices, and proposing solutions that address current barriers, ultimately contributing to a more responsive, efficient, and transparent public administration.

RESEARCH OBJECTIVES

1. To evaluate the current state of MIS implementation in South African public service departments.
2. To analyse the impact of MIS on the efficiency and effectiveness of public service delivery in South Africa.
3. To identify the challenges and barriers to successful MIS implementation in the South African public sector.
4. To propose strategies for enhancing MIS implementation and integration in South African public service institutions.

METHODOLOGY

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines served as the foundation for the systematic literature review technique used in this study. According to Moher et al. (2009), the PRISMA principles provide an organized method for examining published literature, enabling a thorough and exacting assessment of the evidence. Although PRISMA was first created for use in the healthcare industry, it has been effectively modified for application in a variety of

other fields, such as information management. With emphasis on search specifics, inclusion and exclusion criteria, risk of bias, and result synthesis, the PRISMA 2020 checklist created by Page et al. (2021) was used to direct the study's design, including the formulation of the study's objectives, methods, results, and discussion.

Inclusion and exclusion criteria

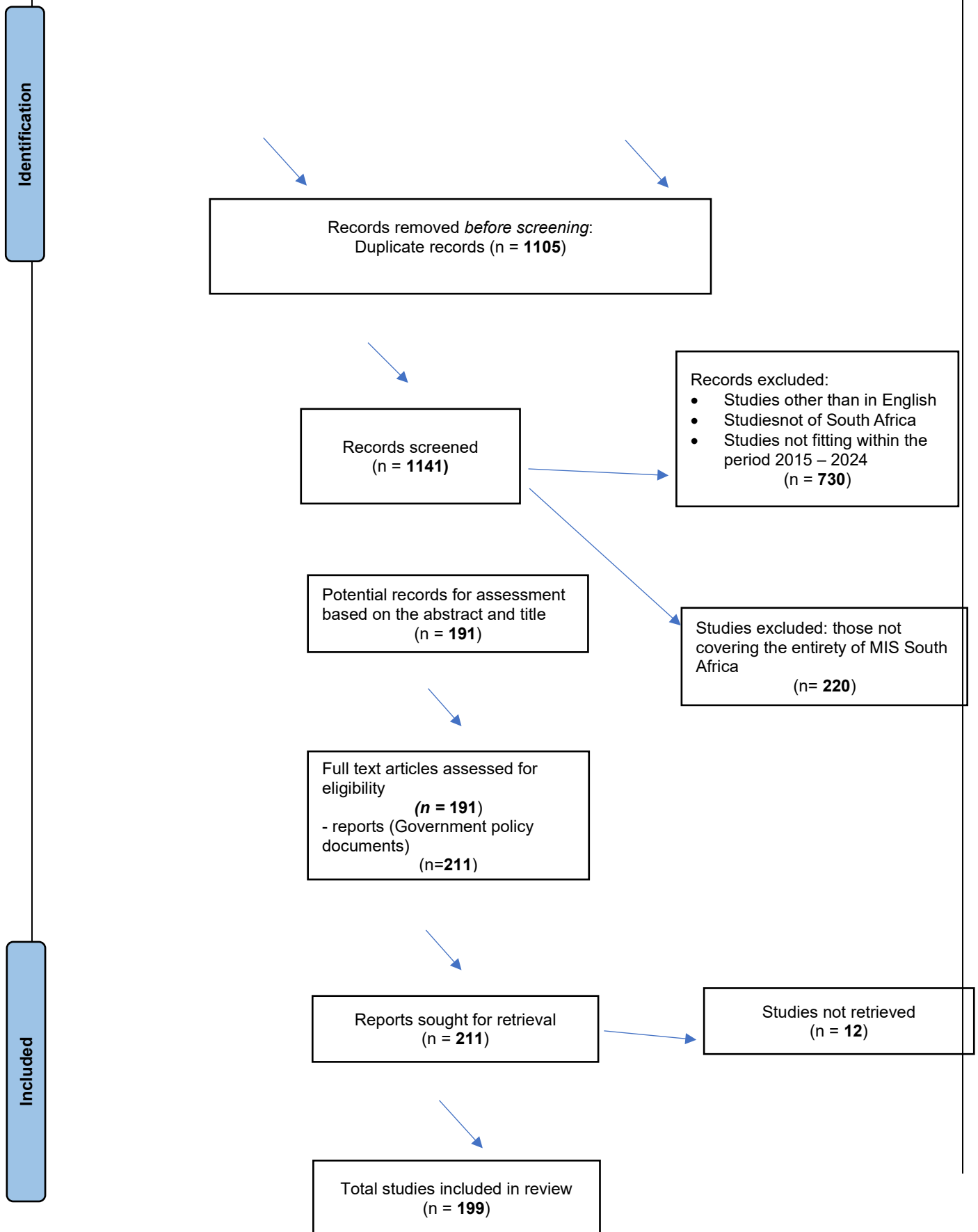
With a focus on the application of management information systems in South African public sector, the study provides a thorough analysis of relevant literature covering the years 2015 to 2024.

The identified literature had to be in the form of peer-reviewed research publications or studies that thoroughly addressed a variety of aspects in line with the research objectives in order to meet the inclusion criteria. It was necessary for the chosen literature to be published in English and to concentrate on the use of MIS in the South African public service. Strict inclusion criteria required the literature to meet certain requirements in order to guarantee a thorough coverage of all study objectives, including that they:

- were published between 2015 and 2024;
- presented in English, and
- categorized under document types such as research articles, theses, policy documents, and studies.

On the other hand, studies that were only focused on one research goal or that were presented in languages other than English, were excluded. Moreover, any work that did not offer a comprehensive analysis of the application of management information systems in the South African environment was not taken into consideration.

Figure 1: Search and screening methodology along PRISMA guidelines



Adapted from Page et al. (2021).

Search strategy

The keywords that were developed for this study were used to design the first search strategy. Four databases were used by the researchers: ScienceDirect, EBSCOhost, Emerald Insights, and Scopus. Many papers were found under queries such "electronic records, records management, government departments," which the researchers processed through their database. Boolean operators were not needed in order to find more sources due to the volume of information that was retrieved.

Search details and screening process

- i. The researchers used the 'EBSCOhost search', then applied the following filters: Publication years: 2015 – 2024; Source types: academic journals; Subject Terms: records management, electronic records, public sector, Languages: English. This search resulted in 23 results.
- ii. The researchers ran a search query in the Scopus database using TITLE-ABS-KEY (title, abstract, and keyword) fields and then applied the following filters: Years: 2015 – 2024; Document type: article; Source type: journal; Language: English. This search resulted in 161 results.
- iii. In the Science Direct database, the researchers input the search and applied the following limiters: Scholarly journals; Publication data: 2015 – 2024; Articles: English). This search resulted in 15301 results.
- iv. The researchers ran a search query in the Emerald Insight database using the advanced search and then applied the following filters: Years: 2015 – 2024; Content type: article; Source type: journal; Access: "Only content I have access to." This search resulted in 2000 results.
- v. The total results from all four (4) databases were 17485 records.

After that, all relevant data was downloaded and saved for citation, analysis, and screening (as mentioned above). The following paywall restrictions, publication in non-indexed journals, lack of full text availability, and technical difficulties rendered 120 articles irretrievable.

Results

Current state of MIS Implementation in the South African Public Service

Both improvements and difficulties may be seen in the state MIS implementation now taking place in the South African public sector, especially when looking at the KwaZulu-Natal government departments. The adoption of MIS has been highlighted as a means to improve decision-making processes, resource management, performance monitoring, and operational efficiency in a number of government agencies (Shibambu, 2024). The integration of data across departments is made possible by these technologies, which makes service delivery more efficient and well-coordinated. However, there are several obstacles in the way of a thorough and successful MIS deployment, such as a lack of system integration, poor information sharing, and reluctance to change.

Resistance to change, which comes from a range of stakeholders, is one of the main issues noted in the literature. According to Micheni (2017), people who have a stake in preserving the status quo, or who are afraid of the unknown, are frequently the causes of resistance. This is especially true of the public sector, as new system deployments may drastically change the roles, responsibilities, and duties of employees. As a result, MIS implementation has been given to several government agencies in KwaZulu-Natal; yet, the success of these initiatives has varied. This variation is mostly caused by irregular information exchange between stakeholders and limitations to the quality of information, which frequently lacks timeliness, relevance, and accuracy (Majola, 2020).

The problem is made more difficult by the lack of an integrated MIS system that enables government stakeholders in KwaZulu-Natal to generate, store, and exchange vital data necessary for efficient economic development strategies. Majola (2020) notes that the possibility of using MIS to improve public service delivery is still constrained in the absence of such a system. Furthermore, Kritzinger and Van Belle (2017) point out that, although there has been a deliberate effort made by different public sector departments to embrace MIS, the results have been inconsistent. While some departments have made significant strides, others have lagged behind because of inadequate resources, infrastructure problems, and insufficient support systems.

Mathipa and Phiri (2018) also point out that the public sector still has challenges with basic MIS deployment, like data management and system integration. Inefficiencies arise from systems that are unable to communicate with each other in an efficient manner due to the fragmented approach to MIS implementation. Ndwiga and Angelides (2017) support these results by pointing out that ineffective maintenance procedures and inadequate staff training frequently jeopardize the efficacy of MIS in the public sector. These issues are made worse by departments' inconsistent approaches to MIS implementation, which leads to a disjointed environment in which various systems are unable to effectively integrate and cooperate (Serite, Ramakrishna, & Phahlamohlaka, 2019).

The Department of Public Service and Administration (DPSA) (2019) has put up a National Knowledge Management Strategy Framework in an effort to address these problems. The public sector's entire information management and distribution are intended to be improved by this framework. The creation of interoperable systems that can facilitate integrated public service delivery is a crucial element of this plan, taking into account the changing needs for MIS in government operations. A plan like this one recognizes that information management requires a more coordinated approach in order to serve the main objective of providing a public service that is more effective and efficient.

Impact of MIS on public service efficiency and effectiveness

It is well acknowledged that improving the efficacy and efficiency of public service delivery requires the deployment of MIS. Government departments can operate more efficiently because of the integration of MIS, which makes information easier and more accurate to obtain (Ndlovu, 2015). MIS improves the consistency, accuracy, and quality of information by facilitating cross-referencing across different data sources. Better decision-making is facilitated by this integration, which also guarantees quick access to massive volumes of data, enhancing the responsiveness and adaptability of public services.

By guaranteeing the seamless exchange of information between departments, an efficient MIS may greatly contribute to the improvement of public sector operations. Efficient information flow inside an organization is critical to a company or public sector entity's ability to complete tasks and operations and make well-informed decisions

(Oni, Gonese, & Matiza, 2014). This is especially important in government settings because complicated activities necessitate reliable information systems due to their size and complexity. Furthermore, Hendriks (2012) contends that, by integrating automated systems to detect abnormalities, unusual activity patterns, and management of assets inventories, well-designed MIS can play a vital role in detecting fraud, theft, and excessive payments. These features are essential to preserving accountability and openness in public service operations.

The implementation of MIS in South Africa has prompted government agencies to focus their attention and resources on matters that have a direct bearing on the welfare of the population. Koma and Tshiyoyo (2015) point out that in order to provide effective and efficient public service delivery, collaboration as well as the fusion of resources and abilities are essential for ensuring smooth MIS functioning. In order to fully reap the benefits of MIS, departments must collaborate in order to create a mutually beneficial environment that maximizes public service delivery.

Ajuwon and Ilozor (2016) go on to say that, by enabling quicker and better-informed decision-making processes, efficient MIS deployment can greatly improve public sector efficiency. Grant (2018) provides evidence for this, pointing out that MIS facilitates enhanced monitoring and evaluation procedures, as well as better resource allocation in public sector enterprises. However, effective use and implementation are crucial to reaping the benefits of MIS. While MIS has the ability to simplify processes and eliminate redundancies, Botha and Booyesen (2019) stress that, because of low user adoption and resistance to change, its benefits are frequently misused. This viewpoint is supported by Chand and Chetty (2019), who observe that even in cases where MIS is properly implemented, underutilization of the system's potential is often caused by low user involvement and inadequate training.

Furthermore, MIS's effectiveness in enhancing the delivery of public services is significantly dependent on how well it aligns with corporate goals and plans. According to Gouws, Bosman, and Kruger (2017), MIS may greatly enhance data accessibility and departmental communication when they are in line with an organization's strategic objectives, which will promote a more transparent and responsive government. Through a case study of a South African public sector organization, where the implementation of MIS resulted in considerable improvements in service delivery

outcomes, Marais and Cilliers (2018) demonstrate this argument. Their case study demonstrates how improved coordination, resource management, and overall service efficiency can result from appropriate alignment and planned MIS utilization.

Challenges and Barriers to MIS Implementation in the Public Sector

Many obstacles and hurdles stand in the way of the successful implementation of MIS in the South African public sector. Lack of management commitment is a major obstacle to MIS adoption, since it has an impact on resource allocation and MIS implementation priorities. According to Ndlovu (2015), MIS projects are frequently underfunded and deprioritized without strong leadership and commitment from management, which results in incomplete or poor implementations. These difficulties are made worse by the public sector workers' insufficient dedication. Poorly defined goals and a lack of knowledge about how MIS might improve work processes and organizational efficiency are commonly blamed for this lack of participation.

Another significant barrier to the successful adoption of MIS in the South African public sector is inadequate infrastructure. It is challenging to integrate new technology into many of the government agencies because they still use antiquated and incompatible systems, as noted by Dzuke and Azeta (2019). The potential advantages of MIS are compromised by the disjointed information management methods brought forth by these antiquated systems. Additionally, Vahed, Dlamini, and Loonat (2020) highlight cybersecurity worries as a major obstacle. Many businesses in the public sector are frequently unprepared to tackle the security threats connected to contemporary MIS. This lack of readiness hinders the system's wider adoption by undermining trust and endangering data confidentiality and integrity.

Another major obstacle to MIS implementation is organizational reluctance to change. Cultural opposition inside public sector institutions can greatly slow down the adoption of MIS, as claimed by Serite, Ramakrishna, and Phahlamohlaka (2019). Frequently, this opposition stems from well-ingrained organizational norms and practices that are challenging to alter. These cultural barriers intensify when there is a lack of support from the leadership and no clear plan in place for handling the changeover to new systems (Mathipa & Phiri, 2018). Public sector leaders frequently undervalue the significance of change management and neglect to create thorough plans to assist staff members throughout the shift, which further impedes the adoption of MIS.

One of the main causes of the problems in implementing MIS in the public sector is human resource issues. According to Ndwiga and Angelides (2017) as well as Marais and Cilliers (2018), there is a substantial skills gap in the industry, with many workers lacking the education and expertise needed to use MIS effectively. This problem is made worse by the insufficient capacity-building programs, which do not sufficiently train the staff to meet the needs of contemporary information management systems. Even when MIS is deployed, it is frequently misused or underutilized due to a lack of training and development, which results in inefficiencies and decreased efficacy.

To make matters worse, there is no uniform method of implementing MIS across departments. According to Serite, Ramakrishna, and Phahlamohlaka (2019), the lack of a unified framework results in disjointed systems that are unable to communicate with each other, creating information silos and decreasing the system's overall efficacy. In the absence of standardization, interoperability problems occur, making it difficult to accomplish a coherent and integrated approach to public sector information management.

The difficulties that have been found — that range from organizational resistance, cybersecurity, and human resource limitations to insufficient infrastructure and managerial commitment — highlight the difficult situation that the South African public sector finds itself in when implementing MIS. A multifaceted strategy is needed to overcome these obstacles, including strong cybersecurity frameworks, strategic leadership, investments in contemporary infrastructure, efficient change management techniques, and extensive training and capacity-building initiatives. The public sector can only fully utilize MIS to improve operational efficiency and service delivery by addressing these issues comprehensively.

Strategies for enhancing MIS implementation and integration

New thinking and new strategies are required to ensure that organizations remain vibrant and sufficiently relevant to satisfy the dynamic information needs of the present society (Maphoto & Matlala, 2023). Therefore, improving the efficiency, efficacy, and transparency of service delivery in the South African public sector requires enhancing the integration and application of MIS. Contemporary information technologies provide government agencies with creative solutions, enabling new work environments where stakeholders and employees communicate through computers (Berisha-Shaqiri,

2014). However, a number of strategic frameworks and activities must be created and implemented in order to effectively utilize the potential of MIS.

Creating a thorough framework for access and preservation is a vital tactic for controlling the dissemination of information in the public sector. This paradigm can be put into practice through a number of linked but separate services, guaranteeing the effective management of every aspect of MIS, from data collection to storage and retrieval (Shibambu, 2024). Ensuring data privacy and regulating digital storage necessitate a strong legislative framework. Shibambu and Ngoepe (2020) assert that digital records need to be protected from harm or unlawful access. Consequently, in order to provide precise requirements for data governance and protect the security and integrity of information, a strong regulatory framework is needed.

Given the numerous obstacles that come with implementing MIS in the public sector, a number of tactics can be used to improve integration and adoption across departments. The creation of an extensive policy and governance structure that expressly encourages MIS adoption is one of the most important recommendations. It is emphasized by the Department of Public Service and Administration (2019) that a framework of this kind ought to include precise instructions on cybersecurity, data management, and system integration. Implementing MIS in a way that is consistent across departments guarantees that it is not just effective, but also in line with larger government goals for digital transformation.

Enhancing MIS adoption and use in the public sector also requires capacity-building and training programs. According to Botha and Booyesen (2019), specific training programs are required to give public sector workers the abilities they need to use MIS efficiently. According to Chand and Chetty (2019), ongoing professional development is essential to sustaining and improving MIS effectiveness over time. Employees should be assisted in adjusting to new systems and procedures through these programs that emphasize both technical skills and change management techniques.

Aside from policy frameworks and training, implementing creative methods for MIS adoption is crucial. Oliveira and Martins (2021) talk about how successful MIS deployments in the public sector require knowledge of best practices. Pilot programs and phased rollouts, for instance, are useful tactics that might lessen the hazards connected to extensive MIS implementations. According to Gouws, Bosman, and

Kruger (2017), this strategy enables iterative feedback and revisions, guaranteeing that the system is optimized prior to a full-scale rollout.

Effective MIS integration also requires public sector organizations to cultivate a culture of innovation and change. The adoption of MIS may be seriously hampered by resistance to change, which is why it needs to be handled actively. Susan and Chittibabu (2016) contend that overcoming this opposition requires highlighting the advantages of MIS and bringing all stakeholders on board with the system's objectives. To fully utilize the potential of these systems to improve service delivery and overall efficiency, it is important to create a conducive atmosphere for MIS deployment, where staff feel encouraged to innovate and embrace new technology.

CONCLUSION

It is clear that a multifaceted approach is needed to fully leverage these systems for improved governance, efficiency, and service delivery based on the systematic review examining the implementation of MIS in the South African public service. This review covers the current state of MIS, its impact on service efficiency and effectiveness, the challenges faced, and potential strategies for improvement. Adopting MIS offers a significant chance to improve decision-making, increase accountability in governance, improve data accessibility, and improve general openness in public sector operations. Public service delivery can be made more efficient by implementing MIS efficiently, which can greatly streamline operations, cut down on redundancies, and maximize resource allocation.

Nonetheless, a number of enduring obstacles still stand in the way of the effective application of MIS in the public sector. Inadequate infrastructure leads to disjointed information management methods and makes it difficult to integrate new technology, such as antiquated and incompatible legacy systems. Furthermore, a major obstacle is cybersecurity concerns, as many public sector firms are ill-prepared and lack the resources needed to successfully handle the security difficulties connected with modern MIS. This is made worse by organizational resistance to change, which hinders MIS implementation efforts due to a lack of leadership support, a vague strategic vision, and a culture that is averse to embracing new technologies. In addition, a significant obstacle is the lack of qualified workers in the public sector. Employees are frequently ill-equipped to use MIS efficiently because of the large skills

gap and lack of training opportunities, which restrict the potential benefits of these systems and causes underutilization.

RECOMMENDATIONS

1. To ensure that MIS is implemented consistently throughout all public service agencies, the South African government ought to create a comprehensive and well-defined policy framework. Standardized procedures for data management, cybersecurity, and system integration should be part of this framework to guarantee uniformity and interoperability throughout the public sector.
2. To close the skills gap in the public sector, targeted training programs are crucial. These courses ought to cover change management and the tactical use of information systems in addition to the technical components of MIS. To stay up to date with the rapid advancement of MIS technology, it is important to promote ongoing professional growth.
3. The government ought to take phased implementations and trial projects into account in order to lessen the risks connected to large-scale MIS installations. Before a full-scale rollout, these methods enable the systems to be tested and improved in real-world environments, allowing problems to be found and fixed.
4. It is essential to cultivate an innovative and adaptable company culture. This can be done by including all stakeholders in the planning and implementation phases, as well as by launching leadership initiatives that highlight the advantages of MIS. The successful integration of MIS in the public service, will depend on creating a culture that encourages ongoing innovation and technology adoption.
5. The government ought to put in place systems for the continuous observation and assessment of MIS throughout the public sector. This will guarantee that the systems continue to fulfil the demands of providing public services, stay in line with organizational objectives, and are efficiently used. The input obtained from these assessments ought to guide initiatives for ongoing enhancement and modifications to policies.

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The impact of technological advancements on entrepreneurship in South African economy growth

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ABSTRACT

In recent years, technological advancements have emerged as a pivotal driver of economic growth globally, transforming traditional business models and fostering innovation across various sectors. In South Africa, a country characterized by its dynamic economic landscape and diverse entrepreneurial activities, the integration of technology within entrepreneurial ventures is increasingly recognized as a critical factor for sustainable development and competitiveness. Despite the recognized potential of technological advancements to catalyse economic growth, a significant gap remains in the literature regarding their specific impact on entrepreneurship in South Africa. This gap necessitates a focused examination of the intersection between technology and entrepreneurship, particularly in understanding the direct and indirect effects on economic growth within the South African economy. A systematic literature review was conducted, targeting a broad range of academic databases to ensure a comprehensive analysis of the existing research. The databases included Scopus, Web of Science, ScienceDirect, Journal Storage (JSTOR), and EBSCOhost. The literature search covered the period from 2018 to 2023 to capture recent and relevant studies on the topic. The SLR followed a structured approach, adhering to PRISMA guidelines to ensure methodological rigor. The systematic review revealed that key advancements such as artificial intelligence, blockchain, and digital platforms have significantly influenced entrepreneurial activities. These technologies have enhanced operational efficiency, opened new market opportunities, and facilitated innovative business models. Despite the benefits, several challenges hinder the full potential of technological integration. These include limited access to funding, inadequate digital

infrastructure, and a skills gap among entrepreneurs and the workforce. The study concludes that technological advancements play a crucial role in shaping the entrepreneurial landscape and driving economic growth in South Africa. However, to fully harness these benefits, there is a need for targeted strategies and policies that address existing challenges, such as enhancing access to funding for tech-driven entrepreneurial ventures, including grants, loans, and venture capital.

Keywords: entrepreneurship, South African economy, technological innovations

INTRODUCTION

It has long been acknowledged that, depending mainly on how they are used, technological innovations have the capacity to both ease and complicate human life (Paterska, 2021). With a rising trend toward an economy primarily driven by technical innovation and the flow of information, technology has emerged as a key factor driving economic transformation worldwide in the twenty-first century. This change emphasizes how important it is for business owners to anticipate and seize opportunities presented by technology breakthroughs in order to be relevant and competitive in this new wave of growth (Venter et al., 2015). Developing a successful competitive edge requires the strategic deployment of relevant technology, as noted by Nieman and Nieuwenhuizen (2014), especially in an economy as dynamic as South Africa's. The adoption of new technological innovations by small, medium, and micro enterprises in South Africa has been impeded by various challenges, despite the acknowledged importance of technology (Chube, 2015). This reluctance is especially worrisome in light of the country's slow-growing economy, with Statistics South Africa (StatsSA, 2019) projecting a mere 0.7% growth in 2019—a figure that poses significant barriers to economic expansion.

The adoption of disruptive technologies is viewed as the next crucial stage in the Fourth Industrial Revolution, one that will impact the expansion of international economic ecosystems. Though entrepreneurs are seen as important forces behind economic growth and development, Afolayan (2014) notes that many South African businesses are not sufficiently aware of the potential advantages that new technology might offer. As a result, these companies have been hesitant to implement new technology (Mayeadea, 2021). South Africa is still in the early stages of this technological era and faces a variety of structural and cultural challenges that may

prevent businesses from fully integrating disruptive technologies into the economy, which exacerbates this reluctance (Schoeman et al., 2017).

However, there is still a lot of room to grow in terms of making use of the opportunities that the 4IR offers. This study emphasizes how important it is for small firms to grow and be entrepreneurially equipped to lead the 4IR, which has the potential to put South Africa at the forefront of disruptive innovation. In a nation like South Africa, where high unemployment, sluggish economic growth, and enduring poverty are major concerns, entrepreneurs are becoming more and more acknowledged for their exceptional capacity to spur job creation and economic expansion (Nieman & Nieuwenhuizen, 2014). Therefore, encouraging digital skills among small business owners is a way to both alleviate socioeconomic misery in South Africa and achieve economic development.

The world is about to enter a new phase of development, with physical, biological, and digital technology combining at a rate never seen before in all fields (Guoping, Yun & Aizhi, 2017). Because they are not constrained by legacy infrastructure, entrepreneurs are especially well-positioned to take advantage of the opportunities presented by the fourth industrial revolution (Matt & Rauch, 2020). Academics are also becoming more interested in learning how technology developments affect entrepreneurship, especially in light of South Africa's distinct economic environment.

PROBLEM STATEMENT

Over the past ten years, the swift spread of new technology has drastically changed the global economic environment and fundamentally changed how organizations compete and operate (Rahman, Hamid, & Chin, 2017). Businesses are under increasing pressure to embrace and incorporate new technology innovations in order to stay competitive, as globalization and digitization continue to transform industries (Mayeadea, 2021). Small businesses have a great chance to take advantage of disruptive breakthroughs and expand their market reach and operational efficiency by utilizing this wave of technology. Nevertheless, in terms of innovation and technology adoption, South Africa trails behind other developing nations and world leaders (Noumba, 2017). Previous research has predominantly concentrated on wider economic consequences or particular technology breakthroughs, leaving a partial

comprehension of how these developments impact entrepreneurial endeavours at a systemic level.

The skills gap resulting from the shift in labour demand toward more advanced analytical, technical, and management abilities is one of the major issues facing South African entrepreneurs (Celik, Kose, & Ohnsorge, 2020). Employees frequently lack the skills needed to complement emerging technologies, which impedes the wider economic dissemination of innovation. The unwillingness of many small and medium-sized companies (SMMEs) to adopt emerging technology exacerbates this skills mismatch and leaves them exposed to both economic volatility and global competition (Futcher, 2018). Furthermore, it is challenging to determine the precise influence of 4IR technologies on the entrepreneurship sector because of their early development and implementation in South Africa (Mayeadea, 2021). According to earlier research, South African business owners may not be utilizing information and communication technology (ICT) to the fullest extent possible, which could further reduce their ability to compete (Dai, 2009). Furthermore, Gumbi and Twinomurizi (2020) have recognized resource restrictions and a lack of readiness for 4IR tools as key hurdles to entrepreneurs' adoption of technology.

Examining how technological developments affect entrepreneurship in South Africa, especially with regard to economic growth, is vital given these difficulties. Although these technologies have great potential, little is known about how they specifically affect entrepreneurs in underdeveloped nations like South Africa. By examining how technology developments affect entrepreneurship in the South African economy, this study aims to close this knowledge gap. It emphasizes understanding the opportunities and difficulties faced by entrepreneurs in this quickly changing environment.

RESEARCH OBJECTIVES

1. To examine the impact of technological advancements on entrepreneurial activities.
2. To identify challenges to technological integration in entrepreneurship.
3. To evaluate the role of technological advancements in driving economic growth.
4. To assess the existing literature on technology and entrepreneurship in South Africa.
5. To develop recommendations for enhancing technological integration.

METHODOLOGY

This research employed a systematic literature review methodology guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. The PRISMA framework provides a structured method for reviewing published literature, enabling a thorough and systematic evaluation of existing evidence (Moher et al., 2009). Although PRISMA was originally developed for healthcare research, it has been effectively adapted for use in various fields, including entrepreneurship. In this study, the PRISMA 2020 checklist created by Page et al. (2021) was used to shape the research design, focusing on key aspects such as the study's objectives, methodology, results, discussion, search strategy, inclusion and exclusion criteria, risk of bias assessment, and synthesis of findings.

Inclusion and exclusion criteria

The study conducts an extensive review of relevant literature from 2018 to 2023, focusing specifically on entrepreneurship's role in economic growth within the South African context.

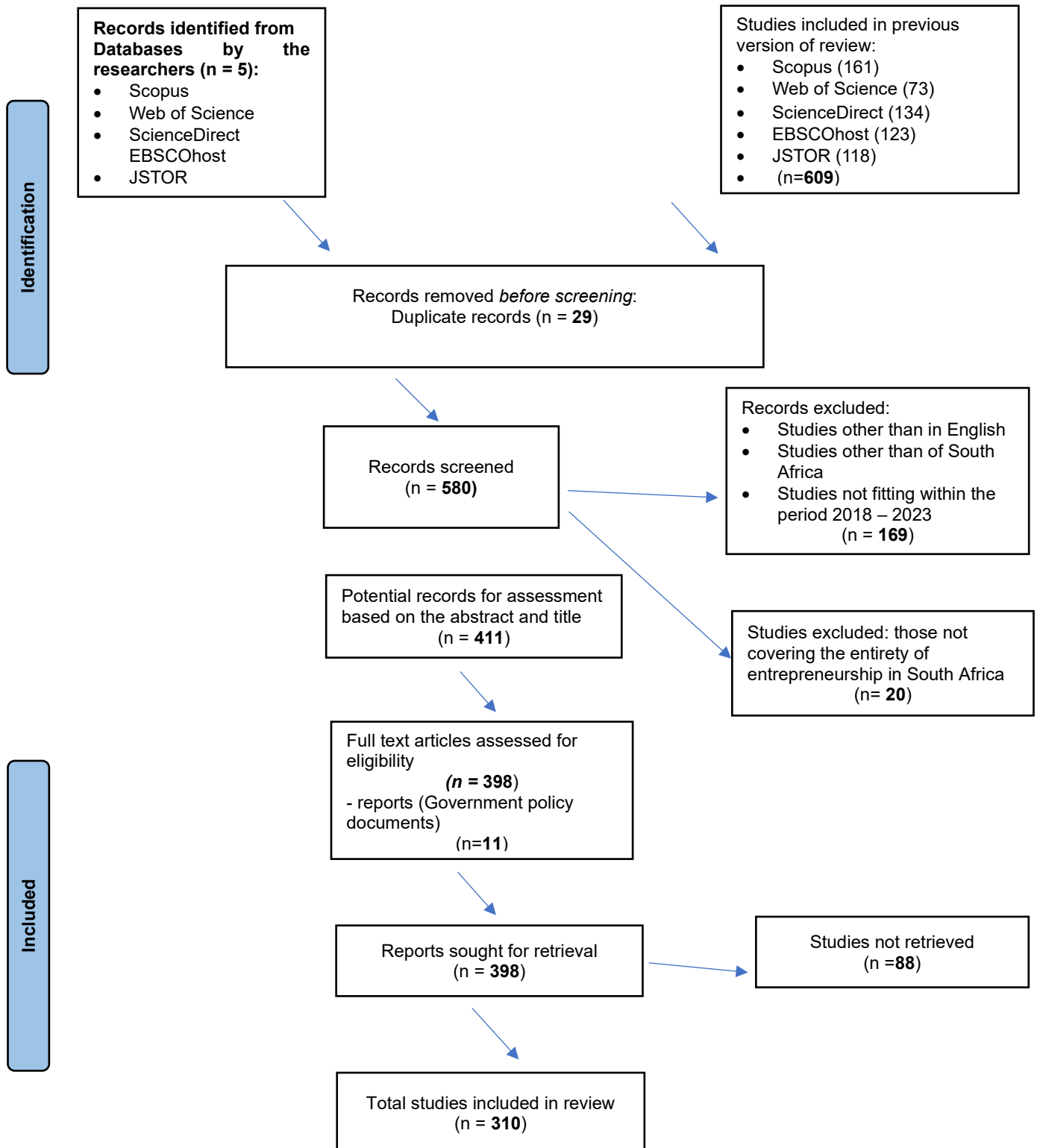
To qualify for inclusion, the selected literature had to consist of peer-reviewed research articles or studies that thoroughly explored aspects relevant to the research objectives. The chosen studies needed to focus on the impact of technological advancements on entrepreneurship in South Africa's economic growth and be published in English. To comprehensively address all research objectives, the inclusion criteria were strictly defined to require that the literature must have been:

- published between 2018 and 2023;
- presented in English, and
- categorized under document types such as research articles, theses, policy documents, and studies.

On the other hand, the exclusion criteria included:

- studies published in languages other than English, and
- those that focused solely on a single research objective.

Additionally, any literature that did not offer a comprehensive analysis of technological advancements in the context of entrepreneurship's impact on South African economic growth was excluded from the review.



Adapted from Page et al. (2021).

Search strategy

The initial search strategy was formulated using specific keywords tailored for this study. The researchers utilized four databases: Scopus, EBSCOhost, Emerald Insights, and ScienceDirect. Keywords such as "entrepreneurship, South African economy, government departments" were employed to search these databases, resulting in a substantial number of articles. Due to the large volume of relevant information obtained, there was no need to employ Boolean operators to expand the search for additional sources.

Search details and screening process

- vi. The researchers used the 'EBSCOhost search' then applied the following filters: Publication years: 2018 – 2023; Source types: academic journals; Subject Teme: records management, electronic records, public sector, Languages: English. This search resulted in 123 results.
- vii. The researchers ran a search query in the Scopus database using TITLE-ABS-KEY (title, abstract, and keyword) fields and then applied the following filters: Years: 2018 – 2023; Document type: article; Source type: journal; Language: English. This search resulted in 161 results.
- viii. In the Science Direct database, the researchers input the search and applied the following limiters: Scholarly journals; Publication data: 2018 – 2023; Articles: English). This search resulted in 134 results.
- ix. The researchers ran a search query in the Web of Science database using the advanced search and then applied the following filters: Years: 2018 – 2023; Content type: article; Source type: journal; Access: "Only content I have access to." This search resulted in 73 results.
- x. The researchers ran a search query in the JSTOR database using TITLE-ABS-KEY (title, abstract, and keyword) fields and then applied the following filters: Years: 2018 – 2023; Document type: article; Source type: journal; Language: English. This search resulted in 118 results
- xi. The total results from all five (5) databases were 609 records.

All relevant data were downloaded and stored for screening, analysis, and citation purposes. A total of 88 articles could not be retrieved due to paywall restrictions, publication in non-indexed journals, lack of full-text availability, and technical difficulties.

RESULTS

The role of technological advancements on entrepreneurial activities

The advancement and widespread use of technology have greatly enhanced productivity and improved societal well-being. Technology's potential to enhance lives and businesses is growing as it develops quickly (Kang, 2022). According to Moed (2018), technology in South Africa has the capacity to promote equitable access to financial and employment possibilities, thereby levelling the economic playing field. Countries, regions, and cities experience economic growth as a result of technological advancements, since they promote productivity gains and innovation. Technology developments have brought about a revolution in entrepreneurial activities by opening up new markets, encouraging innovation, and enabling more effective business operations. For example, Chiza (2018) investigated the factors influencing cloud computing adoption among Cape Town entrepreneurship and discovered a dearth of knowledge regarding its advantages.

According to Ricardo (2019), the incorporation of cutting-edge technologies, like automation and digital platforms, has given business owners the ability to streamline operations and cut expenses, strengthening their competitive advantage. In a similar vein, Roeller and Waverman (2021) emphasize how crucial telecom infrastructure is to the expansion of entrepreneurial endeavours by enabling improved data management, communication, and access to international markets.

Due to the paucity of available literature, Mudzamba (2019) created a framework that may be utilized to mentor entrepreneurship via cloud adoption procedures. The survey also emphasizes how utilizing and adopting cloud computing services might help small firms overcome some of the ICT-related obstacles they face. Potter (2015) conducted a qualitative study on big data adoption in entrepreneurship, taking into account the entrepreneurial and agile nature of small business executives. The study found that "evidence-based decision-making" and a "strong entrepreneurial orientation" facilitate the application of big data. This is mostly because cloud and online platforms are

readily available, enabling SMMEs to develop new business models and supply organizations with data and analytical expertise. The impact of technological improvements on entrepreneurship in South Africa that can be leveraged for competitive advantage and optimal performance in the 4IR era was thoroughly reviewed by Adesina and Ocholla (2019).

Nonetheless, the degree of this influence differs among South African regions and sectors. Romer (2022) addresses how the potential benefits of these improvements for many entrepreneurs, especially in rural regions, are limited by the unequal distribution of technology infrastructure and gaps in digital literacy. This discrepancy exacerbates already-existing inequities in the entrepreneurial ecosystem by creating a digital gap. Despite these obstacles, Coyle (2018) points out that there is evidence that technology developments have encouraged a new wave of digital entrepreneurship in South Africa, which is typified by creative business models and the emergence of new markets.

Challenges to technological integration in entrepreneurship

Even while new technologies have many advantages, there are certain difficulties when incorporating them into entrepreneurial endeavours. The absence of the necessary skills to support new technology is one of the biggest obstacles. Workers frequently lack the technical know-how needed to accept and apply new technologies efficiently, as noted by Celik et al. (2020), which impedes the wider dissemination of innovation within economies. In the context of entrepreneurship, where technology proficiency is essential for development and competitive advantage, this skills gap is especially troubling. The lack of digital abilities has been well-documented. Digital literacy and technological skills are critical for entrepreneurs and their workers to adapt to the quickly changing business environment, according to Banga and Velde (2018), Melia (2020), and Yoon (2020). Without these abilities, companies find it difficult to incorporate cutting-edge technology like blockchain, digital platforms, and artificial intelligence, which restricts their ability to innovate. In a similar vein, Gray (2016) emphasizes that technical literacy is essential in today's workplaces and that workers must be tech-savvy in order to fully utilize technology. This lack of technological proficiency can harm both company success and the expansion of the national economy.

However, it is impossible to overlook the difficulties of incorporating technology into entrepreneurship. When it comes to digital platforms and telecommunications infrastructure, access in urban and rural locations differs greatly. Due to the difficulty that entrepreneurs in underserved and rural areas have to gain access to the technology that could improve their firms, the digital divide reduces the possibility for equitable economic growth. As noted by Roeller and Waverman (2021), many rural enterprises are still not taking advantage of the advantages of the digital economy, even in spite of advancements in infrastructure. This circumstance emphasizes the necessity of allocating technology resources more fairly among South Africa's many areas.

Another major obstacle is the hefty costs associated with adopting new technology. For many small and medium-sized businesses (SMEs), especially in developing nations like South Africa, the initial costs of purchasing digital tools, software, and infrastructure are unaffordable. Robinson (2018) emphasizes that the difficulties in obtaining funding adds to these expenses because banks may be reluctant to support tech-related businesses because of perceived risks. Because of this, many business owners are unable to afford the technology they need to grow their companies or compete in increasingly digital marketplaces. The problem is made worse by the inadequate technology infrastructure, which is especially prevalent in neglected and rural areas. Slow or inconsistent internet connections are a common problem in rural locations, which makes it difficult for businesses to participate in digital marketing, e-commerce, or online customer service.

The digital divide between urban and rural areas continues to be a major barrier to equal technological integration across the nation, as noted by Roeller and Waverman (2021). The regulatory landscape in South Africa poses additional obstacles to the uptake of new technologies. According to Domar (2018), regulatory frameworks frequently lag behind technical developments, which makes it challenging for business owners to understand the law and obtain the licenses they need for their tech-related projects. Uncertainty brought forth by this mismatch between technology advancements and policy, discourages prospective investors and business owners from embracing innovation. Additionally, as noted by Dornbusch, Fisher, and Startz (2022), entrepreneurs face increased risks due to the rapid growth of technology, since

they sometimes find it difficult to keep up with shifting trends and customer expectations.

Entrepreneurs face uncertainty due to the swift advancement of technology. Businesses take the risk of investing in products or platforms that could quickly become outdated as new technologies are produced on a constant basis. It is challenging for entrepreneurs to establish long-term strategies or choose which technology to implement because of this perpetual state of flux. According to Dornbusch, Fisher, and Startz (2022), entrepreneurs may be discouraged from completely incorporating sophisticated technologies into their operations due to this uncertainty, which could further limit their potential for growth. Technology has a lot of potential for entrepreneurship in South Africa, but in order to reach that potential, a number of issues need to be resolved. Significant obstacles that must be overcome include the absence of infrastructure, the high costs of adoption, the skills gap, and regulatory constraints. In order to address these issues, specific government regulations and industry partnerships are required. These initiatives should focus on lowering technology costs, enhancing digital literacy, and establishing a supportive regulatory framework for tech-related businesses.

The skills gap is a serious problem that makes it difficult for businesses to use cutting-edge technologies. The full potential of technological advances is often unrealized by entrepreneurs who lack the requisite technical knowledge and digital literacy. This disparity is especially noticeable among business owners in underprivileged areas, where there is little access to training and education. According to Banga and Velde (2018) and Melia (2020), closing this skills gap is crucial to empowering business owners to use technology to expand their enterprises. To overcome this obstacle and guarantee that all entrepreneurs, regardless of geography or socioeconomic class, may profit from technological improvements, investments in education and training programs—particularly those aimed at developing digital skills—will be essential.

The role of technological advancements in driving economic growth

Technology's incorporation into South Africa's entrepreneurial environment has the potential to significantly boost economic expansion, encourage innovation, and raise overall company productivity. According to existing research, technology has given rise to previously unheard-of chances for entrepreneurs, especially in cities where

digital platforms and infrastructure are more easily accessible. These technologies have the power to create new market opportunities, lower entry barriers, and level the playing field, all of which will greatly aid in the creation of jobs and the reduction of poverty. Furthermore, technical innovation is a major force behind economic progress, as Numba (2017) and Ricardo (2019) point out. It boosts productivity, streamlines manufacturing processes, and makes it easier to reach international markets.

Technology's advancement and broad use have been essential to raising general societal well-being, stimulating innovation, and boosting productivity. Technology has the unquestionable ability to drastically change both the commercial and personal spheres, as it continues to advance at a rapid rate (Kang, 2022). Technology is a vital instrument in levelling the economic playing field in South Africa, since it can reduce socioeconomic gaps by increasing access to financial resources and employment opportunities (Moed, 2018). Technology has a profound impact on many different industries and is a key factor in the economic growth of not just nations, but also regions and communities.

Numba (2017) draws attention to the unrealized potential of South Africa's innovation scene and says that doing so might lead to the commercialization of better products and services, the creation of jobs, and a decrease in poverty. Especially in a low-growth setting like South Africa, productivity can be greatly increased by utilizing technological improvements, which will raise living standards. Numba (2017) goes on to say that innovation, enabled by technology, may promote job creation by increasing production efficiency and providing better services, which eventually aids in the emancipation of disadvantaged communities.

Technology developments are widely acknowledged as important forces behind economic expansion because of their ability to boost output, encourage innovation, and open up new markets. In support of this, Ricardo (2019) notes that technology advancements improve output overall and stimulate economic growth by streamlining industrial processes. Romer (2022) provides additional evidence for the positive correlation between technology and economic performance. He suggests that economies that adopt technical breakthroughs typically have better growth rates due to the growing rewards that come with ongoing innovation. Romer's (2022) thesis is consistent with the general understanding that long-term economic prosperity

depends on technological advancement. The adoption of digital technologies has enormous potential for accelerating economic growth in South Africa.

Digital advances have the power to boost entrepreneurship, open up new markets, and produce a spike in employment. However, as Roeller and Waverman (2021) note, South Africa's ability to overcome significant issues including legislative barriers and infrastructure deficiencies will determine how much of these advantages are actually realized. Businesses in South Africa may find it difficult to take full advantage of technological potential due to the regulatory environment's tendency to be sluggish to adopt new advancements, especially in the field of technology (Roeller & Waverman, 2021).

According to Domar (2019), considerable capital expansion is required for the use of technology in South Africa to be sustained and scaled up. This entails investing in the technology infrastructure needed to enable broad adoption in addition to facilitating entrepreneurs' access to funding. The provision of the resources required for enterprises to integrate new technology, which in turn drives productivity and long-term economic growth, is largely dependent on capital expansion. According to Nomba (2017), while technology improvements are essential to South Africa's economic progress, a number of challenges must be addressed before they can be fully realized. In order to guarantee that technology becomes a fundamental component of sustainable growth, employment generation, and poverty reduction, it will be imperative to tackle infrastructure difficulties, simplify regulatory frameworks, and promote capital expansion.

Existing literature on technology and entrepreneurship in South Africa

The country's development in utilizing technical advancements within its entrepreneurial ecosystem is nuancedly portrayed in the literature that is now available on technology and entrepreneurship in South Africa. Even if digital entrepreneurship has grown significantly, particularly in metropolitan areas, there are still issues that prevent technology from being widely adopted and integrated, especially in rural areas. In their analysis of the contribution of telecommunications infrastructure to the promotion of entrepreneurship, Roeller and Waverman (2021) point out that, although progress has been made in metropolitan areas, considerable obstacles still exist in rural areas. These obstacles prevent business owners in these locations from taking

advantage of the potential presented by digital platforms, and they include restricted access to dependable internet and other digital technology.

Coyle (2018) emphasizes how digital platforms have a revolutionary effect on entrepreneurship by lowering barriers to entry, increasing market accessibility, and giving business owners the means to reach a wider audience. The advantages of these platforms are not dispersed equally, though, as rural business owners frequently lack the technology infrastructure required to successfully compete in the digital economy. The literature also emphasizes how urgently comprehensive policy frameworks supporting technology adoption and promoting innovation within the entrepreneurial sector, are needed. According to Dornbusch, Fisher, and Startz (2022), in order to foster an atmosphere that encourages the emergence of entrepreneurs, South Africa's legislative framework needs to be more flexible to keep up with the speed at which technology is developing. Entrepreneurs are frequently prevented from fully leveraging new technologies by regulatory bottlenecks, such as antiquated laws and cumbersome bureaucratic procedures, which restrict their ability to innovate and expand. Having a legislative framework that is flexible enough to respond to developments in technology could make South African entrepreneurs more competitive globally.

The skills gap, which continues to be a major barrier to the complete integration of technology into the entrepreneurial sector, is another recurrent issue in the literature. A number of academics, such as Banga and Velde (2018) and Melia (2020), emphasize how critical it is to solve this skills gap in order to empower entrepreneurs to take full advantage of technology improvements. Entrepreneurs in marginalized groups are especially unable to fully utilize technology's potential to propel business growth, due to a lack of technical know-how and digital literacy. To close this gap and guarantee that all entrepreneurs, regardless of their location or financial status, may profit from technological advancements, training programs and educational activities centred on developing digital skills are crucial.

As a result, while South Africa has made progress in incorporating technology into its entrepreneurial environment, there are still big obstacles to overcome. Reforming regulatory frameworks, funding digital literacy initiatives, and addressing the infrastructure gaps between urban and rural communities are crucial if we are to fully

utilize the potential of technological breakthroughs in promoting entrepreneurship. By addressing these problems, South Africa can develop an entrepreneurial ecosystem that is more dynamic and inclusive and prepared to compete in the global digital economy.

IMPLICATIONS OF THE STUDY

The study's conclusions have a number of significant ramifications for players in the South African entrepreneurial ecosystem as well as legislators, business owners, and academic institutions. This report offers a road map for future action to guarantee that technology acts as a catalyst for equitable economic growth and sustainable development, by highlighting important potential and difficulties related to the integration of technology into entrepreneurship.

The study emphasizes the necessity of a more flexible and responsive regulatory environment to promote technological innovation and uptake. The primary objective of policymakers ought to be to cultivate an entrepreneurial atmosphere in the corporate sector by mitigating regulatory obstacles, streamlining administrative processes, and providing financial rewards for the adoption of new technologies. Entrepreneurs will be able to take advantage of advances and more effectively compete in the global market with an updated legal and legislative framework that keeps up with the quick speed of technological development. Ensuring fair access to technical resources and encouraging inclusive economic development require specific policies targeted at closing the digital divide between urban and rural communities.

According to the study's conclusions, technology developments are a major force behind economic expansion and have the potential to increase employment, especially in fields like technical innovation and digital entrepreneurship. Entrepreneurs that can successfully incorporate new technology into their business plans stand to gain more market access, more productivity, and faster rates of growth. This has ramifications for the country's economic growth because technology-driven entrepreneurship may be a means of lowering inequality, unemployment, and poverty in South Africa.

The necessity of significant investment in education and skills development, particularly in digital literacy and technical proficiency, is a crucial implication of this study. The curriculums of educational institutions and training programs need to be

modified in order to provide aspiring business owners with the digital competencies required to succeed in a technologically advanced economy. Partnerships between the public and private sectors should be established to give entrepreneurs access to ongoing skills development, so they can meet the challenges of adopting new technologies and remain competitive in a market that is always changing. In order to ensure that entrepreneurs from marginalized communities and underprivileged areas may participate in and benefit from the digital economy, it is imperative that the digital skills gap be addressed.

CONCLUSION

This comprehensive literature study concludes by highlighting the revolutionary influence of technology breakthroughs on economic growth and entrepreneurship in South Africa. Digital platforms, blockchains, and artificial intelligence are some of the key technologies that have transformed entrepreneurship by opening up new markets, improving operational efficiency, and enabling creative company models. The study finds a number of obstacles that prevent technology from being fully incorporated into the entrepreneurial environment, despite these advantages. Obstacles including deficient internet infrastructure, restricted capital availability, and a notable skills disparity between entrepreneurs and the labour force persist in impeding advancements. Targeted policies and tactics are desperately needed in order to get over these barriers and fully realize the promise of technology developments. Enhancing digital infrastructure, promoting the development of skills, and expanding access to financial resources—such as grants, loans, and venture capital—for technology-driven businesses, should be their main objectives. On South Africa's dynamic entrepreneurial scene, overcoming these obstacles is essential to leverage technology to create sustainable development, boost competitiveness, and promote economic progress.

RECOMMENDATIONS

By implementing these recommendations in practice, South Africa can improve the climate that supports technology-driven entrepreneurship and eventually contribute to long-term economic development and progress. The country's entrepreneurial landscape will gain from technology improvements when attention is paid to supporting innovative ecosystems, bridging the skills gap, adjusting regulatory frameworks, and

enhancing finance. The following need attention with suggestions on how to achieve the desired outcomes:

- Creating specific funding programs: Establish venture capital funds, loans, and grants specifically for tech-driven business initiatives.
- Public-private partnerships: Encourage cooperation between the public sector, private sector, and financial institutions in order to pool resources and offer entrepreneurs fully-fledged financial support.
- Investing in infrastructure development to improve digital infrastructure: Give equal access to technology first priority by building and expanding digital infrastructure, especially in underprivileged and rural areas.
- Encouraging reasonably priced internet access: Put laws into place that will lower the cost of internet access, making it more accessible to business owners nationwide.
- Filling the skills gap through education and training: Create and carry out training and educational initiatives that emphasize entrepreneurship, technology proficiency, and digital literacy. Both aspiring and established business owners should be able to enrol in these programs.
- Collaborating with educational establishments: Collaborate with academic institutions, technical schools, and career centres to integrate technology and entrepreneurship courses into their programs.
- Modifying regulatory structures: Adopt adaptable and versatile policies by creating regulatory frameworks that are adaptable and quick to alter in response to the rapid advancements in technology. This involves making procedures for registering and running tech-driven firms more efficient.
- Promoting innovation: Establish a legal framework that promotes innovation and experimentation by laying forth precise rules without being unduly burdensome.
- Encouraging innovation ecosystems: Innovation centres and hubs provide resources, networking opportunities, and mentorship to tech entrepreneurs by establishing and supporting innovation hubs, incubators, and accelerators.
- Encouraging knowledge exchange: To spur innovation and best practices, encourage cooperation and knowledge sharing between researchers, business owners, and industry professionals.

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Factors influencing decision-making behaviour of airline passengers: A case of a selected airline in South Africa

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ABSTRACT

This study aimed to investigate the factors influencing the decision-making process of South African Airways passengers. The study employed a quantitative and explanatory research design, collecting data through purposive sampling from a sample of 118 passengers using a geographically dispersed questionnaire. The gathered responses were analysed using the Statistical Package for the Social Sciences (SPSS), and the results were presented through pie charts and frequency tables. The study found that customers engage in an information search process before making a purchase decision, considering factors such as airline safety records, airfare pricing, baggage security, and route distribution network. Consequently, the study recommended that South African Airways implement a customer relationship management system to enhance service offerings and develop loyalty programs by recording, tracking, and tracing customer interactions. Furthermore, it suggested that airlines create customer engagement programs to empower customers in designing product and service strategies.

Keywords: airline passengers, categories of customers, decision-making behaviour, South African Airline Industry

Introduction

The aviation industry operates within a dynamic landscape characterized by intense competition, price fixing, and substantial operational expenses. Airlines compete for a domestic and international market share by providing similar services. However, low customer turnout can pose significant challenges to an airline's viability, resulting in revenue loss, route cancellations, job reductions, and potential bankruptcy. In response to saturated markets and the potential for risk diversification, companies are increasingly drawn to global expansion and the opportunities presented by the global community. This trend is particularly evident in the airline industry as customers seek improved travel options that are both affordable and reliable. As travel rates continue to rise post-COVID-19, airlines are pressured to deliver high-quality services to their clientele. According to Matikiti, Mpinganjira, and Roberts-Lombard (2020), reviews on TripAdvisor indicate dissatisfaction with the services provided by South African Airways (SAA) and point to a lack of an effective recovery strategy. Some customers have expressed their intention to seek alternative airlines for their future travel, suggesting that SAA may no longer be their preferred choice.

This study examines the factors influencing customer choices when selecting an airline, specifically focusing on South African Airways (SAA). SAA faces fierce competition in providing services for domestic, regional, and long-haul destinations, so its sustainability relies on customer loyalty, pricing strategies, and service quality. It is important to note that fuel prices and airport taxes directly impact the airline's revenue. Therefore, SAA must effectively balance customer satisfaction with a sustainable cost structure to maintain profitability. Globalisation has prompted firms like SAA to expand internationally due to risk diversification, domestic market saturation, and the advantages of global integration. This has affected airlines like SAA, which face intense competition on regional and long-haul routes. The viability of SAA depends on factors such as customer loyalty, pricing, and service quality, while fuel prices and airport taxes influence revenue. Striking a balance between customer satisfaction and profitability is crucial for the airline. The findings of this study are significant for SAA's management as they bring attention to potential issues that may have been overlooked, prompting management to take corrective action and address customer concerns. Professionals in other airlines can also use the insights to

enhance their passenger relationship programs and adopt best practices. Furthermore, this study resolves discrepancies from previous research and substantially contributes to the available knowledge. The results can serve as a benchmark for other companies looking to take corrective action, enhance their competitive advantage, and supplement existing knowledge, providing a basis for future research.

LITERATURE REVIEW

Background to the South African airline industry

The history of the South African airline industry is not well-documented. However, it is presumed that the South African airline sector existed in 1913 when citizens were invited to join the South African Aviation Corps (SAAC), which trained officer-aviators and served in defence forces (Fuyane et al., 2021). South Africa's domestic airline industry has witnessed a 73% failure rate since deregulation in 1991, with a further 14.7% decline in international routes over the past decade. The airline sector is structurally challenged by its high overhead and capital costs, strong rivalry, and susceptibility to exogenous shocks. Airlines face challenges in achieving operational efficiency due to unpredictable seasonal challenges and customer demand (Mhlanga et al., 2018; Tolcha et al., 2020). South African airlines operate in a turbulent and competitive industry. They are distinguished by significant price fixing, intense competition, and high operating costs. When a global economic downturn occurs, business costs far surpass the expected benefits (Riwo-Abudho et al., 2013). However, Aigbavboa, Ebekoziem, and Mkhize (2023) are optimistic that the Fourth Industrial Revolution (4IR) can improve airlines' production systems, supply chains, and safety measures through digital transformation to offset potential issues in South Africa.

The liberalization of the skies in South Africa in the early 1990s significantly impacted local and regional economies (Mukhezekule & Tefera, 2019). Several airlines began operating after liberalising the domestic market in the early 1990s. Prior to that, SAA had a monopoly from 1934 until 1990, when the industry was deregulated. Subsequently, SAA began operating as a commercial airline in a competitive global market. New airlines faced challenges competing with SAA, which held approximately 95% of the market share. It is important to note that the South African aviation business

is highly susceptible to significant changes in customer expectations, new competition strategies, governmental laws and regulations, and workforce fluctuations. The airline industry's success can be ascribed to a variety of elements. Certain elements can be managed and affected, while others cannot. Key success factors in the airline industry encompass fulfilling customer expectations, creating repeat purchases via a well-executed customer loyalty initiative, and the pricing framework (Paelo & Vilakazi, 2016; Riwo-Abudho et al., 2013).

The South African airline industry has faced challenges, with some airlines showing significant profits while others struggled (Ukpere et al., 2012). However, the recent COVID-19 pandemic has severely impacted the industry, decreasing airlines' market value. COVID-19 has prompted travel restrictions worldwide, with 45% of the 217 destinations closing their borders to international travel, either partially or completely. In South Africa, this has led to both public and private airlines being liquidated or placed under business administration (Dube, 2021; Maneenop & Kotcharin, 2020; Suk & Kim, 2021).

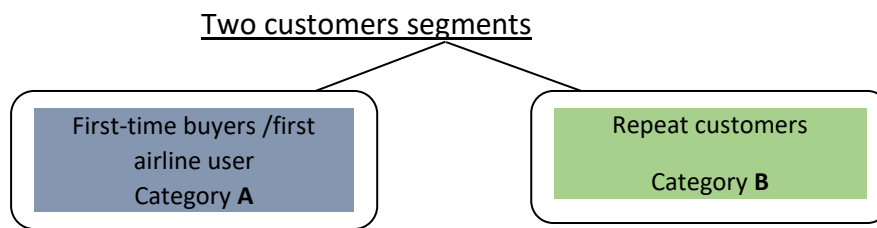
Categories of airline customers

The categorization and grouping of customers are crucial tasks for airlines, enabling them to tailor their products and services to the specific needs of diverse consumer segments. This classification process sheds light on consumer behaviour by situating it within relevant categories. Multiple academic studies support the consensus among various authors that there are discernible differences in customer behaviour based on their classification.

Types of customers

First-time and returning customers are the two primary segments of the airline client base. First-time buyers have never flown and lack prior flying experience, while repeat customers have previously flown or frequently utilised air transportation services. It is acknowledged that first-time users and returning consumers hold distinct attitudes and experiences. A visual representation of customer categories is provided in Figure 1 below.

Figure 1: Customer segments



Category A: It is important to consider the needs of first-time users in the aviation industry. This group has no previous experience, and their initial encounters will significantly influence their future decisions about air travel. The industry's responsiveness to these new users can significantly impact long-term customer loyalty. By focusing on the needs of these newcomers, the aviation industry can improve inclusivity and accessibility, making air travel advancements beneficial to a broader range of people.

Category B: This category encompasses individuals who are returning customers. These individuals possess prior knowledge and experience in flight schedules and booking processes. Their expectations are shaped by their previous interactions with the company.

When analysing airline customer behaviours for academic purposes, it is important to closely examine the different patterns displayed by the various groups as they progress towards purchasing a flight. Table 1 provides a detailed breakdown of these behaviours by categorizing customers into first-time and repeat clientele. This segmentation enables a comprehensive analysis of crucial stages such as information search, evaluation, and purchase decision. This approach allows for a detailed understanding of the factors that influence both types of customers, providing insight into their decision-making processes.

Table 1: Understanding the customer purchase decision phases

	Information search phase	Evaluation phase	Purchase decision phase
A	<ul style="list-style-type: none"> Brand (how the brand is known to the public) Flight Schedule Price/fare Ease of acquiring ticket 	<ul style="list-style-type: none"> Company reputation Price/ fare Customer service Available information 	<ul style="list-style-type: none"> Company reputation Price/ fare Customer service
B	<ul style="list-style-type: none"> Flight Schedule Fare/ price 	<ul style="list-style-type: none"> Customer service based on experience Flight Schedule Fare/ price 	<ul style="list-style-type: none"> Brand loyalty Service Quality Customer service

Results

Table 2: Demographics of respondents

Gender	Age Group			Passenger Class			Total
	31-40 years	41-50 years	51-60 years	Economy	First	Voyager	
Male	22	64	13	40	34	25	99
Female	6	10	3	8	6	5	19
Total	28	74	16	48	40	30	118

The survey involved 118 respondents, 84% males and 16% females. Respondents were from various age groups, with the majority falling within the 41-50 age bracket. With passenger class, most respondents were in the economy class, followed by first-class and Voyager class.

Table 3: Evaluation of information sources

Category	Information Source	Percentage (%)
EX	Personal experience	45.67
PE	Recommendations from friends and family	38.60
PE	Online reviews	24.56
NE	Travel Agent	22.85
MA	Travel Catalogue	10.56
MA	www.flysaa.com	8.79
MA	Billboards	7.03
MA	Newspaper and Magazines	5.24
MA	Enquiries Table	3.55
MA	Other means	1.71

The data in Table 3 shows that less than 10% of respondents never conducted information searches and relied on travel agents for bookings. Most respondents (45.67%) based purchase decisions on personal experience, while 38.6% used information from family and friends. Other sources included online reviews, travel agents, travel catalogues, and websites. Personal experiences and recommendations were the most used sources of information, while newspapers and magazines were less utilized. This shift may be due to the increasing use of the internet. Consumers gather information about their intended purchase, evaluate alternatives, and consider the advantages and disadvantages of their choices themselves.

Table 4: Reliability of sources of information

Category	Most credible information source	Percentage (%)
EX	Personal experience	43.80
PE	Recommended by friends and family	30.22
MA	www.flysaa.com	11.69

NE	Travel Agencies	6.82
MA	Internet reviews	4.88
MA	Service Hotline	1.37
MA	Enquiries table	1.22
MA	Advertisements	-
MA	Printed Media	-
MA	Travel Catalogues	-

Consumers consider information credibility vital when connecting with a brand. They want to be sure that every piece of information brings them closer to understanding the brand. This credibility is detailed in Table 4, which outlines how consumers perceive and manage information. Among the total sample, 43.80% found experiential sources to be the most credible, while 30.22% relied on recommendations from family and friends. In contrast, less than 2% considered information from inquiry tables credible. The table clearly shows that Personal Experience is the most credible, backed by various surveys in passenger decision-making. With abundant information and improved access to technology, consumers can quickly and accurately compare different options. Individuals frequently turn to their friends, family, and neighbours when contemplating a purchase (Sachdev, 2004). Assessing different options is more straightforward when the consumer is already acquainted with the product or service provider. Otherwise, they will seek information from both external and internal sources (Jankingthongm & Gonejanart, 2012).

Table 5: Analysis: Brand loyalty items

DIM	ITEM	MEAN	DIM	ITEM	MEAN
RELI	I am satisfied with my current airline choice and would rather continue using this airline.	4.8	RESP	My loyalty changes with prevalent economic conditions	2.7
RELI	I remain loyal to my current airline due to the perks I get from their frequent flyer programs.	4.8	STAP	If I am unhappy with a specific airline. I opt for a different one.	2.4
RELI	I prefer to fly with an airline that offers superior features like easy booking, excellent customer service, and on-time performance.	4.5	RELI	I switch between different airlines occasionally.	2.1
SCHE	I experience discouragement when I cannot locate what I am searching for.	3.5	RELI	When the value of my brand diminishes, I switch to different brands.	1.6
TANG	I cannot maintain a long-term relationship with an airline	3.4	RESP	I explore alternative airlines if my current airline is unable to get in touch with me.	1.5

SCHE	The more I get involved with the brand, the more I become loyal to it.	3.2	RESP	My loyalty to a brand is rooted in its quality and performance.	1.3
RELI	Price fluctuation doesn't affect my loyalty to a brand.	3.2	TANG	My loyalty to a brand is rooted in its quality and performance.	1.2
SCHE	I consider communication to be key to maintaining relationships	3.2	RELI	I feel anxious when I can't use a specific brand.	1.3
RELI	Regarding brand loyalty, the company's reputation holds great value for me.	3.1	STAP	I assess a brand based on perceived performance	1.2
RELI	My loyalty to the brand is a result of my satisfaction.	2.8	SCHE	If I find an airline with better performance, I will change the brand.	0.9

Survey participants were tasked with evaluating the significance of various brand loyalty elements, and a mean score was calculated for each. As shown in Table 5, the elements are organized by their mean scores from the highest to the lowest. Table 5 also identifies the aspects of each element: The following acronyms were used:

- RELI for reliability.
- RESP for responsiveness.
- SCHE for schedule and availability.
- STAP for staff and personnel considerations.
- TANG for physical tangibles.

These elements of brand loyalty were subsequently categorized into six primary groups: customer satisfaction, advantages of the brand, predisposition towards relationships, engagement, repurchasing behaviour, and the overall performance of the brand.

INTERPRETATION OF FINDINGS

The text presents findings from a study on passenger behaviours and preferences in obtaining travel-related information. It reveals that most passengers can source reliable information independently, with 61.80% of respondents expressing satisfaction with the airline brand based on credible information, as outlined in specific tables. Word of mouth, particularly recommendations from friends and family, was deemed trustworthy by 30.22%, affirming its influential role in decision-making processes, supported by works from Crotts (1992), Kotler et al. (2008), and Kossman

(2006). The study also emphasizes the unexpected importance of travel agencies in the booking process, despite their lower rank in perceived information credibility. With 42.26% of tickets booked through agencies, the findings challenge the assumption that digital or direct booking platforms would dominate, highlighting the enduring value of personal recommendations and the strategic role of travel agencies in the airline industry.

The role of intermediaries in the business sector, especially in the context of airline ticket sales, is significant. Travel agencies play a major role in driving sales, as shown in Table 4. While many customers purchase tickets directly at airport desks or online, a substantial portion choose travel agencies and the airline's website. This competition highlights the challenge South African Airways faces from these agencies. Customers prefer travel agencies and the airline's website, due to their convenience and comprehensive travel packages, including all-inclusive deals that cover hotel stays, car rentals, and other benefits at discounted rates. Additionally, customer loyalty to airlines is greatly influenced by the perks they receive from loyalty programs.

RECOMMENDATIONS

South African Airways (SAA) should begin integrating new and innovative marketing communication initiatives to enhance its engagement with the public. Furthermore, it is important to focus on advancing information technology and other significant marketing initiatives to ensure the airline's success. Future research must incorporate a new customer-focused approach, improve brand communication, and enhance corporate social responsibilities to build trust and increase market share. It has also been observed that most airlines do not involve customers in their product or service design strategy. Engaging customers at the initial stage would greatly enhance customer loyalty, as they would feel a sense of ownership in the services or products offered.

A comprehensive research study is necessary to identify the product attributes that resonate with customers and establish SAA as their preferred airline. In addition to responding to the findings of this research, the organization must prioritize research and development to keep pace with changes in the industry. This can be accomplished by consolidating the marketing and communications departments and forging new partnerships with aligned organizations. Regular reviews of existing loyalty programs

are recommended to ensure that they deliver a substantial return on investment. Furthermore, significant attention should be directed toward advancing information technology alongside other impactful marketing initiatives, which are critical for the airline's success. Future studies should focus on enhancing customer engagement, brand communication, and corporate social responsibility efforts to foster trust and increase SAA's market share and dominance in the airline sector.

The analysis indicates that many airlines, including SAA, fail to involve customers in the product or service design process. Engaging customers from the outset can significantly improve brand loyalty, as it fosters a sense of ownership among customers regarding the services or products offered. Given the airline industry's critical role in promoting globalization, the proposed operational costs, such as fluctuating fuel prices and aircraft maintenance, pose significant challenges. Therefore, governmental support through subsidies is vital. The SAA experience exemplifies the necessity of government intervention, as substantial financial assistance has been provided to maintain this national airline. Such intervention safeguards the country's image, as a national airline represents the nation on the global stage.

CONCLUSION

The primary objective of this research paper was to analyse the factors influencing decision-making behaviour in customers' choices when selecting an airline. However, the study faced certain limitations. Insights into the importance customers place on various information sources and processes were gathered through a survey. The airline industry operates within an economic market affected by external forces, indicating many unforeseen challenges beyond the airlines' control. Evaluating customer behaviour concerning brand loyalty indicates that South African Airways (SAA) is responsible for strengthening its customer connection, and this can be accomplished by restructuring its marketing mix with a focus on market segmentation. The findings of this research highlight the need for businesses to realign their strategies in response to changing consumer behaviour.

For future research, conducting comprehensive studies involving multiple airlines is advisable to gain a more profound understanding of the critical factors influencing decision-making. A more comprehensive analysis can also be achieved by integrating

diverse research methodologies and gathering extensive data and perspectives. Furthermore, additional studies should delve into customer perceptions of airlines. In conclusion, the airline industry is vital in global business because it facilitates efficient transportation. Therefore, airlines must tailor their products and services to meet customer needs, catering to first-time and repeat customers.

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Entrepreneurship education and youths' intention to start businesses: A case of King Cetshwayo District Municipality

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ABSTRACT

This study aims to explore the relationship between entrepreneurship education and youths' entrepreneurial intention to start tourism and non-tourism-related businesses. A structured questionnaire was used to collect data from 400 purposively selected youths in two local municipalities within the King Cetshwayo District Municipality. IBM's SPSS version 29 and partial least square-structural equation modelling were used for data analysis. The findings indicate a significant positive relationship between entrepreneurship education and entrepreneurial intention. The findings further indicate that entrepreneurial intentions vary among youths with different levels of education in KCDM, whereas entrepreneurial attributes such as "age group" and "starting own business in the future" show a positive significant relationship with entrepreneurial intention. Recommendations are made to the Department of Higher Education and Training, the district municipality and business incubators to assist in supporting youths who intend to start businesses.

Keywords: youth entrepreneurship; entrepreneurial education; entrepreneurial intention; business start-ups; King Cetshwayo District Municipality

INTRODUCTION

Tavassoli, Obschonka and Audretsch (2021) reveal that entrepreneurship studies are popularised as a measure for reducing unemployment rates in developing and well-developed countries, especially among youths. Therefore, entrepreneurship can be

viewed as a practical instrument and approach to sustaining a society's economy (Audretsch & Moog, 2022). Recently, the growing trend of entrepreneurship research has shifted its attention to youth entrepreneurship to identify various characteristics that impact entrepreneurial participation among youths (Guanah & Okowa-Nwaebi, 2022). Research shows that Western countries (such as Belgium, Germany, Italy and the Netherlands) and sub-Saharan African nations (such as Ghana, Ethiopia, Nigeria and South Africa) have the highest rates of youth unemployment (Ataei, Karimi, Ghadermarzi & Norouzi, 2020; Mhlongo, Ntshangase & Ezeuduji, 2024). In the first quarter of 2024, South Africa (SA) is reported to have about 45.5% youth unemployment, which is among the highest rates around the world (Statistics South Africa (Stats SA), 2024).

However, entrepreneurship studies continue to generalise entrepreneurship education (ED) and entrepreneurship intention (EI) relationship (Ataei et al., 2020; Mhlongo et al., 2024), as most of these studies focus on specific sectors. Thus, the purpose of this research was to investigate the relationship between ED and EI among young people working in both tourism-related and non-tourism-related industries, using King Cetshwayo District Municipality (KCDM) in the South African province of KwaZulu-Natal as a study case. UMhlatuze and uMfolozi local municipalities are the biggest contributors to the KCDM's Gross Domestic Products (GDP), as they cater for a wide range of agriculture, mining and tourism opportunities, making it an ideal area for tourism and non-tourism-related businesses. Therefore, this study aims to explore the relationship between ED and youths' EI in starting tourism and non-tourism-related businesses. The study intends to further assess the relationship between ED, EI and entrepreneurial attributes (age group and starting own business in the future). The literature review, methodology, data collection and analysis are covered in detail in the sections that follow.

LITERATURE REVIEW

Mbane and Ezeuduji (2022) put forward that social injustices, low income, inadequate education and an increase in crime are widespread throughout Africa. The study by Matyana and Thusi (2023) indicate that the unemployment rate is rapidly increasing in several nations, especially among African youths. Hence, the government has highlighted entrepreneurship as a key activity for reducing unemployment, social

injustices and high crime rates in the country (Mbane & Ezeuduji, 2022; Mhlongo et al., 2024). The current study serves as a direct response to meet government demand to reduce the high rate of youth unemployment in SA. This study understands Small, Micro and Medium-sized (Tourism) Enterprises (SMMEs) as the backbone of the country's economy. However, the South African government has made efforts to accommodate the tourism industry by offering business opportunities by introducing SMMEs. This is possibly due to the significant economic contributions of tourism in the country (Nyasha, Odhiambo & Asongu, 2021). This approach has the potential to generate local income and sustain employment opportunities in surrounding communities, especially among youths (Rogerson & Rogerson, 2021).

Much research has been conducted to investigate the impact of ED on EI (Sharma & Jamwal, 2022). Scholars (such as Nhleko & van der Westhuizen, 2022) suggest that ED is a tool for preparing and motivating potential entrepreneurs toward self-employment or business startups. However, these studies focus more on the students as respondents, making it difficult to generalise their findings to a wider population of youths (Odeyemi, Oyewole, Adeoye, Ofodile, Addy, Okoye & Ololade, 2024). Despite this limitation, it is well documented that ED plays a significant positive role in shaping youths' intention to start businesses (Ayeh, Bondzi-Simpson & Baah, 2022; Mhlongo et al., 2024). According to Soomro and Shah (2021), EI is commonly used to refer to a strong desire to engage in entrepreneurial activities, or to have a high degree of abilities and entrepreneurial literacy so that you could be successful in business. Research recognises the importance of individual characteristics, that when combined with ED, entrepreneurial attributes can function as mediators of EI (Iwu, Opute, Nchu, Eresia-Eke, Tengeh, Jaiyeoba & Aliyu, 2021). Thus, a further understanding of the influence of entrepreneurial attributes is required among youths.

Previous studies (e.g., Anal & Singh, 2023; Fallatah & Ayed, 2023; Neneh, 2022) recognise entrepreneurial attributes (such as age, gender, experience and self-efficacy) as some of the antecedences of intention and participation in entrepreneurship. In this paper, the authors further assessed whether age group (AG) and starting their own business in the future (SBF) have a significant relationship to EI among youths in KCDM. From the literature reviewed, four (4) hypotheses were proposed and tested. The following section presents the research design and methods.

RESEARCH DESIGN AND METHODS

A statistical model was built into this study, using the positivist research paradigm. The research was planned as a survey, and by using a quantitative technique, researchers may provide data that can be statistically analysed (Veal, 2011). A total of 580 questionnaires were purposefully given to youths in the local municipalities of uMhlathuze and uMfolozi; of these, 400 were deemed suitable for study. Due to the lack of knowledge about the research population, a non-probability sampling technique was used (Veal, 2011). For descriptive analysis, data were analysed using IBM SPSS version 29 (IBM Incorporation, 2022).

In addition, validity and reliability testing were emphasised in the data analysis. The structural model, or partial least squares structural equation modelling (PLS-SEM), was evaluated by a multivariate analytical method using SmartPLS software version 4.0.8.5 (Ringle, Wende & Becker, 2022). The research hypotheses (H) were put to the test using the SEM analysis. As construct variables, ED, age group (AG), starting one's own business in the future (SBF), and entrepreneurial intention (EI) were measured. The Kruskal Wallis and Wilcoxon Rank-Sum (Mann-Whitney) tests were used to analyse the demographic data depending on the primary characteristics that were chosen. The heterotrait-monotrait (HTMT) ratio correlation was used to assess discriminant validity, and the average variance extracted (AVE) was used to assess convergent validity (Franke & Sarstedt, 2019). The results indicate that there were no issues with the data's discriminant validity.

STRUCTURAL MODEL ASSESSMENT

The investigation used PLS-SEM and evaluated the model based on three criteria: R-square (R^2), predictive significance using Q-square (Q^2) value, and path coefficients (Hair, Hult, Ringle & Sarstedt, 2022). The R^2 evaluates the explanatory capacity of the model, while the Q^2 determines its predictive relevance, where $Q^2 > 0$ is preferable. Significant path coefficients and Q^2 values greater than zero indicate predictive validity. Explanatory powers of 0.19, 0.33, and 0.67 in a model are categorised as "weak, moderate, or strong", respectively. The examination demonstrated the R^2 values for the endogenous variable, Entrepreneurial Intention (EI), as being diverse from 0.628 to 0.688 across the study samples, indicating substantial explanatory power (Hair et al., 2022). Recent studies on entrepreneurship in Africa illustrate a

strong association between ED and intentions. Recent investigations from South Africa and Nigeria reveal that EI possesses strong explanatory power, with R2 values spanning from 0.60 to 0.70 (Adebayo, Awotundun, & Adetunji, 2021; Nkusi & Nzamurambaho, 2023). These findings align with those of the present study, underscoring the significant impact of ED on EIs in the African context. The outcomes of the study are detailed in the subsequent section.

RESULTS AND DISCUSSION

Descriptive analysis shows that 71.5% of respondents were relatively young, ranging from 18 to 25 years old. Additionally, the results reveal that more than half of the respondents, approximately 58%, had completed some form of business management or entrepreneurship education course. Furthermore, about 96% of youth respondents expressed a willingness to start businesses in the future. These findings align with the observations of Ntshangase and Ezeuduji (2023), who noted an increase in entrepreneurial intention among South African youths.

Table 1: Summary of path coefficient and hypotheses testing for tourism-related and non-tourism-related businesses (N=400)

N = 400				
	β	T	P	Result
H1: ED -> EI	0.231	3.359	0.005	Supported*
H2: ED -> EI	0.088	1.704	0.005	Supported*

H1: ED will show a significant relationship to EI among youths in King Cetshwayo District Municipality for tourism businesses.

H1 shows that ED has a significant positive relationship with EI ($\beta = 0.231$, $t = 3.359$, $p < 0.05$). This study shows that a unit increase in ED leads to a 0.231 increase in youths' intentions to start tourism-related businesses. The results indicate that the correlation between ED and intentions is not due to chance, suggesting that the ED acquired by youths can, or positively influences their EI in the tourism-related business sector within the study area. Consequently, the alternative hypothesis (H1) is supported. According to research done in Rwanda by Nkusi and Nzamurambaho (2023), students' intentions to launch tourism-related businesses are positively impacted by customised entrepreneurial training programmes. This supports the

important role that ED plays in promoting entrepreneurial activity in the tourism sector throughout various African contexts.

H2: ED will show a significant relationship with EI among youths in King Cetshwayo District Municipality for non-tourism-related businesses.

For H2, the results further indicate a positive relationship between ED and EI among youths in the study area. The regression coefficient of 0.088 shows that, when all other variables are held constant, EI increases by 0.088 units for every unit increase in ED. The statistical significance of this association is supported by the t-value of 1.704, suggesting that ED is not a random phenomenon at the 0.05 significance level. In South Africa, a study by Mkhize, Ganyani, and Mthethwa (2022) found that entrepreneurial training programmes significantly increase students' intentions to start their businesses, with a comparable effect size. This validates the positive impact of ED on EI across different regions of the country.

Table 2: Kruskal-Wallis equality of populations rank test

Age group	Observation	Rank sum
18-25	286	58531.5
26-30	78	16081
31-35	36	5587.5
ED (Chi-squared = 6.082 with 2 df.)		
p-value = 0.0478		
Age group	Observation	Rank sum
18-25	286	57767.5
26-30	78	16638.5
31-35	36	5794
EI (Chi-squared = 8.605 with 2 df.)		
p-value = 0.0121		

H3: The age group will significantly affect ED and EI.

The null hypothesis is rejected if the p-value is less than 0.05, indicating that age influences the dependent variables. The results show a chi-square value of 6.082, and a p-value of 0.0478, indicating significant differences in ED among the three age groups. In particular, the 26-30 age group had the highest rank sum, followed by the 18-25 age group and then the 31-35. For EI, the chi-squared test statistic was 8.605

with a p-value of 0.0121, showing a significant difference among the three age groups. Again, the 26-30 age group had the highest rank sum, followed by 18-25 and 31-35. A recent South African study backs up these conclusions. Mkhize et al. (2022) and Dlamini and Mahlangu (2023) found that the 26-30 age group had the highest EI, indicating the influence of age on ED and intentions.

Table 3: Wilcoxon Rank-Sum (Mann-Whitney) test

Ho: ED(SBF==1) = ED(SBF==2)	Observation	Rank sum	Expected
Yes	383	75377.5	76791.5
No	17	4822.5	3408.5
unadjusted variance = 217575.92			
adjustment for ties = -1179.57			
adjusted variance = 216396.35			
z = -3.040			
Prob > z = 0.0024			
Ho: EI(SBF==1) = EI(SBF==2)	Observation	Rank sum	Expected
Yes	383	74549	76791.5
No	17	5651	3408.5
unadjusted variance = 217575.92			
adjustment for ties = -1179.91			
adjusted variance = 216396.00			
z = -4.821			
Prob > z = 0.0000			

H4: Starting own business (SBF) in the future will significantly affect ED and EI.

H4 shows statistically significant differences in ED scores based on the intention to start a business ($z = -3.040$, $p = 0.0024$). Youths intending to start their own businesses scored higher on ED. Further analysis between SBF and EI showed significant differences in distributions ($z = -4.821$, $p = 0.000$), indicating that future business intentions significantly influence EI. Youths with entrepreneurial knowledge are more likely to start new businesses, regardless of the sector. Recent African research supports these findings. As earlier mentioned, Adebayo et al. (2021) found that Nigerian youths with entrepreneurial training had higher business intentions.

Similarly, Nkusi and Nzamurambaho (2023) in Rwanda noted that ED increases the likelihood of youths starting businesses.

CONCLUSIONS

ED showed a significant positive relationship with EI among youths in KCDM for both tourism and non-tourism-related businesses. These align with previous research, confirming that ED positively influences EI. Furthermore, findings reveal that age group and the intention to start a business in the future, are also positively correlated with ED and EI. This is contrary to some studies suggesting that age does not affect entrepreneurial skills. Our findings indicate that certain age groups may have greater exposure to developing these skills. Youth perceptions of ED and business intentions are influenced by knowledge and willingness to own a business. Therefore, promoting and implementing ED programmes for youths in KCDM can effectively encourage entrepreneurship across industries.

These findings should inform policy decisions and educational programmes aimed at fostering youth entrepreneurship and economic development. Enhancing existing business training programmes, such as business incubation, can help youths without prior ED or entrepreneurial exposure to start and grow businesses. The study emphasises the importance of ED in fostering EI among youths in KCDM, implying that targeted ED programmes can stimulate entrepreneurship in both tourism and non-tourism sectors. Policymakers and educators should use these findings to develop initiatives that nurture entrepreneurial skills and opportunities, driving economic growth and innovation in the region. It is recommended that future research can be conducted to investigate practical implications of business incubation among youths in King Cetshwayo District Municipality. The research can provide insights in the effectiveness of business incubators in the study area, identifying areas of improvement or lack thereof.

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Analysing the ramifications of the new proposed migration laws in South Africa: What are the domestic and international implications?

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ABSTRACT

This paper examines the ramifications of the proposed comprehensive overhaul of the immigration laws in South Africa, with particular focus on the potential domestic and international implications. The paper accepts the claim by the government that the non-reservation of certain obligations imposed by the United Nations 1951 Convention comes with a huge financial burden on the country's fiscal framework. This UN convention obliges contracting states, such as South Africa, to cater to refugees and asylum seekers. The obligations entail in part to provide them with adequate access to healthcare, housing, social security, and other legal entitlements that will ensure human dignity. Re-acceding with reservations to the 1951 convention, may set the government free from providing refugees with fundamental human rights such as the right to healthcare, education, and social security.

Nevertheless, the need for immigration reforms does not grant the government *carte blanche* to disregard its human rights commitments. This study investigates the domestic and international implications to the rights of refugees resulting from such reform. The methodology involves analysing primary and secondary sources of law, namely relevant constitutional provisions, recent court judgments, government publications, conventions, and treaties as well as foreign jurisdiction decisions. The theoretical framework underpinning the study is transformative constitutionalism, which entails upholding the culture of respect for human life and dignity based on the values reflected in the Constitution.

The study reveals that certain provisions in international instruments are grounded in humanitarian objectives, allowing contracting states to have reservations about binding obligations. However, such reservations must align with the overarching purpose and objectives of the Convention and the state's Constitution. It is discernible from the study findings that refugees may be deprived of established legal entitlements due to potential retrogressive measures resulting from these reservations and exceptions. Furthermore, the empirical observations indicate that most countries prioritise allocating resources to their citizens, often providing only residual resources to non-citizens or barring them from state resources altogether. The recommendations presented in this paper will assist the South African government, particularly the Department of Home Affairs, in enhancing the migration system within South Africa through a transformative constitutional approach.

Keywords: refugees; reservations; non-refoulement, citizenship, immigration.

INTRODUCTION

During the apartheid era, South Africa did not accede to any of the regional or international conventions relating to the treatment of refugees.⁵ Despite the significance of the AOU,⁶ which was adopted in the spirit of Pan-Africanism to deal with issues affecting migrants and refugees in Africa, South Africa did not adopt any policy to heed the sentiments. The criteria that existed in this period were biased, as they aimed at granting refugee status to only white people who were migrating from Mozambique, Portugal, and Zimbabwe. The civil war between Frelimo and Renamo is testimony to this effect. In that, the apartheid government refused to grant refugee status to Mozambicans who fled from the war in the 1980s.⁷

⁵ See <https://www.gov.za/news/speeches/minister-aaron-motsoaledi-release-white-paper-citizenship-immigration-and-refugee>.

⁶ Currently African Union hereafter referred to as AU.

⁷ Till today some Mozambicans live in the nooks and crannies of South Africa without documentation, they arrived during the war in the 1980's, and some live in the Agincourt area. See EJ Schatz "Reframing Vulnerability: Mozambican Refugees' Access to State-Funded Pensions in Rural South Africa" 2009 (24) *Journal of Cross-cultural Gerontology* at 241 – 258. See also Resolution 9 of the ANC 55th National Conference: Resolution on Peace & stability. Available at <https://www.politicsweb.co.za/documents/anc-55th-national-conference-resolution-on-peace--> (accessed 27/06/2024).

It was after the election of the new democratic government that South Africa started realising the need to protect the rights of refugees.⁸ This was done through the enactment of the Citizenship Act in 1995, the Immigration Act in 1998, and the Refugees Act in 2002. It was not so long after South Africa rectified its commitment to the 1951 convention in 1996.⁹

It is worth noting that South Africa is a significant signatory of the 1951 UN convention.¹⁰ This convention provides room for reservations that a country may declare before affiliating with the convention.¹¹ The factual issue is that South Africa did not make any reservations.¹² This has resulted in the country finding itself in a corner and being obliged to accept a staggered number of migrants, be it in the form of potential asylum seekers or prospective refugees.¹³ These groups are being accepted before the inquiry can begin.¹⁴ This is exacerbated by the provisions of section 2 of the Refugees Act, which explicitly provides that no person may be refused entry into South Africa, returned to his home country, expelled, or extradited.¹⁵ This section prohibits any other measure that may be taken by the state if such a measure, on the face of it, bears the potential that if such a person is dealt with in such a manner, he is likely to face persecution in his country. This clause is in line with Article 33 (1) of the 1951 convention, which also prohibits the *refoulement* of refugees.

In the recent judgment the Court emphasised that, in terms of section 2 of the Refugees Act, an applicant may under no circumstances be deported until he has had

⁸ <https://www.gov.za/news/speeches/minister-aaron-motsoaledi-release-white-paper-citizenship-immigration-and-refugee>.

⁹ United Nations Convention Relating to the Status of Refugees, signed at Geneva on July 28, 1951, and the Protocol to that Convention, signed in New York on January 31, 1967.

¹⁰ It was signed and entered in 1951 and rectified on 12 January 1996.

¹¹ Article 42 of the 1951 United Nations Convention.

¹² It is common cause that South Africa signed the United Nations 1951 Convention without any reservation. The same applies to the 1967 protocol.

¹³ In 1995 the migrant population in South Africa was about 1,003,807.00 which amounts to 2, 42%. In 2015 South Africa recorded a 3,142,511.00 migrant population which ranges to a percentage of 5, 77%. Alarming, there is a significant increase in the number of migrants entering the country. This information is available at <https://www.macrotrends.net/countries/ZAF/south-africa/immigration-statistics> (accessed 08 February 2024). Additionally, the White paper in question highlights that the Department of Home Affairs has no idea as to how many illegal migrants are in South Africa. However, immigration services repatriate and deport between 15,000 to 20,000 illegal foreigners every year. The White Paper further stresses that this number is on the increase. This has been worsened by the Provisions of Regulation 7, also found as application in Regulation 22 (2) of the Immigration Act No 13 of 2002, which obliges the Department of Home Affairs to issue a non-renewable asylum transit visas permit, that gives people entry to South Africa for purposes of applying for Asylum determination.

¹⁴ Immigration Act 13 of 2002, regulation 22(2) provides for an asylum transit visas permit.

¹⁵ Act 130 of 1998. This clause is unreasonable and opens a floodgate for South Africa.

an opportunity of showing good cause.¹⁶ This is also alluded to in section 21(1B) of the Refugees Amendment Act 11 of 2017¹⁷, read together with regulation 8(3) which provides that, even if such good cause has been shown, such a person cannot be deported until his asylum application has been decided in terms of the applicable law.

MOTIVATION AND RATIONALE OF THE STUDY

First and foremost, this paper is informed by the transition that the government proposes concerning the migration framework in South Africa.¹⁸ The South African government has reported experiencing many difficulties in synchronising the implementation of the three pieces of legislation that govern the migration framework in South Africa.¹⁹ The third piece of legislation is the South African Citizenship Act,²⁰ the Immigration Act,²¹ And the Refugees Act.²² Practically, there is said to be a lack of harmony when it comes to the implementation of these statutes.²³

It is important to note that these pieces of legislation were enacted following international law. E.g., the Refugees Act was passed to give credence to the Organisation of African Unity of 1969 (the OAU), currently known as the AU. Additionally, there was a need to comply with the 1951 Convention and the 1967 Protocol. It cannot be overemphasised that South Africa's migration laws emanate from binding international humanitarian law and set principles and standards. The 1951 Convention and the 1967 Protocol both come with reservations, yet South Africa chose not to use that avenue and made reservations about their migration framework.²⁴

Now, after studying the situation and observing the changing needs of our society, the government is in the quest to establish an overarching migration law that will address issues to do with citizenship, refugees, and immigration.

¹⁶ BA v Minister of Home Affairs and Others [2023] ZACC 16.

¹⁷ Refugee Amendment Act 11 of 2017.

¹⁸<https://www.gov.za/documents/notices/white-paper-citizenship-immigration-and-refugee-protection-towards-complete> (accessed 07-February-2024).

¹⁹ Department of Home Affairs "Publication of the White Paper on Citizenship, Immigration and Refugee Protection: Towards A Complete Overhaul of the Migration System in South Africa" 10 November 2023. Public Consultation Policy paper. Government Gazette No 69490.

²⁰ Act 88 of 1995.

²¹ Act 13 of 2002.

²² Act 130 of 1998.

²³ This is supported by the continuous amendment of the Immigration Act.

²⁴ The 1951 UN Convention, article 33.

It follows that this research paper seeks to analyse the White Paper on Citizenship, Immigration, and Refugee Protection towards a complete review of the migration system in South Africa. Therefore, the paper analyses whether the proposed changes will give credence to the fundamental values of human rights and the binding international obligations imposed by international law in South Africa. The paper further determines the nature and scope of the reservations that may be incorporated into the convention.

It is argued in this paper that, in as much as South Africa is a sanctuary for refugees, there is a need for a review of the migration laws to safeguard the interest of its own citizens and that of the international community. Additionally, it is submitted that the country must be at liberty to decide on the refugee status of applicants and take an autonomous decision, without being circumvented by international law which comes with huge budgetary implications.²⁵

To ease the situation, South Africa found it necessary to withdraw from the United Nations 1951 convention and thereafter, use the avenue provided in article 42 of the convention to re-accede to the same, but with reservations.²⁶ Now, this paper seeks to evaluate the legal implications of the proposed changes to the rights of refugees living in South Africa. International law and the Constitution will be essential in this paper.

THEORETICAL FRAMEWORK

The theory of transformative constitutionalism underpins this study. Professor Karl Klare defines transformative constitutionalism as a long-term project of constitutional enactment, interpretation, and enforcement to change the political and social structures of a nation.²⁷ It is a process that shifts power dynamics in a democratic, participatory, and progressive direction.²⁸ According to Justice Mbenenge, this notion positions judges, as well as other officials and establishments, as agents of transformative constitutionalism.²⁹ Additionally, he expounds that judges have to

²⁵ Regulation 22(2) of the Immigration Act.

²⁶ Article 42 opens an avenue for the contracting states to make reservations to certain articles of the Convention besides the ring-fenced articles that cannot be reserved.

²⁷ Klare "Legal Culture and Transformative Constitutionalism" 1998 *South African Journal of Human Rights*, 146-188.

²⁸ *Ibid.*

²⁹ Justice SM Mbenenge "Transformative Constitutionalism: A Judicial Perspective from the Eastern Cape" (2018) *Speculum Juris*, 32(1), 2.

ensure that constitutional provisions are implemented in a manner that could potentially enhance the standard of living for all citizens and ultimately unleash the potential of every individual. Moreover, he asserts that judges are the custodians of fundamental values such as human dignity, equality, and freedom.³⁰

The Constitution provides that equality includes the full and equal enjoyment of all rights and freedoms envisaged therein.³¹ It further provides that, to promote the achievement of equality, legislative and other measures crafted to protect or advance persons, or categories of persons, disadvantaged by unfair discrimination may be taken.³² It suggests a progressive approach to how best the laws can be interpreted and applied to better serve the people.

Transformative Constitutionalism becomes relevant, as this paper seeks to address the legal implications of the sweeping reforms to the rights of vulnerable asylum seekers and refugees. The theory of transformative constitutionalism serves as the blueprint of this research paper for one or more of the following reasons: It has been said that transformative constitutionalism requires the laws to be interpreted in favour of vulnerable groups to achieve substantive equality.³³ The late Justice Langa (as he then was) asserted that transformation entails the provision of basic socio-economic rights to all.³⁴ Transformative constitutionalism becomes pertinent in this study as the proposed changes may constitute a deliberative retrogressive measure. This theory ensures that refugees have justifiable and enforceable socio-economic rights. Lastly, it will ensure that the government honours its obligation to respect, protect, and promote the rights of refugees. The lines below focus on the challenges raised by the Department of Home Affairs.

Challenges raised by the Department of Home Affairs

The issue is that South Africa had not incorporated any reservation into their migration framework. Consequently, the country finds itself encountering insurmountable difficulties associated with handling the migration system.³⁵ To resolve the issue, the

³⁰ Ibid.

³¹ The Constitution of the Republic of South Africa, 1996.

³² The Constitution of the Republic of South Africa, 1996.

³³ Albertyn & Goldblatt "Facing the challenge of transformation: Difficulties in the development of an indigenous jurisprudence of equality" 1998 14 SAJHR 248-249.

³⁴ Langa, P "Transformative Constitutionalism" 2006 *Stellenbosch Law Review*, 351-360

³⁵ White paper on the complete overhaul of the Migration Laws.

The Department of Home Affairs has published a white paper detailing its intention to assess and, if needed, withdraw from legally binding international accords.³⁶ This will allow it to re-acquire those commitments with reservations, just like other countries.³⁷ The Minister of Home Affairs asserts that immigration and refugee protection legislation must incorporate the reservations and exclusions envisaged in the 1951 Convention and the 1969 OAU.³⁸ The Department contends that South Africa does not have the financial resources to grant the socioeconomic rights outlined in the 1951 Convention.³⁹

It follows that this paper aims to analyse the domestic and international implications of the proposed new law and evaluate the legal implications of the proposed changes to the rights of refugees in South Africa. The scope of the evaluation revolves around compliance with constitutional rights and international law.

Research questions

This paper seeks to address the following research questions:

- What are the nature and extent of the reservations that can be expected from South Africa, so that they could uphold the constitutional values, the protection of human rights, and ensure compliance with international law?
- Is it feasible to integrate all three pieces of legislation into a single Act? What are the international trends? Any best practices.
- What are the domestic and international implications of having a single law comprising three pieces of legislation?

Methodological approach

This paper employed the qualitative desktop research approach, as the appropriate method for conducting the research. A critical evaluation of applicable international

³⁶ These accords are the 1951 United Nations Convention on the Status of Refugees and its 1967 Protocol.

³⁷ These reservations are often made to align with national laws or specific policies. Some of the notable African countries with reservations include Botswana, that has reservations regarding provisions related to wage-earning employment, public education, and public relief. Malawi has reservations about articles concerning naturalization and public education. Mauritius has reservations about articles related to public education and social security. Namibia has reservations about provisions dealing with wage-earning employment and social security. Zimbabwe has reservations concerning public education and access to social service.

³⁸ OAU Convention Governing the Specific Aspects of Refugee Problems in Africa, 1969. It is commonly known as the AU convention.

³⁹ Ibid.

instruments that expound the protection of asylum seekers and refugee's rights, was undertaken. The Constitution of South Africa was analysed to determine the extent to which it protects the refugees. Accordingly, the case law which addresses the welfare of vulnerable groups, was identified and analysed.

Data analysis technique

The study employed content analysis which involves systematic coding and interpreting textual materials such as jurisprudence, legislation, conventions, and other government publications with the intent to identify specific themes and patterns.⁴⁰ Moreover, the study employed a comparative analysis of different legal jurisdictions such as Canada, New Zealand, and Australia which highlighted specific similarities and differences in their contextualisation of migration and the treatment of refugees. This technique helped the study to analyse specific constitutional imperatives, *obiter dictum*, and legislation and further establish how these laws are being implemented.

Having addressed the above, the rest of the paper is divided into three sections, firstly understanding the principle of non-refoulement, the relevance of reservation and its implication, and the legal implications of these in one migration law.

The discussion starts with the significance of the principle of non-refoulement. This principle becomes fundamental in this paper, as it ensures surrogate protection. The paper further uncovers the international trends to identify the nature of the reservations that countries may put in place to safeguard limited resources. Finally, the paper establishes the legal implications of the newly proposed migration law.

Understanding the principle of non-refoulement

There is sufficient correlation between non-refoulement and the theory of transformative constitutionalism, in the sense that both concepts identify vulnerable groups and protect them through embracing the spirit of ubuntu as well as the fundamental value of human dignity. Both transformative constitutionalism and non-

⁴⁰ Content analysis is a systematic coding and categorizing approach used for exploring large amounts of textual information unobtrusively to determine trends and patterns of words used, their frequency, their relationships, and the structures and discourses of communication. See M. Bloor & F. Wood, *Keywords in Qualitative Methods: A Vocabulary of Research Concepts*. 1st edition. 2006, London: SAGE Publications.

refoulement pull the refugees from their untold sufferings, thereby ensuring that they too deserve human dignity. Hence this section will discuss the principle of non-refoulement.

Non-refoulement is a right protected under international law.⁴¹ It implies that no person may be expelled, returned, or extradited to a country where they are likely to be persecuted or experience any harm.⁴² The principle of non-refoulement is so pivotal, that no reservations or adjustments may be made to weaken its significance.⁴³ It imposes that, under no circumstances, may a country expel or return (“*refouler*”) a refugee against his or her will, as that country may please, to a territory where a person fears threats of persecution or threats to his life and freedom. This principle is significant as it is in line with the Declaration of Human Rights.⁴⁴ Returning a person to a country that is engulfed by wars, which means a government that subjects people to persecution, cannot be allowed in a democratic country that subscribes to the Declaration of Human Rights.

In South Africa, the principle of non-refoulement is entrenched in section 2 of the Refugees Act.⁴⁵ The Supreme Court of Appeal and the apex Court have both outlined the routine that should be followed towards the implementation of section 4(1) (b).⁴⁶ The courts further established the nature of the relationship between sections 2, 3, and 4(1) (b) of the Act.⁴⁷ This was comprehensively dealt with by the Constitutional Court in *Gavric v Refugee Status Determination Officer, Cape Town, and Others*.⁴⁸ That being said, Section 4(1) of the Act provides for three grounds on which a person may be excluded as a refugee.⁴⁹ A person does not qualify for refugee status if there

⁴¹ Article 33 of the 1951 Convention.

⁴² RE Kapindu “No Return to Persecution or Danger: Judicial Application of the Principle of Non-Refoulement in Refugee Law in South Africa and Malawi” (2020) 10 *Constitutional Court review*. 107-127.

⁴³ SP Sarker *Refugee Law in India: The Road from Ambiguity to Protection* (2017) at 11.

⁴⁴ The Universal Declaration of Human Rights, 1948.

⁴⁵ The Refugees Act. 130 of 1998, is a comprehensive piece of legislation designed to regulate the reception, treatment, and rights of refugees and asylum seekers in South Africa. The Act aligns South Africa’s domestic laws with international standards set by the 1951 Refugee Convention and its 1967 Protocol, as well as the 1969 OAU Convention Governing the Specific Aspects of Refugee Problems in Africa.

⁴⁶ *Ibid.*

⁴⁷ JD Muduzi *The principle of non-refoulement in South Africa and the exclusion from refugee status of asylum seekers who have committed offences abroad: a comment on Gavric v Refugee Status Determination Officer, Cape Town, and Others* (2018) 43 (1) *South African Yearbook of International Law*.

⁴⁸ 2019 (1) BCLR 1 (CC).

⁴⁹ The Refugees Act.

is reason to believe that he or she has committed a crime which is not political and which, if committed within the borders of the Republic, would warrant a criminal sanction by imprisonment.⁵⁰ Likewise, a person does not qualify for refugee status if he committed a crime against humanity and disturbed the tranquillity in his country.⁵¹ He will also not qualify if he enjoys surrogate protection from another safe country. Lastly, he will not qualify for refugee protection if he is guilty of a crime contemplated in the 1951 convention or the 1969 AU convention.

It is of seminal importance to mention that the principle of non-refoulement has enjoyed substantial support and vindication in the South African courts.⁵² This principle implies that any illegal foreigner may enter the country illegally and express his intention to apply for asylum.⁵³ The immigration officers are obliged to afford such a person an opportunity to apply for asylum instead of arresting and deporting them. Consequently, organisations such as the United Nations International Residual Mechanism for Criminal Tribunal (relating to genocide) have slammed South Africa for granting refugee status to persons who are excluded in terms of the 1951 convention, simply because they committed atrocities in their countries of origin.⁵⁴

Kapingu dealt with the exposition of the principle of non-refoulement.⁵⁵ He asserts that the principle of non-refoulement is the fundamental principle of international refugee law, and it is a rule of customary international law. Therefore, it is enforceable against all the contracting states. Other scholars, Lauterpacht and Bethlehem, submit that this principle imposes a non-derogable obligation and permits no reservations

⁵⁰ See section 4(1)(b) of the Refugees Act.

⁵¹ Ibid.

⁵² See the case of *Abore v Minister of home affairs & another* [2021] ZACC 50 from paragraph 40 to 45.

⁵³ See the case of *Ruta v Minister of Home affairs* (2019) (3) BCLR 383 (CC) at paragraph 4 to 50.

⁵⁴ Publication of The White Paper on Citizenship, Immigration and Refugee Protection: Towards a complete overhaul of The Migration System in South Africa. Page 4. See also the story of Fulgence Kayishema, who is accused of genocide in Rwanda. He orchestrated the massacre of close to two thousand people. In 2015, the International Residual Mechanism for Criminal Tribunals was instructed by the International Criminal Tribunal for Rwanda to hunt down Kayishema, so that he faces justice. According to the South African Prosecutor's office, he faces fifty-four counts in South Africa. Amongst other, illegal entry and fraud. Kayishema started a family using a false name and claiming to be Burundian. He applied first for asylum in early 2000 and then for refugee status in 2004. He was arrested in May 2023; he abandoned his application for bail and resorted to apply for asylum.

⁵⁵ RE Kapingu "No Return to Persecution or Danger: Judicial Application of the Principle of Non-Refoulement in Refugee Law in South Africa and Malawi" 2020 (10, 107–127) *Constitutional court review*.

restrictions or limitations.⁵⁶ It embodies the humanitarian significance of the convention.

In conclusion, the principle of non-refoulement is the appropriate antidote that can be used as a shield by a vulnerable potential refugee to get protection from a safe destination. The principle applies in all circumstances where there is a threat that a person would be subjected to inhuman treatment, torture, cruelty, or other forms of ill-treatment in the country to which such person is deported. The Border Management Authority should be strengthened to curb illegal entry and facilitate applications for asylums.⁵⁷

Now that South Africa is in the quest to re-accede to the 1951 UN convention, the following section determines the significance, nature, and scope of reservations that may be incorporated into the convention.

The reservations: significance, nature and extent

A country that wishes to become a party to a multilateral treaty, but is reluctant to be bound by the treaty in full, will invariably resort to reservations.⁵⁸ Reservations serve to ease the obligations, or the more demanding legal effects of the convention. The discussion on reservations are premised on the two principal international instruments that safeguard the interests of refugees and underlie the conduct of states towards adhering to the fair treatment of refugees. However, there is another important relevant regional framework that will be discussed hereunder, namely the 1969 Organisation of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa.

The principal objective of these instruments is to promote and safeguard the welfare of refugees and to promote entitlement to their rights. The Conventions are binding multilateral treaties. States that wish to become parties to a multilateral treaty, but are sceptical of being bound by the full application of the convention, do have room for reservations.⁵⁹ This means that when the country is a signatory to the convention, but

⁵⁶ E Lauterpacht & D Bethlehem "The Scope and the Content of the Principle of Non-Refoulement" in E Feller, V Türk & F Nicholson (eds) (2003) UNHCR's *Global Consultations on International Protection* ch 2.1, 116.

⁵⁷ The Border Management Authority was established in terms of Act 2 of 2020.

⁵⁸ These reservations allow countries to adapt the convention to their specific legal and social contexts while still being part of the international framework

⁵⁹ Article 42 of the 1951 Convention.

feels that some of the obligations pose a huge budgetary implication and would put a country under siege, then the country is at liberty to uplift or restrict some of the obligations imposed by the convention.⁶⁰ However, it is important to note that not all the articles are susceptible to reservations.⁶¹ Some of the articles are capped, and they are peremptory. Concisely, reservations serve to modify or ease the legal effects of a convention's provisions. Gamble expounds that reservations are often applied to either limit the obligations undertaken by the reserving state or enable the discharge of the convention's obligations by equivalent means.⁶² Central to the convention are the humanitarian objectives.⁶³

Several states have made declarations or reservations about numerous provisions of the Convention and the Protocol.⁶⁴ Samuel and Tshamenyi's research examined the declarations and the reservations made, to establish their validity and their consistency with the humanitarian objectives of the instruments.⁶⁵ Their article concludes that most of the reservations made by states to the Convention and or the Protocol, are in line with their humanitarian objectives.⁶⁶ However, a number are said to be incompatible with the Convention's object and purpose and require critical re-assessment. These include the reservations on penalties for illegal entry and expulsion.⁶⁷

It has been established that the primacy of the reservations is not to completely evade the obligations imposed by the specific articles of the conventions, but rather to consider the availability of resources.⁶⁸ Reservations, and the limitation clause, will be essential in determining the availability of resources to cater to asylum seekers and

⁶⁰ Reservations thus allow member States to amend their obligations under the convention. However, in permitting reservations to the convention, the drafters must be cautious, thereby maintaining a balance against attracting wider participation. Wider participation can be achieved by allowing the member States to define the scope of the obligations. Hence, the drafters of the reservations need to ensure that the object and purpose of the treaty are not tainted by reservations.

⁶¹ As it has been said above, article 33 (1) of the 1951 convention cannot be reserved.

⁶² J.K. Gamble Jr, 'Reservations to multilateral treaties: a Microscopic view of the state practice' (1980) 74 AJIL page 372. (383-91).

⁶³ Ibid.

⁶⁴ The 1951 UN Convention and the 1967 Protocol.

⁶⁵ K.N.B. Samuel and B.M. Tshamenyi "Reservations and Declarations Under the 1951 Convention and the 1967 Protocol Relating to the Status of Refugees" 1990 (4) *International Journal of Refugee Law*, 527–561. Also available at <https://doi.org/10.1093/reflaw/2.4.527> published on 18 May 2016.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ Final White Paper on Citizenship, Immigration and Refugee Protection: Towards A Complete Overhaul of the Migration System in South Africa", April 2024.

refugees. Put differently, the reservations are there to make sure that the state cannot be obliged to deliver what it cannot afford to deliver, due to a scarcity of resources.

The implications of the reservations on South Africa's legal landscape

The reservations may lead to contestations, which may invite the courts to intervene. Considering that refugees are a vulnerable group; the courts will have to apply transformative constitutionalism in determining the correctness of the government's decision.⁶⁹

South Africa has an ideal Constitution that caters to citizens and non-citizens by simply using the word "everyone."⁷⁰ Therefore, it will be difficult for South Africa not to touch the line of the Constitution. Reservations or no reservations, the Constitution remains a binding document.⁷¹ It can be deduced from the wording of socio-economic rights, that the purpose of the Constitution was to protect all the inhabitants within the South African terrain.⁷² At a local level, the reservations will have to heed the constitutional values and demands. It is submitted that South Africa is obliged to give credence to the founding provision of the Constitution, which provides, amongst others, that South Africa is a sovereign democratic country that is founded on human dignity, the achievement of equality, and the advancement of human rights and freedoms.⁷³

The Constitution set off quite a few entitlements to everyone, amongst others access to education, healthcare, employment, and social security.⁷⁴ The limitations or restrictions to these entitlements will have to be justified following section 36 of the Constitution.⁷⁵ On the same wavelength, any amendment to the migration framework

⁶⁹ This is where purposive construction of the Bill of Rights comes into play. It enables the courts to consider factors beyond the mere legal rules. The court may consider the new developments and changes in society.

⁷⁰ See for example The Constitution of the Republic of South Africa, 1996. Section 10 provides that everyone has the right to human dignity.

⁷¹ In *Minister of Home Affairs v Watchenuka and others* [2004] 1 All SA 21 SCA, from paragraph 25 to 28 as well as 33. The Court highlighted that human dignity has no Nationality. It is something inherent to everyone, citizens and non-citizens alike reason being, that they are human too.

⁷² In other rights and where necessary, the Constitution draws a difference between citizens and non-citizens. E.g. The Constitution affords political rights only to citizens, non-citizens are not allowed to participate in political activities.

⁷³ The Constitution of the Republic of South Africa, 1996. Section 1 sets out the founding provision of the Constitution.

⁷⁴ The Constitution of the Republic of South Africa, 1996. These rights are categorized as socio-economic rights. The state is required to take reasonable legislative measures towards the progressive realisation of these rights.

⁷⁵ The rights in the Bill of Rights are subject to the limitation clause in section 36 of the Constitution.

will have to be following the values of the Constitution.⁷⁶ Additionally, the Constitution provides for the application of international law when the courts are concerned with interpreting any legislation.⁷⁷ It provides as follows: when interpreting any legislation, every court must prefer any reasonable interpretation of the legislation that is consistent with international law over any interpretation that is inconsistent with international law.⁷⁸ This section reinforces that domestic legislation derives its existence from international customary law. There is supposed to be consistency between international law and domestic law.

As far as the 1951 UN Convention is concerned, to comply with the legally binding requirements set forth by international law, South Africa was obliged to pass the Immigration Act and the Refugee Act, together with the necessary regulations. The Refugee Act states, among other things, that it was passed to comprehensively regulate applications for, and the recognition of refugee status; provide for the rights and obligations arising from such status; and give effect to the applicable international instruments, principles, and standards relating to refugees.

Concerning socio-economic rights, it is established in this paper that the contracting states are at liberty to make specific reservations to several entitlements.⁷⁹ Amongst others, the right to education, the right to housing, the right to healthcare, and social security.⁸⁰ However, the tricky part will be the constitutional obligations (positive duties) imposed by the Constitution. It has been established that failure to deliver must be justifiable under Section 36 and be justified by the lack of resources.⁸¹ Therefore, the state will have to produce evidence to support its claim of lack of resources.

⁷⁶ This is imposed by section 2 of the Constitution, which stresses that any law or conduct inconsistent with the Constitution is invalid.

⁷⁷ The Constitution of the Republic of South Africa, 1996. Section 233.

⁷⁸ *Ibid*, section 39.

⁷⁹ The African countries that made reservations are countries such as Swaziland, Ethiopia, Mozambique, Angola, etc.

⁸⁰ The majority of the African contracting states restricted the right to education by excluding asylum or imposing conditions on both asylum seekers and refugees, by putting into place reservations in both the 1951 Convention and the 1967 Protocol. Most of the reservations extricate the African countries from being overburdened on socio-economic rights. They felt that their economic conditions would not allow them to extend socio-economic rights to asylum seekers and refugees. The reason is that those countries simply do not have the resources to cater for these groups.

⁸¹ In *Government of the Republic of South Africa and Others v Grootboom and Others* (CCT11/00) ZACC 19; 2001 (1) SA 46; 2000 (11) BCLR 1169, at paragraph 46, the court held that “what is apparent from these provisions is that the obligations imposed on the State by the likes of section 26 and 27 concerning access to healthcare, food, water, housing, and social security are dependent upon the resources available for such purposes and that the corresponding rights themselves are limited because of the lack of resources.”

Moreover, South Africa is a significant signatory to other international instruments such as the United Nations Convention on the Rights of the Child, the so-called “Children’s Rights Convention,” which provides that every child has the right to education.⁸² Likewise, the right to healthcare is an obligation imposed by international law, the International Convention on Economic, Social and Cultural Rights (CESCR).⁸³ It obliges different states to take reasonable legislative measures, together with the issue of progressive realisation of the right to healthcare.⁸⁴

It is submitted that the reservations by South Africa will have insignificant effect, as the country is a member state of the abovementioned international instruments. The only reasonable justification would be the lack of resources under Section 36 of the Constitution.⁸⁵

International implications

The measure for the possible reservations that can be adopted by South Africa is the humanitarian objective of the conventions. Arguably, any possible reservation will have to conform with the principles and standards set out in the convention, the principles and standards on which the convention is premised. For instance, the non-refoulement principle cannot be interfered with. Therefore, any reservation that might be at odds with the non-refoulement principle will be *null and void*.⁸⁶

Given the significance of these conventions, we may not act opportunistically to pick and choose certain articles within the convention based on our subjective interests as a country.⁸⁷ The country is rather bound to pay due regard to certain Articles of the

⁸² South Africa signed the Convention on the Rights of the Child on 29 January 1993 and ratified it on 16 June 1995. Article 24 (2) (e) of the convention provides that state parties shall pursue the full implementation of this right. It further obliges state parties to take appropriate measures to ensure that parents and children are informed about access to education, supported in terms of basic health and nutrition as well as the use of basic knowledge.

⁸³ The International Covenant on Economic, Social, and Cultural Rights was adopted on December 16, 1966, and it became effective on January 3, 1976. The ICESCR was approved by South Africa in 2015 after being signed in 1995.

⁸⁴ *Ibid.*

⁸⁵ See the case of *Soobramoney v Minister of Health Kwazulu-Natal* 1998 1 SA 765 (CC). In this case Chaskalson, P. mentioned that the state’s primary obligations under s 27 should be considered within the context of its ‘available resources’. Wherefore, where there is a lack of resources or an undue burden on the state’s budget, because of widening certain firmly entrenched rights to the broader masses, this would be a justifiable limitation of the right to access healthcare services under section 36 of the Constitution.

⁸⁶ Article 33 of the Convention prohibits reservations on the principle of non-refoulement.

⁸⁷ Article 42 of the convention prohibits reservations on several clauses including articles 1, 3, 4, 16(1), 33, 36-46 (inclusive).

Convention that advocate for the protection of human rights such as the right to life, human dignity, and the right to be protected from persecution. Be that as it may, the country may not overburden itself and extend the scope of the recipients of social services.⁸⁸ There must be some reasonable restrictions on socio-economic rights. Again, such limitations must comply with the limitation clause in South Africa's Constitution, as well as other values of human rights entrenched in the Constitution.

It is submitted that non-reservation was a fundamental error by the erstwhile ministers of Home Affairs. The empirical research evinces that it was only South Africa that acceded to the Conventions without putting in place any reservations.⁸⁹ This has opened a floodgate for South Africa, in that economic migrants and asylum seekers tend to target the Republic as a country of choice. This may be prompted by opportunity hoarding as far as access to resources is concerned. Like other countries in the international community, South Africa must follow suit and reserve certain entitlements that a country may not be able to extend to asylum seekers and refugees.⁹⁰

It follows that the UNHCR, in its submission of public comments for the White Paper, takes the view that South Africa's withdrawal from the 1951 Convention and its Protocol would set a negative precedent, both regionally and globally.⁹¹ This claim has no basis, since all the contracting states are at liberty to utilise the avenue provided by Article 42 of the Convention and the protocol. The bottom line is that such reservations must not interfere with certain peremptory obligations provided in the 1951 protocol.

Implications for the AU governing the specific aspects of refugee problems in Africa

This convention was entered into to deal with the peculiar circumstances of migrants

⁸⁸ Canada, Switzerland, the United States, and Britain are some of the well-developed countries with resources that far exceed those of South Africa, but they have developed stringent citizenship, immigration, and refugee laws to preserve the rights and privileges of their citizens.

⁸⁹ The majority of the SADC countries have put in place reservations based on budget constraints; amongst others, Zimbabwe, Swaziland and Angola.

⁹⁰ International Instruments" states Parties to the 1951 Convention Relating to the Status of Refugees and the 1967 Protocol; states Parties to the 1954 Convention Relating to the Status of Stateless Persons; which, in turn, states Parties to the 1961 Convention on the Reduction of Statelessness" 2005 (2005) 24 (3), 211–218. Available at <https://doi.org/10.1093/rsq/hdi066> (accessed on 26/06/2024).

⁹¹ UNHCR comments on the White Paper, 2024.

and refugees in Africa.⁹² It was adopted in the spirit of Pan-Africanism.⁹³ The Convention effectively prohibits the refusal of entry, expulsion, or extradition of asylum seekers and refugees, and somehow provides for certain exceptions in certain circumstances.⁹⁴ The 1969 OAU Convention's resolutions all pertain to the safeguarding of livelihood, dignity, and the well-being of vulnerable groups such as asylum seekers and migrants within the refugee recipient states. Through Article 6, paragraph 1, the 1969 OAU Convention Governing the Specific Aspect of Refugee Problems in Africa touches on key aspects like the 1951 Convention Relating to the Status of Refugees. These guidelines pertain to issues such as asylum seeking, the prohibition of disruptive and insurgency activities, non-discrimination, the issuance of travel documents, and matters to do with voluntary repatriation.⁹⁵

Similarly, article 2(3) of the 1969 OAU Convention underpins the principle of non-refoulement.⁹⁶ Allain asserts that the principle of non-refoulement forms the cornerstone of refugee law, and that it is the "final bulwark" of international protection.⁹⁷ The principle of non-refoulement is a firmly entrenched principle both under the 1951 International Human Rights Law and under the Regional Convention (OAU). The domestication of the principle of non-refoulement was prompted by the spirit of African unity.⁹⁸ One of the main goals was to foster greater unity among African countries and peoples. The convention aimed to consolidate the sense of African identity and solidarity, emphasising the importance of working together to achieve common goals.

Now that the conditions have changed and African countries have gained their independence, democracy, and freedom, stringent regulations need to be put in place to safeguard the territorial integrity of each country in the African region.

⁹² The OAU convention

⁹³ M. Malisa and P. Nhengeze "Pan-Africanism: A Quest for Liberation and the Pursuit of a United Africa" (2018) 2 (3) *Genealogy*, 28.

⁹⁴ Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa (adopted 10 September 1969, entered into force on 20 June 1974) 1001 UNTS 45.

⁹⁵ Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa. Page 4. See also Masuku, S. "The implementation of the Refugee Act 130 of 1998 in South Africa and the question of the social exclusion of forced migrants: a case study of DRC-forced migrants in Pietermaritzburg" PHD dissertation, University of KwaZulu-Natal, (2018). Page 39.

⁹⁶ Article 2(3) of the 1969 OAU Convention. Section 2 does not only oblige South Africa to give entry into its territory to every refugee seeking asylum, but also prohibits expulsion, extradition or return if the person concerned would lose freedom, be persecuted or be physically harmed.

⁹⁷ Allain (2001) "The *jus cogens* Nature of Non-Refoulement." *International Journal of Refugee Law*, 13.

⁹⁸ See the preamble to the OAU convention, 1969. It provides that "we the heads of states and Government gathered in the city of Addis Ababa are convinced that all the problems of our continent must be solved in the spirit of the Charter of the Organization of African Unity and in the African context."

The next section deals with the legal implications of the proposed comprehensive overhaul of the migration laws.

The legal implications on the current legal immigration law framework

The South African courts have set an ideal jurisprudence about the protection of the rights of refugees.⁹⁹ An overhaul of these laws will drastically change the legal landscape when it comes to the application of the law. The Constitution provides that, when interpreting any legislation, every court must prefer every reasonable interpretation of the legislation that is consistent with international law, over any alternative interpretation that is inconsistent with international law.¹⁰⁰ Withdrawal of South Africa from the binding international instruments to accede to the same with reservations, will mean that the courts will be inclined to follow the reservations and section 36 of the Constitution which deals with the limitation of rights.¹⁰¹ Any legislative changes, or new reservations to international treaties, would have to be assessed against this standard. Courts would be required to balance the limitations imposed by new laws or reservations with the overarching principles of human rights and international law obligations.¹⁰²

The application of transformative constitutionalism on the other hand will ensure that surrogacy protection encompasses the constitutional values of human dignity, equality, and ubuntu. Considering South Africa's commitment to these values and international standards, it will be difficult for South Africa to completely abandon its constitutional obligations to refugees.

What transpires from the above, is that an overhaul of the current immigration and refugee laws, especially if it involves significant changes such as new reservations to international treaties, could create a period of legal uncertainty. Courts would need to establish new precedents and interpretive guidelines to manage the transition. This could lead to an initial period of inconsistent rulings as the judiciary adapts to the new

⁹⁹ See the recent court judgments such as *Scalabrini Centre of Cape Town v Minister of Social Development* 2021 1 SA 553 (GP).

¹⁰⁰ The Constitution of the Republic of South Africa, 1996. Section 233 deals with application of international law.

¹⁰¹ The Constitution of the Republic of South Africa, 1996.

¹⁰² See section 2 of the Constitution of the Republic, 1996.

legal framework. Legal practitioners and refugees themselves would also need to navigate these changes, potentially complicating the legal landscape.

The paper argues that transformative constitutionalism will be an anchor that will help the judges navigate this transformation pointed toward a progressive direction. In that way, it will be unlikely for government to be successful in enforcing drastic changes that may unjustifiably imperil the vulnerable groups such as asylum seekers and refugees.

The amalgamation of the Citizenship Act, Immigration Act, and Refugees Act

The **Immigration Act** and the **Refugees Act** are two separate pieces of legislation, but they are often interwoven to address a wide range of immigration and refugee-related issues. There is another standalone piece of legislation that regulates citizenship. The so-called **South African Citizenship Act**.¹⁰³ This section seeks to look at whether these three pieces of legislation can work in harmony; if they can be integrated into an omnibus piece of legislation.

The report by the Department of Home Affairs demonstrates that there are challenges in synchronising the implementation of these three different legislations. Regular amendments to the Immigration Act are evidence that the migration system is unworkable, and the statutes are not in harmony with one another.¹⁰⁴ Therefore, there is an urgent need for review and consolidation to ease the situation on the ground. In addition to the consolidation, the Immigration Act must make a provision that distinguishes between economic migrants and asylum seekers. This can help the migration officers at the entry points to fast-track the process of status determination.

Several countries have comprehensive legislation that encompasses migration, citizenship, and refugees within a single legislative framework.¹⁰⁵ These integrated acts streamline the legal processes related to these areas and provide a unified approach to managing immigration, the acquisition of citizenship, and the welfare of

¹⁰³ Act 88 of 1995.

¹⁰⁴ The Refugee Act has been amended several times to make it compatible with the Immigration Act. There are amendments of 2008, 2011, and 2017.

¹⁰⁵ Amongst others, Australia, Canada, and New Zealand. These countries have aligned their migration, refugee, and citizenship frameworks altogether.

refugees. What follows hereunder are some of the best practices from a few countries in the international community.

Best practices in international community

The incentives of Canada

The research demonstrates that the Canadian migration framework is working effectively and efficiently.¹⁰⁶ South Africa should draw profound lessons from the Canadian Immigration and Refugee Protection Act of 2001. As much as Canada is a developed country with resources that far exceed those of South Africa, it has developed stringent citizenship, immigration, and refugee laws to effectively protect the rights of its citizens and safeguard its fiscal framework.¹⁰⁷ Canada's system emphasises efficiency and fairness in processing asylum claims. The Immigration and Refugee Board (IRB) is an independent tribunal responsible for hearing refugee claims and making decisions.¹⁰⁸ This separation helps ensure impartiality and reduces the backlog. South Africa can improve its asylum processes by establishing or enhancing independent bodies to handle claims more efficiently and avoid backlogs.¹⁰⁹

Furthermore, Canada has a well-defined legal framework governing the status and rights of refugees. The Immigration and Refugee Protection Act (IRPA) outlines the procedures for claiming asylum, the rights of refugees, and the responsibilities of the government. South Africa can benefit from having similarly clear and structured policies to avoid ambiguities and ensure the consistent application of the law.

Australia

¹⁰⁶ James C. Hathawa Selective Concern: An Overview of Refugee Law in Canada. <https://lawjournal.mcgill.ca/wp-content/uploads/pdf/8290193-hathaway.pdf> accessed on 30 June 2024.

¹⁰⁷ Canada has introduced the first safe country principle with the US.

¹⁰⁸ Zalma Zahid "Asylum-seekers at Canada's border report of the standing committee on Citizenship and Immigration." May 2023. 44th parliament, first session.

¹⁰⁹L. Schockaert et al. "Behind the Scenes of South Africa's Asylum Procedure: A Qualitative Study on Long-term Asylum Seekers from the Democratic Republic of Congo" 2020 *Refugee Survey Quarterly*, 26-55.

The **Migration Act 1958** is the legislation that regulates a wide range of immigration-related issues, including the issuing of visas, deportation regulations, and the handling of refugees.¹¹⁰ The **Australian Citizenship Act** is separate, but works in conjunction with the Migration Act to address all the facets of citizenship and immigration comprehensively.¹¹¹

New Zealand

The **Immigration Act** integrates various aspects of immigration, including visas, entry permissions, and refugee status determinations.¹¹² Citizenship is handled separately under the **Citizenship Act**.¹¹³

The trend is that, while these countries have separate acts for citizenship, their immigration and refugee laws are often integrated into comprehensive frameworks that address various related issues in a unified manner. This approach helps in creating a streamlined and efficient legal process for managing migration, citizenship, and refugee protection. What follows is an analysis of the Citizenship Act in the South African context. This paper proposes that the Citizenship Act should be reviewed together with the Births and Death Registration Act.

As far as citizenship is concerned, it is within the efficacy of the government to protect the territorial integrity of South Africa, thereby amalgamating these three pieces of legislation into a single law. Merging the three will avoid contradictions and complement each other. The Refugees Act provides that one must have a prolonged, continuous residence in South Africa to qualify for citizenship. This is a serious loophole that needs to be corrected. A refugee is someone who fled their country of origin out of fear of persecution or because their country was engulfed by war. As a result, they sought protection in fear of assassination or death. In safeguarding the territorial integrity of South Africa, it will be prudent to assess the stability in the person's country of origin and ascertain that it will be safe to repatriate a person back to his country because the situation has changed. In the current state, the Refugee Act is the *carte blanche* for citizenship.

¹¹⁰ Migration Act 62 of 1958.

¹¹¹ Act No 20 of 2007.

¹¹² Act 51 of 2004.

¹¹³ Act 61 of 1977.

RECOMMENDATIONS

The introduction of a safe first country principle must be adopted to minimise the situation where South Africa is identified as a haven, even if a person has landed in a safe country that is a signatory to the convention. South Africa must sign a pact with other SADC countries that are signatories to the 1951 convention on the first safe country principle.¹¹⁴

From time to time, South Africa must check the stability in the refugee's country of origin. If the situation has changed and there is tranquillity, then South Africa should consult with the UNHCR and repatriate the refugees to their countries of origin. Alternatively, measures should be taken to promote voluntary repatriation. However, the affected people should be consulted under the laws governing fair administrative decisions.¹¹⁵

The courts and the current legal framework are recognising or condoning illegal entry into the Republic. The courts, in their rulings, have highlighted that illegal entry is not a bar to application for asylum.¹¹⁶ Nor does the prolonged period without an attempt to make such an application, constitute a firm ground for refusing such an application. This condonation is exacerbated by the contradictions in the current legal framework. For instance, in terms of the Refugees Act,¹¹⁷ a person may not be deported until he has had an opportunity to show good cause as contained in the Refugees Amendment Act¹¹⁸, and if such good cause has been shown until his asylum application has been finally adjudicated in terms of the Act. Whereas the Immigration Act prohibits illegal entry in Section 34, in addressing this conundrum, Section 2 of the Refugees Act needs to be amended to break down the categories of people who may be refused entry. Amongst others are those who committed atrocities in their countries, those who

¹¹⁴ Incentives should be learned from the Canada United States Safe Third Country Agreement. It reaffirms that asylum seekers should make their claim in the first country where they can. Such a pact can control the situation, like in the case of 22 Afghanistsans who fled from Afghanistan to Pakistan, Zimbabwe and then to South Africa to apply for asylum. The 22 could not be returned to Zimbabwe, as they were likely to be repatriated.

¹¹⁵ See section 3 of the Promotion of Administrative Justice Act 3 of 2000.

¹¹⁶ See *Ruta v Minister of Home Affairs 2019* (3) BCLR 383 (CC); see also the Case of *AB v Minister of Home Affairs and others* [2023] ZACC 16.

¹¹⁷ The Refugees Act 120 of 1998. Section 2.

¹¹⁸ 11 of 2017. Section 21(1B) read together with the provisions of regulation 8(3).

participated in genocide, and anyone the immigration officers believe to be a threat to the safety and tranquillity of the Republic.

In addressing the above, the Border Management Authority (BMA) should intensify efforts to curb the surge of illegal entry over the borders. The border management authorities should have trained officials who can examine the documents of asylum seekers. Such officials should speed up the asylum applications and send the eligible applicants to the Refugee Status Determination Officer (RSDO) so that they can be issued with the so-called "Refugee Protection Claimant Document."¹¹⁹

It has been determined in this paper that the lack of a uniform approach to regulating the issues of citizenship, immigration, and refugees is a major challenge. The contradiction in these statutes results in the government being unsuccessful in limiting the wide scope of beneficiaries of service delivery and social service. It is submitted that integrating these acts would streamline the legal processes related to these areas and provide a unified approach to regulating immigration and refugee-related issues, save for the Citizenship Act. The Citizenship Act will remain a standalone piece of legislation. However, it should be reviewed and aligned with the needs of refugees. This will harmonise the administration of these statutes and promote efficiency and effectiveness. The Citizenship Act must be aligned with the Births and Deaths Registration Act.¹²⁰

The Refugee Act is observed by this study as appropriately guaranteeing migrants' entitlements to healthcare, education, employment, legal protection, housing, documentation, and so forth.¹²¹ In terms of the 1951 Convention, these rights are open to everyone. As a result, they attract a staggering number of people from the international community for opportunity hoarding. It is important to emphasise that reservations are sacrosanct to these rights. However, the only permissible reservations to these rights shall restrict access based on a lack of resources.

CONCLUSION

¹¹⁹ This document allows individuals to access social and economic stability through work permit eligibility, study permits, welfare support and access to healthcare.

¹²⁰ Act 51 of 1992.

¹²¹ (Regulation 27 G, Regulation 27 F, Regulation 27 B, Regulation 27 D and 29).

Having perused all the necessary legal precedents and international trends, this research concludes that reservations are inevitable. South Africa is determined to change the migration system, due to a variety of issues that have been identified. The identified challenges relate to the inefficient functioning of the law and the loopholes in the current migration framework. Additionally, recent court decisions have ruled in favour of asylum seekers or potential refugees as far as access to the Republic is concerned¹²², as well as access to a plethora of legal entitlements such as access to social security¹²³, education, healthcare, the right to work and trade, etc. Noteworthy is that these decisions are informed by the international human rights law that South Africa subscribed to without putting in place the appropriate reservations.¹²⁴ Moreover, the Constitution firmly entrenches these rights in the Bill of Rights.¹²⁵ Re-acceding to the 1951 convention with reservations, which will be read together with the limitation clause, will drastically change the jurisprudence in the South African legal landscape.

It is worthwhile to note that the current jurisprudence has prompted the government to look closer at the issue, and identify the instruments that put the government under pressure. Thus, it has been determined that the migration framework in South Africa drew lessons from the binding international instruments, namely the 1951 UN Convention and the 1967 Protocol. Additionally, South Africa drew lessons from the 1969 AOU regional convention. The domestic legislation sought to give credence to international law. Wherefore, in effecting change, the point of departure for the government would be to withdraw from the abovementioned international instruments and re-accede to the same with specific reservations.

The international trends confirm that several countries, especially SADC countries, have put in place certain reservations to monitor the obligations imposed by international law. However, they have ring-fenced the fundamental rights for the

¹²² See the case of *Faqirzada and Others v Minister of Home Affairs and Others* [2023] ZAGPPHC 1283.

¹²³ *Scalabrini Centre of Cape Town v Minister of Social Development* [2021] (1) SA 553 (GP) para 90 – 91.

¹²⁴ The principal objectives of the 1951 Convention and the 1967 Protocol are to firmly safeguard the rights of refugees and protect their rights in relation to access to employment, residence, education, freedom of movement and protection against return to a country where they may be in danger of persecution.

¹²⁵ Rights such as the right to healthcare are firmly entrenched in the Bill of Rights. See the case of *Centre for Child Law and others v Minister of Home Affairs* [2021] ZACC 31.

benefit of citizens. At the very least, asylum seekers and refugees are catered for with the residue of resources at a bare minimum.

It will be after incorporating these reservations that South Africa will be at liberty to enjoy its sovereignty and produce an antidote in the form of an omnibus refugee and migration framework, like many other countries. This paper submits that re-acceding to the 1951 Convention and the 1967 Protocol would stifle future litigation that might expand the rights of asylum seekers and refugees. The state will be in a good position to use the reservations and the limitation clause as a shield against a high demand to deliver on socio-economic rights.

This paper concludes that reservations will alleviate the burden and responsibility primarily shouldered by the government in hosting economic migrants, asylum seekers, and refugees. Law reform will also reduce the abuse of asylum by economic migrants for opportunity hoarding. Additionally, effecting reservations would circumvent the courts to shift the jurisprudence as far as access to socio-economic rights is concerned.

Lastly, it is the epilogue of this paper that transformative constitutionalism will play a significant role in all the decisions that may be taken by the government. It has been indicated that the judges are custodians of constitutional values such as human dignity. Furthermore, the judges bear the obligation to ensure that the constitutional imperatives are given practical expression in a manner that will improve the quality of life and free the potential of each person.¹²⁶ The application of transformative constitutionalism will incline the judges to rule in favour of vulnerable groups.

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How social enterprises were sustained in global economic crises through *ubuntu* and social capital

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ABSTRACT

Presently in South Africa, social enterprises (SEs) are viewed as important and helpful organisations for social development in accordance with the country's proposed social and solidarity economy (SSE) policy. This is as the country faces rising unemployment, gendered violence, etc. However, most research on SE in South Africa focuses on describing the work of SEs as social businesses, especially for social development. This study, instead, investigates the resilience of SEs through crises from the African philosophy of *Ubuntu* and through the theory of social capital. The paper draws from two empirical studies, one conducted in 2017 after the 2008/9 economic recession and the second conducted in 2021 during COVID-19 lockdowns in South Africa. Both studies adopted an interpretivist epistemology and qualitative research approach, conducting interviews with the participating SEs. Findings show that SEs are important organisations, whose ability to adapt during hardships demonstrates how ethical business models can survive crises through African ethics and social relationships. The SEs survived because their ethical stance enthused social and financial cooperation from multiple sources through social capital. Moreover, SE funding models prioritise financial sustainability and independence –in line with *Ubuntu* ethics of resilience, communality, and justice. These findings suggest that SEs' business model may be key for surviving economic and social crises.

Keywords: social enterprise, *Ubuntu*, resilience, social capital, crisis, sustainability

INTRODUCTION

The state of being developed or underdeveloped is a comparative one, where a value judgment ought to be made about which places (often states) are better developed than others (Rodney, 1972). The outcomes of these comparisons have led to the adoption of ideas from conditions judged to be better developed to those striving to reach that same, or better state. One such importation to the South African development landscape has been social enterprises (SEs). SEs are defined as vehicles for development which carry charity work while seeking financial sustainability by (in some instances) a combination of donations and running private enterprises, or solely funding themselves through their financial enterprise(s) (Bärnreuther, 2022; Bertha Centre for Social Innovation and Entrepreneurship, 2015; Phills et al., 2008).

Considering that the role of SEs is to help the most vulnerable in society, they ought to be resilient organisations, because their failure could and will lead vulnerable people into further marginalization. On account of the recent global economic crises, the 2008/9 recession (called *the recession* hereinafter) and the Coronavirus 2019 pandemic (*COVID-19 pandemic* hereinafter), this study enquired about the resilience of 8 South African SEs. Reflecting on the important roles of social capital and *Ubuntu* in South African societies, this qualitative study followed the 8 SEs seeking to understand whether and how these theories may have helped the organisations to be resilient through the crises. The article is divided into five sections, namely, introduction, literature review, theoretical framework, findings, interpretation and discussions and conclusion.

LITERATURE REVIEW

Crisis: Etymology and application in social and economic issues

Etymologically speaking, the (original) Latin term “crisis” was initially used in the English language to refer to a pivotal/critical stage, deemed to be the turning point of an illness (Hoad, 2000). At the crisis point, a disease would worsen to the point of becoming terminal, or it would mitigate to a point where it becomes more manageable, and the patient possibly could be cured. In its Greek form, the term was accepted in the non-medical sense, where it related to making vital decisions, judgements, or the

criteria by which judgements are made (Wedgwood & Atkinson, 1872). This history is telling for those studying crisis conditions because it helps us understand the weight of what we refer to as crises in contemporary society. As per the history of the concept of crisis, socially and economically speaking, in one sense, crises are crucial points, based on the decisions made by the actors, where organisations will survive or perish. In another sense, it suggests that, within the global order, local organisations are at the mercy of systems bigger than themselves, such as market systems. In that space, organisations like SEs are such small actors that they rely on the survival or death of these systems for their own future.

As such, SEs had no hand in the creation of the 2008/9 recession and the COVID-19 pandemic. However, the economic systems in which SE's exist, tested the resilience of these organisations. This is important to realise as the reason SEs exist has been to help those who cannot be absorbed gainfully into the market system. The beneficiaries are left without jobs/sufficient income, to the point where their wellbeing is compromised (Heywood, 2019).

The emergence of an SE itself is a result of crises, where the public and private sectors were unable to meet the needs of the populace (Cieslik, 2018; Teasdale, 2012). Judging from the logic leading to the establishment of SEs, their emphasis on financial sustainability (Berno, 2017; Krige & Silber, 2016), they are already hinting at the instability of the systems that birthed them. Resultantly, these organisations ought to take a long look at their existence, protecting themselves for when the winter comes, because "winter always comes" (Weaver & Blakey, 2022) as the capitalist system is in permanent flux. In the case of the recession, banking-related factors (Farmer, 2012) were the main cause, while for the COVID-19 pandemic, it was the healthcare system's challenges that led to limited travel and trade (Mbunge, 2020; Qiu et al., 2020).

Resilience

According to Apostolopoulos et al. (2019), studies in resilience were popularised by the biological and physical sciences, and have only recently been adopted in the social sciences. This concept has since been of interest in studies seeking to understand how societies survive the challenges they face, especially from external forces that press into societies. Showing this, Littlewood and Holt (2018) explain that SEs in sub-

Saharan Africa have been affected by challenges such as political, economic, market-related, and other instabilities, yet have fought to stay afloat to assist communities in need. Moreover, as shown above, the crises of focus in this paper went beyond local and regional challenges as they were caused by international factors.

Beyond its immediate context of surviving hardship, resilience has also come to be understood as people's (organisations, in this context) ability to rebuild what has been lost (Apostolopoulos et al., 2019). Such a process of rebuilding involves learning from the past and current hardships for future survival, utilising whatever resources the organisation has left after a difficult time, and applying its aptitude to reconstruct itself (Berno, 2017). As such, it is important to understand how SEs have come to not only survive crises by staying alive through those episodes, but also how they may have initially stopped functioning, and then rebuilt themselves when the crises subsided. Based on the nature of the systemic crises inherent in capitalism as described above, SEs ought to be aware of the urgent need for their sustainability.

Dearth of comparative studies in resilience through crises

Investigating the strategic responses of SEs to crisis situations, Sarma et al. (2022) erroneously conclude that COVID-19 was the first "crisis situation" (as they termed it) that SEs needed to navigate. Such a view is contrary to the current study's, along with Weaver and Blakey's (2022) argument that the first major crisis SEs had to navigate was the 2008/9 economic recession. In that instance, studies such as Zulu (2011), Gebreselassie-Hagos and de V Smit (2013), Bih (2016) inter alia, showed that many non-governmental organisations (NGOs) had been affected negatively by the recession, and some had had to scale down, while others even closed down completely. During this period, it was unclear how SEs managed to respond to the crises in South Africa at the time, partly because SE research in the country had not yet gained traction.

At the time, most SE research was more concerned with contextualising the practice, describing it, and understanding its scale and reach in the country. It was then that an unpublished master's dissertation was undertaken by the current authors. The title of the Master of Arts dissertation is "Mechanisms Employed to Cushion Social Enterprises in Johannesburg and the Surrounding Townships during the 2008 Global Economic Recession". The study probed how SEs used social capital to survive the

economic crisis. As a sub-focus, the study pondered how those survival tactics might be adapted into SEs' systems for future challenges (not necessarily at the global level) they might face (Mofokeng, 2017). That study is one of the two empirical works whose data is revisited in the current paper.

Furthermore, most literature explores the 2008/9 economic recession and COVID-19 pandemic as separate crises, with very few studies taking the comparative route to understand SEs' sustainability. The challenge with non-comparative approaches is how they limit the institution of an SE to specific episodes, neglecting the institutionalisation of SEs in development practice, which calls for the need to understand their resilience under normal and sub-normal conditions.

THEORETICAL FRAMEWORK

Grounding theory in *Ubuntu* philosophy: A constant striving to be more human

Though not a theory, *Ubuntu* is an important southern African philosophy that helps us to better contextualise this study's theoretical basis. Social Capital (used in this study), as a theory has its origins in French thought. Present in African thought are traces of social capital similar to *Ubuntu*. Thus, this study couches the functions of social capital in *Ubuntu* for contextual purposes. *Ubuntu* is a philosophy which argues that human beings ought always to pursue greater levels of *humanness*. Humanness is the idea of becoming more human by displaying values that promote human life (Dladla, 2017). Such values include generosity, kindness, genuine care, and love, amongst others. To live a life based on *Ubuntu*, one will always strive to display values that promote life increasingly, as one can never claim to have reached the highest level of any good value, and thus being a perfect human being (Mogobe, 2002).

Part of displaying humanness, is assisting people who are in need during crises. Often, generous people are described as *abantu abaphilayo* (literally, people who are alive; but essentially meaning generosity is linked to human goodness). Thus, selfishness means one may be considered dead while still alive. As such, *Ubuntu* dictates that people should assist each other, not only to survive, but also to thrive (Molefe, 2019). This outlook birthed key concepts within African philosophy which stresses the importance of working together, working individually, and assisting each other when the need arises (Nicolaides & Shози, 2021). Importantly, it is because of one being human that *Ubuntu* argues that it is important to love/receive love, kindness

(Tshivhase, 2018), etc. Importantly, being human is not a matter only of one's physical nature, but also one's behaviour. This means, believing that if one behaves in a way that promotes life, one ought to be supported, but if not, one ought to be corrected or be seen as less of a human. For our study on understanding SEs', resilience through *Ubuntu* understanding this is key.

SEs help people who are already vulnerable, which *Ubuntu* argues should be prioritised (Hagedoorn et al., 2023). This trait suggests that SEs are organisations that promote the existence of a good (concerned about the wellbeing of others and creating opportunities for others to continuously improve their lives) society (Metz, 2007; Molefe, 2019). SEs' human-centred concern suggests that these organisations also display humanness, as per Mogobe's (2002) definition. Thus, it is important to explore both the presence and document the process of how this philosophy bolstered the resilience of SEs in South Africa during crises. Finally, ideas such as *letsema* (Quan-Baffour & Lebeloane, 2008) express the need to work together, while each person contributes meaningfully to society. In this sense, then, one may enquire about the depth and traces of *Ubuntu* that may have been evident in SEs' survival of the two crises in question.

Social capital: Networks and relationships

The availability of social networks, social norms, and social trust which make it possible for members of society to work together and benefit from being associated with each other in some way - this is how Putnam (1995) characterises social capital. Social capital explains that people and organisations contribute to the wellbeing of society and can benefit from others' contributions to society as well. Portes (1998) asserts that Bourdieu's work was the first refined definition of social capital. Bourdieu (1985) defines social capital as, "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition." As alluded to in the *Ubuntu* philosophy above, African societies who live according to *Ubuntu* accept Bourdieu's (1985) assertion as true and desirable for their society.

Thus, this study sought to understand the extent to which social capital (through norms, networks, and trust) played a role in the resilience of 8 South African SEs during the two crises described above. We explore whether people (volunteers,

beneficiaries, and donors) contributed intentionally to SEs based on the organisations' contributions to society (i.e., did the SEs benefit from social capital because they also contributed to social capital?). Moreover, were there key relationships which nurtured SEs' survival, considering that social capital seeks the wellbeing of the recipient for the sake of the recipient, not only because others benefit from the recipient, even though the recipient's contributions to others are important, and should be considered as such. Such contributions can be seen in how Ubuntu promotes concepts like *letsema* (Quan-Baffour & Lebeloane, 2008), where every person's wellbeing is important in itself, but also for the benefit of others who rely on that person.

RESEARCH METHODOLOGY

Interpretive paradigm

Both studies are within the interpretive tradition. The studies sought to understand how the participants experienced and survived the crises, from their perspective. As the studies probed into the views of the participants, they are categorized as interpretive studies, as the participants gave their account of reality (Babbie & Mouton, 2012; Mazama, 2001). Both studies adopted an exploratory design which allowed the researchers to make context-sensitive decisions in the field to best answer the research questions (Neuman & Robson, 2014).

For the social entrepreneurs in these studies, there are two contexts to consider. Firstly, the internal context of the SEs: The social entrepreneurs assessed and understood the needs of their organisations. Secondly, the participants understood their external context, which were, chiefly, the recession and the COVID-19 pandemic. These involved changes in the economy of South Africa and much of the world and the rising prices of products and services (Gronbach et al., 2022), which ultimately impact on the SE and its ability to operate. The interpretivist research paradigm offers the opportunity to "travel" with the participants as we recreate the reality they experienced (Babbie & Mouton, 2012; Neuman, 2013). For example, in the first study, interestingly, some of the participants had not paid much attention to the recession, while others felt its impacts deeply. This was an important lesson that qualitative research allowed us to explore, namely the (sometimes) varying contexts of SEs, a lesson into which we took in the second study, some years later, as it pointed to the nuances presented by the interpretive paradigm.

Semi-structured interviews

The first study

The data for the first study were generated in 2016, several years after the harshest period of the recession (Mofokeng, 2017). This period provided time for some SEs to recover, showing their resilience, while also showing clearly which SEs did not survive the recession. Data were collected through face-to-face interviews at the offices of the SEs, all of which were based in Gauteng, which was most convenient for all 4 SEs participating in the study. The primary sources of data were in-depth interviews with key informants, as they were in the relevant positions within the organisations (2 founders, a director, and 2 managers), they are in the relevant roles, and thus have relevant information that is fundamental to answering the research questions (Bakewell, 2003; Laws et al., 2013). These interviews were audio-recorded, transcribed, and then analysed thematically as per Braun and Clarke's (2006) 6 steps of thematic analysis. These are: a. Familiarisation with the data; b. Developing initial codes; c. Generating themes; d. Reviewing the preliminary themes; and e. writing-up the findings.

The second study

Qualitative data for the second study were generated in 2021, while the COVID-19 pandemic was still being felt. This, in a sense, allowed us to study the SEs as they were still navigating the challenges of the pandemic. This allowed us to probe the resilience of the organisations, while some of them were still fighting to survive the economic and financial challenges brought about by the pandemic. For this study, data were collected through Microsoft Teams, an online platform which permitted us to reach SEs in 3 different provinces: Gauteng, Mpumalanga, and the Western Cape. This gave broader perspective into whether an SE's geographic location had any bearing on surviving the pandemic.

Similar to the first study, data were generated through in-depth interviews with key informants (in this case, all 4 participants were the founders of the SEs) which allowed us to understand their experiences deeply (Babbie & Mouton, 2012; Neuman & Robson, 2014). Documentation discussing their corporate strategies and other work

of their organisations, was also analysed as these give key insights into the work, priorities, ethics, and operational principles of the organisations (Burke, 2013). The study mainly considers the websites and social media pages of the SEs and social entrepreneurs. Documents and other written data help to state the views and analyses of SE practitioners (Creswell, 2014).

These data were then organised thematically through the first 5 steps by (Braun & Clarke (2006), and further subjected to Serequeberhan (2013) and Dladla's (2017) African philosophical hermeneutics. African philosophical hermeneutics argue that all written text (including interview transcripts), when analysed, from an African perspective such as *Ubuntu*, yields a context-specific analysis which explains a phenomenon from an African standpoint. Such an outcome is important as, similar to Western philosophy and theory, analyses panning from African philosophy ought to be centred on African imperatives. When this analysis is concluded, then the report can be written-up. To protect the identities of the participants and their social enterprises, both the participants and their organisations were given pseudonyms, as per the ethical practice (Goodwin et al., 2020) they agreed to.

Delimitations and limitations of the studies

Each study was conducted independently by the same researchers. The focus was the resilience (through different or similar mechanisms) of SEs existing during times of crisis. The study does not consider what happens beyond emerging from the “moment of crisis”, only what was done to survive the moment of crisis. The second did not revisit the SEs interviewed in 2016. This may be a limiting factor as there may have been changes in how the 2016 participants adapted to navigating the 2020 crisis. Moreover, this study does not seek to generalise about all South African SEs' experiences of the 2 crises. Instead, the intention is to explore the experiences of a few SEs by understanding some of the theoretical underpinnings which aided their survival, since they may be useful to other SEs.

FINDINGS, DISCUSSION, AND INTERPRETATION

Reaching for financial sustainability

The characteristics of a good organisation include the ability to plan ahead and be able to survive tumultuous financial times by virtue of its plans for financial sustainability

and its ability to adapt to unforeseen difficulties. An organisation should keep its funding pool as broad (with multiple funding streams) and as deep (good relationships with donors and/or enough finances to weather unforeseen challenges) as possible to sustain itself as well as it can in times of financial difficulty (such as during a recession) (Bakewell, 2003; Wotela, 2017). Such a view of sustainability involves also having the right personnel in the right positions to prepare the organisation for what may come (Almagtome et al., 2019; Leon, 2001).

Morena (January 10, 2017), who was not ignorant that a recession had occurred, explicated that his company YOVVOP was not affected by the recession at all:

I was thinking in preparation for this interview, and... I did not know there was a recession in 2008... I am just not the type of person to get sucked into that type of stuff... I'm sure there was a recession, I'm sure it impacted on business. Did it impact on YOVVOP? Not that I noticed. And I'm being honest with you.

In some cases, the SEs were fortunate to not have felt the impacts of the recession. There were a few cases where the SEs did not do anything out of caution or foresight to mitigate the effects of the crises on their operation. At FOWUSANBO, Simphiwe (February 22, 2017) found that the manner and spirit with which the SE was founded to be important for the SE's funding and overall performance during the recession. Simphiwe (February 22, 2017) explained that, in most cases, donors (especially if they are private companies) usually limit the money they donate through corporate social responsibility (CSR) in order to sustain themselves.

We started in 2006 so not really. Uh – at that point in time, obviously, a lot of companies were quite busy with CSI, so we were growing. And as we sort of settled down, it was around 2 years, we were one of the lucky ones, I think. I think others could have been affected because obviously people, the first thing that companies will do is they will pull back on corporate social investment (CSI) funding.

Such a phenomenon, where donors have pulled back their funding in the middle of projects, has had detrimental effects on both the organisations receiving the funding and on the beneficiaries as well (Oino et al., 2015). Resultantly, SEs' response to the challenge of donor funding has been to generate a substantial percentage of their income by themselves, a phenomenon traditional NGOs are still battling to achieve

(Shava, 2021). This is a reminder that, where donors' foci, interests, financial status, etc. change, the recipients of donations will be affected. Fortunately, YOVVOP's business and business model was built around being a private business, which means that they could sustain themselves. On the other hand, FOWUSANBO, a hybrid SE, had built enough revenue to survive the recession. Moreover, they had excellent social capital with their funders, who did not reduce the funds they donated to them, as Simhiwe (February 22, 2017) explained. This key combination was important for the SE.

In the second study, Nkosazane stated that she foresees her SE opening new branches and expanding its reach beyond South Africa. Her SEs use the Member Motivator funding where the beneficiaries are expected to pay a small fee for the services and business products they receive (Foster et al., 2009). Nkosazane's SE offers mentorship services to women's businesses, which requires her to have a network of mentors who can do such work. While she started her operation virtually during the COVID-19 lockdown in 2020, she foresees her SE opening physical branches that will offer internet connection, meeting spaces, etc. to small businesses who do not own office space. For her SE to become financially sustainable, Nkosazane explained that,

I think it also helps to, to filter... we do want to help everyone, but not everybody necessarily wants to be helped, you know?... We are virtually based... but the objective is that, in the next 6 to 18 months, we'll be able to open up physical chapters in different countries... so people can meet in person and not just part of the virtual community. And that also we will be able to create maker spaces... there will be coffee, there will be internet connection, there will be phones and even laptops, you know, so if you do not have the tech that requires you to engage, we will make those particular things available.

The view here is that, the more the businesses subscribe to Nkosazane's SE to succeed, the more financially sustainable her SE will be, as they will make more use of her services and products, promoting humanness by being able to help others. Moreover, this model also points to institutional sustainability (Bakewell, 2003), the view that projects should change the general functions of society in a positive way, a key feature of *Ubuntu* and building social trust. This means if the businesses

Nkosazane assists succeed, there will be noticeable positive change to SA's economy (which is part of the SE's reason for existence). While this is not yet a mechanism for surviving a crisis, starting her operations in the middle of a crisis might mean Nkosazane is aware that she needs to protect her SE against future crises.

Sustainability through relationships/networks

For Thabo's (January 30, 2017) SOPSU, the neoliberal view of generating income is important. It is pursued by producing funding proposals, selling (to donors and the public) the idea of keeping a clean and healthy environment, being efficient, effective, and producing excellent results for the money spent. SOPSU is an SE that seeks to rehabilitate the natural environment, and it receives a large sum of its funding from companies seeking to offset their carbon emissions through rehabilitating the environment.

Thabo (January 30, 2017) explained that "We work on ratio at the moment of about 80% of every cent that comes into SOPSU going to the ground. And I think it would be hard for us to find non-profits that do the same." This incentivises their funders to keep donating to SOPSU as this ensures their funding does what it should. Moreover, Thabo (January 30, 2017) does not describe this as a donor-funder relationship; instead, he sees SOPSU as a partner for companies to reach communities for CSI/R and thus is a partner of other firms, not just an NPO that they fund. In addition to this, SOPSU diversifies its income by selling tree certificates and other merchandise. Behaviour of this kind is consistent with hybrid SEs, as found by the International Labour Organization (ILO) (2011), which was key to surviving the recession.

In SOPSU's case, social capital takes a different form, where it is not one-sided for SEs to receive funds, but the SEs contribute to social capital by doing work that benefits the funders as well. In this sense, both funder and SE benefit mutually. This was a key relationship in ensuring the resilience of the SE, because the funders would not be changing their commitment to SOPSU for as long as they were committed to protecting and rehabilitating the environment. The trust built between the SE and donors is an outcome of social trust that bolsters both sides (Makridis & Wu, 2021).

The kinds of donor/partner relationships SEs embark on, require them to be clear on at least key business functions. SEs should be aware of general and strategic business functions. A strategic business function is how the direction the organisation

is taking, is determined (Nieuwenhuizen, 2004). Potential partners are identified, long and short-term goals are decided, and the policies of the organisation are decided upon in this function.

In the second study, Linah argued for a collective view of how social capital and *Ubuntu* should drive social change. This is not necessarily what is already happening, but what should happen in light of COVID-19. She argued that “Something that has come as a gift in this COVID context, is that people were able to see that... systems need to change, it cannot just be one person trying to do good, or one organization... like CSI... it has to be about systems changing”. In this sense, the resilience of both society and SEs is reliant on realising what the collective challenges faced by society entail. This would entail creating vertical networks (Lang & Fink, 2019) across SEs and other organisations. Such an approach advocates for pooling resources to reach common goals, an ideal found in both *Ubuntu* and social capital to build collective wellbeing (Brunie, 2009; Delilah Roque et al., 2020; Molefe, 2019; Quan-Baffour & Lebeloane, 2008).

Additionally, Nkosazane (Online interview, November 2021) pointed out that COVID-19 helps to promote human dignity to help the beneficiaries of the SE to thrive. According to her, COVID-19 exposed how widespread social challenges are, and how they cannot be overcome without important social networks and a view to protect people’s wellbeing. In this sense, she acknowledges that SEs need social capital and *Ubuntu* as key approaches to their work — a view shared that has been adopted by many communities around the world (Li & Xu, 2022).

Good fortune, fortunate timing

Good fortune (or good luck) is not a phenomenon that has been followed closely in the management sciences. However, happenstance is worth considering as a phenomenon that has been key to the survival of some SEs in the two crises in this study. For example, Mauksch et al. (2017) argue that, through ethnographic research of SEs, one realises that not all the successes of SEs are readily explainable, if good luck is dismissed as a possible category for understanding the goings on in SEs. Here, one ought to bear in mind how ethnography searches deeply into both theory and empirical findings, helping us to realise the limitations of theory, at times. We found this was the case in SEs’ survival of the 2 crises of focus in this study.

One of the questions in the two studies was how the adoption of prudent financial models assisted the SEs in surviving the crises. The sampled SEs were founded in 1990, 2005, 2006, and 2007. The 3 SEs founded in the 2000s acknowledged that they believe that there might be a correlation between the time their SEs were established and their survival of the recession. Their operations were still small at the time the recession started and thus not too expensive to keep running. They had this and good fortune on their side. Simphiwe (February 22, 2017) said,

Uhm... We started in 2006 so not really. Uh – at that point in time, obviously, a lot of companies were quite busy with CSI, so we were growing. And as we sort of settled down, it was around 2 years, we were one of the lucky ones, I think. I think others could have been affected because obviously people, the first thing that companies will do is they will pull back on CSI funding.

Similarly, Linah (Online Interview, October 2021) expressed that, by the time COVID-19 came, she had already been working online across at least 3 major cities (Johannesburg, Cape Town, and Durban). The challenge she often faced was other colleagues' resistance to online collaborations and meetings before COVID-19. Moreover, Linah is a part-time lecturer. As a part-time lecture,

So, I think COVID has done a good thing in to be creating remote, online collaboration, agility, right? Working with the VUCA state and actually, the day that the universities closed, I was lecturing on VUCA [volatility, uncertainty, complexity, and ambiguity - it describes the situation of constant and unpredictable change that is now the norm in industries and the areas of the business world]. So, I was lecturing on what it means to be working in a context that is volatile, uncertain, you know, complex and ambiguous. And that same day, we were like, okay, lockdown, go home, stay safe. It became less about knowing about complexities, and actually living in complexities.

It seems here that even though this was not planned, part of what has helped Linah's SE survive COVID-19 was exposure to knowledge beyond only that of her SE. Her part-time job as a lecturer was good fortune that exposed her to the nature of the constant change which could have negative impacts on her SE. Moreover, in the second study, Nkosazane (Online interview, November 2021) explained that the COVID-19-induced lockdowns in SA started a few weeks before her SE started

operating. This allowed her to adjust her business model and plan to fit the needs of what was realistic during this time. This had not been a deliberate plan on her part, but good fortune. Here, Linah's survival mechanism is in line with Denrell et al.'s (2003) finding, that alertness and flexibility, combined with good luck, allows an entrepreneur to exploit opportunities in very beneficial ways.

Moreover, in our understanding of SEs' survival tactics, it is important to understand what may have been a result of unplanned, but beneficial circumstances as seen in the 2 studies here. Neither social capital nor *Ubuntu* can fully address these occurrences, except perhaps the metaphysical views of *Ubuntu*, which argue that people's fortunes are determined by God and the gods (sometimes called ancestors) (Ébalé & Mulemi, 2022; Lajul, 2017; Ntibagirirwa, 2018). This view would argue that one's God/ancestors supernaturally positioned them to survive the crises, an occurrence that is not commonly accepted by scientists, but has found strong bases in the works of Afrocentrists (Asante & Mazama, 2004).

Surviving through humanness and relationships

The 4 SEs participating in the first study were not affected by the recession in an excessively adverse manner. Morena (January, 2017) expressed that the recession had no negative effects on his SE. He said,

I was thinking in preparation for this interview, and... I did not know that there was a recession in 2008... I'm just not the type of person to get sucked into that type of stuff... I'm sure there was a recession, I'm sure it impacted on business. Did it impact on YOVVOP? Not that I noticed. And I'm being honest with you.

The other 3 SEs had also built enough resilience through a number of sources to survive the recession, some of which were good fortune, such as the timing of when these were started. Simphiwe (February, 2017) rationalised that the manner and spirit with which the SE was founded was important for the SE's funding and its overall performance during the recession. Simphiwe said,

We started in 2006 (2 years before the recession) ... at that point in time, obviously, a lot of companies were quite busy with CSI (corporate social investment) so we were growing. And as we sort of settled down, it was around 2 years, we were one of the lucky ones, I think. I think others could have been

affected because obviously people, the first thing that companies will do is they will pull back on CSI funding.

While Morena's SE operates as a private company, Simphiwe's is a hybrid SE. This difference is worth noting as it points to how financially sustainable Morena's SE had become by 2008. Moreover, Morena's SE, which functioned in the finance sector, providing essential services, may also have been buffered by the type of service it provided.

In the second study, out of the 4 SEs participating in this study, only 2 reported that COVID-19 had had a concerning impact on them. Explaining COVID-19's impact on her and her SE, Karabo (Online Interview, October 2021) said,

It's (COVID-19) been negative because as receivers of the Industrial Development Corporation fund (a government fund which supports industrialisation), we did not receive a single piece of salary during the whole of Covid. So, if it was not for my family, or my fiancé's family, actually I would have slept on the streets, I have slept under trees, I have slept in McDonald's. I have slept in streets before. If it was not for my family, I would have probably been back there. But I had to fight for what I felt was right. And 12 months later, we salvaged, and we are moving on, and actually getting back to where we are right now.

Here we see *Ubuntu* coming into play, where not what one has, but one's humanity (dignity) is at stake. Karabo explains that in the past she has had to sleep in dangerous and uncomfortable places, for lack of the means to be in a proper home. This is both a deprivation of Karabo's basic needs and human rights, which has been a concern for a long time (Adabre et al., 2021; Hamilton, 2003). As such, this compromise of Karabo's dignity and safety can be seen in *Ubuntu* as a lessening of her own sense of humanness, but also that of people who had the means to help her but did not do so (especially if they were aware of her condition) (Mogobe, 2002), an act that can also be interpreted as a lack of love (Tshivhase, 2018). Thus, a lack of income can lead to compromising a person's humanness, which Karabo experienced.

Interestingly, when asked about the impacts of COVID-19 and her responses to the pandemic, Nkosazane explained that, "with COVID coming into play, that just showed how many gaps exist, that need social enterprises to be filled, you know, so whether

it was making sure that homeless people had a place to stay and making sure that different people have access to the food and medicine and stuff like that. Those are all deliverables that government and the private sector do not fulfil.” This spoke to how SEs can be a tool to safeguard people’s humanness and dignity, by building a society wherein vulnerable people are cared for (Molefe, 2019). Such a practice both ensures the humanness of the beneficiary and expresses the humanness (through generosity) (Dladla, 2017; Metz, 2007) of the social entrepreneur, both of which require the existence of healthy networks built through social capital (Lang & Fink, 2019; Portes, 1998).

Furthermore, Karabo’s suffering was the result of a lack of income as her SE could not function due to government-enforced lockdowns in 2020-2021. This instance showed that it was not only the beneficiaries of SEs who were exposed to struggling, but social entrepreneurs could be just as vulnerable. This emphasises the need for social capital amongst SEs as well, the need for working together and caring for one another, an *Ubuntu*-based concept called *letsema* (Quan-Baffour & Lebeloane, 2008). While Karabo’s struggle was triggered by a lack of financial sustainability, which tested the resilience both of her SE’s financial capacity, and Karabo’s personal resilience to recover financially and emotionally and return to running the SE. Based on her earlier expression of the importance of her SE (helping people with disabilities (PWD), Karabo has been able to return to work with the preservation of her human dignity through meeting her basic needs and restoring her economic wellbeing (Allen et al., 2017) by family.

In this instance we observe *Ubuntu* and social capital working together to ensure the wellbeing of the entrepreneur, and by extension, preserving the SE. This is due to the size and nature of many SEs in SA, which are mainly small in size and rely strongly on their leaders/owners. There is, thus, a direct connection between the wellbeing of the social entrepreneur, the SE, and the beneficiary, where their organisations are small. This again points to the importance of primarily caring for the person, and it is from the person’s wellbeing that society will benefit in turn.

CONCLUSION

While there have been a number of economic crises over the last few decades, it has not been clear how social enterprises have survived these crises. The current study

considered the 2 most recent crises of this kind, the 2008/9 global economic recession and the COVID-19 pandemic, both of which tested the resilience of 8 South African SEs'. The 8 SEs were explored in two empirical studies. The first study focused on how 4 Gauteng-based SEs survived the 2008/9 global economic recession, while the second study sampled 4 SEs from 3 provinces (Gauteng, Mpumalanga, and the Western Cape), focusing on how they survived the COVID-19 pandemic. Considering that SEs prioritize society, this qualitative study analysed the findings through the theories of social capital and *Ubuntu*. The findings pointed to high levels of resilience in both studies. While *Ubuntu* and social capital played important roles in this resilience, the financial sustainability was an important internal management factor. It is noteworthy that, for at least 6 (3 in each study) of the sampled SEs, *Ubuntu* and social capital played a key role in building up their financial sustainability. Moreover, some of the SEs started operating shortly before, or during the crises, citing this as good fortune as it was an unplanned occurrence that allowed them to survive the recession. Furthermore, the SEs found that mutual trust between themselves and their funders, together with common understanding of the need for the SEs' work, along with prizing humanness were key to the SEs' resilience and continued partnership during and after the crises.

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Exploring the accommodation challenges facing off-campus students at the University of Zululand

V. Myekwa

ABSTRACT

The paper will explore the challenges facing the off-campus students at the University of Zululand. The general populace in South Africa now has more opportunities to attend colleges and universities than they did ten years ago. With this rise in access, significant barriers have emerged that may compromise South Africa's revolutionary vision for higher education. The objective of the paper is to explore the difficulties faced by students who are living off campus and to understand how these challenges affect the students' academic performance.

The study adopted a qualitative research design, which involved unstructured interviews with 5 participants, using snowball sampling and a review of existing academic literature. Thematic analysis was used for analysing the data received from the participants. The study finding reveals difficulties with which the students are confronted, including community street insecurity, inconsistent security inspections, lack of a police station in Kwadlangezwa and poor service delivery of, for example, water and electricity. The paper concludes that an institution of higher learning should make the security of their students staying off campus a priority, and give it the attention it deserves.

Keywords: off-campus students, community, University of Zululand, South Africa

INTRODUCTION AND BACKGROUND

According to Akyeampong (2019) there is sharp rise in student enrolment at universities in recent years. However, there has not been a proportionate rise in the availability of student housing to meet the fast increase in student numbers. Due to the expansion of higher learning establishments and an increase in student enrolment, several universities in the world face difficulties creating and developing student housing (Hesse & Osafo, 2020). The Higher Educational Institutions (HEI) in South Africa that offer housing typically have few openings, and each year there are

more applicants than available rooms (Kwapong, 2017).

Most students rent accommodation in the community. Indeed, concerns about the living arrangements of students are a topic for both professional and public consideration (Ismail, 2019). Many universities in South Africa have difficulties with the establishment and growth of student housing. As a result, the study explores the challenges facing off-campus students at the main campus of the University of Zululand, located in Kwadlangezwa in Kwa-Zulu Natal. After a historical review of the challenges faced by the students, the researcher noticed that there is a gap in knowledge about the challenges that are facing the students residing off campus, while the safety of the students should actually be a first priority, since the unsafe conditions in the Kwa-Dlangezwa area are a well-known phenomenon.

The geographic planning dynamics of the apartheid era are directly responsible for the students' housing problem in South Africa (Mzileni & Mkhize, 2019). Universities' locations were chosen based on segregation laws without taking future growth, notably the rise in student enrolments, into account. As a result, there is pressure on the nation to meet the rising demand for student accommodation. For instance, in South Africa, there were at least 39 recorded protests over student residences during the six-year period 2005–2010 (Mngomezulu, 2012). Over the past few years, there has been a significant increase in competition for higher education. With too few resources available, the demand for student housing and accompanying difficulties have both grown significantly over time. The aims of this paper were to identify the difficulties encountered by students because of inadequate accommodation. This study investigated students' needs and preferences with regard to acceptable rental accommodation, social freedoms, quality criteria, security, good living standards, and educational accessibility and viability, while their safety and wellbeing were also taken into account.

RESEARCH METHODOLOGY

Research involves using strategies to obtain accurate and reliable findings, enabling informed decision-making and the communication of knowledge. Research is crucial for generating added information and answering questions that expand knowledge. Researchers tend to organize information, disseminate knowledge, and collaborate on important projects. Research not only offers solutions to issues, but also inspires people to change their lifestyles, and sensitizes them to what is happening around

them and in the world. After identifying the study's scope, the author must choose the best methodology to conduct the investigation. Gupta & Gupta (2022) distinguish between research methods and research methodology, defining research methods as approaches to performing research and methodology as a means of addressing issues or subjects.

The study used qualitative research instruments and procedures, which ensured that the data collected offered information that would address the investigated issue of student's accommodation. Also, the data was analysed using thematic analysis, which identifies patterns or themes in qualitative data. The objective of thematic analysis is to identify themes, which are noteworthy or intriguing patterns in the data, and then use those themes to discuss the research or make a point. A strong thematic analysis explains and clarifies data, rather than simply summarizing it (Hamel & Michaud, 2021). Five students took part in the research. Every participant is staying in Kwadlangezwa, which is close to the University of Zululand. The participants were chosen from so-called 'hotspot' areas, and a snowball sample technique was employed, in which students who were interviewed provided a list of other students who had been attacked in their housing.

LITERATURE REVIEW

Defining the concept higher education

A higher education institution is where higher education is offered and delivered through universities, colleges, and other educational institutions. It encompasses traditional universities as well as career-focused institutions (often known as polytechnics or universities of applied sciences). An educational institution is any institution that, subject to review and admission requirements, only accepts individuals who have a certificate of graduation from a secondary school and are legally able to offer a program of study beyond the state's secondary schooling, that provides instruction leading to a bachelor's degree from the institution, or a degree that can be used to gain entry into a graduate or professional degree program as regular students (Carolina F. Machado, 2019).

According to Mahramovna and Chorshanbievich (2023), higher education is any of the numerous forms of education that are available at postsecondary educational institutions; upon completion of a course of study, students typically receive a named

degree, diploma, or certificate of higher studies. Higher education institutions include universities, colleges, and professional schools that provide instruction in fields like theology, business, medicine, law, and the arts. Higher education also includes junior colleges, technology institutes, and teacher preparation programs. Most higher education institutions require the completion of secondary education as a prerequisite for admission, and the average age of entry is approximately 18 years old.

GLOBAL AND AFRICAN PERSPECTIVE ON STUDENT ACCOMMODATION

Housing for students is an international problem, with universities around the world having comparable problems to South African universities. The current evaluation's results will elucidate the effect of college housing difficulties, student housing quality, student housing availability, private housing and large quantities of rented housing, and university security and safety precautions. According to Williamson and Shay (2020), the rapid growth of higher education institutions around the world has prompted governments to support these institutions in addressing the challenges of accommodation that higher education institutions face, and maintaining their competitive advantage (Ogendo & Mbatia, 2020).

According to Simon and Francis (2018) research has shown that more students are enrolling at universities, and the number of people pursuing postsecondary education worldwide has increased by an estimated 160%. According to Yunus (2018) During the 1960s and the 1990s, Nigeria's university population grew from one in 1948 to thirteen in 1977, twenty-four in 1985, and 37 in 1998, showing that the growth in student numbers is a continuous issue which is not receiving the necessary attention. The state governments were worried that a lot of the funding that was being allocated to student housing, could be better spent on supplying educational resources (Ogunode & Akinjobi, 2020). Nevertheless, student housing is also an integral part of educational resources because the students need somewhere to stay at night and to use for studying for tests and exams.

However, with the influx of students from other states and the growing number of students, problems with housing have grown evident at practically all state institutions. The off-campus living arrangements are now not only limited to government-owned colleges, but also included at federally funded institutions, which used to work as hard as they could to preserve the domestic model (Agava & Bello, 2018).

According to Hillman (2020), living arrangements, more than anything else, tend to remind people of their time as students. That why it is important for students to consider their choice of housing just as carefully as their choice of school or program. The providers of student accommodation are not just successful business enterprises, or landlords, and they are not just one of the many pillars upon which the United Kingdom's higher education system is built. At their best, they offer a community in which young students can transition to adulthood in a safe, secure, and enjoyable environment. Student accommodation significantly enhances the student experience, to the point where the experience of commuting students is now a focus area for improvement.

Ndlovu Gatsheni (2018) argues that the universities that are currently in place in Africa were all imported from Europe and did not originate from African seeds. Rather, they were the result of deliberate, slow growth from African sociocultural and political-economic developments. Many of our main institutions are in the municipalities of South Africa, which are the result of a longer land expropriation history.

Universities in South Africa see a considerable growth in enrolment each year, but they lack the resources to accommodate the students approved for study at these institutions (Matsolo & Ningpuanyeh, 2018). Turok and Visagie (2021) state that South Africa Commercial Property News reports that the country's universities are dealing with an ever-growing issue, as their students struggle to locate acceptable housing. Many of these institutions have now reached student housing crisis levels.

According to the University World News Africa Edition (2017), South African universities require a fundamental academic framework to guarantee quality. Thus, services for students in need of help, and subpar housing must receive attention. Universities in South Africa are under pressure to open their doors and make education accessible in accordance with the constitution and the Bill of Rights (Dube, 2020), making student accommodation a top priority. The public higher education system in South Africa strives to offer high-quality instruction in support of societal and global market development. In South Africa, there are 23 institutions of higher education.

Theoretical framework

The theory of relative deprivation employed in this study was developed by American

sociologist Robert K. Merton, who was the first to propose this concept while investigating World War II American soldiers. The hypothesis has been used in every branch of social sciences since Stouffer initially proposed it in 1954. Walter Runciman made significant contributions to the concept as well. He made a distinction between egotism and relative deprivation, which is the lack of resources to support the privileges, lifestyle, activities, and nutrition that a person or group are used to, or that are frequently promoted or accepted in the society to which they belong.

By measuring relative deprivation, it is possible to compare someone or a group's situation to that of the rest of society in an objective manner. Although stressing that the individual perspective makes objective assessment challenging, relative deprivation may also emphasize the subjective sensation of displeasure when being denied something to which one believes one is entitled. It is a phrase used in the social sciences to characterize subjective rather than objective measurements of economic, political, or social deprivation. The phrase is closely related to the authors' study of comparative living conditions, in exploring the accommodation challenges off campus and then on campus, in the belief that on campus is in a better condition than off campus.

According to Grasso and Yoxon (2019), relative deprivation is predicated on the idea that one group is better off than the other group. Relative deprivation has been used by different scholars in different ways. The study conducted by Davidai and Ongis (2019) found that, independent of participants' household wealth, political ideology, or perceived social status, personal relative deprivation generates a conviction that economic success is a zero-sum. The more people believe that they suffer from unfair disadvantages as opposed to others, the more they believe that the world is unfair and that one's ability to succeed economically is decided by forces outside of one's control. People assume that economic success is a zero-sum game because of these pessimistic views of society. This study will use the context challenges in the living environment off-campus, and not those in campus residences. There are different types of relative deprivation, including intergroup, group, and personal relative deprivation (Asingo, 2018).

Self-determination theory is a broad approach for analysing factors that support or weaken self-motivation, independent external inspiration, and psychological well-

being, all of which are directly relevant to educational contexts. With regard to the study, we will use this theory to establish what motivates students most academically amongst all the challenges they face off campus. Research on the Self-determination Theory shows that both essential motivation and well-internalized forms of fundamental motivation predict a variety of positive outcomes across a range of educational levels and cultural contexts, and that these outcomes support the students' basic psychological needs for autonomy, competence, and relatedness.

According to Legault and Inzlicht (2018) the Self-determination theory (SDT) has a strong connection to drive, perseverance, resilience, and the will to succeed. According to this theory, everyone strives for, and needs the freedom to feel independent and self-reliant, competent, and able to form close connections with others to thrive and grow. This theory was used to discuss the ways of surviving, which off-campus students use to continue their university education. According to this theory, students must have resilience and self-determination, which are strongly correlated with their drive to obtain success, to persevere and perform well in their coursework despite all the obstacles they encounter every day. Key behavioural and performance outcomes, like academic satisfaction, organizational commitment, academic performance, and proactivity are positively correlated with motivation (Vasconcellos & Parker, 2020).

FINDINGS OF THE STUDY

The first theme was about being able to rent a place to stay. The question was which options were available to students near Kwa-Dlangezwa. Most participants mentioned the availability of accommodation for rent nearby. There are stand-alone structures for student housing, in which the students can stay all by themselves. It also has a caretaker, who is someone who is responsible for enforcing house rules, doing maintenance and repairs, taking care of security, and collecting the rent on behalf of the landlord. There is also accommodation available in an owners' homesteads, where students stay with the owner or landlord, and the university will resource the accommodation for students off-campus.

The findings are supported by the literature in the research conducted by Hesse and Osafo (2020). They discovered that just 30% of student-occupied homes had been intended to be student residences, with the bulk (70%) having been transformed from

family living homes to hostels. The study conducted by Matsolo and Ningpuanyeh (2018) also stated that Universities in South Africa see a considerable growth in enrolment each year, but they lack the resources to accommodate the students who have been approved for studies.

These findings demonstrate that, since there is not any easily available housing specifically designed for students, students will use any form of housing that is available when they enter an Institution for Higher Education and seek accommodation. Students who live off-campus, are provided with an opportunity to establish their independence and grow personally. There they can enjoy their freedom and independence, and are not governed by their parents' or institutions' norms and restrictions. In a study conducted by Munro and Turok (2019) they point out that, despite studies showing that students gravitate towards near-campus neighborhoods due to a lack of on-campus housing, as well as the unacceptable actions of landlords, developers, and agents, and most importantly a need for privacy, they have not received the proper attention in discussions to date. Since students have a unique lifestyle and culture that should be reflected in their housing design, it is crucial to link changes in the availability of student housing in these neighborhoods to their actual housing needs and preferences. The need for acceptable, off-campus student accommodation has truly become a serious problem in Kwa- Dlangezwa and elsewhere.

The second theme refers to appropriate security measures around the area where the students stay; then finding out from participants that the off-campus areas of Kwa-Dlangezwa have a high crime rate, which relates to the literature on social challenges or issues that affect many members of society and are frequently caused by variables outside of individuals' control. There have not been many discussions on the connection between an increase in student numbers and rising crime. According to Ndimande (2023), neighborhoods where studentification has taken place, are frequently "singled out by criminals for home invasions and muggings." A group of more than 10 students bore witness to being attacked around 2 am one morning and all their belongings, including cellphones and laptops, were stolen. A case was opened, but to date nothing has been found, one of them stated.

Long-term or permanent residents are concerned that this studentification may turn

their neighborhood into a crime hotspot. Donaldson and Campbell (2022) stated in their study that there was a strong belief that the presence of students in a neighborhood is the primary cause of an increase in crime.

Wei (2022) also noted that off-campus student accommodation presents more difficulties than on-campus living. It affects students' daily lives, including their housing comfort, convenience, safety, and academic advancement, directly or indirectly. The study conducted by Gbadegesin and Marais (2021) indicates that there is evidence of increased crime within areas of a high concentration of unregulated student housing providers, house burglaries in Bloemfontein being the most prevalent type of crime. In addition, they point out that crime has a gendered component, with women being more vulnerable to rape and sexual harassment than men.

These findings are in line with what previous scholars have reported according to the literature, with one participant mentioning that, at their place of residence a few weeks back, one of the female students was raped while she was walking alone during the day. Places where multiple students reside, or student communes as they are known in South Africa, have serious security issues and the impact of crime is recognized as a challenge.

Current higher education legislation in South Africa on off-campus student housing and safety, is very limited. A ministerial review carried out in 2017 by the Department of Higher Education and Training (DHET) of the national government exposed the problems with student housing and highlighted the problems with crime and student safety (Department of Higher Education and Training 2017). Bridging the gap between theory and data, the analysis confirms an assertion made in the literature, complementing the findings of the study by the Kwa-Dlangezwa off-campus students (above), that they had been attacked by criminals and all their belongings taken, inter alia, their laptops and cell phones.

Exploring the resources and support systems available to off-campus students at the University of Zululand

The participants in the study on off-campus accommodation at the University of Zululand, the participants stated that they were not getting any support in terms of resources and support systems from the university or their landlords to assist them in maintaining

their academic performance. “For example, the Wi-Fi support could be better because the data is very expensive. We end up going to campus even if we don’t have classes to attend, but we end up going there just to connect on the university wi-fi”. The support system should be better for students to keep up to date in their studies.

CONCLUSION

Based on the data analysis, it can be concluded that there is an urgent need for significant action regarding the activity of criminals, as social and environmental issues have become a daily challenge for the students. The feedback and suggestions from the students shed light on the areas that need improvement to address social issues and curb, if not completely eradicate, crime at off-campus housing. The results showed various facets of crime that tended to eclipse other facets, for instance, there is widespread fear among students to become victims of crime, and a propensity to perceive more serious crimes as having a greater impact, even though the latter kind of crimes take place almost every day. However, since relatively little research has been done on these subjects, it is anticipated that studies like this one will inform the researchers and help them decide where to concentrate their future efforts.

RECOMMENDATIONS

The researcher recommends that the accommodation around campus should be registered as suitable accommodation for students, that is safe and being maintained.

The study recommends the intervention of umHlathuze municipality, since the university does not have such powers on its own, and Kwa-Dlangezwa forms part of the municipal area. The municipality should have a programme to register all suitable student accommodation and inspect it regularly, unannounced, to check whether maintenance is being done, and to act as licensing authority, issuing licenses to the owners of suitable student accommodation, with those who refuse to register facing disciplinary hearings.

The study recommends that future researchers should further explore how the university outsources the off-campus residences, and what requirements they need to adhere to in terms of student safety,

The study also recommends that the roles of the landlords and the university should be

defined for cases where students are exposed to dangerous situations off campus.

Finally, the study recommends that the government and other funders give equal assistance to students who live off campus, to those who live on campus, since the transport allowance is inadequate and is limiting the students to staying in unsuitable accommodation. If they were to get more money, they could stay anywhere.

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Optimizing logistics performance processes through Information technology: A case of a small trucking company

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ABSTRACT

Organisations have always had issues in identifying ways and means in which they would be able to develop and gain competitive advantage, to improve as well as increase their market position and profits. The higher demand for moving materials and goods contributes to higher levels of congestion and pollution during a time when businesses, customers, and government regulations are increasingly concerned with reducing carbon footprints. To this end, new technologies and data capabilities are emerging that can add integrated visibility (monitoring and tracing), efficiency, and even sustainability to the supply chain to mitigate these issues and cultivate an ever-desired competitive advantage. The article employed qualitative approach data, which was collected from 9 senior employees by means of semi-structured interviews. The finding indicated that information technology tools play a pivotal role in improving process performance, risk reduction and the visibility of an organisation amongst its competitors. The study recommends that while information technology is expensive, collaboration and benchmarking are solutions to lower operating costs and improve efficiency and effectiveness

Keywords: optimizing, process, performance, information technology, transportation

INTRODUCTION

Small and medium companies are the main contributors to overall gross domestic product (GDP). The small firms with scarce resources need to optimise their operations with information technology. Logistics and transportation processes are vulnerable to threats such as security, scheduling, and the traditional processing of orders among other things. This article seeks to explore the role of information-technology related systems and processes in small and medium enterprise's logistics and transportation companies. The Internet of Things (IoT) connects the offline and online worlds by monitoring and transmitting data across networks (Obaidat et al., 2020). IoT can have an enormous influence on the operations of supply chains, including manufacturing,

warehousing, and logistics. Businesses that gather data from detectors and other gadgets, may obtain immediate insight concerning the location and state of their goods, enabling them to generate more knowledgeable choices and react more rapidly to changes. The handling of inventory can be automated with IoT devices, which enable monitoring the state of stocks and optimizing pick-and-pack procedures. This may assist to eliminate mistakes, enhance efficiency, and enhance supply chain visibility. Businesses that adopt these new strategies have the potential to upend established product-centric industries. IoT can open whole new markets by facilitating previously unthinkable developments. Examples of new markets that did not exist ten years ago are connected autos, wearable health monitors, and smart home appliances. These new marketplaces offer chances for tiny and beginning businesses to establish themselves and take on more established organisations. We may anticipate the introduction of new markets and uses as IoT technology develops, which will further disrupt current businesses.

South Africa is a country rich in minerals and natural products, however, they fail to properly process these natural commodities and sell them as finished products and services. Similarly, the country lacks various types of infrastructure to enable and support various types of information and communications systems. This directly implicates the implementation of various Information and Communication Technology (ICT) and Transport management systems for businesses operating within the country. South Africa is, however, continually progressing and improving in their ICT systems within the country.

There is also a very limited amount of research done from a South African perspective. Some studies are now outdated and do not consider the current-day dynamics of the business environments. These environments are rapidly changing and thus require an updated version of the studies previously done. This will help consider the modern-day threats and risks that South African businesses are currently faced with. The following section discusses the literature related to the subject matter under discussion.

LITERATURE REVIEW

Transportation management systems

The role of transportation is extremely crucial in logistics, as the movement of goods is necessary for the entire supply chain to function. Transportation is a function that occurs throughout the supply chain of any product or service as raw materials are required to start the manufacturing. Goods need to be relocated at various stages of the manufacturing process. Thus, transportation is required during the 'work-in-progress' stages. Finished goods often require inbound logistics to distribution centres and then outbound logistics to the various retailers. Other related activities associated with transportation include, logistics (as mentioned), freight forwarding and control which are intangible (Grabara1 et al., 2014).

If efficient, transportation can increase sales and gain a large profit. However, it can also incur excessive costs if not managed and maintained properly. This can lead to wastage of valuable resources and time which can affect the company negatively. Just like any other system, transportation also has various internal and external variables and factors that influence the organisation and the operational processes. Generally, the management decide the branch, and method of transport, and this is done by using the most appropriate form available for the shipment (Grabara1 *et al*, 2014).

According to Cerasis (2017), creating and implementing a transportation management system, is a critical tool for any transportation process as it assists in the coordination of the entire transportation network through data configurations, which helps to optimise routes, warehouse supply levels, rates and distribution processes. This system helps to provide information in an easy-to-understand method and allows transportation professionals to make and perform their various duties and take efficient decisions.

The initial costs associated with introducing and implementing transport management systems is extremely high, which prevents the system from being implemented by small to medium-sized businesses. In contrast, the cost savings acquired, and the sales gained, together with the benefits such as increased efficiencies have tempted many businesses to start adopting these systems, so that they may have another competitive edge over their niche competitors. The system if implemented well could also pay itself off quickly and allow the company to increase profits (Cerasis, 2017).

The environments are constantly changing, and supply chain networks are constantly having to adapt to these changes. The state of transportation management systems is also changing through the rapid advancement in technologies which enables these systems and products to become much cheaper, and easier to use, as well as other added functionalities with quicker time responsiveness and easy installing processes. These benefits allow smaller companies to take full advantage and implement these systems, which can assist their business processes in many ways such as cost efficiencies, data mining, communication flows and many more (Cerasis, 2017). Some of these benefits of introducing and implementing a transportation management system include improved order processing, efficient order assignment, distribution and fleet management, improved dispatch handling, monitoring and travel times.

Nowadays, there are many issues such as changing customer demands, a multifaceted market situation, intense competition, a quick product life cycle, transport operation systems, regulatory frameworks of logistics, complexity in logistic operation and the latest, technologica orientation, that are making businesses able to operate in an unsettled environment. In most cases, such issues could be dealt with through integrated logistics drivers, to improve the operational performance of the organisation. It is vital that the organisation integrates partners within the logistics chain, in order for long-term sustainable superior operational performance to be achieved (Miteku, WoldSilase & Dawed, 2022). The ability of the organisation to effectively practice logistics management, helps the company to enhance their operational efficiencies, reduce costs and improve competitiveness (Natasha et al., 2017). Furthermore, if there is effective logistics management in place within the organisation, then it simply means that the product will be at the right place at the right time. Sumantri (2020) also indicated that logistics operations play a critical role in improving the value of organisations' output and ultimately improve customer value if the logistics management practices have been successfully employed. There is no doubt that that logistics is an important sector which facilitates the import-export trade activities in any country. Therefore, for any country to attract international business partnerships for diversification purposes, logistics efficiency and responsiveness becomes the critical components/drivers (Kebede & Hussen, 2015). Logistics drivers such as inventory, facility management and transportation contribute positively to a

company's greater operational performance (Natasha et al., 2017; Ayenew, 2016; Wonduante, 2019).

Due to customers' increased demands for products that suit their needs and their impatience in waiting for long lead times and the availability of market choices, transportation becomes crucial (Cannella et al. 2018; Hum, Parlar, & Zhou 2018). This is the reason why the logistics play a critical role in the supply chain, as it will not be easy to have the efficient movement of finished goods and raw materials across the entire system. The effectiveness of actions, timeliness and responses to the market stimuli are the three vital properties of responsiveness (Jafari, Ghaderi, Malik & Bernardes, 2023). From manufacturing to the final consumers, transportation is essential throughout the whole production process. According to Musau et al., 2017 and Obasan et al., 2016, transportation has a strong relationship with logistic operational performance, supply chain performance and firm performance. Several studies on transportation and foreign direct investment show that any organisations or countries that have more efficient transportation systems, attract more foreign direct investment (Miteku, WoldSilase & Dawed, 2022).

Information communication technology and business innovation

The increasing competitive pressures have forced firms to rely upon supply-chain information technology to satisfy customer demands. It is becoming increasingly difficult to operate profitable businesses in South Africa. Companies must optimise their supply chains and become extremely cost efficient to operate in this competitive market, while not compromising on essentials such as quality and customer service. Efficiency becomes a critical component in any organisation which aims to be competitive in the modern market. It thus becomes imperative that efficiency is achieved through most if not all processes within an organisation. Since efficiency is directly linked to productivity, it is important to ensure that efficiency is achieved. The country lacks various types of infrastructure to enable and support various types of information and communications systems. This directly implicates the implementation of various ICT and Transport management systems for businesses operating within the country. South Africa is, however, continually progressing and improving in their ICT systems within the country. The research problem is that companies are not performing optimally and, therefore, cannot become competitive enough in the ever-changing and dynamic market. The objectives of this article were to examine the role

of information technology in service businesses, and to ascertain the benefits of using information technology in transportation and logistics processes.

Theoretical and empirical studies suggest that the benefits of ICTs are not automatic and that their role in reducing unemployment in SMEs is not yet clear (Chenge & Wang 2020). Information technology is constantly improving and growing and has become a necessity for modern day business. Within the areas of transportation, information technology facilitates the capturing and sharing of essential information between various stakeholders in the supply chain, such as shippers, drivers, management, receivers, buyers and so on. It also helps to provide an oversight monitoring role for the flow of goods and services (Schafer, 2015: 3). As mentioned above, the information between various departments and stakeholders forms a link of connectivity which can be compared to the 'nervous system' of the supply chain. It helps the company to connect all the internal players of the company, while helping it to interact with the various external environments. Thus, the information system which is referred to as the 'nervous system' is an essential component of any organisation (Grabara1 et al, 2014).

E-business is a term referring to electronic business which signifies a business that uses the internet or any other form of electronic or technological devices and methods as a means to empower the various business processes. E-businesses utilise the various forms of technology and networks, and work in conjunction with various e-commerce systems. E-commerce is similar to E-business, however, it entails the use of the internet and other technologies for buying, selling, marketing and services processes (Combe, 2006).

The increasing number of expectations of consumers causes a variety of products and services to be offered by businesses. This adds to the complexity of supply chains which causes the coordination of the supply process to become harder to manage. This increased demand of goods and services causes many supply chain issues such as increased congestion, and higher levels of pollution, as well as time constraints amongst others. Businesses struggle to find the balance between satisfying customers, while ensuring that their products and services are lean, environmentally friendly and properly controlled (Schafer, 2015).

Technologies help businesses in various aspects, which help them with innovation by providing them with better information and control mechanisms. New technologies can help with added visibility, which can help provide monitoring and tracing capabilities, and efficient processes and procedures, that can help reduce the time required to perform many operational functions, as well as add sustainability, enabling companies to reduce travelling and other environmental concerns (Schafer, 2015).

Since companies are continuously investigating methods to improve its operations, sales and ways to evolve as an organisation, technology and communication systems can assist in helping businesses mitigate many issues and competing in various complex and dynamic environments and markets (Schafer, 2015).

In transportation, paperwork and a paper trail are extremely important. A waybill, which is a document containing important logistics information is one such example where it serves as a contract between the carrier and consignor. This contract helps to further specify and determine the various conditions required, such as transport conditions and the form of the transport service (Grabara1 et al., 2014). In essence the waybill is designed to record important information which is needed for record and control purposes. This is one example of how important the role of information is within any organisation, operation or procedure.

If transportation is managed efficiently and effectively, it can increase sales and gain a large profit. However, it can also incur great costs if not managed and maintained properly. Generally, the management decide the branch and method of transport, and this is done by using the most appropriate form available for the shipment (Grabara1 et al., 2014). Thus, ICT systems help to assist in managing the various processes and procedures that occur within a supply chain and most importantly with regard to transportation.

Technological integration describes the method of incorporating technology into organisations and business processes. This is a vital component when utilised correctly in conjunction with other factors of production in modern-day organisations. It becomes a valuable dimension that helps organisations add value and reap many benefits, as discussed above. Managements have thus started realising the importance of using technology and have begun incorporating it into their organisational processes for increased efficiency, effectiveness and improved quality.

This is ultimately intended to help increase the overall satisfaction of customers (Tohidi, 2010). Using technological help to generate data, must be processed and transformed into knowledge. This knowledge becomes a critical aspect when dealing with various business functions and decision-making in organisations. The growth in science, technology and communication has forced companies to consider the potential of new resources consisting of technology, knowledge and networks. Therefore, it is imperative for the organisations to take advantage of opportunities to innovate.

Saha (2017) describes how information and communications technology makes a significant contribution in performing several human resources functions, including performance management. Human resources and related aspects require a lot of information and a deep understanding, so that the employees can be properly understood and managed well. Human resources functions control very important dimensions such as promotions, bonuses, holidays (leave) and other important related factors. Hence, the proper collection, utilisation and recording of such information is critical in ensuring that the workforce is managed correctly and efficiently. Furthermore, the human resources department needs all relevant information to correctly calculate salaries and wages. In addition, they would also require this type of information to strategically formulate remuneration packages and perform other related activities for the benefit of the organisation.

Thus, the incorporation of information and communication systems forms an integral part of the human resources functions of the organisation. Without the implementation of technology, the human resource function and its related functions would not be able to be run effectively and efficiently, which could easily create problems for the organisation. The European Commission on Digital Entrepreneurship unearthed similar results emphasising that merely 2% of SMEs take advantage of ICT (European Commission 2015).

RESEARCH METHODOLOGY

The independent researchers have employed the qualitative research approach, and also semi-structured interviews as the primary data collection method for the trucking company. The interviews were conducted in the workplace of their participants during their lunch time. As the study is qualitative in nature, non-probability purposive

sampling was used to select the participants of this study. To ensure that precision and accuracy of data is achieved, ten (10) employees who run the entire operations, which were from the Management department at a small trucking company, were selected to be interviewed. However, due to certain limitations experienced, nine (9) people were chosen by the company for the interview process, and took part in the research, respectively. After the primary and secondary data were collected, the thematic approach was used for the analysis of the collected data.

DISCUSSION OF FINDINGS

Technology has many uses, applications and different types. These can consist of either hardware or software aspects, respectively. Within small trucking they have many technological hardware and software systems to run their operations. This technology has helped them achieve many benefits which will be discussed later, and it has helped improve business operations significantly. Some of the hardware-related technology that is being used in the business is: laptops, desktop computers, cell phones, printers, scanners, cameras, voice recorders, RFID tags, e-tags, and dashboard cameras.

In terms of the software that is being used in the business, the main-core software package being utilised, which forms the basis of most of the operations, is the Microsoft Office Suite. This generally consists of programs such as Word, Excel, PowerPoint, Access, Outlook and many other products which are integrated into one package, and these programs are easily able to connect and work together. The above-mentioned programs are extensively used by the organisation on a twenty-four-hour basis, and are thus integrated into their laptops, and desktops as well as their cell phone devices, respectively. Other software packages include: Pastel accounting software, anti-virus software, adobe creative suite for marketing and designing purposes and tailored software to run and monitor cameras and voice recording devices installed within the organisation itself. There were many benefits highlighted by every employee when it came to using technology. It was observed that many of them could not perform most of their jobs without it and, thus, it became something they were truly dependent on. During the interview, it was found that the planning, and the execution of orders and deliveries, were done via old school boards, which often required someone to be physically present at the board at all times. furthermore, they

would have to always phone and check with the office for available time slots. This was a very old, slow and expensive way of performing the core logistics function; which was to execute deliveries efficiently and effectively. This old system also prevented them from expanding and increasing their capacity as an organisation.

After introducing and implementing technology, and software into the organisation, things began to change. This allowed the organisation to transition and helped to open new doors, in the sense that the business could now increase its capacity; plan and execute better; eliminate errors more easily; and, thus, take on more work than they were previously able to do. This helped the business yield more profits and helped the organisation in many additional ways, apart from increased profits.

Some of these benefits included improved booking systems, where people could place orders irrespective of whether they were physically present at the office, as everything is done via online spreadsheets. Other benefits were to increase in capacity taking on more orders, since they were not confined to a board-sized operation any longer and could take orders to their maximum capacity. This improved resource allocation drastically. Information technology has also improved visibility across the supply chain partners, which is an integral part of the operations, since operations managers must be aware of every activity that is taking place. Finally, security improvements were made in which technology acted as a way to further enforce control and security measures in ways human capital cannot achieve.

The primary features that were gained, consisted of tracking information which included real-time visibility through locational information, visual tracking, speed, driving habits, routes, tire pressure, engine notifications and other information provided through satellite tracking software. Other devices provided information about the driver of the truck and any other occupants in the vehicle, through dashboard cameras. These cameras also provided footage of the road and route being used by the truck. Other information and features that are not primarily part of the truck and tracking consisted of: spreadsheets, drawing up reports, gaining office camera and voice recording data, and the normal processing of transactions on a daily basis.

Implemented technologies were adopted that are best of the range available. Furthermore, the manner in which these technologies are utilised and executed, provides an efficient and effective operation that is meaningful and purposeful. They utilise only what they need and discard the rest, preventing unneeded expenses for devices and technologies that are not fit for their business use specifically.

In addition, the manner in which they utilise their resources through information technology helps them to remain competitive in the market. They are able to be extremely responsive to market change as well as risks. These features help the business to find alternate ways to identify problems and find solutions much faster, as information technology provides visibility and information in real-time, which they can then act upon immediately. This is one of the ways in which the business is helped to remain more competitive than its rivals.

Performance plays a big part in achieving efficiency and effectiveness in any organisation. However, due to the small size of the trucking company, actual performance management is not implemented as it would be in a large organisation. Nevertheless, they still use a small part of performance management techniques to facilitate a productive work team amongst employees. In this case, information technology plays a significant role in this practise, since it is the data that is collected and recorded from technological devices and systems, that are used to assess performance, respectively. The Small trucking company uses the satellite tracking systems and the features they provide, to track the drivers' and employees' behaviour and practises. In this way, they are able to monitor many things such as driving habits, practises, discipline, travel times and so on. It is important to note that performance management will either be extremely difficult to conduct, or could not be conducted at all without the use of all the different types of technology, respectively. In this small business, it is technology that provides a basis for performance management practises to be carried out efficiently.

Prokopenko, Kuchuk, Ptashenko, Yurko, and Cherkashy (2021) suggested that logistics technologies are primarily focused on managing the flow of materials, service, and financial information to reduce overall costs and meet the requirements for quality products and services. This should become an integrated tool for the management of

a business organisation contributing from operational to strategic goals. Reducing the costs of transportation from the buyer's recognition of need until the final order is delivered to the customer's destination and the payment is eased without delays through EFT (Electronic Funds Transfer). Chenge and Wang (2020) confirms that developing technology innovative strategies for small businesses to actualise their firm performance and enhance job creation, is recommended. The employees also highlighted difficulties of connectivity due to a lack of signal, that distorts communications with the controller in their mother and dashboard camera, playing a critical role in recording incidents while on their destination to the customer.

CONCLUSION

Information, communication and technology must not be separated from business processes in the operation SME industry, which lack resources to compete with giants in the market. It addresses quick response, communication between sellers and buyers, it reduces costs, improves efficiency and lead times and tracking of orders. The small entrepreneurs are benefiting by developing networks and advertising their products online. The transporters of goods are benefiting by finding locations quicker and more easily, and destination consignment and management fleets making deliveries in different countries as security tool. Small and medium enterprises must embrace this tool, also paying close attention to disruptive technologies.

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Evaluation of measures to enhance supply chain management in Buffalo City Metropolitan Municipality

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ABSTRACT

Background: The supply chain management department has an important task in all municipalities of South Africa. The primary aim of supply chain management in South Africa was to enhance the previously disadvantaged individuals, women and disabled, but this aim has dismally failed because lately it serves as a form of wealth for a few politicians, public officials and friends of public officials.

Aim: The main aim of the study was to evaluate the measures to enhance Supply Chain Management in the Buffalo City Metropolitan Municipality (BCMM).

Setting: The study was conducted in Buffalo City Metropolitan Municipality, East London, Province of the Eastern Cape, South Africa.

Methodology: The study employed a qualitative research method. Secondary data in the form of previous research, and other publications were utilized.

Results: The study found that the municipality employed inexperienced officials with no required qualifications. Moreover, the findings revealed that staff members who are working in the supply chain had not attended any training to capacitate themselves.

Recommendations: The study recommends that the BCMM should employ qualified staff officials as stipulated by local government: the municipal staff regulations policy. Also, employees should be capacitated and well-educated about the procurement policies.

Key words: supply chain management, municipality, Auditor General, E-procurement

INTRODUCTION

Supply chain management (SCM) is a crucial component of financial management that aims to use globally recognized optimal methods (Thomas, 2018:93). Ensuring the provision of high-quality, easily accessible and effective social and economic services is essential for establishing good government in South Africa (Geldenhuys, 2021). Supply chain management encompasses a range of tasks, including procurement, logistics, production, and the distribution of products to clients inside an organization (Dvorsky et al., 2021). Supply chain management is based on key principles of procurement, including obtaining good value for money, promoting fair competition, adhering to ethical standards, ensuring accountability and responsible financial reporting, and promoting fairness and equality (Fan & Stevenson, 2018:19). Supply chain management is an effective system that helps to address and resolve issues in the public sector (Nkwanyana & Agbenyegah, 2020:1). The Supply Chain Management (SCM) should adhere to the principles of good governance, including fairness, competitiveness, equitable administration, openness, and cost-effectiveness (Beske & Seuring, 2014:35). This feature makes it an indispensable supplement to the efficient delivery of goods and services in the public sector. Yet, the public sector frequently experiences service delivery protests due to inadequate service provision and the misallocation of public monies (Gianakis & McCue, 2012:112).

Duffy and Darmer (2002:32), defined Supply Chain Management (SCM) as “the assimilation, acquirement, access, arranging and organization of resources, the organizational needs, or possibly needs, in satisfaction of its goals”. Dobler and Burt (1996:13) define SCM as, “the upstream fragment of the affiliation's regard chain and [is] accountable for ensuring that the right materials, organizations and advancement [are] gained from the right source, at the perfect time and at the right quality”. The Council of Supply Chain Management Professionals (CSMP, 2007) states: “Supply Chain Management wraps the orchestrating and organization of all activities related with sourcing and securing, change, and all collaborations organization works out. It also consolidates coordination and participation with channel assistants, which can be suppliers, go-betweenes, pariah pro communities, and customers”.

The Institute for Supply Chain Management (2014) describes Supply Chain Management as “the recognizing of evidence, acquiring, getting to, arranging and

organization of advantages and related capacities that an affiliation requires or perhaps needs in the achievement of indispensable targets.” Following the definitions, it can be confirmed that SCM consolidates the masterminding and organization of the significant number of activities connected with sourcing and obtaining, change, and all collaborations of the organization. Against this backdrop this study seeks to evaluate measures to enhance the Supply Chain Management section in municipalities, particularly the Buffalo City Metro Municipality.

PROBLEM STATEMENT

Government entities and departments are awarded funds according to which they formulate budgets, and these funds are allocated in the most equitable ways. Such funds should be used to provide good quality services and to promote the agenda of the government for serving the public in the most efficient manner (Zindi, & Sibanda, 2022). Ever since South Africa was liberated from the prior apartheid regime, the government has managed to improve the social and infrastructure growth. Nonetheless, many people who expected the freedom to improve the socio-economic issues, were left disappointed due to the failure of government to deliver services, as well as corruption and the lack of empowerment policies. The procedures that were followed with respect to the purchasing of goods and services were not as effective as they should have been, due to corruption and inefficiency (Rulashe, Ijeoma, 2022).

From the foregoing, the major concerns are the misuse of government funds, as well as irregular expenditure and corruption. These two concerns are affecting the actualization of the goals for which the SCM was formulated. It is because of these concerns that this study evaluates measures to enhance the Supply Chain Management section in municipalities particularly the Buffalo City Metro Municipality.

Research questions

This study is designed to answer the following research questions:

- How can the Buffalo City Metro Municipality improve the Supply Chain Management office?
- What is the level of supervision over the decision-making of the Supply Chain Management department at BCMM?
- What are the challenges facing BCMM Supply Chain Management?

Research objectives

The objectives of this study are:

- to investigate measures that will help improve the SCM of BCMM;
- to assess the level of supervision over the decision-making of the SCM department at BCMM, and
- to identify the shortcomings that may lead to incompetence within the SCM department at BCMM.

Supply Chain management: An insight

Authors around the universe are starting to formulate a universal definition of SCM. So Hugo et al. (2006: 56) defined SCM as “an organization for planning a framework (or web) of upstream linkages (wellsprings of supply), inside linkages inside the affiliation and downstream linkages (allocation and outrageous customers) in performing specific systems and activities that will finally make and enhance a motivator for the customer as things and organizations, which are especially a way to fulfil customer demands”. Academics like Tracey et al. (2005: 179-180), Knowles et al. (2005: 52), and Lambert and Pohlen (2001: 4), are of the view that SCM relates to the process an organization follows when procuring goods and service.

In the public sector of South Africa, SCM is defined “as a fundamental bit of financial management that tries to exhibit internationally recognized best practice. It traverses any boundary between standard methodologies for securing stock and the change of the store arrange, while watching out for procurement related issues that are crucial” (National Treasury, 2003: 19).

Over the past years institutes have been seriously embarking on a journey of establishing methods that seek the performance of the organisation to facilitate the realisation of customer demands by efficiently using resources to achieve value for money. This is why the SCM has managed to change the methods that are employed, and it has a positive impact on the provision of precious services to the rightful customers through quality and cost-effectiveness (Chopra & Meindl, 2007:23-26; Hugo et al. 2002:30, 31; Zindi, & Sibanda, 2022). Basically, SCM is the perfect strategic tool to help maximize efficiency and effectiveness to obtain the best results possible.

Considering the above statement, it is argued that, if an organisation is planning on prosperity and efficiency, it becomes integral for the organisation to employ methods that seek to enhance performance (Hugo et al. (2002:30-31). The author believes that SCM is an important tool to help create value to clients, and the provision of products at minimum costs to obtain the most perfect performance whilst also responding to the demands of consumers.

The National Treasury (2015) discovered corruption and inefficiency are the two major challenges that are facing municipalities. The National Treasury has the primary aim of improving the quality-of-service delivery, and this led to the formation of the office of the Chief Procurement Officer, to make sure that all is done at the right place at the right time (National Treasury, 2015:1). It should be noted that the SCM section in municipalities is an important tool for the purchasing that is done by the government in SA, using it as a method of managing procedures for the procurement of government goods and services. Even though SCM is used as a strategic tool, it has been noted that South African municipalities still experience challenges (Ambe & Badenhorst-Weiss, 2012). Such predicaments may include unethical behaviour, officials having been given too much authority, the misuse of the Black Economic Empowerment (BEE) policy, lack of the monitoring and evaluation of the SCM structure, and lack of accountability.

On the other hand, (Van der Waladt, 2007:205) posits that municipalities in South Africa are at the cutting edge of change and progression requires the provision of goods and services to satisfy the requirements of the systems. Local government needs to develop a procurement system that would enable them to provide goods and services effectively and efficiently. The route towards supervising such a structure is known as supply chain management (Van der Waladt, 2007:205). Jacques and Luby (2004:8) describe Supply Chain Management as the management governing everything from finances and related information to the acquisition of raw materials and the transportation of finished goods to the end customer. Calling for tenders to secure supplies of goods and services is a fundamental responsibility of SCM, as legislation urges public institutions to acquire goods and services by means of this technique. Comprehensive data on the timeline of the tender process and the associated methods are critical to ensure that government officials procure goods and services timeously when needed. A Supply Chain Management manual is compiled by local

government, as a blueprint of the technique for the acquisition of goods and services, through a proper system of quoting prices and facilitating a competitive bid system (Van der Waldt, 2007:205).

South African Legislative Framework

To ensure that municipalities and the national entities of government are operating in an orderly manner, it is essential to have an all-inclusive and productive legislative structure. Legislation that governs the SCM of government entities is discussed below:

The Constitution of the Republic of South Africa, 108 of 1996 (Section 217)

The Constitution of the Republic of South Africa is regarded to be the highest decision-making body, with each law or legislation always having to be in correspondence and reconcilable with the Constitution. In any process of public service, it is important to apply the principles of good governance (Van der Waldt, 2007). Within the Constitution, chapter 10 of 1996 stipulates the basic values and principles that must govern the process of public administration in the country. Section 195 (1) (b) of the Constitution provides that it is important to always practice the efficient and economic use of resources. According to Section 195 (1) (i) of the Constitution (1996), the practice of public administration must be in correspondence with the peoples of South Africa, with the recruitment and workforce processes being dependent on skill and fairness, the promotion and maintenance of a “high standard of professional ethics” and the promotion of “the efficient, economic and effective use of resources”, and always seeking to correct the wrongs of the past apartheid era.

Local Government Municipal Finance Management Act 56 of 2003

It is important for every municipality to have a SCM policy that will always be in line with the stipulations in Section 111 of the act. This is according to the Local Government Municipal Finance Management Act 56 of 2003. According to Section 112 of the Act it stipulates that the SCM policy principles must seek to exhibit fairness, transparency and cost effectiveness.

Supply chain management policy

According to Craythorne (2006:347) it is integral for every municipality to initiate an SCM policy that will enable the provisions of the act to help deal with the acquisition

and sale of goods. This is in terms of Section 112 of Act 56 of 2003. It is important for the SCM policy framework to always correspond with the authorised structure.

The Preferential Procurement Policy Framework Act, 2000 (Act No 5 of 2000) (PPPFA)

The Constitution of the RSA of 1996 section 217(2) stipulates that the organs of the state are authorised to execute a procurement policy that will clearly cater for different categories during the process of allocating contracts and the improvement of individuals. However, the policy may only be executed according to a framework that is regulated by the national legislation, since it so stated in the Constitution. It would have been much more beneficial if, through the PPPFA of 2000, the organs of the state had been allowed to regulate their own preferential procurement policies and administer a preferential framework that would suit the conditions and setting of that organisation.

Public Finance Management Act 29 of 1999 (PFMA)

One of the pieces of legislation that has been amended to facilitate good financial management within all spheres of government is the Public Finance Management Act 29 of 1999. The primary focus of the PFMA is to create a revolutionized system that will handle the finances of the state in such a way as to increase public sector management and accountability, to enable the public sector to provide the public with timely and accurate information and, thus, to improve the utilisation of public resources in a manner that eliminates corruption and waste.

However, the PFMA does not cater for the delivery of tenders, but the primary aim of the act is to improve the suitable use of public funds through the promotion of efficiency and effectiveness. The officials of SCM are authorised by the PFMA to handle tenders in such a manner that public funds are utilized to have a maxim impact on everybody. If officials are found guilty of promoting the management of tenders in a way that facilitates irregular and wasteful expenditure, then such officials would have committed misconduct.

Broad-Based Black Economic Empowerment Act 53 of 2003 (BBBEEA)

One of the legislations in South Africa that have been created to promote Black Economic Empowerment is the Black Broad Based Empowerment Act 53 of 2003. In

simple terms, Black Broad-Based Empowerment is the economic enablement of black people, such as women, youth, workers, disabled people and people from rural areas, using complex integrated socio-economic strategies. The Minister of Trade and Industry is obliged to establish a general agreement that will seek to improve Black Economic Empowerment (BEE), and issue codes to be used to regulate the different practices. Such codes may include a criterion of qualification for Preferential Procurement, plus other economic activities.

Subsequently, it is evident that municipalities are governed by the South African laws and legislation, and that municipal officials should comply with these legal frameworks. Non-compliance with the above-mentioned legal frameworks may be considered as a violation of the laws, and may involve serious consequences or charges against the offender.

THEORETICAL FRAMEWORK

This study employed the theory of bureaucracy. This theory was founded by Max Weber. Max Weber was an economist and philosopher, as well as a sociologist that was born in Germany. The term bureaucracy was developed by him, and bureaucracy is cited as the power that the heads of the public sector have. Bureaucracy is a structure that became famous because of its formality, lack of flexibility and excessive adherence to regulations (Hanekom & Thornhill, 1987). The theory of Max Weber is largely characterized by the division of labour through skills and power. This theory has been applied in various studies, such as Ritzer (2005) who believed that high levels of corruption disrupt the purpose and the functioning of supply chain management. The theory believes that, if the whole organization follows the rules that have been set by the top management, it will guarantee the heads of the organization that their decisions control the entire organization effectively and efficiently. Moreover, this would provide the top management with certainty. The theory of Max Weber is largely respected for its characteristic of the division of labour into small clear units. These will assist municipalities in ensuring and increasing accountability, and the top managers will be able to easily identify the root of any problem relating to the SCM.

METHODOLOGY

According to Babbie and Mouton (2001) research design is the structure that will be used by the scholar during the research process. The structure will be applied

throughout the study to solve the research problem. According to Brynard and Hanekom (1997), the qualitative method denotes a type of research that conveys evidence in the form of spoken words. With qualitative research a scholar does not utilize numbers or any other counts during the study. Qualitative research is best at determining unexpected results and being able to adapt the research according to the unanticipated results. Qualitative research encompasses the lived experiences of a phenomenon as the base of the study. The scholar selected the qualitative method, since it is found to be the most relevant because it does not contain numbers that can be manipulated. The qualitative method enabled the researcher to arrive at a comprehensive understanding of the subject, and to undertake a detailed study of suitable measures to enhance the SCM section in BCMM.

Data collection method

Secondary data sources are those that have been accumulated from somewhere else, like published printed sources, including books, journals or periodicals, newspapers and magazines, or published electronic sources, including e-journals, websites and weblogs. Government and semi-government publications, such as published Tender Documents, are useful for collecting secondary data on a regular basis. They include a variety of publications, such as statistics registration, labour force surveys, reports, economic forecasts and demographic information. This study made use of government publications which provide information about tender practices.

Data analysis

Data analysis is the process of bringing order, structure and meaning to the mass of collected data (De Vos et al, 2002: 339). In the analysis process the researcher employed a data filtering technique and graphical analysis. Once the data collection had been completed, an in-depth analysis of the data was made by means of data filtering. The researcher filtered the massive amount of data collected until only that which is critical to the research remained. Data was also analysed thematically and documentary analysis was utilised to strengthen the data collection.

Ethical considerations

Hedge (1987:414) describes ethics as a group of principles that are a driving force during research. Scholars who are involved in scientific research believe that any

research being conducted should be approached ethically. Research entails searching for knowledge, overcoming challenges and establishing new approaches while avoiding disarrays. All of this should be done in the most honest, accountable, and public manner. Ethics are mostly important in research studies that include human participants and, therefore, require knowledgeable agreement, interviews and protecting the participants' privacy and dignity. The information collected by the researcher in this study, was mainly for academic purposes.

FINDINGS OF THE STUDY

It is imperative to remind the readers about the objectives of this study. These are:

- to investigate measures that will help improve the SCM of BCMM;
- to assess the level of supervision over the decision-making of the SCM department in BCMM, and
- to identify the shortcomings that may lead to incompetence within the SCM department in BCMM.

The first objective sought to investigate measures that will help improve the Supply Chain Management department in Buffalo City Metropolitan Municipality. The following measures were identified:

- Initiating collaboration between BCMM SCM and Economic Development, DTI and Government Schools to train and capacitate suppliers.
- Appointing a Manager on EPWP to leverage opportunities presented by procurement and related programs to benefit communities.
- Reviewing the current e-procurement system to ensure it best delivers value for money. Otherwise, to consider procuring a system which will address the deficiencies being encountered with the current system.
- Developing and adopting a policy and procedure to detect, identify and report unauthorized, irregular, fruitless and wasteful expenditure for adoption by the Council in 2017/18.
- Projectizing vacant, unfunded critical posts to address the challenges until funding is secured to augment Performance & Contracts Management as well as Demand Management, for improved procurement planning and contracts performance.

- Reviewing the performance of the bid committees, training members, and enforcing the submission of procurement plans before Council approves its budget in May.
- Implementing the tender management and contract management modules on E-procurement in 2016/17.
- Monitoring, directing and regularly reporting on the turn-around times for awards to improve service delivery.

The second objective sought to assess the level of supervision over the decision- making of the SCM department in BCMM. The requirements are as follows:

- The installation of an access thumb print and access gates in strategic areas within the department to monitor and restrict access.
- The implementation of a Vendor Portal Database system for the registration of suppliers.
- The training of buyers on an E-procurement quotations system.
- The reconfiguration of a bid committee system, increasing from three to six, with an additional secretariat.
- Testing the Tender management and contract management modules in preparation for a full roll out in 2017/18.
- The adoption of an SCM Policy by Council in May 2017, with the annexed Standard Policy on Infrastructure Procurement and Delivery Management.
- The regular identification and reporting of irregular and unauthorized expenditure.
- The scanning and archiving of all awarded contract documents.
- The resumption of a project for the extension of Supply Chain Management Stores and Warehouses to increase storage capacity and safeguard municipal stock items.

The third research objective sought to identify shortcomings that may lead to incompetency within Supply Chain Management in Buffalo City Metropolitan Municipality. The following are the findings of the study:

The results indicate that vacant unfunded posts are the main challenge that affects the supply chain management department in BCMM. There's a slow turnaround in the awarding of quotations and tenders. Moreover, there's a slow buy-in to procurement

planning as the first stage of demand management. Furthermore, these results show that, there are poorly developed suppliers within the BCMM database, semi-automated and or manual procurement processes, Performance and Contracts Management not being optimal within BCMM, undetected instances of unauthorized, irregular, fruitless and wasteful expenditure and a lack of policy/procedure. Lastly, there is the poor implementation of procurement strategies to address black economic empowerment.

DOCUMENTARY ANALYSIS

BCMM 2016/17 AG report

The audited reports of consolidated financial statements of BCMM as of 30 June 2016 and 30 June 2017, respectively, were used for the purpose of the analysis. The AG conducted the audit according to the reporting obligation by the municipality in terms of section 188 of the Constitution, section 4 of the Public Audit Act 25 of 2004 (Republic of South Africa, 2004), and section 126(3) of the MFMA.

The consolidated financial statements for the relevant period were prepared and presented by the accounting officer in accordance with the South African Standards of Generally Recognized Accounting Practice (GRAP), MFMA and DORA. Regarding the audited report of the financial position of the Municipality as of 30 June 2011, the AG raised the following issues in table 1.1

Table 1.1: Analysis of the 2016/17 AG report

AUDIT QUERY	OPINION
IRREGULAR EXPENDITURE	Disclosure in note 57 of the financial statements reflected that a value amounting to R287,3 million, consolidated by irregular expenditure, was incurred due to non-compliance by SCM.
IMPAIRMENTS	Notes 12 & 15 declared a deficit of R1,2 billion, which was due to the slow recovery of old consumer debts.
MATERIAL LOSSES	Note 59 to the consolidated and separate financial statements disclose that the municipality incurred material losses of R218

million and R100,8 million from electricity and water, respectively

Source: Researchers own construction (influenced by BCMM AG reports 16/17)

Daily Dispatch, 03 February 2018, CFO must explain.

According to the daily dispatch dated 03 February 2018, the troubled BCMM chief financial officer Vincent Pillay was given a maximum of 7 days to provide reasons to avoid suspension due to the report that was released by the public protector, Busisiwe Mkhwebane, relating to the Nelson Mandela funeral scandal.

There were findings against Pillay by Mkhwebane when she released the probe in December, investigating how millions of rands of state funds had been misused and irregularly spent in BCM, leading up to the funeral of the former president Nelson Mandela in 2013 (Daily dispatch, 2018).

Former public protector, Busisiwe Mkhwebane, found that “He acted in violation of the provision of the municipal supply chain management regulations and the supply chain management policy of the BCM. His conduct constituted financial misconduct as contemplated by the MFMA, and the municipal supply chain regulations resulting in irregular expenditure for the BCM.” (Daily Dispatch, 2018)

DISCUSSION OF THE KEY FINDINGS

The study found that corruption and the misuse of funds are the main issues that affect the Supply Chain Management in Buffalo City Metropolitan Municipality. Previous studies have shown that corruption and inefficiency are the two major challenges that are facing municipalities (National Treasury (2015). This finding is also supported by the findings of the former public protector, Busisiwe Mkhwebane, when she revealed that the Chief Financial Officer of BCMM violated municipal supply chain management regulations and BCM policy, leading to irregular expenditure and financial misconduct as per the MFMA and municipal supply chain regulations (Daily Dispatch, 2018).

See also (Rulashe & Ijeoma, 2022; Zindi, & Sibanda, 2022) who argued that a significant number of individuals, who anticipated the opportunity to address socio-economic challenges, were ultimately disillusioned because of the government's inability to provide essential services, pervasive corruption, and the inadequate implementation of empowerment measures. The procedures pertaining to the

procurement of products and services were rendered ineffective due to corruption and inefficiency (Rulashe & Ijeoma, 2022; Zindi, & Sibanda, 2022). On the other hand, a study conducted by Fan and Stevenson (2018) posit that Supply Chain Management emphasizes procurement principles like fair competition, ethical standards, accountability, responsible financial reporting, and fairness, promoting fairness and equality.

Moreover, the findings of this study also show that the municipality employed inexperienced staff members. This finding agrees with the findings of the National Treasury (2015), who revealed that the municipality should ensure that there's efficiency and transparency, and that the municipality must employ qualified personnel who can deliver quality services to the citizens of the Republic of South Africa.

Lastly, the study revealed that BCMM should provide training to buyers on E-procurement quotations system. Similarly, local government needs to develop a procurement system that will enable them to provide goods and services effectively and efficiently. The route toward supervising such a structure is known as Supply Chain Management (Van der Waldt, 2007:205). Jacques and Luby (2004:8) describe Supply Chain Management as the management and governing of everything, including finances and related information from the acquisition of raw materials to the transport of finished goods to the end customer.

Subsequently, the findings of this study are also supported by the theory of bureaucracy. The theory states that, if the whole organization follows the rules that have been set by the top management, that would convince the heads of the organization that their decisions control the entire organization effectively and efficiently. Moreover, it would provide the top management with certainty.

RECOMMENDATIONS

- It is recommended that every public official working in the SCM should work following the policies, regulations, rules and legislations governing SCM to restrain corruption.
- Public officials should reliably consent to the legislations, policies, rules and controls in their regular activities in SCM.
- Public officials should have the ability to understand the Acts, policies, rules and controls governing SCM.

- Unwillingness amongst public officials to interpret the Acts, rules, policies and regulations of the SCM, will undoubtedly lead municipalities into poor service delivery.
- Regardless of the way policies have been formulated in the municipalities, it should be possible to reliably identify the policy with the PPPFA, PFMA, BBBEA, Treasury heading, and Constitution of the Republic of South Africa 108 of 1996 (Section ,217).
- That all BCMM officials assigned in the SCM must sign codes of conduct, has been endorsed.
- The codes of conduct will stipulate ordinary accepted practices and leadership roles. As shown by the guide for Accounting Officers with respect to SCM and the National Treasury's Code of Conduct, all the active employees and the public officials responsible for SCM must comply with the highest ethical standards.
- Public officials working in the SCM must be paid reasonable remunerations. Moreover, it is recommended that, working in the SCM, receiving low pay should be re-evaluated and increased, depending on each person's capacity, knowledge and training.
- The SCM officials must be skilled and educated in how to choose service providers, and adhere to the rules, controls, policies and acts governing SCM.
- The public officials should, in like manner be, enlightened as to how to construe those Acts, regulations, policies and rules directing SCM.
- The training and guidance of SCM officials ought to be critical to their jobs.
- Whistle blowing should be encouraged within the public service, enabling service providers and the systems to report a wide range of corruption in the SCM.
- The minimal resources of local government should be used efficiently and adequately by service providers and public officials alike.
- It is recommended that, when service providers apply for tenders, it should be ascertained whether they can provide the required services as organizations, paying attention to whether they have the capacity, data and abilities to perform such duties, and whether they have registered their businesses with the South African Revenue Services as is required of every authority within the

community, to be assigned advertising. The nonappearance of aptitudes, data and capacities are the essential drivers of unhonoured contracts.

CONCLUSION

Undoubtedly, well-coordinated supply chain management (SCM) is crucial for efficient service provision in towns. Supply Chain Management (SCM) is a comprehensive process that combines several activities and factors to guarantee a smooth and uninterrupted movement of goods and services. This process encompasses sourcing, procurement, processing, logistics, and ultimately the delivery of services and goods to the intended end-users. SCM managers have the primary responsibility of managing and overseeing the relationships with suppliers and contractors in the organization's supply chain. They also analyze supply, demand, and production fluctuations, using evidence-based methods to ensure efficient, effective, and cost-effective service and value for money. For the metropolitan municipality to effectively fulfill its duties, its constitutional obligations and generate public value, it is essential to implement the required institutional and systemic changes and adjustments to the current supply chain management (SCM) policies and processes.

Competing interests

The authors have declared that there is no conflict of interests that exists.

Authors' contributions

Z.S. Magade is the main author and has conducted the study. He is also the corresponding author. M. Ndasana is the co-author of the paper. He has reviewed the literature and edited the whole paper.

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Data availability

Data is available upon request from the corresponding author.

Disclaimer

The views and opinions stated in this article are solely those of the authors and do not necessarily represent the official policy or stance of any affiliated agency.

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The challenges encountered by SMEs in Africa affecting their socio-economic development: a review of the literature

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ABSTRACT

Poverty and unemployment are significant factors associated with Africa, leading to increased community participation in municipal protests. Therefore, it became urgent to work toward a sustainable approach to address these critical issues. One potential solution to combat these issues is through the promotion of entrepreneurship within the continent, through the creation and promotion of small and medium-sized enterprises (SMEs) in Africa. However, despite their significance, they continue to encounter various obstacles that hinder their progress and potential. Hence, this study aimed to identify the various challenges faced by SMEs in Africa that hinder their socio-economic development, through a comprehensive review of existing literature on the subject. The literature revealed that these challenges include restricted access to finance or credit, limited access to foreign markets, lack of or insufficient government support and unclear government regulations, lack of adequate information and communication technology (ICT), lack of business advisory and industry knowledge, poor management skills and lack of adequate training and education. Ultimately, the goal of this research was to provide evidence-based recommendations that can help policymakers and practitioners develop more effective strategies to support the growth and development of SMEs in Africa. Hence, a bi-faceted approach is recommended involving both business owners and the government. By implementing the recommended solutions, SMEs can overcome their obstacles and foster the socio-economic development of Africa, while the government can create an enabling environment that supports and nurtures the development of these vital economic entities.

Keywords: SMEs, challenges, access to finance, foreign markets, government support and regulations, adequate information/ICT, business advisory, skills, Africa

INTRODUCTION

Poverty and unemployment are significant factors associated with Africa, leading to increased community participation in municipal protests (Enaifoghe & Vezi-Magigaba, 2023). Therefore, it became urgent to work toward a sustainable approach to address these critical issues. One potential solution to combat these issues is through the promotion of entrepreneurship on the continent. While it is true that large-scale corporations, especially those in the industrial sector, play a significant role in contributing to the gross domestic product (GDP) and other economic indicators of prosperity, the importance of small and medium-sized enterprises (SMEs) is widely acknowledged worldwide (Qureshi & Herani, 2011). Ayandibu (2017) refers to SMEs as businesses that employ fewer than 250 individuals. These entities play a vital role in driving Africa's inclusive socio-economic development and growth. Saah (2021) is of the view that Africa's economic development heavily relies on these small enterprises, which make up approximately 90 per cent of the continent's businesses. These SMEs play a crucial role in driving economic growth and creating employment opportunities. Likewise, Rahman, Uddin and Lodorfos (2015) argue that the economic advancement and sustainable growth of both developed and developing nations are largely contingent upon these entities, which are instrumental in income generation, job creation, and poverty alleviation. Consequently, the obstacles that impede the growth of SMEs are viewed as critical barriers to economic development in these countries. However, despite their significance, they continue to encounter various obstacles that hinder their progress and potential. Adisa, Abdulraheem and Mordi (2014) posit that they are undeniably crucial to the advancement of a continent's economy, serving as a significant source of job creation, contributing to the growth of local technology, and fostering entrepreneurs. This is because SMEs are instrumental in generating income, and fostering wealth creation, ultimately leading to poverty alleviation (African Union Development Agency (AUDA), 2022). Similarly, Zafar and Mustafa (2017) argue that SMEs have a significant role in the economic, technological, and social progress of a country; they make a crucial contribution to the global economy by positively impacting the GDP and improving the overall quality of life for the population (Zafar & Mustafa, 2017). As a result, African nations are increasingly recognising their importance as key contributors to economic growth and development. In Ghana for example, Zafar and Mustafa (2017) explain that SMEs are

estimated to contribute 70% to the country's GDP and make up 92% of its businesses. However, despite their contributions, Saah (2021) observes that nations globally continue to face challenges in bouncing back from the 2008 global financial crisis and the economic down-turn resulting from the early 2020 outbreak of the Corona virus, resulting in the closure of numerous economies.

Enaifoghe and Vezi-Magigaba, (2023) state that SMEs play a crucial role in the economic development of nations. Aabi (2014) underscores that SMEs are crucial drivers of socio-economic development; their significance lying in their capacity to generate employment and contribute substantially to economic growth. The creation of jobs and reduction of poverty in Africa heavily rely on the activities of SMEs. Nevertheless, research conducted by Ayandibu (2017) on SMEs in Africa revealed that, on average, there are more closures than expansions, with only around 1% of these enterprises growing from five or fewer employees to ten or more. Enaifoghe and Ramsuraj (2023) agree with this view and argue that, despite their importance, a distressingly high number of SMEs experience failure within the initial years of operation. In addition, Ramsuraj (2023) notes that the extent to which SMEs have fulfilled their intended socioeconomic development role in the economy remains uncertain, contentious, and subject to debate. Rambe and Mosweunyane (2017) highlighted that the significant number of SME closures in the country raises serious doubts about their effectiveness in generating employment opportunities and reducing poverty levels. Therefore, this study aims to identify the various challenges faced by SMEs in Africa that hinder their socio-economic development, through a comprehensive review of existing literature on the subject.

SIGNIFICANCE OF THE STUDY

The United Nations recognises the importance of small businesses and self-employed individuals in fostering economic growth and development. Thus, the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) also emphasise the significance of small businesses in achieving global development objectives. According to De Villiers (2023), small businesses are acknowledged by the UN as vital for economic growth and development, with the potential to drive inclusive and sustained economic growth and job creation if properly supported (De Villiers, 2023). However, these entities face a great deal of challenges and limitations. By

empowering and assisting them, sustainable economic growth can be fostered and job opportunities can be created to benefit a wide range of individuals. Through targeted interventions such as access to capital, training programs, and mentorship, the capabilities of these entities can be enhanced and helped to overcome their financial constraints. De Villiers (2023) emphasises the significant impact that SMEs have on the economic development of Africa, specifically in tackling the challenge of unemployment across the continent. In other words, the author underscores the vital role SMEs play in driving economic growth and fostering job opportunities in Africa.

LITERATURE REVIEW

Theoretical framework

The obstacles encountered by SMEs in Africa are numerous and varied, ranging from limited access to financing and markets, to inadequate infrastructure and regulatory hurdles (Alyafie & Al-Mubarak, 2016). These challenges can hinder the growth and sustainability of SMEs in the region, impacting not only their success, but also the overall economic development of the continent. According to Ahmad and Atniesha (2018), numerous significant financial theories have emerged to elucidate the capital structures that businesses utilise. Among these, the Pecking Order Theory (POT) is particularly effective in analysing the capital structure of SMEs, despite its original formulation for large corporations (Ahmad & Atniesha, 2018). The POT, developed by Myers and Majluf in 1984, provides a framework for understanding how enterprises choose between internal financing (retained earnings) and external financing (debt and equity) to fund their operations and investments. Similarly, Ahmad and Atniesha (2018) argue that the concept of the POT continues to play a crucial role in corporate finance as business owners prioritise internal financing over external options, and when external funding is necessary, they tend to favour debt over equity. Likewise, Ussif and Salifu (2020) explain that, initially these SMEs rely on internal funding to meet their business requirements. However, as their businesses expand or grow, they turn to external sources for additional capital (Ahmad & Atniesha, 2018). The theory suggests that SMEs have a preference for internal financing over external financing, due to asymmetric information between managers and investors, leading to a "pecking order" of financing sources (Ussif & Salifu, 2020). Moreover, this theory stipulates that a business leader adheres to a specific financial hierarchy, prioritising self-financing,

followed by the issuance of non-risky debt, then risky debt, and finally resorting to equity issuance only when necessary (Adair et al., 2015). This approach mitigates the risk of declining share prices, curtails dividend distributions to enhance cash flow, and minimises capital costs by restricting loan access (Adair et al., 2015). Consequently, profitable businesses benefit from a greater availability of internal funds.

In the context of SMEs in Africa, the POT explains why these businesses often struggle to access external financing (Enaifoghe & Ramsuraj, 2023), such as bank loans or equity investments. SMEs in Africa do not prioritise attaining an optimal financial structure. Instead, they prefer internal financing over external options and favour debt over equity. They may consider borrowing when their investment needs surpass their available internal cash flow, although they encounter transaction costs associated with their credit arrangements (Adair et al., 2015). Msomi and Olarewaju (2021) point out that funding is a critical factor for the majority of businesses, making it the foremost concern in every business endeavour. Debt financing entails borrowing funds, while equity financing involves selling a portion of a company to obtain financial support (Msomi & Olarewaju, 2021). According to Abdullazade (2019), companies tend to opt for debt financing to address minor financial challenges, whereas they turn to equity financing to overcome significant deficits. While internal funds typically incur no transaction costs, the costs associated with issuing new shares are generally higher, with debt costs falling in between (Adair et al., 2015). The primary goal of SME managers is to enhance their wealth, while maintaining control over decision-making concerning external stakeholders (Adair et al., 2015). Enaifoghe and Vezi-Magigaba (2023) conclude that limited financial transparency, weak credit histories, and high information asymmetry may make it difficult for SMEs to attract external investors or lenders, forcing them to rely primarily on internal sources of funding.

Small and Medium Enterprises in Africa

Recent attention from policymakers and researchers has focused on African nations due to the continent's distinctive and complex environment for entrepreneurship (Kansheba, 2020; Atiase, Mahmood, Wang & Botchie, 2018; Dana, Ratten & Honyenuga, 2018). Notably, despite the adverse economic impacts stemming from the Russia-Ukraine conflict and the COVID-19 pandemic, the World Bank projects that real GDP in sub-Saharan Africa will increase by 3.6% in 2023 and 3.9% in 2024,

surpassing the anticipated growth rates of 0.1% for 2023 and 2.8% for 2024 in Europe and Central Asia (World Bank, 2023). Muriithi (2017) states that SMEs are central to Africa's promising economic expansion. Mwale (2020) recognises that there is no universally accepted definition of SMEs on an international level, due to variations in legislation among different countries, as the terms "small" and "medium" are relative to the size of the economy. Nevertheless, for statistical clarity, AUDA (2022) categorizes SMEs as businesses that employ up to 249 individuals, further classified into micro (1 to 9 employees), small (10 to 49 employees), and medium-sized (50 to 249 employees) enterprises. SMEs are crucial for the economic growth of various countries worldwide, including both developed and developing nations (Saah, 2021). The author goes on to state that the global financial crisis of 2008 presented new challenges for small companies, yet they remain crucial for economic growth worldwide.

Ramsuraj (2023) notes that SMEs constitute a significant portion of businesses globally, employing over half of the private sector workforce and contributing to a substantial portion of Sweden's economic output. According to Mwale (2020), they are the prevailing type of enterprises in the Organisation for Economic Cooperation and Development (OECD) countries, making up around 99% of all businesses. Moreover, Saah (2021) explains that these businesses play a significant role in driving the economies of countries like the United Kingdom, Germany, France, and the United States, as well as in emerging economies. On the other hand, Jili, Masuku and Selepe (2017) assert that several African nations, including Togo, Uganda, Ghana, Cote d'Ivoire, Nigeria, Kenya, Malawi, and Burkina Faso, have acknowledged the significance of small enterprises. Netshidzivhani, Musitha and Mamokhere (2021) underscore that the significance of small businesses is being recognised in various African countries including Ghana, Togo, Cote d'Ivoire, Nigeria, Burkina, Uganda, and others, leading to a growing number of SMEs in these regions. Specifically, Sub-Saharan Africa, which is home to approximately 44 million SMEs, further emphasises their significance (AUDA, 2022). In Africa, SMEs encompass a variety of businesses such as food vendors, kiosks, tailoring/seamstresses' shops, poultry and fish businesses, general enterprises, and market buying and selling (Muriithi, 2017). According to Zafar and Mustafa (2017), in South Africa SMEs account for 91 per cent of formalised organisations, while in Nigeria, they constitute 70 per cent of the

manufacturing sector. Osano (2019) points out that approximately 80% of businesses in Kenya are classified as SMEs, making up around 40% of the country's Gross Domestic Product (GDP). The significance of SMEs in economic development is increasingly emphasised in policy discussions, given that they make up approximately 90% of businesses in both rural and urban areas across many African nations (Saah, 2015). This highlights their importance as key drivers of socio-economic development in Africa.

The role of small and medium enterprises in driving socio-economic development in Africa

African nations have recently garnered significant attention from researchers and international organizations due to their distinctive and challenging environment for entrepreneurship (Asongu & Odhiambo, 2019; Atiase et al., 2018; Dana et al., 2018; Kansheba, 2020). This interest stems from various obstacles prevalent in these countries, including limited access to financial resources and business development services, unfavourable tax policies, corruption, fragile institutions, and insufficient infrastructure (Hansen-Addy et al., 2023). SMEs are believed to play a crucial role in stimulating economic recovery and revitalising struggling economies (Saah, 2021). Qureshi and Herani (2011) explain that they make a substantial impact on the GDP, revenue collection through taxes, promotion of an entrepreneurial culture, creation of employment opportunities, income generation, human resource development, poverty reduction, and enhancement of the standard of living and quality of life. Moreover, the development of SMEs fosters perfect competition and ensures a fair distribution of wealth, which are crucial economic benefits (Qureshi and Herani, 2011). For Zafar and Mustafa (2017) these business entities not only play a significant role in the economy, but also act as catalysts for economic expansion by exploring and developing new and untapped segments of the economy. For example, in Tanzania, SMEs contribute over one-third of the GDP, while in South Africa, 91 per cent of formal business entities are SMEs, contributing between 52 and 57 per cent to the GDP and employing around 61 per cent of the workforce (Zafar & Mustafa, 2017). Additionally, SMEs contribute significantly to value creation, generating an average of 50% to 60% of added value (Mwale, 2020). Furthermore, SMEs play a crucial role in driving economic growth and fostering the development of the Nigerian economy (Ramsuraj, 2023).

The significance of small businesses in enhancing the quality of life for citizens and promoting overall national progress is paramount (Adisa et al., 2014). SMEs are considered to be the backbone of an economy, due to their crucial role in poverty reduction, job creation, international trade promotion, and technological innovation. Moreover, they play a significant part in the growth of developing economies (Yoshino & Taghizadeh-Hesary, 2019). Ussif and Salif (2020) point out that they play a crucial role in various sectors of industrial development, including agriculture, mining, fishing, manufacturing, services, and climate change initiatives. However, in sub-Saharan Africa, the services sector is where the majority of small enterprise operators are involved, contributing to two-thirds of the total employment in the region (Ussif & Salif, 2020). Ayandibu (2017) is of the view that the concept of SME and entrepreneurship development emerged in the growth and development field in the late 1940s through the implementation of focused policies such as grants, subsidized credits, special tax treatment, and the establishment of small business or SME support. Zafar and Mustafa (2017) posit that SMEs play a significant role in job creation across various African countries. They play a crucial role in Africa's job market, accounting for around 80% of employment opportunities (AUDA, 2022). In addition, Mwale (2020) comments that they play a crucial role in job creation, accounting for approximately 70% of employment on average. In the same way, Jili et al. (2017) argue that SMEs in Africa play a crucial role in fostering socio-economic development, generating employment opportunities, and reducing poverty levels. Likewise, Netshidzivhani et al. (2021) argue that they play a crucial role in driving socio-economic growth, reducing poverty, and creating job opportunities in various African countries. De Villiers (2023) comments that SMEs play a vital role in Africa's economy, accounting for over 80% of employment and 50% of the GDP, as reported by the World Economic Forum.

The absence of SMEs in numerous African nations could lead to exacerbated developmental and financial constraints, ultimately deteriorating the quality of life for low-income individuals reliant on this sector for sustenance (Muriithi, 2017). That is why the African Continental Free Trade Area (AfCFTA) holds promise in expanding SMEs' access to regional and continental export markets, which is recognised by both the Sustainable Development Goals and the African Union (AUDA, 2022). This acknowledgement highlights the important role of SMEs in driving economic growth and ensuring long-term sustainability in emerging markets in Africa (AUDA, 2022).

Therefore, the effective management of these enterprises leads to business sustainability, job creation, profit growth, the expansion of outlets, an increase in capital size, and the enhancement of overall business operations. Ramsuraj (2023) recognises that fostering the growth and development of SMEs could be a key strategy in achieving sustainable development goals by addressing issues such as unemployment, poverty, and inequality in developing nations.

MATERIALS AND METHODOLOGY

The methodology employed in this research consisted of a comprehensive literature review aimed at investigating the various challenges faced by SMEs in Africa, which significantly influence their socio-economic development. The search for relevant articles was conducted on Google Scholar, a widely recognised academic database known for its comprehensive coverage of scholarly literature across various disciplines. In determining the inclusion criteria, the researchers focused on selecting articles that specifically addressed the challenges faced by SMEs in Africa and their implications on socio-economic development. On the other hand, exclusion criteria were applied to filter out articles that did not directly relate to Africa, and papers that were not written in English. After a thorough screening process, a total of 1086 articles were identified, out of which only 55 met the inclusion criteria and were deemed suitable for further analysis in the study.

Table 1: Systematic literature review process

Process	Number of articles
Title screening	1086
Abstract screening	437
Full article screening	366
Exclusion criteria: SMEs in European, Asian, American, Oceanian Antartican contexts	
Duplicates	16
Articles included	55

RESULTS

African SMEs are shouldering a disproportionate burden resulting from institutional and market failures. This is particularly evident in their limited access to financial resources and credit (AUDA, 2022) as depicted in Table 2.

Table 2: Key challenges facing SMEs in Africa

Challenges	Supporting resources
1. Restricted access to finance or credit	Hansen-Addy et al. (2023) Runde, Savoy and Staguhn (2021) Msomi and Olarewaju (2021) Alhassan and Kilishi (2019) Ahmad and Atniesha (2018) Der ZEE (2018) Muriithi (2017) Adair, Adaskou & McMillan, 2015) Beck and Cull (2014)
2. Limited access to foreign markets	Hansen-Addy, Parrilli and Tingbani (2023) Madzikanda, Li and Dabuo (2022) Saah (2021) (Osano, 2019) Rahman et al. (2015) Yenera, Doğruoğlub and Ergun (2014) Navarro et al. (2012) Pangarkar (2008) OECD (2008) Peng and Delios (2006) Hashim and Wafa (2002) Hussain (2000)
3. Lack of, or insufficient government support/clear government regulations	Hansen-Addy et al. (2023) Ussif and Salifu (2020) Nieuwenhuizen (2019) Adegboye, Alao-Owunna and Egharevba (2018) Adeniyi and Imade (2018) Ayandibu and Houghton (2017)

	<p>Kusamotu (2017)</p> <p>Lewis and Gasealahwe (2017)</p> <p>Muriithi (2017)</p> <p>Rahman et al. (2015)</p> <p>Kamunge, Njeru and Tirimba (2014)</p> <p>Krasniqi (2007)</p> <p>Davidsson (1989)</p>
4. Lack of adequate information/ ICT	<p>Saah (2021)</p> <p>Ussif and Salifu (2020)</p> <p>European Commission (2017)</p> <p>Muriithi (2017)</p> <p>Kamunge et al. (2014)</p> <p>Chimucheka (2013)</p> <p>Oshikoya and Hussain (2007)</p>
5. Lack of business advisory/industry knowledge	<p>Henley (2024)</p> <p>Enaifoghe and Ramsuraj (2023)</p> <p>Edomah (2020)</p> <p>European Commission (2017)</p> <p>Oteng and Emmanuel (2016)</p> <p>Kremel (2015)</p> <p>Cumming & Fischer, 2012).</p> <p>Blackburn, Carey and Tanewski (2010)</p>
6. Poor management skills/ lack of adequate training and education	<p>Adisa et al. (2014)</p> <p>Enaifoghe & Ramsuraj (2023)</p> <p>Ussif & Salifu (2020)</p> <p>Chimucheka (2013)</p> <p>Netshidzivhani et al. (2021)</p> <p>Saah (2021)</p> <p>Enaifoghe & Vezi-Magigaba (2023)</p> <p>Edomah (2020)</p>

DISCUSSION OF THE RESULTS

Ongoing studies are being conducted to examine the financial constraints that SMEs encounter as shown in Table 2, and the present section presents a discussion of the results.

Restricted access to finance or credit

The majority of businesses, constituting over 95%, are SMEs, which are responsible for generating a significant portion of employment and added value (Adair et al., 2015). These businesses often encounter a persistent demand for financial resources that can be sourced from external avenues such as loans or internal options like equity. However, the costs associated with these funding sources and their implications for ownership and control of the business differ markedly (Adair et al., 2015). Hence, one of the primary obstacles hindering the long-term viability of SMEs is identified as the lack of access to financial resources. Runde et al. (2021) state that accessibility pertains to the capacity of SMEs to obtain financial resources. In Africa, many SMEs operate informally, lacking formal business registration, which hinders their ability to secure financing. Even formally registered SMEs often encounter significant barriers to accessing financial support (Runde et al., 2021). Moreover, the presence of weak economic institutions (Alhassan & Kilishi, 2019), inadequate financial resources, and insufficient business development services further exacerbate the situation (Hansen-Addy et al., 2023). This issue is critical, as inadequate working capital hinders businesses' ability to invest and expand (Runde et al., 2021). In sub-Saharan Africa, according to Runde et al. (2021), only 20 to 33% of SMEs have access to bank loans or credit lines. Furthermore, approximately 28.3% of businesses in the region face complete credit constraints. A decade-long survey conducted by The Enterprise Surveys of the World Bank, encompassing over 100 countries, identified access to finance as the primary obstacle impeding the operations and growth of SMEs, particularly in Africa where the issue is more pronounced than in other regions (Beck & Cull, 2014). According to Muriithi (2017), the findings revealed that Africa's financial systems are characterised by their limited size, depth, and high costs, resulting in minimal outreach and serving only a small fraction of the population.

Traditional financing methods provide a systematic approach for start-ups to secure capital, with many new ventures entering the market through these avenues (Ahmad & Atniesha, 2018). The authors add that when founders lack personal financial

resources and are unable to independently fund their projects, they typically seek traditional sources of financing, including support from friends, family, acquaintances, business angels, bank loans, and venture capital. Equity financing is generally considered a last resort (Ahmad & Atniesha, 2018), which is why so many SMEs resort to self-financing or rely on informal sources, such as friends and family, for capital (Muriithi, 2017). For example, only 10% of Nigerian SMEs accessed bank loans, while 61% of SME owners obtained their funding from informal networks rather than formal financial institutions or government support (Muriithi, 2017). Access to finance encompasses various banking services such as on-demand deposits, loans, payments, and insurance (Msomi & Olarewaju, 2021). On-demand deposits are crucial for SMEs to manage their day-to-day cash flow effectively, while loans are essential for investment in business growth and expansion. However, the limited availability of these financial services hinders SMEs from seizing growth opportunities and competing effectively in the market. Moreover, the absence of convenient payment systems restricts SMEs from conducting transactions efficiently, leading to delays in receiving payments from customers and suppliers. This can result in cash flow problems and hinder the overall operations of SMEs. Additionally, the lack of insurance coverage leaves SMEs vulnerable to risks such as natural disasters, theft, and accidents, which can have devastating financial consequences for these businesses.

Furthermore, Runde et al. (2021) point out that African SMEs encounter two main obstacles when it comes to financing: accessibility and affordability. The authors explain that accessibility pertains to the capability of SMEs to obtain financial resources. Since many SMEs in Africa operate informally, it hinders their access to funding; even those that are formally registered often struggle to secure financing due to limited accessibility. Affordability pertains to the expense associated with capital, which indicates the amount a company needs to pay to borrow money or secure an investment (Runde et al., 2021). Bhorat, Asmal, Lilenstein and Van Der Zee (2018) posit that SMEs in Africa often operate informally, lacking proper establishment as formal businesses. As a result, accessing finance and funding becomes a challenging task for these SMEs. It is worth noting that a mere one-third to one-fifth of SMEs in Sub-Saharan Africa (SSA) have the opportunity to access financial instruments like bank loans and lines of credit.

For businesses to expand, increase employment opportunities, and stimulate economic development, they must have access to financial resources. Ahmad and Atniesha (2018) comment that access to sufficient financial capital is crucial for SMEs to establish themselves and function efficiently. Consequently, the decisions regarding capital structure significantly influence their performance, prospects for success, risk of failure, and opportunities for future growth (Ahmad & Atniesha, 2018). Unfortunately, over half of these crucial enterprises face a funding gap that hinders their growth potential. Credit limitations pose a significant obstacle for SMEs. Without dependable working capital, SMEs are unable to pursue the necessary investments for expansion, resulting in stagnation.

Limited access to foreign markets

Contemporary literature suggests that the business environment significantly influences entrepreneurial activities (Hansen-Addy et al., 2023). SMEs are employing various strategies to mitigate the risk of failure, including expanding geographically both within their home country and internationally, diversifying their product offerings, enhancing existing products, implementing customer loyalty programs, and pursuing initiatives to attract new clients (Rahman et al., 2015; Navarro et al., 2012). Notably, international geographical expansion has emerged as a particularly favoured strategy, enabling SMEs to reap both immediate and sustained economic advantages (Pangarkar, 2008; Peng & Delios, 2006). In the same way, Rahman et al. (2015) note that entering foreign markets is regarded as a crucial strategy for the long-term growth and sustainability of SMEs. However, the process of deciding to penetrate a foreign market is complex and multifaceted (Rahman et al., 2015). SMEs often face constraints in their ability to enter markets (Hansen-Addy et al., 2023; Hashim & Wafa, 2002; Hussain, 2000). In Africa, these SMEs encounter heightened difficulties in competing against larger or foreign companies, particularly in the context of increased cross-border trade (Sitharam & Hoque, 2016). However, the distinct business and institutional landscape in Africa, characterised by specific challenges and opportunities, along with the inherent strengths and weaknesses of SMEs, contributes to a context-dependent effect of regulations on the performance of these enterprises in the region (Hansen-Addy et al., 2023). Madzikanda et al., (2022) argued that detrimental entrepreneurial ecosystems negatively impact economic performance and entrepreneurship in southern African nations. Similarly, Sherif and Mufatto (2015)

observed that the frail entrepreneurial environments in African countries contribute to the overall lack of entrepreneurial activity across the continent.

SMEs must now seek foreign market opportunities to establish and maintain a competitive edge due to the impact of globalisation on the business environment (Osano, 2019). Saah (2021) states that the key distinction between SMEs and larger companies is found in the internationalisation efforts of SMEs. The term internationalisation is subject to varying interpretations across different research studies (Yenera et al., 2014). The authors characterise it as the adjustment of a company's operations, including strategy, structure, and resources, to suit global environments. Internationalisation provides businesses with the opportunity to tap into new markets, enabling them to expand their customer base and increase their sales potential. Additionally, it allows companies to utilise their excess production capacity or output, ensuring that resources are efficiently utilised and productivity is maximized. By venturing into international markets, SMEs are exposed to international best practices, knowledge, and technology (OECD, 2008). This exposure enhances their understanding of the competitive pressures within the international trading environment, enabling them to adapt and improve their business practices accordingly. In today's global economy, internationalisation emphasises the capacity to leverage globalisation opportunities instead of being overwhelmed by them (Saah, 2021). Traditionally, internationalisation was believed to be exclusive to big corporations, as they were required to establish a strong presence in the local market before expanding internationally (Saah, 2021).

According to Osano (2019), it is essential for African SMEs to prioritise not only securing funding for their entrepreneurial ventures, but also concentrating on competitive assets or competencies. These critical success factors are crucial for enabling them to effectively compete in their respective markets locally as well as internationally. Several key success factors have been recognised, such as enhancing capabilities, providing technical support for accessing capital locally and internationally, and implementing effective business systems that positively affect SMEs' potential to enter foreign markets.

Lack of, or insufficient government support and clear regulations

Every nation possesses legal frameworks that govern both individuals and organisations (Rahman et al., 2015). Muriithi (2017) argues that the government's role in promoting and assisting SMEs is essential on a global scale, as it establishes either a conducive or detrimental environment for business expansion. Rahman et al. (2015) specify that the complexity, duration, and prerequisites of these procedures are critical factors in assessing the overall ease of doing business. Relatedly, Kamunge et al., (2014) point out that the framework established by the government regarding wages, taxation, licensing, opportunities, technological support, and infrastructure significantly influences the success or failure of SMEs. The regulatory environment crafted by the government can either hinder or foster the growth of the small business sector, thereby impacting the overall economy of small enterprises (Kamunge et al., 2014). According to Muriithi (2017), insufficient attention to the SME sector can result in significant challenges, often jeopardising the survival of numerous enterprises.

Furthermore, a lack of support for SMEs not only adversely affects that sector, but also hinders overall economic growth. Engaging in daily life or conducting business necessitates adherence to legal processes, which include property registration, tax filing, obtaining permits for business initiation, and ensuring compliance with legal standards throughout the business operations (Rahman et al., 2015). Ayandibu and Houghton (2017) revealed that the primary challenge faced by small businesses in Africa is attributed to government regulations and tax policies. Hansen-Addy et al. (2023), Nieuwenhuizen (2019), Adegboye, Alao-Owunna and Egharevba (2018) and Adeniyi and Imade (2018) state that high taxation and outdated labour regulations, including minimum wage laws and health and safety standards, contribute to the difficulties faced by the businesses in the region. The growth of SMEs is significantly hindered by an unfavourable tax system, unfair competition, complex regulations, and a punitive business environment (Davidsson, 1989; Krasniqi, 2007). Muriithi (2017) explains that these legal frameworks differ across countries, leading to varying challenges for entrepreneurs. For example, establishing a business in Ghana, Kenya, and Nigeria can take between 34 to 44 days, yet the process of obtaining all necessary business licenses is markedly longer, requiring 100 days in Kenya, 220 days in Ghana, and 350 days in Nigeria. Additionally, the tax burdens imposed on businesses vary,

with Kenya imposing a tax rate of 51% on total profits, while Ghana and Nigeria require 33% and 30%, respectively (Kusamotu, 2017; Muriithi, 2017).

Additionally, insufficient government support often results in limited access to financial resources, which hinders the ability of SMEs to invest in their operations, expand their businesses, and innovate. Additionally, inadequate regulations create an environment of uncertainty and unpredictability, making it difficult for SMEs to plan and make informed decisions. This lack of clarity can discourage potential investors and hinder the growth of SMEs. Furthermore, without proper regulations SMEs may face unfair competition from larger corporations, as they may not have the resources to comply with certain standards or requirements. On the other hand, Buthelezi, Mtani, and Mncube (2018) found that, in South Africa for example, market concentrations are high with large businesses dominating due to past privileges like government support, which SMEs lack.

Research suggests that many African governments fail to adequately support SMEs, thereby undermining a crucial component of economic growth within their nations (Ussif & Salifu, 2020). Government imposition emerges as a significant external factor that small businesses must navigate and address to thrive in the competitive business environment (Ayandibu & Houghton, 2017). By complying with various legal requirements, such as licensing, taxation, and labour laws, small businesses can ensure their operations are in line with government standards. Additionally, they must stay updated with any changes in the regulations and adapt their strategies accordingly to thrive in the dynamic business environment. The ability to effectively manage government impositions is essential for small businesses to maintain their competitiveness and achieve long-term success.

Lewis and Gasealahwe (2017) argue that business decisions are significantly influenced by the regulatory environment, impacting the decision to establish a business, operate within the formal sector, and determine the type of business to establish. This includes factors such as the ease of business establishment, compliance with permits and licensing, tax regulations, product market regulations, and labour market regulations, all of which have been associated with entrepreneurship in research studies. The high fixed costs associated with the regulations pose challenges to the growth of new businesses, with South Africa often

being perceived as having a high and burdensome regulatory environment that acts as a barrier to entrepreneurship (Lewis & Gasealahwe, 2017).

Lack of adequate information / ICT

The absence of sufficient information and limited access to information and communication technology (ICT) poses a significant challenge for SMEs in Africa. In the same vein, Muriithi (2017) comments that a significant obstacle encountered by SMEs in Africa is the insufficient availability of business information from governmental bodies and service providers. This issue stems from a deficient information ecosystem, which is attributed to the underdeveloped state of technological and communication infrastructures, as well as inadequate business support systems (Muriithi, 2017; Kamunge et al., 2014; Oshikoya & Hussain, 2007). This challenge hampers the growth and development of these businesses in several ways. Firstly, without access to accurate and up-to-date information, SMEs struggle to make informed decisions regarding market trends, customer preferences, and industry developments (Chimucheka, 2013). This lack of information can lead to missed opportunities and hinder the entrepreneurs' ability to adapt to changing market conditions. Additionally, the limited use of ICT tools and technologies further exacerbates the growth constraints faced by SMEs in Africa (Ussif & Salifu, 2020). ICT plays a crucial role in enhancing operational efficiency, streamlining processes, and expanding market reach. However, due to inadequate access to ICT infrastructure, SMEs often face difficulties in implementing digital solutions, such as online marketing, e-commerce platforms, and data analytics. This limits their ability to compete effectively in the global marketplace and inhibits their potential for growth and expansion.

Moreover, the lack of adequate information and ICT also affects SMEs' ability to access financial resources and attract potential investors (Saah, 2021). Relatedly, the European Commission (2017) reported that insufficient financial literacy among SMEs, coupled with the absence of a credible source for business finance guidance, obstructs their ability to navigate the intricacies of both bank and non-bank financing. A significant number of SMEs possess insufficient financial expertise to effectively articulate their funding requirements to equity investors and venture capitalists (European Commission, 2017). This deficiency in financial knowledge hinders the

advancement of alternative finance options and frequently obstructs SMEs from recognising the financing solutions that best align with their specific needs. This gap in knowledge and resources ultimately limits SMEs' access to suitable financing options. Financial institutions and investors rely on accurate and comprehensive information to assess the viability and profitability of SMEs. Without access to reliable data and ICT tools, SMEs struggle to present their business cases convincingly, making it challenging to secure funding or attract investment. This lack of financial support further hampers their growth prospects and restricts their ability to invest in innovation, technology adoption, and talent development.

Lack of business advisory and industry knowledge

One of the primary obstacles that SMEs in Africa face is the absence of business advisory and industry knowledge. Business advisory services, commonly known as coaching, represent a prevalent and enduring type of government assistance, which is either partially or fully funded by public resources, consistently implemented across nearly all developed nations (Cumming & Fischer, 2012). The authors comment that the longevity of these programs indicates that their foundations are rooted in public policy objectives aimed at supporting SMEs, rather than solely promoting entrepreneurial activity. In recent years there has been a significant surge in the demand for professional advisory services (Oteng & Emmanuel, 2016). The deficiency in business advisory services hinders their ability to make informed decisions, develop effective strategies, and navigate the complexities of the market. Without access to expert guidance and insights, SMEs may struggle to identify growth opportunities, mitigate risks, and stay competitive in their respective industries (Enaifoghe & Ramsuraj, 2023). As a result, their growth potential is limited, and they may find it difficult to expand their operations, attract investors, or scale their businesses effectively (Edomah, 2020).

Many SMEs are increasingly turning to firms that provide a variety of business advisory services, including accounting and other related areas (Oteng & Emmanuel, 2016). Hjalmarsson and Johansson (2003) identify the origins of business advisory services aimed at SMEs in the 1960s, positing that these services evolved from governmental extension programs initially designed for agricultural support. Similarly, Oteng and Emmanuel (2016) categorize business advisory services as a type of governmental

support designed to bolster business capabilities and performance; typically, these services are financed by government bodies, non-governmental organisations, and other external stakeholders. For instance, the Ontario government outlines the objective of its business advisory services by stating that it employs business advisors in regional offices to offer consulting support to innovative SMEs in the province (Cumming & Fischer, 2012). The significance of business advisors in enhancing the financial literacy of SMEs cannot be overstated, as they offer guidance on suitable financing options aligned with the firms' risk profiles and developmental phases (European Commission, 2017). Research indicates that integrating non-financial support, such as advisory services and oversight, alongside SME funding yields positive outcomes. Business advisors possess the necessary financial acumen to assist SMEs, steering them towards effective financing strategies, while leveraging emerging technologies and delivering customised solutions (European Commission, 2017).

Blackburn et al. (2010) point out that for many years, external accountants have delivered compliance and monitoring services that are historically oriented, such as taxation, compilation, and audit, primarily structured to meet regulatory demands or fulfil statutory and voluntary contractual obligations. While continuing to emphasise these traditional roles, the accounting profession has progressively positioned its members as business advisors, aiming to enhance the value provided to clients (Blackburn et al., 2010). According to Oteng and Emmanuel (2016), research conducted in the UK and Australia indicates that businesses frequently utilise the services of advisory firms, with accounting services being the most sought-after. Companies believe that hiring professionals for these services offers them essential value, enabling them to achieve a competitive edge over their rivals (Oteng & Emmanuel, 2016). Kremel (2015) states that business advisory services play a crucial role in assisting entrepreneurs and SMEs during the planning and launch phases of their ventures. Various professionals, including counsellors, academic advisors, and career coaches, can aid emerging entrepreneurs in evaluating their compatibility with potential careers, identifying business objectives, obtaining technical assistance, and establishing networks and partnerships, among other supportive functions (Kremel, 2015). Henley (2024) asserts that the economic advantages of making use of business advisors rely on the absorptive capacity, which is influenced by the traits of the

business and its owner. Beyond economic gains, the delivery of guidance can also offer non-cognitive psychological advantages, including reduced stress and enhanced self-confidence, which can subsequently result in improved business performance outcomes (Henley, 2024).

Conversely, the lack of business advisory and industry knowledge acts as a significant barrier to the sustainable growth and success of SMEs in Africa. This observation led many economies, regardless of their development status, to implement policies and strategies aimed at equipping SMEs with specialised knowledge and skills through business advocacy offices and centres (Oteng & Emmanuel, 2016). These entities provide advisory services to SMEs to enhance their human resources and expertise.

Poor management skills / lack of adequate training and education

A significant obstacle encountered by businesses globally is inadequate management. This issue stems from the prevalent lack of managerial skills among operators and managers of SMEs (Muriithi, 2017). Many business owners do not possess the necessary training and experience to effectively run their operations, resulting in a management approach that relies heavily on trial and error, often focused on immediate performance and short-term profits, while neglecting comprehensive strategic planning (Muriithi, 2017; Hill, 1987). African nations face significant challenges in establishing institutions that effectively support their markets (Hansen-Addy et al., 2023). Rahman et al. (2015) point out that barriers to the growth of SMEs often encompass restricted access to insufficient experience, a lack of skilled personnel, intense competition, inability to use advanced technology, inadequate record-keeping practices, and limited knowledge. Issues such as limited access to formal business registration (Atiase et al., 2018) and essential support services, including entrepreneurship training (Fowowe, 2017), are prevalent. In addition, Enaifoghe and Vezi-Magigaba (2023), Saah (2021) and Edomah (2020) add that SMEs often struggle due to deficiencies in management skills, as well as a lack of sufficient training and education among their leadership. These obstacles contribute to a significant number of SMEs failing to expand or even sustain operations, irrespective of the economic context (Hulbert et al., 2013). For SMEs to thrive and grow, they need to possess a diverse set of skills. These skills include financial management skills, which are crucial for ensuring that the company's resources are

effectively managed and allocated (Enaifoghe & Ramsuraj, 2023). Additionally, marketing and sales skills are important for SMEs to attract customers and increase their market share (Adisa et al., 2014). Furthermore, leadership and communication skills are necessary for fostering a positive work environment and effectively managing employees (Ussif & Salifu, 2020). Finally, strategic planning and decision-making skills are vital for guiding the company towards long-term success and sustainability (Ussif & Salifu, 2020).

SMEs often struggle due to poor management skills and a lack of adequate training and education (Enaifoghe & Ramsuraj, 2023; Netshidzivhani et al. (2021); Ussif & Salifu (2020); Chimucheka, 2013). Research conducted on SMEs in the United States, the United Kingdom, and Australia reveals that nearly 80-90% of these enterprises do not survive beyond the first decade, primarily due to external growth barriers and deficiencies in entrepreneurial characteristics, including a lack of commitment, limited knowledge, insufficient willingness, and a lack of adaptability (Rahman et al., 2015; Khalique, Bontis, Shaari, Yaacob & Ngah, 2018; Scarborough & Zimmerer, 2008; Frederick, Kuratko & Hodgetts, 2004). Furthermore, the failure rates for SMEs are approximately 60% in Malaysia (Ahmad & Seet, 2009), 75% in South Africa (Fatoki & Asah, 2011), and between 90-95% in Pakistan (Khalique et al., 2011). Therefore, SMEs require various types of training and education to foster growth and success. Technical training in areas such as digital marketing, e-commerce, and technology integration can enhance SMEs' competitiveness in the market. Furthermore, specialised industry-specific training can provide SMEs with the knowledge and expertise needed to navigate complex regulations and market trends. The lack of these skills, training and knowledge can lead to various challenges such as ineffective decision-making, poor resource allocation, and difficulties in adapting to changing market conditions. Without proper management expertise and continuous learning opportunities, SMEs may find it challenging to grow and compete in today's dynamic business environment.

CONCLUSION

Guided by the POT, this study aimed at analysing the various challenges faced by SMEs in Africa that hinder their growth, through a comprehensive review of existing literature on the subject. These challenges include restricted access to finance or

credit, limited access to foreign markets, lack or insufficient government support/clear government regulations, lack of adequate information/ICT, lack of business advisory/industry knowledge, and poor management skills/lack of adequate training and education. The findings of this study underscore the critical need for targeted interventions to address the multifaceted challenges faced by SMEs in Africa.

RECOMMENDATIONS

Ultimately, the goal of this research was to provide evidence-based recommendations that can help policymakers and practitioners develop more effective strategies to support the growth and development of SMEs in Africa. To address the challenges presented in Table 2, the study recommends a bi-faceted approach, involving both business owners and the government.

In a highly competitive business landscape, organisations that effectively leverage business advisory services tend to achieve greater growth compared to their counterparts that do not engage such recommendations (Yusoff, Yaacob & Ibrahim, 2010). This observation underscores the importance of such services, particularly for SMEs that are urged to engage the expertise of business advisors within their specific industry as a strategic approach to foster their future development and expansion. Thus, SMEs can and should seek out business advisory services and industry-specific knowledge to enhance their decision-making processes and overall performance. In industrialised economies, Henley (2024) observes that governments at multiple levels aim to encourage and facilitate the delivery of formal business advice, positing that such support is likely to improve the performance of SMEs. Similarly, governments in African nations have the potential to adopt comparable strategies to support their local businesses.

Moreover, SMEs need to enhance their awareness and comprehension of alternative finance, while also being adequately equipped to engage in discussions with alternative finance providers (European Commission, 2017). Financial education is crucial for SMEs in Africa, as it equips them with the necessary skills and knowledge to navigate the complexities of financial management and enhance their overall business performance. It is recommended that financial institutions, educational institutions, and government agencies prioritise the development of comprehensive financial literacy programs tailored to the specific needs of SMEs, focusing on key

areas such as budgeting, cash flow management, investment strategies, and understanding financial statements. Financial education equips SMEs with essential skills and knowledge for effective financial management, enhancing their financial stability and mitigating unnecessary risks. This education fosters a deeper comprehension of various funding options and enables SMEs to engage more effectively in financial discussions with prospective investors and lenders. (European Commission, 2017). Additionally, SMEs owners in Africa can seek alternative sources of financing, such as microfinance institutions or venture capital, to overcome their limited access to finance or credit.

Governments can push further in helping SME owners address these challenges by negotiating trade agreements and partnerships with other countries to expand market opportunities for SMEs and promote international trade. In addition, they can develop and enforce supportive regulations and policies that create a conducive environment for SMEs to thrive, including simplified business registration processes and reduced bureaucratic hurdles. Moreover, governments can invest in the development of ICT infrastructure and promote digital literacy to bridge the digital divide and enhance SMEs' access to information and markets.

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Addressing the legal framework gaps in cyberbullying in South Africa

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ABSTRACT

Despite the increasing prevalence of cyberbullying, the legal framework for its prosecution in South Africa remains inadequate. While the country has taken steps to address cybercrimes through legislation such as the *Electronic Communications and Transactions Act* (ECTA) and the *Cybercrimes Act*, there are still considerable gaps in protecting victims from online harassment. One of the major challenges is the lack of clear definitions and standards that specifically address cyberbullying. Existing laws do not fully cover the complexities of online harassment, particularly in the context of social media platforms, where much of the bullying occurs. Furthermore, enforcement mechanisms are often slow and inefficient, exacerbating the emotional and psychological harm faced by victims. This paper examines the gaps in South Africa's legal response to cyberbullying, highlighting the need for more robust and comprehensive laws that specifically criminalise cyberbullying behaviour. It suggests improvements such as clearer definitions, expanded victim protections, and enhanced enforcement protocols to strengthen the legal framework. In doing so, it seeks to ensure that South African laws are more effective in curbing online harassment and safeguarding individuals' rights in the digital age.

Keywords: cyberbullying, South Africa, legal framework, Cybercrimes Act, victim protection

INTRODUCTION

Cyberbullying has become a growing issue globally, as the increasing use of digital platforms has provided new avenues for harassment and abuse.¹²⁷ This form of bullying is characterised by the use of electronic communication, such as social media, messaging apps, and websites, to harm, intimidate, or control others deliberately.¹²⁸ The global rise in cyberbullying incidents has been alarming, with many individuals, particularly adolescents, experiencing emotional, psychological, and even physical harm as a result.¹²⁹ In South Africa, the problem is equally pressing, with numerous reported cases of cyberbullying impacting children, teenagers, and adults alike.¹³⁰ As more South Africans gain access to the internet and social media, the prevalence of cyberbullying has been steadily increasing, highlighting a need for stronger legal protections. In particular, the anonymity provided by digital platforms exacerbates the issue, as perpetrators can harass victims without fear of immediate identification or repercussions.¹³¹ Consequently, this situation calls for urgent attention from policymakers, legal experts, and society to address the legal framework gap that protects individuals from online harassment. Thus, the rise of cyberbullying is not only a global concern, but also a critical issue in South Africa that requires immediate legal and societal intervention. The legal framework in South Africa offers various mechanisms for individuals to seek redress in cases of cyberbullying. The *Electronic Communications and Transactions Act 25 of 2002* (“ECTA”) includes provisions prohibiting the use of electronic communications to harass or defame another person. This act primarily targets the creator of the media, aiming to address online harm at its source.¹³² In addition, the *Film and Publications Act 65 of 1996* (“FPA”) also applies to cyberbullying, particularly in cases involving harmful content. The FPA regulates the distribution and display of material, including harmful content, especially to children. As such, individuals engaging in cyberbullying aimed at minors can be held legally

¹²⁷ Rathod, S.B., Khandizod, A.G., & Mahajan, R.A. (2024). Cybersecurity beyond the screen: tackling online harassment and cyberbullying. In: *AI Tools and Applications for Women's Safety* (pp. 51-73). IGI Global.

¹²⁸ Hinduja, S., & Patchin, J.W. (2014). *Bullying beyond the schoolyard: Preventing and responding to cyberbullying*. Corwin Press.

¹²⁹ van Tiel, J. (2020). Cyberbullying, an overlooked and ever-growing danger to the development of children. Technical report, KidsRights.

¹³⁰ Mong, E. (2020). Cyberbullying and its effects on the mental well-being of adolescents (Doctoral thesis, North-West University (South Africa)).

¹³¹ Poland, B. (2016). *Haters: Harassment, abuse, and violence online*. University of Nebraska Press.

¹³² Section 77: Requires internet service providers (ISPs) to respond to takedown notices for illegal content, such as defamatory material, child pornography, or copyright violations.

accountable.¹³³ Furthermore, while the *Protection from Harassment Act 17 of 2011* ("Harassment Act") offers an important legal remedy for victims of cyberbullying, its application in the digital realm remains limited. It may require further refinement to effectively address the full scope of online harm. One of the primary criticisms of the Harassment Act is its reliance on the concept of "harassment" without sufficiently addressing the unique characteristics of cyberbullying, particularly the anonymity and rapid spread of harmful content online. Cyberbullying often involves persistent and targeted behaviour across multiple platforms,¹³⁴ making it more difficult to define and address within the framework of traditional harassment laws. The latest development in South Africa's legal framework addressing cyberbullying is the enactment of the *Cybercrimes Act 19 of 2020*, which aims to combat various forms of cybercrime, including cyberbullying.¹³⁵ The Act criminalises online offences and establishes a specialised cybercrime unit within the South African Police Service (SAPS) to investigate and prosecute such cases.¹³⁶ However, despite the legislative progress, the SAPS is ill-equipped to effectively handle cyberbullying cases due to a lack of specialized training and resources. As a result, many reported cases of cyberbullying are not thoroughly investigated, with the anonymity of perpetrators further complicating the process. This gap in capacity and expertise prevents the full potential of the Cybercrimes Act from being realised, leaving victims without the necessary legal recourse and perpetuating the cycle of online harm.

This paper will critically examine the current legal framework in South Africa regarding the prosecution of cyberbullying, identifying key gaps that hinder the effective protection of victims and the deterrence of perpetrators. While South Africa has made strides in regulating cybercrimes through legislation such as the (ECTA) and the *Cybercrimes Act*, these laws often fail to address the specific complexities of

¹³³ Section 24, applies to cases of cyberbullying involving harmful content. Section 24 of the FPA criminalizes the distribution of harmful content, including material that could harm children, such as explicit or degrading material.

¹³⁴ Chan, T.K., Cheung, C.M., & Lee, Z.W. (2021). Cyberbullying on social networking sites: A literature review and future research directions. *Information & Management*, 58(2), 103411.

¹³⁵ **Section 2** – This section criminalizes various forms of cybercrime, including unlawful access to data, illegal interception of communications, and the distribution of harmful material online, which can include cyberbullying-related offences.

¹³⁶ Section 28 –This section establishes the cybercrime unit within the (SAPS). It outlines the unit's responsibilities, including investigating cybercrimes and supporting the prosecution of these crimes. The unit addresses various cybercrimes, including cyberbullying, and is part of the Act's broader goal of enhancing law enforcement's capacity to handle digital crime.

cyberbullying fully. The paper will propose several improvements to the legal framework, such as introducing clearer definitions and targeted provisions specifically criminalizing cyberbullying. It also recommends enhancing victim protection through more robust legal safeguards, including immediate response measures and accessible mental health support. In addition, the paper will advocate for more effective collaboration between law enforcement, technology companies, and policymakers to ensure that the legal system can better respond to the rapid evolution of cyberbullying tactics. By addressing these gaps, the paper aims to foster a legal environment that is more responsive, preventative, and supportive of those affected by cyberbullying in South Africa.

RESEARCH METHODOLOGY

The researchers used a qualitative approach based on the doctrinal legal research method commonly employed in legal studies.¹³⁷ This method involves gathering information from existing resources, making it more cost-effective than field investigations.¹³⁸ The study will utilise primary and secondary sources, including South African government publications, legislation, policies, academic research, and materials from public libraries and online platforms. Insights into cyberbullying definitions, categories, and legal challenges will be drawn from academic studies, reports, and real-world examples in news articles and periodicals.¹³⁹ Doctrinal research is particularly useful in the early stages of investigating law-related topics due to its efficiency and affordability.¹⁴⁰

THEORETICAL AND CONCEPTUAL FRAMEWORK

Social-ecological framework

The social-ecological theory has proven particularly valuable in understanding traditional forms of bullying, such as face-to-face, verbal, and relational bullying.¹⁴¹ This perspective highlights that health risks are not merely the direct result of individual

¹³⁷ Chynoweth, P. (2008). Legal research. *Advanced research methods in the built environment*, 1.

¹³⁸ Hutchinson, T. (2013). 'Doctrinal research: researching the jury.' In: *Research methods in law* (pp. 15-41). Routledge.

¹³⁹ Hutchinson, T., & Duncan, N. (2012). Defining and describing what we do: doctrinal legal research. *Deakin Law Review*, 17(1), 83-119.

¹⁴⁰ MD, P. (2019). Legal Research-Descriptive Analysis on Doctrinal Methodology. *International Journal of Management, Technology and Social Sciences (IJMTS)*, 4(2), 95-103.

¹⁴¹ Espelage, D.L. (2014). Ecological theory: Preventing youth bullying, aggression, and victimization. *Theory into Practice*, 53(4), 257-264.

behaviours. Instead, they arise from complex interactions between individuals and the environments in which they live.¹⁴² Therefore, effectively addressing cyberbullying behaviour requires an ecological framework that integrates multiple dimensions. Specifically, this approach must consider ecological, cognitive, and psychosocial risk and protective factors, which can be influenced or moderated across various levels.¹⁴³ These levels include the individual, family, peer group, online environment, and broader community. Furthermore, it is essential to account for the interconnected nature of young people's online and offline social contexts.¹⁴⁴ Recognising how they interact with others in digital spaces is critical to developing strategies that target these multifaceted influences.¹⁴⁵ By addressing these layers holistically, the social-ecological framework offers a comprehensive way to mitigate the risks and promote protective factors associated with cyberbullying. The social-ecological theory has proven particularly valuable in understanding traditional forms of bullying, such as face-to-face, verbal, and relational bullying.¹⁴⁶ This theoretical perspective underscores that health risks, including the negative outcomes associated with bullying, are not simply the direct result of individual actions.¹⁴⁷ Rather, they emerge from a complex web of interactions between individuals and the multiple environments in which they operate. These environments include not only the immediate surroundings, such as home or school, but also broader social and cultural contexts that influence behaviour. Consequently, this understanding allows for a more nuanced approach to addressing issues like bullying, as it acknowledges that the causes and impacts are multifactorial and interconnected.¹⁴⁸ Therefore, effectively addressing cyberbullying behaviour requires an ecological framework that integrates multiple influence dimensions. In this regard, such a framework must go beyond focusing solely on the individual and

¹⁴² Espelage, D.L., Rao, M.A., & Craven, R.G. (2012). 'Theories of cyberbullying'. In *Principles of Cyberbullying Research* (pp. 49-67). Routledge.

¹⁴³ Ellis, B.J., Bianchi, J., Giskevicius, V., & Frankenhuis, W.E. (2017). Beyond risk and protective factors: An adaptation-based approach to resilience. *Perspectives on Psychological Science*, 12(4), 561-587.

¹⁴⁴ Slater, D. (2002). Social relationships and identity online and offline. *Handbook of new media: Social shaping and consequences of ICTs*, 533-546.

¹⁴⁵ El Sayary, A., Alzaffin, R.A., & Alsuwaidi, M.E. (2024). Navigating Digital Identities: The Influence of Online Interactions on Youth Cyber Psychology and Cyber Behavior.

¹⁴⁶ Hong, J.S., Lee, J., Espelage, D.L., Hunter, S.C., Patton, D.U., & Rivers Jr, T. (2016). Understanding the correlates of face-to-face and cyberbullying victimization among US adolescents: A social-ecological analysis. *Violence and Victims*, 31(4), 638-663.

¹⁴⁷ Hymel, S., McClure, R., Miller, M., Shumka, E., & Trach, J. (2015). Addressing school bullying: Insights from theories of group processes. *Journal of Applied Developmental Psychology*, 37, 16-24.

¹⁴⁸ Mishna, F. (2012). *Bullying: A guide to research, intervention, and prevention*. Oxford University Press.

instead consider the various contexts that shape their experiences and interactions.¹⁴⁹ Specifically, it must account for ecological, cognitive, and psychosocial risk and protective factors, which can be influenced or moderated at different levels.¹⁵⁰ These include individual characteristics, family dynamics, peer group influences, the online environment, and the broader community.¹⁵¹ For instance, individual risk factors might include a young person's temperament or coping strategies, while family factors could involve parental support or supervision.¹⁵² In addition, peer group influences, both online and offline, can also play a critical role in either reinforcing or mitigating bullying behaviours.¹⁵³

Moreover, it is essential to recognise the interconnected nature of young people's online and offline social contexts. In today's digital age, the boundaries between the two are increasingly blurred, with young people seamlessly navigating between physical and virtual environments.¹⁵⁴ As a result, their online interactions are often an extension of their offline social lives and vice versa. This dual context means that cyberbullying cannot be understood in isolation from the real-world relationships and pressures young people experience.¹⁵⁵ Thus, understanding how they engage with peers in both realms is critical to developing effective strategies to combat cyberbullying.¹⁵⁶ By addressing these multiple layers, individual, familial, social, and environmental, the social-ecological framework offers a comprehensive way to mitigate the risks associated with cyberbullying.¹⁵⁷ Additionally, it provides a model for promoting protective factors, such as strong social support networks, resilience, and

¹⁴⁹ Linell, P. (1998). *Approaching dialogue: Talk, interaction and contexts in dialogical perspectives* (Vol. 3). John Benjamins Publishing.

¹⁵⁰ Gerring, J.P., & Wade, S. (2012). The essential role of psychosocial risk and protective factors in pediatric traumatic brain injury research. *Journal of Neurotrauma*, 29(4), 621-628.

¹⁵¹ Nesi, J., Choukas-Bradley, S., & Prinstein, M.J. (2018). Transformation of adolescent peer relations in the social media context: Part 2—application to peer group processes and future directions for research. *Clinical Child and Family Psychology Review*, 21, 295-319.

¹⁵² Baldry, A.C., & Farrington, D.P. (2005). Protective factors as moderators of risk factors in adolescence bullying. *Social Psychology of Education*, 8, 263-284.

¹⁵³ Hamsah, H., Mesra, R., Winoto, D.E., Kasenda, M.A., & Mongan, D. (2024). Social Group Dynamics and Its Role in the Phenomenon of Bullying in Secondary Schools. *Technium Education and Humanities*, 9(2), 1-6.

¹⁵⁴ Dingli, A., & Seychell, D. (2015). *The new digital natives*. Stuttgart, Germany: JB Metzler.

¹⁵⁵ Giancesini, G., & Brighi, A. (2015). 'Cyberbullying in the era of digital relationships: The unique role of resilience and emotion regulation on adolescents' adjustment.' In: *Technology and youth: Growing up in a digital world* (pp. 1-46). Emerald Group Publishing Limited.

¹⁵⁶ Ashktorab, Z., & Vitak, J. (2016) (May). Designing cyberbullying mitigation and prevention solutions through participatory design with teenagers. In: *Proceedings of the 2016 CHI conference on human factors in computing systems* (pp. 3895-3905).

¹⁵⁷ Cross, D., Barnes, A., Papageorgiou, A., Hadwen, K., Hearn, L., & Lester, L. (2015). A social-ecological framework for understanding and reducing cyberbullying behaviours. *Aggression and Violent Behavior*, 23, 109-117.

healthy coping mechanisms, that can buffer against the negative impacts of bullying.¹⁵⁸ Ultimately, this holistic approach helps to ensure that interventions are not just reactive, but also preventative, fostering environments that support the well-being of people both online and offline.

UNDERSTANDING CYBERBULLYING

Definition of cyberbullying and its key forms

Burton and Mutongwizo¹⁵⁹ identify various forms of cyberbullying, each involving different tactics to harass or harm victims. One form, flaming, refers to intense, often brief online arguments where individuals exchange vulgar language, typically occurring in public online spaces like chat rooms or discussion groups.¹⁶⁰ Another type is harassment, which involves the repeated sending of cruel or threatening messages to an individual's email or mobile phone.¹⁶¹ The South African Law Commission distinguishes between direct harassment, which includes direct threats or bullying messages, and indirect harassment, such as spreading rumours or subscribing the victim to unwanted services.¹⁶² Denigration involves the dissemination of malicious gossip or rumours to damage a person's reputation or relationships and may include posting digitally altered photographs intended to harm the victim.¹⁶³ Additionally, identity theft occurs when an individual hacks into another person's social media or email accounts and impersonates them to damage their reputation or cause trouble.¹⁶⁴ Outing refers to sharing private or embarrassing information or images without consent, often achieved through deception or trickery.¹⁶⁵ Cyberstalking is another

¹⁵⁸ Saiz, M.J.S., Chacón, R.M.F., Abejar, M.G., Parra, M.D.S., Rubio, M.E.L. and Jiménez, S.Y., 2019. Personal and social factors which protect against bullying victimization. *Enfermería global*, 18(2), 13-24.

¹⁵⁹ Burton, P. and Mutongwizo, T. 2009. Inescapable Violence: Cyber Bullying and Electronic Violence against Young People in South Africa. Issue Paper No. 8, Centre for Justice and Crime Prevention. Cape Town.

¹⁶⁰ Jane, E.A., 2015. Flaming? What flaming? The pitfalls and potentials of researching online hostility. *Ethics and information technology*, 17(1), 65-87.

¹⁶¹ Willard, N.E., 2007. *Cyberbullying and cyberthreats: Responding to the challenge of online social aggression, threats, and distress*. Research press.

¹⁶² Willie, D., 2016. The role of mobile service providers in combating mobile bullying among adolescent in South Africa.

¹⁶³ Willard, N.E., 2007. *Cyberbullying and cyberthreats: Responding to the challenge of online social aggression, threats, and distress*. Research press.

¹⁶⁴ Irshad, S. and Soomro, T.R., 2018. Identity theft and social media. *International Journal of Computer Science and Network Security*, 18(1), 43-55.

¹⁶⁵ Gan, M.F., Chua, H.N., Jasser, M.B. & Wong, R.T. (2024) (June). Categorization of Cyberbullying based on Intentional Dimension. In: *2024 IEEE International Conference on Automatic Control and Intelligent Systems (I2CACIS)* (pp. 285-290). IEEE.

harmful practice involving repeated online harassment with the intent to threaten or intimidate.¹⁶⁶ Lastly, happy slapping involves individuals physically attacking someone while another person records the assault with a mobile phone, further amplifying the harm.¹⁶⁷ Together, these forms of cyberbullying highlight the diverse and damaging ways in which online interactions can be manipulated to cause harm. Although there is considerable debate about the distinction between bullying and cyberbullying, it is generally agreed that the reach of cyberbullying is far broader than traditional bullying.¹⁶⁸ Traditional bullying is often confined to specific environments, such as schools, where the victim and perpetrator are usually in close proximity.¹⁶⁹ In contrast, cyberbullying can occur anywhere, including at school, at home, or any place where the victim has access to online communication.¹⁷⁰ Additionally, cyberbullying typically takes place through various online platforms such as instant messaging, text and multimedia messaging on mobile phones, email, social networking sites, and other websites.¹⁷¹ The ease of anonymity and the physical distance between the perpetrator and the victim make cyberbullying even more pervasive and difficult to escape, further distinguishing it from traditional forms of bullying.¹⁷²

The impact of cyberbullying on victims

The emotional impact of cyberbullying is often seen as more damaging than that of traditional bullying, mainly because of its public nature.¹⁷³ The victim's shame is exposed to a large audience, which intensifies the emotional distress. Additionally, cyberbullying provides no escape for the victim, as it can happen at any time and from

¹⁶⁶ Pittaro, M.L. (2007). Cyber stalking: An analysis of online harassment and intimidation. *International Journal of Cyber Criminology*, 1(2), 180-197.

¹⁶⁷ Çakar-Mengü, S. & Mengü, M. (2023). Cyberbullying As A Manifestation Of Violence On Social Media. *Multidisciplinary Perspectives In Educational and Social Sciences Vi*, 47.

¹⁶⁸ Modecki, K.L., Minchin, J., Harbaugh, A.G., Guerra, N.G. & Runions, K.C. (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health*, 55(5), 602-611.

¹⁶⁹ Carrera, M.V., DePalma, R. & Lameiras, M. (2011). Toward a more comprehensive understanding of bullying in school settings. *Educational Psychology Review*, 23, 479-499.

¹⁷⁰ Bocharov, A.A., & Khlomov, K.D. (2014). Cyberbullying: bullying in the space of modern technologies. *Psychology. Journal of the Higher School of Economics*, 11(3), 177-191.

¹⁷¹ Scheithauer, H., Schultze-Krumbholz, A., Pfetsch, J., & Hess, M. (2021). Types of cyberbullying. *The Wiley Blackwell Handbook of Bullying: A Comprehensive and International Review of Research and Intervention*, 1, 120-138.

¹⁷² Antoniadou, N., & Kokkinos, C.M. (2015). Cyber and school bullying: Same or different phenomena? *Aggression and Violent Behavior*, 25, 363-372.

¹⁷³ Slonje, R., Smith, P.K., & Frisé, A. (2017). Perceived reasons for the negative impact of cyberbullying and traditional bullying. *European Journal of Developmental Psychology*, 14(3), 295-310.

any location, not just within school grounds.¹⁷⁴ Furthermore, both victims and perpetrators of bullying experience significant emotional consequences. Saleh explains that those who are both bullies and victims are especially at risk, as they face social rejection while being influenced by negative peer behaviours.¹⁷⁵ These individuals often struggle academically and are more likely to develop mental health issues, such as anxiety, depression, and psychosis, later in life. Studies also indicate that bullies tend to carry their aggressive tendencies into personal relationships, resulting in physical and verbal aggression.

The social effects of bullying are far-reaching. Adolescents involved in bullying may find it difficult to form close relationships, leading to ongoing conflicts that persist into adulthood, affecting their relationships and work lives.¹⁷⁶ Bullies are also at a higher risk of developing behavioural issues and engaging in criminal activities as they mature. Research indicates that bullying in youth can predict later criminal behaviour, such as theft, vandalism, and violent offences.¹⁷⁷ Additionally, a 2006 study conducted in two Korean schools found that being a victim of bullying can lead to social difficulties, while bullying others tends to result in increased aggression and other outwardly disruptive behaviours.¹⁷⁸

A few examples of cyberbullying:

- In 2003 in Canada Ghyslain Raza made a home video of himself wielding a golf ball retriever as a light saber while he pretended to be a character from Star Wars. His classmates found the videotape and posted it online. The video clip was not flattering as Ghyslain was overweight and not very athletic. The video became one of the most downloaded clips ever, and Ghyslain dropped out of school and had to be admitted to a psychiatric hospital.¹⁷⁹

¹⁷⁴ Badenhorst, C. (2011). Legal responses to cyber bullying and sexting in South Africa. *Centre for Justice and Crime Prevention (CJCP) issue paper*, 10, 1-20.

¹⁷⁵ Saleh, F.M., Grudzinskas, A., & Judge, A. (eds.) (2014). *Adolescent sexual behavior in the digital age: considerations for clinicians, legal professionals, and educators*. Oxford University Press.

¹⁷⁶ Jansen, P.W., Verlinden, M., Berkel, A.D.V., Mieloo, C., van der Ende, J., Veenstra, R., Verhulst, F.C., Jansen, W., & Tiemeier, H. (2012). Prevalence of bullying and victimization among children in early elementary school: Do family and school neighbourhood socioeconomic status matter? *BMC Public Health*, 12, 1-10.

¹⁷⁷ Ibid.

¹⁷⁸ Saleh, F.M., Grudzinskas, A., & Judge, A. (eds.) (2014). *Adolescent sexual behavior in the digital age: considerations for clinicians, legal professionals, and educators*. Oxford University Press.

¹⁷⁹ Available at: <https://www.cbc.ca/radio/thecurrent/the-current-for-march-31-2022-1.6403614/man-who-became-famous-20-years-ago-as-the-star-wars-kid-says-your-digital-shadow-shouldn-t-define-you-1.6404089>.(accessed on 21 October 2024).

- Thirteen-year-old Megan Meier committed suicide in Missouri in 2006, allegedly because of being tormented by a fake *MySpace* persona created by the mother of her rival.
- Carl Hoover-Walker, a 6th grader from Massachusetts, hanged himself in 2009 after repeated school bullying.¹⁸⁰
- In the UK, Megan Gillian took an overdose of painkillers in 2009 after being harassed and teased online.¹⁸¹
- In 2010 Tyler Clementi, an 18-year-old student, committed suicide. He was seen kissing another man on a computer webcam and was viewed doing so without his knowledge. He was then harassed online.¹⁸²
- In 2010 two teenage boys were charged with sexual assault and possession and distribution of child pornography after they posted photographs on Facebook of the gang rape of a 16-year-old girl at a private party.¹⁸³
- In 2006 a father obtained an interdict against a Durban woman who became obsessed with his 17-year-old daughter, whom she had met in a MXit chat room. The High Court in Pretoria prohibited the woman from contacting the daughter or her family either telephonically or electronically.¹⁸⁴
- A mother of a 16-year-old girl in Springs obtained a peace order against another 16-year-old at her daughter's school. The other girl regularly humiliated her daughter on MXit. This other girl's name was then put on a 'slut list', which contained the names of various girls, including their addresses, telephone numbers and schools.¹⁸⁵
- In South Africa, Lufuno Mavhunga overdosed after a video of her being slapped and bullied by a classmate went viral. She was attacked after blocking her

¹⁸⁰ Available at: <https://www.theguardian.com/world/2010/mar/29/teenagers-charged-girls-suicide>. (accessed on: 21 October 2024).

¹⁸¹ Available at: <https://www.express.co.uk/news/uk/117249/Girl-bullied-to-death-on-web>. (accessed on: 21 October 2024).

¹⁸² Available at: <https://tylerclementi.org/tylers-story-3/>. (accessed on: 21 October 2024).

¹⁸³ Available at: <https://bc.ctvnews.ca/police-disgusted-by-photo-sharing-of-rave-gang-rape1.553190?cache=sazhusyrecmk%2F7.555670>. (accessed on: 21 October 2024).

¹⁸⁴ Available at: <https://www.childlinesa.org.za/wp-content/uploads/issue-paper-10-legal-reponses-to-cyberbullying-and-sexting-in-sa.pdf>. (accessed on: 21 October 2024).

¹⁸⁵ Available at: <https://www.childlinesa.org.za/wp-content/uploads/issue-paper-10-legal-reponses-to-cyberbullying-and-sexting-in-sa.pdf>. (accessed on: 21 October 2024).

perpetrator on various social media sites for sending her threatening messages.¹⁸⁶

Saleh¹⁸⁷ asserts that bullying is associated with an increase in suicidal behaviour, affecting both victims and perpetrators. However, it is not solely bullying that triggers suicidal tendencies; other contributing factors play a role. Most adolescents subjected to bullying or cyberbullying do not exhibit suicidal behaviour. Thus, bullying alone is not a direct cause of suicide. Adolescents who have taken their own lives often faced additional social and emotional challenges. Bullying and cyberbullying amplify instability and feelings of hopelessness in adolescents who are already dealing with significant stressors.¹⁸⁸

EXISTING LEGAL FRAMEWORK IN SOUTH AFRICA

- **Overview of legal frameworks**

South Africa's legal framework on cyberbullying offers various remedies for individuals affected by online harassment and abuse. The (ECTA) includes provisions prohibiting using electronic communication to harass or defame others.¹⁸⁹ It primarily targets the creators of harmful content, ensuring that individuals who use electronic platforms to harm others through defamation or harassment can be held accountable. However, ECTA's scope is limited, as it does not directly address the full extent of cyberbullying behaviours. Additionally, the (FPA), following its 2019 amendments, addresses cyberbullying by regulating the distribution and display of harmful materials, especially those affecting children.¹⁹⁰ This legislation significantly expands liability beyond content creators, holding individuals accountable for acts of cyberbullying directed at minors.¹⁹¹ For instance, it criminalises the distribution of intimate or harmful material

¹⁸⁶ Available at: https://www.yahoo.com/video/south-african-teen-commits-suicide-150237292.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xLMNvbS8&guce_referrer_sig=aqaaainr9obfujoulasf98poxomfrijldsk3kuawmfad5y8enzuaf1hy7-shzvuwxv1ltvonwixjkjypp73a6m4kt14qv8lxr_tbfvzikiynwndvlmxdlk8fj6smvdbiedj1lnnd0esa9infgt_beghuwwb1fstlsxvbbcsqch7xrs. (accessed on: 21 October 2024).

¹⁸⁷ Saleh, F.M., Grudzinskas, A., & Judge, A. (eds.) (2014). *Adolescent sexual behaviour in the digital age: considerations for clinicians, legal professionals, and educators*. Oxford University Press.

¹⁸⁸ Ibid.

¹⁸⁹ Section 77 – This section addresses the liability of internet service providers for the content hosted on their platforms, including defamatory or harassing material.

¹⁹⁰ **Section 24C** – This section criminalizes the distribution of intimate images without consent, which often overlaps with acts of cyberbullying targeting minors.

¹⁹¹ On 1 March 2022, the (FPAA), signed into law by the President and published in the *Government Gazette* on 3 October 2019, came into operation. The FPAA amends the Films and Publications Act 65

without consent and establishes safeguards to protect children from online abuse and exploitation, ensuring that perpetrators face legal consequences.¹⁹² Moreover, the Protection from Harassment Act 1997 offers an additional remedy, providing a comprehensive framework for addressing behaviours that constitute harassment, including cyberbullying.¹⁹³ This Act allows victims to apply for a protection order against the harasser, including electronic communication cases. Such orders can compel the removal of harmful content or prohibit further contact from the harasser.¹⁹⁴ Importantly, if the protection order is breached, it may lead to criminal sanctions, offering victims a pathway to seek justice.¹⁹⁵ The Harassment Act also empowers courts to direct electronic service providers to reveal the identity of anonymous cyberbullies, thereby addressing one of the most challenging aspects of online harassment, which is the anonymity of perpetrators.¹⁹⁶

The **Cybercrimes Act 2020** addresses forms of online harassment, including behaviours akin to cyberbullying, even though the term is not explicitly defined. Section 15 criminalises the use of electronic communication to unlawfully and intentionally send data messages threatening individuals or groups with violence or property damage, where a reasonable person would perceive the communication as a genuine threat. **Section 16** prohibits the sharing of intimate images of another person without their consent, regardless of whether the person is identifiable directly or indirectly, provided they had a reasonable expectation of privacy. Additionally, **Section 20** empowers courts to issue protective orders during criminal proceedings, preventing the further publication or distribution of harmful messages. These orders can also compel electronic communication service providers to remove or disable access to such content, ensuring victim protection.

- ***Challenges in applying existing laws to cyberbullying cases***

of 1996 (FPA) and clarifies the regulation of online commercial distributors and the processes required to follow to distribute content in South Africa.

¹⁹² Ibid.

¹⁹³ Preamble of the Act: The Act aims to provide a remedy in the form of protection prohibiting a person from harassing another person. If the harasser breaches a protection order, he or she commits an offence punishable with a fine or a period of imprisonment.

¹⁹⁴ Section 2 of the Act allows individuals who believe they are being harassed to approach the court for a protection order. This includes harassment via electronic communication such as emails, text messages, or social media

¹⁹⁵ Ibid.

¹⁹⁶ **Section 4(2)**: The request to the service provider is typically used to uncover the identity of anonymous individuals involved in harassment through electronic communication, addressing the challenge of anonymity in cyberbullying or online harassment cases.

The fragmented legal response to cyberbullying in South Africa presents significant challenges in addressing the complexities of this growing issue.¹⁹⁷ While the phenomenon of cyberbullying continues to evolve with advancements in technology and the proliferation of social media platforms, South Africa has yet to enact specific legislation tailored to combat this form of online abuse.¹⁹⁸ Instead, legal recourse relies on a patchwork of existing laws, including provisions in various legislative frameworks, common law offences, and civil remedies. This lack of a unified approach often leads to inconsistencies in how cases are addressed and resolved.

Researchers submit that one of the primary challenges lies in classifying cyberbullying under the broader category of harassment, as defined in the Harassment Act. While this Act provides an important mechanism for victims to seek protection orders against harassers, its application to cyberbullying can be limited by the scope of its definitions and the evidentiary requirements for establishing harassment. For instance, proving intent to cause harm, or demonstrating a pattern of abusive behaviour over electronic communication channels can be complex, particularly when perpetrators use anonymous accounts or operate from different jurisdictions.

Moreover, the reliance on general legislative provisions, such as the Electronic Communications and Transactions Act (ECTA) or the Film and Publications Act, highlights gaps in addressing the unique dynamics of cyberbullying. While instrumental in regulating electronic communications and harmful content, these laws are not specifically designed to address the nuances of online harassment, such as the rapid dissemination of harmful messages or the long-term psychological impact on victims. Consequently, victims often face procedural hurdles and delays in obtaining redress, which can exacerbate their trauma and feelings of helplessness.

In addition, the use of common law crimes, such as *crimen injuria* or defamation, to address cyberbullying further complicates matters.¹⁹⁹ Researchers submit that while these offences provide a legal basis for addressing harm to an individual's dignity, or reputation, they may not fully capture the pervasive and relentless nature of

¹⁹⁷ Musoni, M. Legal challenges of establishing jurisdiction over cloud data: addressing the gaps in South Africa's cybercrime legislative framework.

¹⁹⁸ Mong, E. (2020). Cyberbullying and its effects on the mental well-being of adolescents (Doctoral thesis, North-West University (South Africa)).

¹⁹⁹ Witz, D.J. The sufficiency of protection in light of the increasing number of cybercrime and cyber harassment cases.

cyberbullying, which often extends beyond a single act to include ongoing patterns of abuse. The civil remedies available to victims, such as claims for damages, may also be inaccessible to those who lack the financial resources to pursue legal action. The fragmented nature of South Africa's legal response to cyberbullying underscores the need for a more cohesive and comprehensive legislative framework. Without clear, targeted laws addressing this specific form of harassment, the legal system remains ill-equipped to fully address the harm caused by cyberbullying, leaving victims vulnerable and perpetrators with limited accountability.

- ***Limitations of current laws in addressing the complexities of modern cyberbullying***

The limitations of current laws in addressing the complexities of modern cyberbullying are becoming increasingly evident considering the evolving nature of technology and online behaviour.²⁰⁰ Traditional legal frameworks often struggle to keep pace with the rapid advancements in digital communication, making it challenging to address cyberbullying effectively in its various forms.²⁰¹ One of the most significant hurdles is the issue of anonymity online. Unlike traditional bullying, which often involves identifiable individuals, cyberbullying frequently occurs behind the veil of anonymity provided by the internet.²⁰² This anonymity can embolden perpetrators, making them feel shielded from the consequences of their actions.²⁰³ It can also make it difficult to trace the bully's identity, especially when they use pseudonyms or fake accounts, further complicating enforcement.²⁰⁴

Another major limitation of current laws is the role of social media platforms. These platforms have become central to the digital experience, especially for young people, yet many existing legal frameworks were not designed with the complexities of social media in mind. While platforms like Facebook, Twitter, and Instagram offer tools for reporting and managing harmful content, the laws governing their use are often

²⁰⁰ El Asam, A., & Samara, M. (2016). Cyberbullying and the law: A review of psychological and legal challenges. *Computers in Human Behavior*, 65, 127-141.

²⁰¹ Shariff, S. (2009). *Confronting cyber-bullying: What schools need to know to control misconduct and avoid legal consequences*. Cambridge University Press.

²⁰² e Silva, A.L.D.C. (2020). *Invisible ethics: the problem of anonymity on the internet* (Doctoral thesis, Université d'Ottawa/University of Ottawa).

²⁰³ Ibid.

²⁰⁴ Ibid.

inconsistent and vary from country to country.²⁰⁵ Social media platforms operate globally, meaning cyberbullying incidents may span multiple jurisdictions.²⁰⁶ This creates a legal challenge when applying local laws to cross-border incidents, as different countries have varying standards and regulations regarding online behaviour and freedom of expression.²⁰⁷ Additionally, cross-border harassment presents a unique challenge.²⁰⁸ Cyberbullying often involves perpetrators and victims located in different regions or countries, making it difficult for a single nation's laws to address the issue effectively.²⁰⁹ In some cases, perpetrators may be in jurisdictions where there are no robust laws against online harassment, or where laws are too vague to cover the specifics of cyberbullying.²¹⁰ This lack of uniformity across borders complicates efforts to hold perpetrators accountable, as international cooperation and legal frameworks to address cross-border cyberbullying remain underdeveloped.²¹¹ While existing laws provide some tools for addressing cyberbullying, they are often inadequate for tackling the complexities of modern online harassment. Anonymity, the influence of social media platforms, and the cross-border challenges all contribute to the difficulty of ensuring that cyberbullying is properly addressed. This highlights the need for updated, comprehensive legal frameworks that can address the unique aspects of digital interactions and better protect individuals from online harm.

IDENTIFYING THE LEGAL GAPS

- ***Lack of clear and specific definitions of cyberbullying in South African law***

Responses to cyberbullying in South Africa remain fragmented, relying on varied

²⁰⁵ Yar, M. (2018). A failure to regulate? The demands and dilemmas of tackling illegal content and behaviour on social media. *International Journal of Cybersecurity Intelligence & Cybercrime*, 1(1), 5-20.

²⁰⁶ Alni, Z.A., Futaih, R.F., Turki, M., Al-Musawi, O.Y.S., & Taran, G. (2024). The Threat that Social Media Crimes Pose to International Law Principles. *Journal of Ecohumanism*, 3(5), 493-510.

²⁰⁷ Fagin, M. (2002). Regulating Speech Across Borders: Technology vs. Values. *Mich. Telecomm. & Tech. L. Rev.*, 9, 395.

²⁰⁸ Kapur, R. (2015). 'Cross-border movements and the law: renegotiating the boundaries of difference.' In: *Trafficking and Prostitution Reconsidered* (pp. 25-42). Routledge.

²⁰⁹ Cassidy, W., Faucher, C., & Jackson, M. (2013). Cyberbullying among youth: A comprehensive review of current international research and its implications and application to policy and practice. *School Psychology International*, 34(6), 575-612.

²¹⁰ El Asam, A., & Samara, M. (2016). Cyberbullying and the law: A review of psychological and legal challenges. *Computers in Human Behavior*, 65, 127-141.

²¹¹ Roy, M.N.D., & Bordoloi, M.P. (2023). *The Cyber Law Handbook: Bridging the Digital Legal Landscape*. Authors Click Publishing.

legislation, common law definitions of criminal offences, and civil law remedies.²¹² Generally, these harmful acts violate provisions within existing criminal law, align with common law or statutory crime definitions, or meet the requirements for civil law remedies.²¹³ This fragmented approach is not exclusive to South Africa, as internationally, there is a lack of case law that provides clear precedents, with many countries and states cautiously navigating the legal challenges.²¹⁴ As submitted previously in South Africa, there is no specific legislation that addresses cyberbullying directly, and it typically falls under the broader definition of harassment. As a result, victims of cyberbullying must rely on the remedies offered by criminal and civil law. The legal consequences and remedies available apply to all individuals involved in cyberbullying, regardless of their age. Depending on the specific nature of the cyberbullying acts, perpetrators may face criminal charges, including *crimen injuria*, assault, criminal defamation, extortion, harassment, insufficient victim protections, for example, lack of swift response mechanisms, and support for victims.

- ***Inconsistent enforcement and challenges in prosecuting online harassment***

Jurisdictional issues and the lack of resources are two significant factors that contribute to the challenges in successfully prosecuting cyberbullying cases, both in South Africa and internationally.²¹⁵ These factors create practical difficulties for law enforcement and exacerbate the legal challenges in holding perpetrators accountable for their actions. Jurisdictional issues are particularly problematic when cyberbullying incidents involve perpetrators and victims who are located in different geographical areas.²¹⁶ This creates a complex situation, because the laws of one country may not apply to individuals in another. The anonymity provided by the internet further complicates this issue, as perpetrators often hide behind pseudonyms or fake

²¹² Badenhorst, C. (2011). Legal responses to cyber bullying and sexting in South Africa. *Centre for Justice and Crime Prevention (CJCP) Issue paper, 10*, 1-20.

²¹³ Badenhorst, C. (2011). Legal responses to cyber bullying and sexting in South Africa. *Centre for Justice and Crime Prevention (CJCP) issue paper, 10*, 1-20.

²¹⁴ Menski, W.F. (2006). *Comparative law in a global context: the legal systems of Asia and Africa*. Cambridge University Press.

²¹⁵ Reyneke, M.J., & Jacobs, L. (2018). Can legal remedy be used to address bullying and cyberbullying in South African schools? *Polish Journal of Educational Studies, 71*(1), 66-80.

²¹⁶ Broll, R. (2016). Collaborative responses to cyberbullying: preventing and responding to cyberbullying through nodes and clusters. *Policing and Society, 26*(7), 735-752.

identities, making it difficult to pinpoint their location.²¹⁷ In cross-border harassment cases, law enforcement agencies face the challenge of having to coordinate efforts across multiple jurisdictions. The situation becomes even more complicated when perpetrators use platforms hosted in other countries, where local laws may not specifically address cyberbullying. For instance, in South Africa, existing laws may not adequately address cyberbullying if the perpetrator is located outside the country, or if the incident occurs on international platforms. This lack of clarity and cooperation between jurisdictions often results in delays, confusion, and, in many cases, the inability to prosecute perpetrators.

The lack of resources within South Africa's legal system and law enforcement agencies, also significantly hinders the prosecution of cyberbullying cases. These cases often require specialised skills and tools, such as digital forensics, data analysis, and knowledge of online platforms.²¹⁸ Unfortunately, many police officers and prosecutors lack the necessary training and expertise to handle such complex cases, primarily due to limited funding and resources. The inability to train law enforcement effectively in digital crime investigations further exacerbates the issue. Additionally, cyberbullying cases often involve digital evidence stored across multiple platforms or in foreign jurisdictions, requiring cooperation from international organisations or tech companies.²¹⁹ The lack of infrastructure to obtain such evidence swiftly and efficiently puts additional pressure on an already strained legal system. As a result, the slow process of gathering evidence, and the high costs involved, often lead to the collapse of cases or a lack of successful prosecution.

Ultimately, the combination of jurisdictional challenges and limited resources directly impacts the ability to prosecute cyberbullying cases successfully. When perpetrators are in different countries or use international platforms that do not cooperate with local authorities, collecting the necessary evidence becomes a significant obstacle. Even when evidence is obtained, technical challenges arise in presenting it in court,

²¹⁷ Van der Nagel, E., & Frith, J. (2015). Anonymity, pseudonymity, and the agency of online identity: Examining the social practices of r/Gonewild. *First Monday*.

²¹⁸ Mughal, A.A. (2019). A comprehensive study of practical techniques and methodologies in incident-based approaches for cyber forensics. *Tensorgate Journal of Sustainable Technology and Infrastructure for Developing Countries*, 2(1), 1-18.

²¹⁹ Atrey, I. (2023). Cybercrime and its Legal Implications: Analysing the challenges and Legal frameworks surrounding Cybercrime, including issues related to Jurisdiction, Privacy, and Digital Evidence. *International Journal of Research and Analytical Reviews*.

undermining the case. Moreover, law enforcement agencies may lack the capacity to investigate these cases thoroughly, due to insufficient resources and expertise, resulting in many cases being abandoned or left unresolved. Therefore, perpetrators often evade justice, and victims of cyberbullying are left without adequate legal protection or recourse. There is a critical need for legal reform, international cooperation, and increased investment in resources for law enforcement to address these challenges. Without these changes, the success of prosecutions in cyberbullying cases will continue to be severely limited. The absence of a coordinated and well-resourced approach, leaves many victims vulnerable and prevents the legal system from effectively addressing the growing problem of cyberbullying. Therefore, improving the legal framework and investing in resources to combat cyberbullying is essential for ensuring that justice is served and that victims are protected.

- ***Overlap with other crimes (e.g., defamation, hate speech), but insufficient focus on the specific nature of cyberbullying***

Cyberbullying in South Africa often overlaps with existing criminal offences such as defamation, hate speech, and harassment.²²⁰ While these laws may provide a basis for prosecuting individuals who engage in cyberbullying, there is an insufficient focus on the specific nature of cyberbullying and how it operates in the digital context.²²¹ This lack of focus creates challenges in the effective prosecution of cyberbullying, and undermines efforts to adequately address the unique harms caused by this form of online abuse.

Defamation, for example, involves the publication of false statements that harm an individual's reputation.²²² In cases of cyberbullying, the defamatory statements are typically made online, through social media platforms, text messages, or other digital communication channels. While defamation laws may apply in such cases, the speed and reach of online communication make it difficult to effectively address the damage caused by cyberbullying.²²³ Unlike traditional forms of defamation, where the harm is localised and can be addressed through a specific legal process, cyberbullying allows

²²⁰ Omidosu, J. (2023). A social-technical harm-based taxonomy of online hate in South Africa.

²²¹ Reyneke, M.J., & Jacobs, L. (2018). Can legal remedy be used to address bullying and cyberbullying in South African schools? *Polish Journal of Educational Studies*, 71(1), 66-80.

²²² Available at: <https://www.gawieleroux.co.za/blog/understanding-defamation-character> (accessed on 21 October 2024).

²²³ Post, R.C. (1986). The social foundations of defamation law: Reputation and the Constitution. *Calif. L. Rev.*, 74, 691.

perpetrators to rapidly spread harmful content to a wide audience across the globe.²²⁴ This widespread distribution can make it harder to assess the full extent of the harm caused and hold perpetrators accountable. Hate speech, which is prohibited under South Africa's Constitution of the Republic of South Africa, 1996 (the Constitution) and other legislative frameworks, is another area where cyberbullying overlaps.²²⁵ Online platforms often become breeding grounds for hateful and discriminatory speech, and cyberbullying frequently involves targeted harassment based on factors such as race, gender, sexual orientation, or disability. While hate speech laws could be used to address online harassment in some cases, these laws may not fully capture the cyberbullying dynamics, which include anonymity, constant harassment, and the use of digital tools to perpetuate abuse. The legal definition of hate speech in South Africa may not specifically account for the repetitive, pervasive, and often emotionally damaging nature of cyberbullying, leaving a gap in the protection available to victims.

Moreover, harassment laws which are central to addressing online abuse, also fail to address the unique characteristics of cyberbullying. The Harassment Act provides a framework for the victims of harassment. Still, its provisions are often broad and not specifically tailored to address the challenges of digital platforms and online interactions. For instance, cyberbullying often involves multiple forms of communication, including direct messages, social media posts, and video content. The Act's focus on face-to-face interactions and traditional forms of harassment, means that it may not adequately address the virtual spaces where cyberbullying frequently occurs. As submitted, what further complicates this issue is that the South African legal system does not have a specific, standalone law that addresses cyberbullying as a distinct crime. As a result, when cyberbullying cases arise, the legal focus often shifts to broader offenses, like defamation or hate speech, rather than addressing the specific dynamics of online harassment.

²²⁴ Ardia, D.S. (2010). Reputation in a Networked World: Revisiting the Social Foundations of Defamation Law. *Harv. CR-CLL Rev.*, 45, 261.

²²⁵ **Section 16(2)(c)** of the Constitution of South Africa, The right to freedom of expression does not extend to advocacy of hatred that is based on race, ethnicity, gender, or religion, and that constitutes incitement to cause harm

PROPOSED SOLUTIONS AND LEGAL REFORMS

The rapid evolution of technology has given rise to new forms of bullying, such as harassment through social media, texting, or other online platforms, which necessitates clearer legal definitions of cyberbullying and its various forms. By providing specific definitions, the law can more effectively identify what constitutes cyberbullying, making it easier for law enforcement, victims, and the courts to understand and apply. This clarity could cover various forms, such as doxing, trolling, or online shaming, ensuring that legal proceedings are consistent and helping victims seek justice. Moreover, unlike traditional bullying, cyberbullying can occur anonymously and at any time, which makes it more pervasive and harder to stop. Therefore, introducing laws tailored specifically to online platforms is crucial. These laws would address behaviours unique to the digital world, such as creating fake profiles, spreading harmful misinformation, or using bots to harass individuals. Such legal frameworks would bridge the gap between existing laws and the new realities of online behaviour, treating cyberbullying as a serious legal issue with clear consequences. In addition to targeting perpetrators, there is a need to strengthen victim protection laws. Victims of cyberbullying often endure severe emotional and psychological harm, with effects that can last long after the bullying stops. Strengthening victim protection could include measures for the swift removal of harmful content, offering mental health support services, and providing legal avenues for those affected. A focus on the victim's well-being, in conjunction with penalizing perpetrators, would create a more supportive environment for recovery, emphasizing both prevention and care.

The effective enforcement of cyberbullying laws also requires improved strategies, particularly in terms of law enforcement. Many agencies currently lack the necessary training and tools to investigate cyberbullying cases effectively. Providing enhanced training in digital forensics, online behaviour analysis, and the functionalities of online platforms can improve the response to cyberbullying incidents. Additionally, fostering cooperation between social media companies and the authorities is critical for the timely removal of harmful content and the identification of perpetrators, as tech companies often possess the necessary data for investigations. Finally, because cyberbullying is a global issue that transcends national borders, aligning laws with international best practices and global standards is essential. By considering

successful approaches from other countries, nations can adopt the most effective and ethical strategies for combating cyberbullying. This could involve creating internationally recognised guidelines for online behaviour, strengthening cross-border cooperation among law enforcement agencies, and ensuring that laws remain adaptable to the rapidly evolving landscape of technology.

CONCLUSION

In conclusion, the legal gaps identified in the prosecution of cyberbullying highlight significant challenges that hinder effective justice and protection for victims. The lack of clear, consistent legislation, jurisdictional conflicts, and difficulties in defining and proving cyberbullying behaviours make it challenging to hold perpetrators accountable. Moreover, the tension between protecting free speech and safeguarding individuals from harm, adds complexity to the issue. To address these gaps, it is crucial to establish comprehensive, uniform laws that define cyberbullying clearly, ensure consistency in prosecution, and balance the rights of individuals with the need for protection. Strengthening victim support mechanisms, improving evidence-collection methods, and fostering international cooperation are essential steps toward creating a legal framework that effectively tackles cyberbullying. By addressing these legal challenges, societies can ensure more robust prosecution, greater deterrence for perpetrators, and better protection for victims, ultimately fostering safer online environments. There is an urgent need for stronger, more specific legislation to protect victims of cyberbullying and deter perpetrators. Current legal frameworks often fail to provide clear definitions and effective prosecution mechanisms tailored to the complexities of digital harassment. To address this, lawmakers must create comprehensive laws that specifically target cyberbullying behaviours, ensuring that they are aligned with the evolving nature of digital platforms and online communication. Such legislation should define cyberbullying clearly and incorporate provisions for swift and efficient reporting, investigation, and prosecution. Furthermore, these laws must strike a careful balance between protecting individuals from harm and upholding freedom of expression, ensuring that the rights of both victims and individuals are respected. Enhanced penalties for perpetrators, along with measures to safeguard victims, such as counselling and support services, would also be crucial in deterring harmful behaviours and offering victims the help they need.

Strengthening and specifying these laws is vital in ensuring that justice is served, and that cyberbullying is effectively prevented, creating a safer online environment for all.

In final remarks, South African law plays a pivotal role in creating a safer online environment by ensuring that legal frameworks adapt to the ever-changing landscape of digital interactions. While progress has been made with laws such as the Cybercrimes Act, which criminalises various forms of online harm, there is still a need for continuous legal evolution to keep pace with new technologies and emerging forms of cyberbullying. As digital spaces evolve, South Africa must remain proactive in refining its laws to address gaps in cyberbullying protection, ensuring that they are clear, specific, and effective in holding perpetrators accountable. This requires a commitment to balancing protecting individual rights with the need to prevent harm, particularly to vulnerable groups such as children and women. Additionally, there is a need for greater collaboration between legislators, technology companies, and advocacy groups, to ensure that the legal measures are practical and aligned with the realities of the digital age. The ongoing evolution of South African law in this regard is crucial in fostering a safer online environment where victims of cyberbullying can seek justice and perpetrators are deterred. By continuing to update and strengthen legal provisions, South Africa can set a global example of how law can effectively address the challenges posed by the digital age, ensuring that justice, safety, and human dignity are upheld both online and offline.

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External business factors as antecedents to township tourism business performance in South Africa

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ABSTRACT

This paper uses eSikhaleni Township under the City of uMhlathuze Local Municipality as a case study to explore the impact of external business environment factors on township tourism performance. A structured questionnaire was used to collect data from 199 randomly selected registered and non-registered tourism businesses. Logistic regression analysis was used to analyse the data. Drawing from resource dependence theory, three key findings emerged: financial support and skills development are crucial for improved business performance; regulatory issues, especially water and electricity crises, significantly hinder performance; and social factors have minimal impact. Based on the findings, recommendations are made to the municipality decision-makers (business support offices) and key business role players in the study area regarding fostering township entrepreneurship.

Keywords: external business environmental factors, township entrepreneurship, tourism entrepreneurship, logistical regression, sub-Saharan Africa

INTRODUCTION

There is a significant body of evidence indicating that entrepreneurs operating in both the tourism and non-tourism sectors, play a crucial role in driving economic endeavours in both developing and developed nations (Kashkari & Mir, 2022). Particularly, the tourism sector presents a conducive environment for entrepreneurship in townships, fostering local community advancement instead of dependence on large, externally controlled enterprises (Kashkari & Mir, 2022;

Ntshangase, 2022). Despite the acknowledgement of these benefits, many existing research works encounter constraints, such as the challenge of generalising outcomes across diverse geographical areas (Booyens, 2021), notably within the dominion of township tourism entrepreneurship (Subramaniam & Masron, 2022). Given that approximately half of the urban population in South Africa reside in townships (Booyens, 2021), the impact of township tourism on poverty alleviation remains insufficiently explored (Ntshangase, 2022). Critical barriers to township tourism entrepreneurship encompass socio-economic factors like poverty, unemployment, inadequate support structures, power imbalances, and instances of exploitation (Booyens, 2021; Mseleku, 2022; Webb, 2021). Furthermore, challenges related to market entry, distribution networks, and infrastructural deficiencies, such as unreliable utilities and substandard public amenities, pose additional hurdles to business efficacy (Lingwati & Mamabolo, 2023; Ramukumba, 2024; Xulaba & Allen, 2024). Shortcomings in business expertise and competencies also detrimentally affect the success rates of entrepreneurs (Cai et al., 2024; Li et al., 2020). Consequently, there is a pressing need for a fresh framework aimed at economic progress and inclusivity to foster cohesion among South Africans spanning provinces, districts, townships, and rural areas (Oyedemi & Choung, 2020). Nonetheless, scholarly inquiries within this field are limited, particularly in sub-Saharan Africa, underscoring the urgent requirement for localised studies on entrepreneurial activities (Booyens, 2023; Cai et al., 2024). The subsequent section delves into pertinent literature germane to this investigation.

LITERATURE REVIEW AND THEORETICAL UNDERPINNING

Previous studies conducted by Oyedemi and Choung (2023) and Subramaniam and Masron (2023) have significantly contributed to the comprehension of the nexus between entrepreneurship and economic advancement. Recent research suggests that variables such as gender, ethnicity, and geographical location have a notable impact on poverty rates in South Africa (Geza et al., 2022; Masha et al., 2022; Webb, 2021). Moreover, the deficiency in business acumen and mentorship acts as a barrier to many people's engagement in entrepreneurial activities (Masha et al., 2022). Nevertheless, generalising these results to less urbanised and indigenous settings poses a considerable challenge. A considerable number of individuals migrate to urban centres in search of entrepreneurial prospects, due to limited opportunities in

rural and township areas (Geza et al., 2022). Despite the widespread recognition of youth joblessness as a critical issue, there has been a lack of coherent strategies implemented to combat it (Ntshangase & Ezeuduji, 2023). Specialised tourism ventures, such as the promotion of “an authentic South African experience” in townships, have the potential to allure tourists, generate revenue, and establish employment opportunities (Booyens, 2021; Ramukumba, 2024; Sixaba & Rogerson, 2023). However, gender and nationality are pivotal factors in tourism entrepreneurship, particularly with female and foreign national entrepreneurs encountering additional hurdles, especially in the context of the COVID-19 pandemic (Subramaniam & Masron, 2023). Despite acknowledgement of these obstacles, a dearth of research exists exploring their repercussions on the performance of township tourism entrepreneurship in South Africa. The COVID-19 pandemic has changed into a socio-economic conundrum, underscoring the significant role played by township economies in the broader economic landscape of South Africa (Sixaba & Rogerson, 2023; Ntshangase, 2022). Nonetheless, township tourism enterprises, especially those specialising in arts and crafts, have encountered difficulties in recovering due to their informal structure, which blocks access to financial assistance (Mseleku, 2022; Xulaba & Allen, 2024). The financial help that is accessible has proven inadequate for ensuring sustained recovery (Nkonde et al., 2023). Despite the enactment of the Skills Development Act in 1998, skill shortages persist. Prospects exist in tourism-related undertakings like urban agriculture, culinary classes, and cultural engagements (Mokoena & Liambo, 2023). Nonetheless, regulatory restrictions and inconsistent governmental backing across regions impede entrepreneurial endeavours (Ntshangase, 2022; Ntshangase & Ezeuduji, 2023). While the Presidential Youth Employment Stimulus (PYES) strives to diminish youth joblessness, its efficacy remains uncertain (Lingwati & Mamabolo, 2023; Mseleku, 2022).

This study is underpinned by resource dependence theory (RDT). RDT emphasises that organisations depend on external resources for survival and success, making them susceptible to environmental influences and stakeholder dynamics (Jiang, Luo, Xia, Hitt & Shen, 2023; Pfeffer & Salancik, 1978). RDT posits that businesses must strategically manage their dependencies on these resources, including government support, regulatory frameworks, financial support, and infrastructure, to mitigate uncertainty and enhance performance. Thus, according to Biermann and Harsch

(2017), through navigating external constraints and leveraging support mechanisms, organisations can achieve competitive advantages and sustainability. This theory relates directly to the current study, which examines external business factors, such as financial support, regulatory indices, and government assistance, as antecedents of township tourism business performance (Galbraith & Stiles, 1984). The reliance of township tourism businesses on external environmental factors for both financial and non-financial success aligns with RDT's core principle of managing dependencies. For instance, COVID-19 disruptions exemplify resource vulnerabilities, while government support highlights potential mitigating strategies. Thus, RDT provides a robust framework for understanding how township tourism enterprises navigate external constraints to achieve sustainability and performance.

MATERIALS AND METHODS

This study aims to analyse the impact of the selected external environmental business factors on entrepreneurship performance in township tourism, focusing on eSikhaleni Township within the City of uMhlathuze Local Municipality (MLM). The MLM is classified as a category B municipality under the jurisdiction of the King Cetshwayo District Municipality (KCDM) in KwaZulu-Natal. Following Chapter 7, section 155 of the South African Constitution, a category B municipality shares legislative and executive authority with a category C municipality within its boundaries. It is the largest municipality in the district, comprising 34 wards and ranking as the third largest economic hub in the province after eThekweni and Msunduzi Municipalities. The economy of this municipality is heavily reliant on manufacturing, mining, financial services, community services, transportation, trade, and agriculture. However, there is significant potential for growth in the tourism sector, particularly eco-tourism, due to the natural resources such as game reserves, accommodation facilities, restaurants, and recreational amenities available in the area.

DATA COLLECTION, SAMPLING AND SAMPLE SIZE

In total, 322 questionnaires were distributed. After the data was cleaned, 199 questionnaires from the study were usable for analysis. Since it was so difficult to persuade managers and owners of businesses to fill out study questionnaires, the sample size could not be increased. Respondents were randomly surveyed in MLM eSikhaleni Township at their formally registered and unregistered tourism businesses

using non-probability sampling. The study surveyed 32 formal and 167 informal tourism businesses, relying on a non-probability sampling approach. Despite this, the sample was deemed adequate to address the research objectives, given the relatively small number of tourism entrepreneurs in the area compared to larger cities like Durban or Richards Bay in KwaZulu-Natal, South Africa. In some locations, researchers collaborated with business owners to distribute and collect questionnaires biweekly. In others, researchers directly administered the questionnaires, either waiting for completion or assisting respondents by reading questions aloud or recording their answers.

The respondent's profile (a category variable) was one of the questionnaire's variables in section 1. Section 2 measured external business characteristics that were found to be antecedent variables to township business performance to determine how they might affect the success of tourism-related businesses. These variables are all ordinal and include the following: "COVID-19 pandemic," "financial support index," "social index," "skills development index," "regulatory index," "utility index," and "government support index," in that order. Both "financial" and "non-financial performance" are used as metrics to assess the performance of the tourism industry. The literature review for this paper is where the ordinal variables come from. Given that the dependent variable in this study is binary, the binary logistic regression statistical method used is highly relevant (Long & Freese, 2006).

From the survey instruments, the evaluation of entrepreneurship in township tourism was represented through individual perspectives. Subsequently, the collected responses were categorized into five main groups: 0 indicating neutrality, 1 representing mostly disagreement, 2 signifying strong disagreement, 3 denoting a combination of mostly agreement, and 4 indicating strong agreement. A logistic model in ascending order was then computed using the maximum likelihood estimator with resilient standard deviations to address the potential presence of heteroscedasticity in the errors due to the utilisation of survey data collected at a specific point in time. Following the distribution of surveys, the research retained 199 valid data points post data cleansing, a sample size deemed adequate for making statistical conclusions (McCullagh, 1980). The logistic regression analysis was carried out at a confidence level of 95%. Various regression models were examined beginning with a concise specification involving two categorical variables, gender and nationality (refer to Table

2). Subsequent models introduced composite indices incorporating external elements such as financial aspects, skills enhancement opportunities, regulatory frameworks, utility services, and governmental backing in a progressive manner.

RESULTS AND DISCUSSION

The respondents' profile is displayed in Table 1.

Table 1: Respondent's Profile (n=199)

Variable	Category	%
"What is your nationality?"	"South African"	60.7
	"Non-South African"	39.3
"What is your gender?"	"Male"	48.2
	"Female"	51.8
"Do you perceive township entrepreneurship important?"	"Yes"	73.7
	"No"	26.3
"What is your employment status?"	"Employed"	32.4
	"Non-employed"	67.2
"How satisfied are you with your business performance?"	"Highly satisfied"	8.1
	"Mostly satisfied"	23.9
	"Neutral"	23.1
	"Mostly dissatisfied"	26.3
	"Highly dissatisfied"	18.6
"Number of years in the business"	"1 – 3 years"	35.6
	"4 – 6 years"	38.5
	"7 – 9 years"	18.6
	"10 years and above"	7.3

Most respondents (60.7%) were South Africans, with women accounting for almost 52% of the sample. The majority (73.7%) say tourism entrepreneurship is important, yet almost 67% reported being unemployed. Approximately 44.9% of business owners reported unhappiness with their business's performance, while only 32% were satisfied. Descriptive results show that almost 74.1% of respondents had more than five years of experience in township tourism-related firms, while around 25.9% had more than seven years of experience in township settings. The issue of gender and nationality exclusion in entrepreneurship remains substantial (Figuroa-Domecq et al., 2023) and requires urgent consideration. Table 2 shows parameter estimates, odds ratios, and confidence intervals.

Table 2: Displaying parameter estimates, odds ratio and confidence intervals

Variables	Odds ratio	95% Confidence interval for odds Ratio		Sig.	95% Confidence interval for the estimate	
		2,5	97,5		Lower limit	Upper limit

“Gender”	0,457	0,2602	2,7787	***	-1,3465	-0,2175
“Nationality”	0,370	0,1980	2,7056	***	-1,6192	-0,3688
“COVID-19 dummy”	0,846	0,6017	3,2780		-0,5080	0,1740
“Financial support index”	1,059	0,8601	3,5481		-0,1508	0,2648
“Skill Development index”	1,008	1,0056	2,7442	***	0,0055	0,0095
“Regulatory index”	0,882	0,8688	2,4551	***	-0,1407	-0,1093
“Utility index”	0,670	0,5200	2,5155	***	-0,6538	-0,1482
“Government Support index”	1,850	0,6494	18,1070		-0,4316	1,6616
Cut1	0,006	0,0006	11,0396	***	-7,4511	-2,6609
Cut2	0,025	0,0024	10,4768	***	-6,0296	-1,3804
Cut3	0,055	0,0055	10,4624	**	-5,2012	-0,6148
Cut4	0,245	0,0384	8,1403		-3,2602	0,4442
Observation	199	199	199	199	199	199

Notes: “Sig.=Significance; Cut 1-4 =Constant cut; *** p<0.01, ** p<0.05, * p<0.1”

Cai et al. (2024) found substantial performance differences by “gender and nationality in township tourism entrepreneurship”. In this paper, female business ownership has ‘negative coefficients ranging from -1.3465 to -0.2175, corresponding to odds ratios of 0.2602 and 2.7787’, respectively, indicating lower performance levels, consistent with previous findings (Figueroa-Domecq et al., 2023; Ngumbela, 2023; Quaglia & Verdun, 2023; Yang et al., 2024). Non-South African ownership likewise has ‘negative coefficients ranging from -1.6192 to -0.3688, with odds ratios between 0.1980 and 2.7056’, indicating inferior performance. The COVID-19 pandemic has a considerable impact on performance, with ‘coefficients ranging from -0.5080 to 0.1740 and odds ratios of 0.6017 and 3.2780’, supporting the findings of Quaglia and Verdun (2023) and Yang et al. (2024). Financial assistance is crucial, with ‘coefficients ranging from -0.1508 to 0.2648 and odds ratios of 0.8601 and 3.5481’, which are consistent with current research (e.g., Zhang, 2023; Li, 2022). Skill development is positively connected with improved performance, with ‘coefficients ranging from 0.0055 to 0.0095 and odds ratios of 1.0056 and 2.7442’, indicating its critical role in entrepreneurship success (Mogamedi & Sithole, 2020; Tleuberdinova et al., 2021). The

study found that regulatory factors, with 'coefficients ranging from -0.1407 to -0.1093 and odds ratios of 0.8688 and 2.4551', have a negative impact on township tourism entrepreneurship, reflecting the distortionary effects of taxes and complex registration processes (Nkonde et al., 2023). The utility index, which measures water crises and power outages, has 'coefficients ranging from -0.6538 to -0.1482 and odds ratios of 0.5200 and 2.5155', supporting the negative impact of infrastructure concerns on corporate performance (Xulaba & Allen, 2023). However, government support is statistically insignificant, with 'coefficients ranging from -0.4316 to 1.6616 and odds ratios of 0.6494 and 18.1070', demonstrating insufficient evidence of its impact (Ntshangase, 2022). While this finding may appear odd at first look, it roughly and partially alleviates inefficiencies often linked to state interventions to promote enterprises.

CONCLUSIONS

Three main conclusions arise from the estimation overall. The primary one highlights the significance of financial aid and skills development initiatives as crucial drivers of enhanced performance. Particularly skills development programmes seem to exert a more substantial influence on performance compared to access to funding. The second observation reveals the adverse effects of regulatory constraints, water shortages, and electricity crises on the performance of entrepreneurship in townships. Drawing from these findings, recommendations are put forth for various stakeholders, such as academic professionals in tourism, decision-makers within the City of uMhlathuze Local Municipality, tourism entrepreneurs in the study area, and Tourism KwaZulu-Natal. The suggestions aim to promote entrepreneurship in township tourism by emphasising improved financial support strategies, skill enhancement initiatives, regulatory reforms, and access to essential services like electricity and water. To help township tourism entrepreneurs overcome external challenges and enhance business performance, workshops on entrepreneurial education and mentorship programmes can be conducted.

LIMITATIONS AND FUTURE RESEARCH

This study acknowledges certain limitations related to the description and categorisation of the surveyed tourism businesses. While the sample comprised formally registered and unregistered tourism-related businesses, detailed distributions

of the types of businesses (e.g., taxi services, food outlets, arts and crafts sellers) were not recorded. Similarly, the specific roles of respondents within these businesses, such as owners, managers, or employees, were not captured. This gap limits a deeper understanding of the business landscape and respondent profiles, which could have provided richer insights into the dynamics of the tourism sector in the study area. Furthermore, this study is limited by a small sample size of 199 tourism entrepreneurs and its focus solely on one township. Future research should aim to address these aspects for a more comprehensive analysis. To enhance the accuracy of results within the South African context, future research should encompass samples from diverse townships. It is important to recognise that the conclusions of this study are confined to the township's tourism business owners under review and are not broadly generalisable.

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Analysing the influence of technology transfer on SMEs' competitiveness: The mediating effect of innovation in SMEs

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ABSTRACT

This study aims to analyze the influence of technology transfer on the competitiveness of Small and Medium-sized Enterprises (SMEs) with a specific focus on the mediating effect of innovation. Technology transfer plays a crucial role in enhancing SMEs' capabilities and competitiveness in a globalized market. The research employs quantitative surveys to gather data from a diverse sample of SMEs across different industries. The findings shed light on the technology transfer that had a positive impact on SMEs' competitiveness, signifying that adopting new technologies improves their performance. Additionally, innovation in SMEs was crucial for enhancing competitiveness, acting as a moderator in the relationship between technology transfer and SMEs' performance. The study recommended establishing specialized training and technical assistance programs to build the technical and managerial capabilities of SMEs. Equipping them with the necessary skills to effectively utilize transferred technologies and implement innovative solutions will enhance their competitiveness. The results offer valuable insights for policymakers, business owners, and industry practitioners seeking to promote SME growth and sustainable development through effective technology transfer strategies.

Keywords: technology transfer, SMEs, competitiveness, innovation, mediating effect, global market, sustainable development

JEL Codes: O33, L25, M13

BACKGROUND

In recent years, South Africa has experienced notable economic growth, solidifying its position as one of the fastest-growing economies in Africa (Nwobu, 2023). This growth has been driven by a strong emphasis on entrepreneurship and innovation, as the country adapts to the rapidly evolving global economy. Small and Medium-sized Enterprises (SMEs) have assumed a pivotal role as the backbone of the South African economy, making substantial contributions towards addressing societal challenges, fostering entrepreneurship, and driving innovation (Fomum & Opperman, 2023). According to the National Development Plan, SMEs are expected to generate 90% of new jobs in the country by 2030 (Blom, 2021). However, SMEs in South Africa face various challenges, including limited access to finance, skills, innovation, and technology (Rens, Iwu, Tengeh & Esambe, 2021). A critical obstacle for SMEs is their limited ability to adopt and adapt to new technologies and innovative practices (Fahad, Alnori, Su & Deng, 2022). Surprisingly, a recent survey by the World Bank in 2020 revealed that only 6% of South African SMEs have implemented digital technologies (Rajagopaul, Magwentshu & Kalidas, 2020). Additionally, in another survey of South African SMEs, only 35% reported introducing new products or services in the past three years, and merely 28% invested in research and development (Matekenya & Moyo, 2022). These statistics underscore the insufficient adoption and adaptation of new technologies and innovative practices by SMEs in the country. Consequently, this lack of access to technology hampers SMEs' ability to innovate and compete with larger companies, that typically have access to more advanced technology. The resulting limitations can significantly impact the productivity, quality, and overall competitiveness of SMEs, hindering their growth and expansion.

Technology transfer and innovation offer promising solutions to enhance SMEs' productivity, quality, and competitiveness, enabling them to access new markets and create fresh job opportunities (Chege & Wang, 2020). However, SMEs often lack the necessary resources, expertise, and networks to acquire and adopt these new

technologies and innovative practices effectively (Petruzzelli, Murgia & Parmentola, 2022). The potential benefits of technology transfer and innovation for SME competitiveness are evident, but there are significant challenges hindering their full exploitation (Giudice, Scuotto, Papa, Tarba, Bresciani & Warkentin, 2021). Limited access to finance, skills, and networks, coupled with a lack of awareness regarding the advantages of technology transfer and innovation, pose significant barriers for SMEs (Mancini & González, 2021). This presents a pressing problem, as SMEs are vital for the economic growth and development of South Africa. While previous studies have explored the link between technology transfer and the performance of large corporations and multinational companies, there remains a gap in research concerning the specific impact on SME competitiveness (Chege & Wang, 2020; Davcik, Cardinali, Sharma, & Cedrola, 2021). SMEs face unique challenges due to their limited resources, restricted access to expertise, and constrained capabilities for technology absorption (Chandavarkar & Nethravathi, 2023). Therefore, understanding the relationship between technology transfer and SMEs' competitiveness is crucial in devising targeted strategies that can empower small businesses and foster economic growth in South Africa.

Innovation in SMEs serves as a critical factor that can moderate the relationship between technology transfer and competitiveness (Abdurazzakov, Illés, Jafarov, & Aliyev, 2020). Innovation refers to the ability of SMEs to develop and implement novel ideas, products, services, or processes that create value for their customers and differentiate them from competitors (Farida & Setiawan, 2022). When SMEs effectively integrate technology transfer with their innovative practices, they can optimize the benefits derived from new technologies and gain a stronger competitive edge. Despite the acknowledged importance of technology transfer and innovation, the mediating role of innovation in enhancing SMEs' competitiveness through technology transfer remains underexplored. Previous research has primarily focused on the direct effects of technology transfer or innovation on competitiveness, without adequately addressing the intermediary processes that link these elements. Understanding how innovation mediates the relationship between technology transfer and SMEs' competitiveness is crucial for developing effective strategies to support SMEs in leveraging technology for competitive advantage.

This study aims to fill this gap by analyzing the influence of technology transfer on SMEs' competitiveness, with a particular focus on the mediating effect of innovation. By examining this relationship, the study seeks to provide a comprehensive understanding of how SMEs can utilize technology transfer and innovation to enhance their competitive position in the market. This research is particularly relevant in the context of rapid technological advancements and the increasing globalization of markets, which demand that SMEs continuously innovate to stay competitive.

LITERATURE REVIEW

Theoretical underpinnings

The theoretical underpinnings of this study are based on the literature on technology transfer, innovation, and entrepreneurship in SMEs. The study draws on the Resource-Based View (RBV) of the firm, which emphasizes the importance of firm-specific resources and capabilities in creating and sustaining a competitive advantage (Donnellan & Rutledge, 2019). The RBV suggests that SMEs can enhance their competitiveness by acquiring and leveraging new technologies and innovative practices through entrepreneurship (Singh, Giudice, Jabbour, Latan & Sohal, 2022). Moreover, the study employs the Technology Acceptance Model (TAM), which posits that the adoption and utilization of technology depend on the perceived usefulness and ease of use of the technology (Alsyouf, Lutfi, Alsubahi, Alhazmi, Al-Mugheed, Anshasi & Albugami, 2023). The TAM also suggests that the social and organizational context of technology use can influence its acceptance and adoption (Katebi, Homami & Najmeddin, 2022). Finally, the study is informed by the Entrepreneurial Ecosystem approach, which emphasizes the role of external stakeholders such as policymakers, investors, and support organizations in creating an enabling environment for entrepreneurship and innovation. The Entrepreneurial Ecosystem approach suggests that a supportive ecosystem can facilitate the adoption and adaptation of new technologies and innovative practices in SMEs.

Technology transfer and innovation in SMEs

Technology transfer and innovation play a crucial role in the growth and development of SMEs. Technology transfer refers to the process of sharing and disseminating

knowledge, skills, and technology from one organization or individual to another (Scarrà & Piccaluga, 2022). Innovation, on the other hand, involves the creation, development, and implementation of new ideas, products, services, and processes (Chen, Walker & Sawhney, 2020). For SMEs, technology transfer and innovation can improve their productivity, quality, and competitiveness, enabling them to access new markets and create new job opportunities. However, SMEs often face several challenges in adopting and adapting new technologies and innovative practices. These challenges may include limited access to finance, skills, and technology, as well as the lack of resources, expertise, and networks to acquire and adopt new technologies (Dredge, Phi, Mahadevan, Meehan & Popescu, 2019).

Technology transfer in SMEs: Technology transfer involves the transfer of knowledge, skills, and technology from one organization or individual to another (Hilkenmeier, Fichtelpeter & Decius, 2021). For SMEs, technology transfer is critical for their growth and development as it provides access to new knowledge and technology that can improve their products and services' quality and reduce costs. However, SMEs face several challenges in adopting and adapting to new technologies. These challenges may include the lack of resources, expertise, and networks to acquire and adopt new technologies (Scarrà & Piccaluga, 2022). Moreover, SMEs may lack the appropriate legal frameworks and policies to protect their intellectual property and facilitate technology transfer. According to Messeni Petruzzelli, Murgia, and Parmentola, (2022) technology transfer can help SMEs overcome their limited access to sources and skills and obtain the necessary technology and knowledge sharing. Technology transfer is the movement of the ability to apply a technology from one individual or group to another, as defined by Mansur (2022). This transfer is confirmed through the demonstration of performance against agreed-upon requirements.

Innovation in SMEs: Innovation practices are driven by the desire for improved performance and reimbursement within enterprises (Hilkenmeier, Fichtelpeter & Decius, 2021). These practices involve making modifications to the enterprise's operations in order to achieve better performance. For SMEs, innovation can be a means to differentiate themselves from competitors, introduce new products and services, and enter new markets (Scarrà & Piccaluga, 2022). Innovation is critical for the survival and growth of enterprises, as it supports expansion and enhances future

success (Adam & Alarifi, 2021). In SMEs, innovation often refers to the development of new products or processes that better meet customer needs and increase profitability. However, SMEs face challenges in terms of resources and capabilities for research and development, as well as access to funding and expertise. Additionally, creating a culture of innovation and balancing the need for innovation with day-to-day operations can also be difficult. According to Zhang, et al. (2018) efforts to develop innovations are a key factor in improving the financial indicators of SMEs, and previous studies have also shown a positive correlation between innovation capabilities and SME performance.

Despite the challenges associated with technology transfer and innovation in SMEs, several opportunities exist for SMEs to engage in these activities. One opportunity noted by Journeault, Perron, and Vallières (2021); is the development of partnerships and collaborations between SMEs and larger firms or research institutions. These collaborations can provide SMEs with access to new technologies, expertise, and funding. Another opportunity is the creation of incubators, accelerators, and other support programs for SMEs, which can provide access to resources, training, and networks to facilitate technology transfer and innovation. Moreover, the emergence of digital technologies and the increasing use of open innovation approaches present new opportunities for SMEs to access new knowledge and technology and develop innovative products and services (Jabeen, Belas, Santoro & Alam, 2023).

Drivers of technology transfer and innovation in SMEs

There are several drivers of technology transfer and innovation in SMEs. Firstly, competition is a significant driver of innovation and technology transfer in SMEs (Meijer, Huijben, Van Boxstael & Romme, 2019). SMEs often face intense competition, and to remain competitive, they must innovate and develop new technologies or products. Innovation can help SMEs differentiate themselves from competitors, attract new customers, and retain existing ones (Wendt, Adam, Benlian & Kraus, 2021). Secondly, Prasanna, Jayasundara, Gamage, Ekanayake, Rajapakshe and Abeyrathne (2019) assert that access to financing and resources is critical for SMEs to invest in innovation and technology transfer. SMEs may face challenges in obtaining funding due to their size, lack of collateral, or risk profile. However, access to financing can enable SMEs to invest in research and development, hire skilled staff, and acquire

new technologies. Thirdly, collaboration and partnerships are important drivers of technology transfer and innovation in SMEs (Hilkenmeier, Fechtelpeter & Decius, 2021). Collaboration can help SMEs access new markets, share knowledge and expertise, and develop new technologies or products. Collaborations with universities or research institutions can also enable SMEs to leverage academic expertise and resources.

Fourthly, regulatory frameworks and policies can drive technology transfer and innovation in SMEs (Besednjak, Valič, Kolar & Lamut, 2022). Governments may offer tax incentives, grants, or other financial support to SMEs engaged in research and development. Policies that promote technology transfer, such as intellectual property protection and technology licensing, can also encourage SMEs to innovate. Lastly, leadership and culture play a significant role in driving technology transfer and innovation in SMEs (Belitski & Liversage, 2019). A culture of innovation, where employees are encouraged to generate and implement new ideas, can promote creativity and drive innovation. Effective leadership can create an environment that fosters innovation and provides the necessary resources and support for SMEs to invest in research and development.

Barriers to technology transfer and innovation in SMEs

There are several barriers that are faced by SMEs in implementing technology transfer and innovation. Among the other barriers that SMEs face are lack of finance to invest in research and development and the high cost of developing their products (Chege & Wang, 2020). Research and development may improve the SMEs' competitiveness and place the SMEs in a better position to improve their traditional products and create new ones to outperform competitive advantage (Nguyen, Tran, Nguyen & Truong 2021). Hence, having information about what is needed by customers through research and development may result in SMEs meeting their customers' demands (Chaithanapat & Rakthin, 2021). However, SMEs may have limited access to specialized skills, the knowledge required for innovation and technology transfer and the necessary resources to hire or train employees to acquire expertise in research and development, which may then restrict their ability to innovate and transfer technology.

On the contrary, intellectual property (IP) protection has been noted to be another barrier to technology transfer and *innovation* in SMEs (Alkhazaleh, Mykoniatis & Alahmer, 2022). This is because SMEs lack the resources to obtain IP protection for their products or technologies, making them vulnerable to imitation and theft by larger competitors, While IP protection assists SMEs by preventing their competitors from using their innovative ideas, which would result in an enhanced market share. The study by Bigliardi, Ferraro, Filippelli and Galati, (2020) emphasized the importance of licensing innovations, when entering new markets. This increases their customer base and leads to sustainable growth. This is because technology transfer can arise through licensed agreements, which equips the business with the right to use technology tools and develop their products under certain conditions. Nonetheless, lack of awareness limits the SMEs potential to take advantage of such tools (Alkhazaleh et al. 2022). Furthermore, Henriques, Viseu, Neves, Amaro, Gouveia, and Trigo (2022) noted that regulatory frameworks and policies can act as a barrier to technology transfer and innovation in SMEs. The rules and regulations that SMEs need to comply with in South Africa are complex and costly (Naicker, & Rajaram, 2019). According to Nieuwenhuizen (2019) in the study of rules and regulations pertaining to South African small businesses, she mentioned that SMEs in South Africa struggle with excessive red tape and compliance requirements related to labour laws, taxes, legalities, government regulations and support for start-ups. These factors make it difficult for SMEs to develop and market new products or technologies. In addition, these are all barriers hindering SMEs' potential to establish collaborations and partnerships, which can be an important driver of technology transfer and innovation.

The role of entrepreneurship in technology transfer and innovation

Entrepreneurship plays a critical role in technology transfer and innovation. Entrepreneurs are often the driving force behind the development and adoption of new technologies, as they identify market opportunities and take risks to bring new products and services to market (Astrini, Rakhmawati, Sumaedi, Bakti, Yarmen & Damayanti, 2020). Entrepreneurs are also essential for the commercialization of new technologies. They have the skills and knowledge to bring together different stakeholders, such as investors, researchers, and potential customers, to create new products or services based on innovative technologies (Leonidou, Christofi, Vrontis & Thrassou, 2020). Moreover, entrepreneurs can help to bridge the gap between

research institutions and industry by identifying and exploiting opportunities for technology transfer. By doing so, they can help to commercialize research outcomes and generate economic growth (Maphumulo & Nel, 2019). In addition, entrepreneurship can help to address some of the barriers to technology transfer and innovation faced by SMEs. Entrepreneurs often have the necessary skills and knowledge to access funding and establish collaborations with other businesses or research institutions (Shkabatur, Bar-El & Schwartz, 2022). They can also help to establish a culture of innovation within SMEs, promoting the adoption of new technologies and the development of new products and services (Chege, Wang & Suntu, 2020).

METHODOLOGY

The study adopted a survey research design, which allowed for the collection of quantitative data from a large sample of SMEs. A cross-sectional design was also used, which involved collecting data at a single point in time. The owners and managers of all SMEs in the eThekweni area that fell under the jurisdiction of the Durban Chamber of Commerce and Industry (DCCI) were the target. The SMEs included a wide variety of businesses, including those in manufacturing and the retail sector. Since there were many SMEs in Durban, the manufacturing and retail sectors made up the population that was targeted. More than 700 SMEs in the province of KwaZulu-Natal were members of the DCCI and SEDA (Msomi, 2021). Both of these agencies worked with Durban's small businesses. The study concentrated on SMEs in the Central Business District (CBD) of Durban. Stratified random sampling was used to select SMEs.

The study used a population of 700 SMEs as the basis for selecting a sample size of 220, utilizing a formula for calculating sample size recommended by Yamane (Msomi & Ntuli 2024). The sample size of around 200 individuals was chosen using purposive sampling, which enabled the researcher to select an appropriate representation of SME owners. The survey was sent out to owners or managers found in the DCCI database using QuestionPro software. The questionnaire was accessed online via a link provided in the email. Reminders were sent out in the event of an unsatisfactory answer, or no response having been received after a week had passed since the delivery of the questionnaire. A total of 328 individuals received the questionnaires,

with 213 respondents filling out and returning the questionnaires. Five surveys were invalid, as they had not been completed correctly. For the purposes of the research, the remaining 323 surveys, accounting for a 94% response rate, were assigned codes and evaluated. To ensure its validity and reliability, the questionnaire was pre-tested with a small sample of SMEs. The study adhered to ethical principles, including informed consent, confidentiality, and the protection of the participants' privacy. The Statistical Package for the Social Sciences (SPSS) was used for the data to be coded and analyzed. In this study, the data processing was carried out using SMART PLS 3.2.8, while SPSS version 25.0 was employed for other data analysis tasks.

RESULTS AND DISCUSSIONS

The EFA was employed to examine the data and establish the underlying factor structure of the variables used in this study. Principal Component Analysis (PCA) was instrumental in determining the factors to be extracted for the measured variables (Ganiyu, Derera, Fields & Atiku, 2020). Through the EFA, the factors that exhibited strong associations during the factor extraction process were identified. Items with loadings of .40 or higher were retained for further analysis in this study. To ensure an adequate sample size, the Kaiser-Meyer-Olkin (KMO) measure was employed. A KMO value of 0.5 is considered to be the threshold, values between 0.5 and 0.7 are considered mediocre, values between 0.7 and 0.8 are considered good, values between 0.8 and 0.9 are considered of great value, and values above 0.9 are considered excellent (Ganiyu et al. 2020). Furthermore, the reliability of the research instrument was assessed using Cronbach's alpha coefficient test of reliability. Table 1 presents the results obtained from the PLS algorithms, including factor loadings, Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE).

Table 1: Factor loadings, Cronbach's Alpha, composite reliability, and EVA

Variables	Factor loading	Cronbach's alpha	Composite reliability	AVE
<i>Technology Transfer</i>		0.887	0.917	0.689
TT	0.754			
TE	0.839			
TTI	0.816			
TTE	0.905			
TIC	0.831			

<i>Innovation in SMEs</i>		0.765	0.855	0.665
IN		0.720		
IC		0.802		
CT		0.913		
<i>Competitiveness of SMEs</i>		0.885	0.916	0.685
CS1	0.842			
CS2	0.827			
CS3	0.767			
CS4	0.844			
CS5	0.855			

Source: Field Survey, (2024)

The results presented in Table 1 offer insights into the reliability and validity of constructs measured in this study, which focuses on technology transfer, innovation in SMEs, and the competitiveness of SMEs. The table includes factor loadings for each item, Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE) for the constructs. Technology transfer demonstrates strong internal consistency and reliability, as indicated by a high Cronbach's alpha of 0.887 and composite reliability of 0.917. The factor loadings for its indicators (TT, TE, TTI, TTE, and TIC) range from 0.754 to 0.905, all above the acceptable threshold of 0.7, suggesting that each item is a good measure of the construct. The AVE of 0.689, which is above the 0.5 threshold, indicates a good level of convergent validity, meaning that the items collectively capture a substantial portion of the construct's variance. Innovation in SMEs also shows good reliability, with a Cronbach's alpha of 0.765 and composite reliability of 0.855. The factor loadings for its indicators (IN, IC, and CT) range from 0.720 to 0.913, again exceeding the 0.7 threshold and indicating strong individual item reliability. The AVE of 0.665 further supports the convergent validity of the construct, ensuring that the measured items adequately reflect the construct of innovation within SMEs.

The competitiveness of SMEs is similarly reliable, with a Cronbach's alpha of 0.885 and composite reliability of 0.916. Its indicators (CS1, CS2, CS3, CS4, and CS5) have factor loadings between 0.767 and 0.855, consistently above 0.7, which signifies that each item is a robust indicator of the competitiveness construct. An AVE of 0.685 confirms good convergent validity, highlighting that the construct is well-represented by its items. The constructs of Technology Transfer, Innovation in SMEs, and the

Competitiveness of SMEs exhibit strong internal consistency, reliability, and convergent validity, as evidenced by a high Cronbach's alpha, composite reliability, and AVE values, along with significant factor loadings. These results suggest that the measures used in the field survey are both reliable and valid for assessing the respective constructs of SMEs.

Convergent validity

Convergent validity, according to Schaufeli, Desart and De Witte (2020), is the extent to which items assessing the same concept agree. The inspection of variance that was extracted for each factor was used to evaluate the evidence of convergent validity. According to Al-Okaily, Alqudah, Matar, Lutfi and Taamneh (2020) if the variance-extracted value is more than 0.50, convergent validity is demonstrated. Results showed that the variance extracted ranged between 0.665 and 0.689 (see Table 1), which satisfies Al-Okaily, et al's. (2020) convergent validity criterion. The outcomes demonstrate the scale's convergent validity.

Discriminant validity

The degree to which one construct differs from the other constructs in the model is known as discriminate validity (Rashid, 2020). Similar to Al-Okaily, et al. (2020) this, proposed that the correlations between the latent variables should be smaller than the "square root" of the AVE of each latent variable. The test proposed by Fornell and Larcker, in which the pair-wise correlations between components obtained were compared with the variance-derived estimates for the constructs constituting each potential pair, was used to evaluate discriminant validity. When constructs have an AVE loading of more than 0.5, which indicates that the concept captured at least 50% of the measurement variance, the discriminating validity is satisfactory (dos Santos & Cirillo, 2023). Additionally, if the diagonal values are considerably greater than the off-diagonal values in the respective rows and columns, discriminating validity is established. The square root of the AVE score for each build is represented by the diagonal elements. According to dos Santos and Cirillo (2023), the square root of the AVEs is more than the square correlations for all of the constructs, showing discriminant validity. The result shown in Table 2 demonstrates sufficient discriminant validity because certain items load more heavily than others when used independently.

Structural model analysis

A PLS path model consists of two components. The first is a measurement model that links the observable variables to their latent variables. A structural model connecting specific endogenous latent factors (technology transfer) to other latent variables (competitiveness of SMEs) is the second component. The structural model is also referred to as the inner model, and the measurement model as the outer model (Purwanto, 2021). The Partial Least Squares (PLS) approach computes path coefficients to assess structural models because regularly distributed data is not necessary for PLS. The average variance is calculated and assessed using an R-squared computation for dependent latent variables (Hayes, 2021).

How well the model matches the relationship of the squared multiple correlations (R^2) for each dependent construct in the model, is the first thing that PLS provides. The R-square calculates the percentage of a construct's variation that can be explained by the model. The ability of the model to predict its display variables from the indirectly related latent variables, or redundancy index, can be used to evaluate the quality of the structural model for each endogenous block (Michira, Njeru & Memba, 2021). Prediction-oriented measures like R-square are used to assess PLS models because the goal of PLS is to maximize the variance explained rather than fit. The statistical significance of each path coefficient is assessed using a bootstrapping approach with 1000 sub-sample recommendations. F-square values larger than or equal to 0.02 are thought to be little; larger than or equal to 0.15 are thought to be medium, and larger than or equal to 0.35 are thought to be high. The hypothesized path coefficients and their bootstrap, or "t" values, are presented in Table 3.

Table 2: Results summary for reflective outer models

	TT, IS, and CS	TT	IS	CS
TT, IT, and CS	1.000			
Innovation in SMEs (IT)	-0.116	0.815		
Technology Transfer (TT)	-0.286	0.594	0.830	
Competitiveness of SMEs (CS)	0.003	0.492	0.512	0.828

Source: Field survey, (2024)

N = (320)

The study sought to establish the relationship between technology transfer and the competitiveness of SMEs by using path analysis, as shown in Table 3. From the results, a unit change in technology transfer brings about a 0.388 change in the competitiveness of SMEs, holding other variables constant. The causal relationship between technology transfer and the competitiveness of SMEs was significant with ($t = 5.754, p = 0.000$). This shows that technology transfer has a significant effect on enterprise performance. Therefore, the study rejects the null hypothesis which states that technology transfer has no significant effect on the competitiveness of SMEs. Referring to Table 3, 0.136 is the f square value. To interpret this, we say technology transfer has a small effect size of 13.6 percent on the competitiveness of SMEs.

Table 3: Path coefficients along with their bootstrap values, ‘t’ values

	Original Sample (Beta)	Sample Mean (M)	Stand Dev	T Statistic (O/STERR)	P-values	f-Square	Decisions
Technology Transfer -> Competitiveness of SMEs	0.388	0.386	0.067	5.754	0.000	0.136	Supported
Innovation in SMEs -> Competitiveness of SMEs	0.278	0.286	0.062	4.488	0.000	0.075	Supported
TT, IS, and CS -> Competitiveness of SMEs	0.118	0.117	0.034	3.465	0.001	0.029	Supported

Source: Field survey, (2024) N = (320)

The results of the previous empirical research are in agreement with those of Groenewald, Nieuwenhuizen, and Schachtebeck, (2019); For example, Saragih, Tarigan, Pratama, Wardati, and Silalahi's, (2020). studies on the relationship between technology transfer and firm performance revealed that a significant and positive relationship exists between technology transfer (innovativeness, pro-activeness, and risk-taking propensity) and firm performance. Furthermore, the study sought to establish the relationship between innovation in SMEs and the competitiveness of SMEs by the use of path analysis, as shown in Table 3. From the results, a unit change in innovation in SMEs brings about a 0.278 change in the competitiveness of SMEs, holding other variables constant. The causal relationship between innovation in SMEs and the competitiveness of SMEs was significant with ($t = 4.488, p = 0.000$). This

indicates that innovation in SMEs has a significant effect on enterprise performance. Therefore, the study rejects the null hypothesis which states that innovation in SMEs has no significant effect on small enterprise performance. The value of the f square is 0.075, according to Table 3. In light of this, we infer that innovation in SMEs has a small effect size of 7.5 percent on the performance of small enterprises.

Lastly, the study sought to determine the moderating role of innovation in SMEs on the effect of technology transfer on enterprise performance. According to the findings, a change in innovation in SMEs causes a 0.118 change in technology transfer and the competitiveness of SMEs, while all other variables remain constant. The moderating role of innovation in SMEs on the effect of technology transfer on competitiveness of SMEs was significant with ($t = 3.465, p = 0.001$). This shows that the moderating role of innovation in SMEs significantly influences the effect of employee technology transfer. As a result, the study rejects the null hypothesis which states that innovation in SMEs has no significant moderating effect on technology transfer and the competitiveness of SMEs. According to Table 3, the f square has a value of 0.029. The results infer that innovation in SMEs as a moderating variable has a small effect size of 2.9 percent on the relationship between technology transfer and the competitiveness of SMEs.

CONCLUSION, IMPLICATION AND RECOMMENDATIONS

This research paper aimed to investigate the relationship between technology transfer and the competitiveness of SMEs, with a focus on the moderating role of innovation in SMEs. The study employed EFA and PCA to establish the underlying factor structure of the variables used in the study. Through these analyses, factors with strong associations were identified and retained for further analysis. The results demonstrated the scale's reliability and validity. The Cronbach's alpha coefficients indicated a high level of internal consistency for each construct, suggesting that the measurement items effectively measured the intended variables. Convergent validity was confirmed, as evidenced by the variance-extracted values exceeding the threshold of 0.50. Discriminant validity was also established, showing that each construct differed significantly from the others, indicating their uniqueness.

The structural model analysis, using PLS path modelling, revealed important insights into the relationships between the variables. Technology transfer was found to have a

significant positive effect on the competitiveness of SMEs, indicating that adopting and integrating new technologies can enhance the performance of small enterprises. Similarly, innovation in SMEs was identified as a crucial factor influencing the performance of small enterprises, with a significant positive effect on their competitiveness. Moreover, the study revealed that Innovation in SMEs plays a moderating role in the relationship between technology transfer and the competitiveness of SMEs. This finding suggests that the impact of technology transfer on SMEs' competitiveness is influenced by the level of innovation and creativity within the small enterprises. The outcomes of this research are consistent with previous studies, further strengthening the evidence for the importance of technology transfer and innovation in SMEs for enhancing their competitiveness and overall performance.

Based on the findings of the study, the following are seven recommendations to enhance the competitiveness of SMEs through technology transfer and innovation:

- SMEs should focus on adopting and integrating new technologies through partnerships with research institutions and larger firms. This will improve productivity, efficiency, and competitiveness by enhancing innovation capabilities.
- SMEs should prioritize continuous innovation by developing new products, processes, or services. Establishing a culture of innovation will help differentiate from competitors and increase market access.
- SMEs should actively engage in collaborations with other businesses, technology providers, and academic institutions to access new technologies and knowledge. This can facilitate resource-sharing and enhance their ability to innovate.
- Governments must work on reducing bureaucratic hurdles and offering intellectual property protections. Additionally, creating incentives, such as tax breaks and subsidies, can encourage SMEs to engage in innovation activities.
- Policymakers should focus on developing and implementing robust technology transfer programs that facilitate the smooth exchange of knowledge and technology between larger firms, research institutions, and SMEs. These programs should be designed to cater to the specific needs and capacities of SMEs, fostering their ability to access and adopt advanced technologies.
- Encourage collaboration and networking between SMEs, research institutions, and technology providers. Facilitating partnerships and knowledge-sharing platforms

can accelerate the diffusion of technology and best practices, leading to enhanced innovation and competitiveness for SMEs.

- Enhance SMEs' access to market opportunities by connecting them with larger corporations and international markets. Technology transfer can be further leveraged by enabling SMEs to enter supply chains and form strategic partnerships with established firms.
- Continuously monitor and evaluate the impact of technology transfer initiatives on SMEs' competitiveness. This data-driven approach will help identify successful strategies, potential shortcomings, and areas that require further improvement, ultimately guiding future policies and interventions.

However, this study has several limitations that should be addressed in future research. First, the cross-sectional design limits the ability to infer causality, so future studies could employ longitudinal designs to better capture the dynamics over time. Second, the study was geographically restricted to SMEs within the eThekweni area under the Durban Chamber of Commerce and Industry, which may limit the generalizability of the findings to other regions. Expanding the geographical scope and including a more diverse sample of SMEs could provide a more comprehensive understanding of the relationship between technology transfer, innovation, and SME competitiveness.

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An exploration of infrastructural challenges faced by smallholder farmers in eThekweni Metropolitan Municipality, KwaZulu-Natal

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ABSTRACT

Smallholder farmers play a critical role in rural and peri-urban neighbourhoods, where most of the poor citizens reside. Yet inadequate infrastructure in the form of a lack of storage facilities, modern irrigation systems, and other on-and-off-farm infrastructure significantly hampers the smallholders' ability to supply the markets and switch to high-value market-oriented production. Supportive infrastructure is vital for the smallholder sector to contribute sustainably and effectively to its development. This article explores the infrastructure that affects smallholders' performance and growth in eThekweni Metropolitan Municipality, KwaZulu-Natal. This article is qualitative and relied on in-depth interviews with eThekweni municipality officials and focus group discussions with smallholder farmers within eThekweni. The results show that, while the government has played an essential role in ensuring the delivery of off-farm infrastructure, and supporting the smallholder farmers with particular on-farm infrastructure, this support is thinly spread and has little impact. Also, the results show that many smallholder farmers still operate with inadequate on-farm infrastructure, which leads to ever-declining agricultural performance. New results are expected to provide empirical evidence regarding the government's performance in providing infrastructural development for the benefit of the smallholder sectors' growth and development. Also, the study results can be used as a guideline for understanding the challenges that the smallholder sector is experiencing due to poor infrastructure development.

Keywords: South Africa, smallholders, infrastructure, government, markets

INTRODUCTION

In South Africa, agriculture is one of the crucial sectors in the country's economic development. It creates employment and strengthens food security. For the agricultural sector to effectively contribute to the country's development, proper infrastructure is crucial (Mazibuko, Balarane, Antwi & Yeki, 2018). Adequate infrastructure, especially in rural areas, is critical for sustainable livelihoods and rural development. According to Kumo (2012), inadequate infrastructure confines citizens' access to markets, smallholders' ability to supply the markets and livelihood opportunities and services such as education, clean water, communication, health and transport. Although the South African government has developed better infrastructure since the new democracy, there is also a need for investment in upgrading and maintaining the bulk of the existing infrastructure (Kumo, 2012). Ensuring adequate infrastructure could help the agricultural sector promote the rural economy and development and promote spatial integration.

Agricultural development support, such as training, seedling, fencing and farming advice, has continued to be one of the governments' fundamental strategies for improving and developing the smallholder sector in developing countries. Through such development support, the governments' main targets include achieving food security, improved food production, reduced poverty, and higher rural income (Mokgomo, 2019). The governments have made considerable investments in organizing agricultural research and extensions, improving the physical infrastructure, enhancing flood control and expanding irrigation in rural areas (Mokgomo, 2019).

Selepe, Sabela and Masuku (2014) pointed out that the infrastructure facilitates the "production, distribution, consumption and trade and food security" in the rural economy. In many rural parts of South Africa, smallholder farmers cannot move their produce to the markets quickly, due to inadequate access to a proper infrastructure. Shortage of storage facilities, modern irrigation systems and other on-and-off-farm infrastructure affects the smallholder sector's functioning and prevents them from changing to high-value market-oriented production (Pereira, Cunco & Twine, 2014). Aliber and Hall (2012), and Khapayi and Celliers (2016) indicated that the South African government's budget spending for the smallholder sector has been increasing. Yet, there is a lack of satisfactory evidence that these efforts have been successful

(Khapayi & Celliers, 2016). Numerous smallholder farmers in most rural areas still find it challenging to engage in formal markets and commercial farming due to certain constraints and poor infrastructure (Mpandeli & Maponya, 2014; Sikhweni & Hassan, 2014; Khapayi & Celliers, 2016; Von Loeper, Musango, Brent & Drimie, 2016).

On-and-off-farm infrastructural development remains a challenge and a barrier to smallholder's access to the markets (Mazibuko et al., 2018). Ensuring adequate agricultural infrastructure is the key to safeguarding the country's agricultural sector's economic competitiveness. According to Mazibuko et al. (2018), most of the agricultural infrastructure in South Africa is inaccessible to most smallholder farmers. Since 1994, the South African government has formulated and implemented numerous agricultural infrastructural programs to improve the smallholder sectors' agricultural productivity and income, i.e., the South African government has implemented programs such as Ilima, Comprehensive Agricultural Support Programme and Recapitalisation and Development program to support and develop the smallholder sector.

Nevertheless, the infrastructure's influence on the smallholders' productivity and market access has not been evaluated, particularly in the KwaZulu-Natal province. Also, there is a lack of similar studies in South Africa. Therefore, this study explores the effect of agricultural infrastructure on smallholders' productivity and market access. This study further analyzes farmers' accessibility to and satisfaction with the agricultural infrastructure provided by the government. The following section examines the government's institutional set-up with regard to service delivery, infrastructural development and market access by smallholder farmers in South Africa. The next section discusses the methodology utilized in this paper. Lastly, the paper discusses the empirical research data and provides recommendations.

LITERATURE REVIEW

Structure of the government and service delivery set-up in South Africa

The South African Constitution established three government spheres: national, provincial and local. These spheres of government are distinctive, but interdependent, with interrelated functional responsibilities. The local sphere of government is categorized as Metropolitan, District and Local. According to the Constitution of the RSA, Metropolitan municipalities have exclusive executive and legislative authority in

their areas, while local and district municipalities share the executive and legislative power in their jurisdiction areas. It is considered essential that the government's spheres operate as a single system of cooperative government to achieve high outcomes. The government has adopted an approach based on cooperative government and intergovernmental relations to ensure proper relations and the integration of plans and programmes. The White Paper on Local Government of 1998 indicates that the intergovernmental system aims to “promote cooperative decision-making, ensure the execution of policies through the effective flow of communication, coordinate priorities and budgets across different sectors and prevent disputes and conflicts between the spheres of government”.

Government institutions have a critical responsibility to ensure quality services to the public. For the government to achieve this, proper organizational structures, financial and human resources are necessary to ensure public service delivery. The Constitution of the RSA requires that all public officials and political officebearers' actions and operations are based on constitutional values and principles when delivering the services. Thus, the public administration's outcome must lead to the provision of quality services to ensure citizens' well-being (Franks, 2014). Section 152(1) of the South African Constitution stipulates that the local government is responsible, among other things, for the “provision of services to communities in a sustainable manner, promoting social and economic development and promoting a safe and healthy environment”. The municipalities' core responsibility is to ensure the “provision of water, sanitation, markets, refuse removal and land management” (Constitution of RSA, 1996). A study conducted by Afro-barometer in 2017 on the assessments of local government service delivery, found that most people were not happy with the government institutions' performance regarding roads, marketplaces, land-use management and the maintenance of health standards (Nkomo, 2017). Statistics South Africa (2018) indicated that remarkable improvements have been made over the past few decades in providing services throughout the country. Given the country's history (apartheid system), the current government has played a critical role in ensuring that the citizens receive the necessary services. However, the high rate of corruption, mismanagement of resources and irregular expenditure in government institutions have severely tarnished the image and positive work that has been done so far (Patel & Govindasamy, 2021).

A community survey conducted by StatsSA in 2016 found that “89.8% of households used piped water, that 63.4% used flush toilets connected to either the public sewerage or a local septic system, that 63.9% of households receive refuse removal services and finally, that 87.6% of households had access to electricity” (Statistics South Africa, 2018). Nevertheless, the headline figures presented by StatsSA hide a lot of variation between provinces, district councils and local municipalities. For example, it was noted in the survey that households in metropolitan municipalities have more access to services than those in rural municipalities. The quality and scope of the services provided to the public by government institutions, especially local government, have significantly damaged the institutional image and credibility (Makanyeza, Kwandayi & Ikobe, 2014). Issues such as a lack of political and administrative leadership, political interference in administrative matters, inadequate public participation and an improper alignment of budget with the central government's requirements, are the main contributors to poor service delivery in South Africa. The government's ability to appropriately deal with such matters could also help smallholder farmers receive the necessary support and development for infrastructure and municipal markets.

All the spheres of government are directly or indirectly involved in supporting and developing the agricultural sector. Post-1994, agricultural activities were categorized as one of the functions of the provincial sphere of government. However, the National Department of Agriculture still oversees agricultural aspects in South Africa and guides the policy environment. The Department of Agriculture, at the provincial level, simplifies agricultural production in the provinces by delivering technical support to farmers and community-based initiatives to enable a conducive farming environment. The local sphere of government is indirectly involved with the agricultural sector as it also deals with the municipal markets and abattoirs. Although the Constitution of the Republic of South Africa of 1996 provides municipalities with the powers to manage and control abattoirs and municipal markets, it also indicates that the agricultural sector's activities fall under the provincial sphere's jurisdiction. However, due to the lack of a national framework policy for markets, the municipalities develop and apply different approaches, and in some areas, costly mistakes are made. The municipal markets provide the necessary facilities to emerging, growing and commercial markets and provide equal trading opportunities to all farmers, without discrimination in size or

origin (Louw, Van Der Merwe, Munthali, Makhanya, Simelane, Murwisi, Louw & Nenseler, 2013).

The national and provincial governments are the key to infrastructure development, expansion and maintenance. At the national level, government departments deliver infrastructure related to bulk water resources, government buildings, courts and prisons, police stations, and electrification, and they make infrastructure transfers to public entities (Constitution of RSA, 1996). The provincial departments perform infrastructure-related functions such as agriculture, health, schools, provincial roads and public works (Constitution of RSA, 1996). The main responsibilities entrusted to the local government are to ensure electricity distribution, street lighting, community halls, municipal roads and stormwater drainage, refuse sites, bus and taxi ranks, water distribution, wastewater collection and treatment (Constitution of RSA, 1996). Cooperation and coordination between government departments at all levels is crucial for the infrastructure development process. Post-1994, the government inherited a generally poor infrastructure (National Treasury, 2018). This is evident from eThekweni municipality 2022/23 IDP, where the municipality has a backlog on infrastructure and it will take time to deal with this issue, considering the current funding allocation. Thus, the governments' efforts are to address infrastructure imbalances by improving access to social, economic and household infrastructure for all the country's citizens (Nyawo & Mashau, 2019). South Africa has a relatively good core of national economic infrastructure to support social development objectives and economic growth. Still, the main challenges are expanding and replacing existing infrastructure and delivering infrastructure to the poor, especially in rural areas, eradicating poverty and meeting the growing economy's demand (National Treasury, 2018). Furthermore, the National Treasury (2018) stipulates that the government has spent R3.2 trillion on infrastructure between 1998/1999 and 2018/2019.

In 2018, the President of the Republic of South Africa announced the R100 billion National Infrastructure Fund to build a government effort to transform public infrastructure development [19]. The Department of Public Works, National Treasury, and Development Bank of Southern Africa are leading institutions identified to manage and control this fund. The primary aim of this fund is to "fundamentally transform the state's approach to the financing of infrastructure projects, reduce the current fragmentation of infrastructure spend and thereby ensure more efficient and effective

use of resources and improve the speed and quality of delivery” (Mail & Guardian, 2020). The allocation of this R100-billion has been reserved for 10 years, with R10-billion being made available by the National Treasury for the 2021/22 medium-term expenditure framework. The public infrastructure is financed in numerous ways in South Africa, for instance, financing from fiscal revenues, hybrid financing in which taxpayers’ contributions supplement funding for projects implemented by public entities, public entities’ finance infrastructure from internal reserves and debt raised in the capital markets, the private-sector’s participation augments the state’s capacity to build and operate infrastructure. The government focuses on financing and investing in a large-scale infrastructural project to deliver electricity, water, housing, telecommunications, and transport (National Treasury, 2018).

Infrastructural development

In most cases, agricultural activities are perceived as rural activities, but the metropolitan areas also play a significant part in food production. The urban regions have both opportunities, such as easy access to large markets, and infrastructure and challenges such as contending with large non-farm developments and populations (Sharp, Jackson-Smith & Smith, 2011). Some of the facilities and activities that assist in sustaining growth in the production and generation of income in the rest of the country’s economy, are part of infrastructure. Infrastructure is categorized into soft and hard infrastructure. Soft infrastructure covers institutions that are needed in the economy. In the case of smallholder farmers, they include extension services, as well as government, financial, and marketing systems.

In contrast, hard infrastructures are physical things critical to an economic activity consisting of roads, water and power. Masuku (2013); and Wiewiora, Keast and Brown (2016) noted that infrastructure development plays a critical role in any country’s social and economic development. Proper infrastructure ensures that the country’s production, distribution and trade activities are facilitated effectively. For instance, roads and transport infrastructure are critical for farmers procurement of inputs and distribution of produce. Adequate market infrastructure must be in place to support the farmers’ production system and trading. The infrastructure mainly contains extensive services that facilitate production, purchasing, processing, preservation, and trade in the agricultural sector. The infrastructural services in this sector are

categorized as input-based infrastructure (fertilizer, seed, farm equipment, and pesticides), physical infrastructures (storage, processing, transport and road networks), resource-based infrastructure (water and power) and institutional services (extension services, research and development services, information and communication services, marketing and financial services) [Patel, 2020]. In the smallholder farming sector, investment in infrastructure remains under-resourced.

Adepoju and Salman (2013) maintained that the ability of the government to invest in infrastructure, especially in rural areas, may contribute to rapid growth in agricultural production. In addition, Adepoju and Salman (2013) noted that adequate markets, appropriate institutions and proper infrastructure are essential for increasing agricultural productivity. Infrastructure may also have some less desirable consequences. For example, more roads may mean more traffic and accidents, and building dams may result in the destruction of large areas of countryside and the displacement of populations (Patel, 2020). It is also critical that the government plan, develop and finance infrastructure across national borders to ensure interlinkages among regions. Therefore, long-term thinking and a clear vision about the infrastructure are vital to ensure the long-term outcomes needed for the country's changes.

A country's ability to increase and maintain the well-being of the citizens in any economy, depends on the quality and quantity of infrastructural services (Adepoju & Salman, 2013). In both developed and developing countries, public finance is the main traditional source of infrastructural investment. Due to the growing pressure of societal needs, the private sector's funding and infrastructure maintenance have become critical. Funding and building infrastructure through innovative public-private partnerships ensures the success of infrastructure projects. Most countries invest in energy, roads, health and school facilities, water and sanitation to ensure proper development. Likewise, the South African government has prioritized such economic and social infrastructure. To improve citizens' welfare and attract investors, the public sector spent more than “R2.7 trillion on infrastructure between the years 1998/99 and 2016/17” (National Treasury, 2018). The government mainly uses the money generated from taxes to finance infrastructure development in the country. Smallholder farmers' ability to access affordable agricultural infrastructure is crucial, as it is critical in agricultural value chains' competitiveness. However, most smallholder farmers

cannot secure financing from public and private sector financial institutions for their operational costs and business growth. The lack of access to finance means that the farmers find it difficult to finance on-farm infrastructures such as transportation, irrigation, pre-and post-harvest storage, tractors, bulk storage and agro-processing and packaging facilities (Mazibuko et al., 2018). For smallholders to have such infrastructures, financial investment from various agricultural role players such as agricultural development and commercial banks and government and non-governmental organizations in equity finance is needed.

Background of infrastructural challenges in eThekweni Municipality

According to the South African Property Owners' Association (SAPOA), on the state of infrastructure in the largest municipalities in South Africa, eThekweni and Msunduzi Municipalities were classified as the ones without world-class infrastructure. The report by SAPOA stipulates that 24% of the respondents believed that the electricity and water infrastructure was satisfactory for present use, while 54% believed that the water and electricity infrastructure was at risk of failure in the near future (Xulu, 2022). Furthermore, the report stipulates that the majority of the respondents (83%) felt that the infrastructure in eThekweni municipality had worsened (Xulu, 2022). According to Cooperative Governance & Traditional Affairs (2021), the existing water, electricity and road backlogs are estimated to take 5-10; 16-28 and 70-105 years to address infrastructural challenges based on the current funding levels. To resolve the infrastructural issues, eThekweni municipality would have to actively engage with other relevant government departments at the national and provincial levels to ensure alignment in the provision of services. While there are infrastructural challenges within eThekweni municipality, the IDP 2022/23 of this municipality had prioritized meeting the infrastructure and household service needs and backlogs. This strategic focus includes numerous programmes such as addressing infrastructure backlogs on water, electricity, sanitation, roads and transportation.

Market access by smallholder farmers

The food market system in South Africa is characterized by a formal, well-established, highly sophisticated marketing system and an informal marketing system. In the agricultural sector, formal market systems are those markets that are governed by high food safety standards and quality, where the actions of corporations can be

observed (Rajiv, 2010; Marumo & Mabuza, 2018). The formal market system includes processing industries, improved efficiency, export chains, supermarkets, chain stores and retail outlets. Certain farmers control any activities related to formal markets and are subject to taxes (Marumo & Mabuza, 2018). On the other hand, informal markets are found in temporary settings and are not regulated or protected by law. The street hawkers and traders who buy agricultural products in bulk for onward sales through informal channels, are examples of informal markets. A few retail groups dominate the well-established formal marketing system through various supermarket formats that operate mainly in the cities. This marketing system involves formal contractual agreements between the production and distribution channels. Most commercial farmers participate in formal markets, with a few smallholder farmers. The formal marketing system forces quality, quantity, and proper packaging as requirements for all products. These conditions are difficult for many smallholder farmers to meet, so it is difficult for them to participate fully in the formal markets.

Louw et al. (2013) noted that the informal marketing system “distributes food through general dealers, cafes, spaza shops, street vendors, tuck shops and street corner stalls in areas like townships and former homelands where supermarket retail outlets are absent or have been absent”. The informal marketing system involves sales – primarily of small quantities of products – directly from farmers to customers. In addition, the informal market system is commonly organized at a central place in a village. These informal markets are mainly found in remote areas where a small surplus of goods is sold to neighbours. The informal trade system is crucial in South Africa, particularly for small-scale enterprises. The markets drive production as farmers will always want to exceed their customers' expectations and demand by providing enough quality products. Smallholder farmers can participate in formal and informal markets. However, they should ensure that all formal markets' requirements are met. In the case of South Africa, informal markets include selling products at the farm gate or spot markets where transaction costs are high because smallholder farmers lack lobbies in the legal environment (Sikwela, 2013; Aliber & Mdoda, 2015). Trust and relationships must be developed between the farmers and customers for an informal and formal transaction to occur. Formal markets clearly define quality standards, grades, and safety regulations and formally set prices (Aliber & Mdoda,

2015). It is easier for the commercial sector to access formal and informal markets due to their ability to produce goods in high quantities and of good quality.

On the other hand, the smallholder agricultural sector in South Africa continues to face the challenge of promoting its fresh produce and being integrated within local, regional and international markets (Raphela, 2014). In other words, it continues to be a challenge to most smallholder farmers to penetrate or participate in the formal markets. Most smallholders in the country sell their produce at local markets, while few farmers exporting their products to the regional and global markets (Jari, Snowball & Fraser, 2013). According to Jari et al. (2013), the fresh produce from smallholder farmers is mostly traded with consumers and traders at the farm gate, frequently through informal transactions where prices and terms of exchange are unofficially negotiated. Furthermore, the authors stipulate that these transactions between farmers and traders and between farmers and consumers most often occur in spot markets. Due to the high marketing and transportation costs, smallholder farmers tend to favour farm gate sales (Raphela, 2014), where they are exposed to different buyers. Jari et al. (2013) commented that smallholders' direct marketing through their farm gates, or from their roadside stands and community-supported agricultural programs, is fundamental to numerous smallholder farms' prosperity.

Several authors have claimed that smallholder farmers generally lack accurate, reliable and appropriately packaged information to guide them in making strategic decisions — precise information that would enable them to improve their market participation. Apart from the rural consumers, local traders conduct businesses in the rural areas that also buy fresh produce from the smallholder farmers. Thus, smallholder farmers expect local and national traders to purchase their products through the farm gate, which are then distributed to supermarkets, retailers and international traders. In most cases, the traders collect the produce from different smallholder farmers to ensure a large volume of fresh produce. There are numerous reasons why the smallholder sector mainly utilizes the farm gate as a critical marketing channel for their produce. Some of them include a lack of storage facilities, transportation costs, and a lack of information about the markets and the crops' quantity and quality. Through collective action amongst smallholder farmers, access to proper formal markets such as supermarkets could be made possible. Sikwela (2013) pointed out that the smallholder farmers can better access the restructuring

market channels where contracting and vertical integration and coordination are rife only if they work together to reduce transaction costs. Unlocking markets for smallholder farmers is considered a critical developmental necessity. However, rural smallholders' hardship continues due to inadequate infrastructure and a lack of market access to sell the products that will translate into profitability. The agricultural sector plays a vital role in many ways: it contributes to poverty alleviation, creates employment opportunities, reduces food prices and improves incomes. Empowering citizens to cultivate their food for income generation will provide potential income and nutrition to many people. Thus, an increase in government agricultural investment could assist in redressing inequalities and alleviating poverty. Increased agricultural investment is crucial to ensure an adequate supply of food, the development of the smallholder sector and access to food by the public.

THEORETICAL FRAMEWORK

The classical theory of organization; namely, the administrative theory, guided this paper. This theory deals primarily with the formal organisational structures that determine the efficiency and effectiveness of those public entities responsible for supporting the smallholder farming sub-sector. The support provided by both the provincial and local spheres of government towards the smallholder sub-sector should be integrated or coordinated to have a high impact and enable the smallholder to better access markets. In other words, the coordination of government institutions' efforts, such as planning policies, projects or programmes and the organisation of financial and human resources for the provision of infrastructure and training, are vital for promoting the growth and development of the smallholder sub-sector. Such a coordinated effort could assist the government to avoid duplication and wastage of limited resources towards supporting the smallholder sub-sector.

METHODS/MATERIALS

The study context

This study was conducted in KwaZulu-Natal, specifically in the eThekweni Municipality. This municipality is one of the eight metropolitan municipalities in South Africa. The eThekweni Metropolitan Municipality has many areas with high potential for agricultural activities. Due to the increased population, numerous spaces within this municipality's jurisdiction have been developed for non-agricultural uses. Despite this, millions of

households within the eThekweni municipality are involved in agricultural activities. Khumalo and Sibinda (2019) reported that poultry, livestock and vegetable production were the main agricultural activities within the eThekweni municipality. This article employed a qualitative exploratory research design, which enabled the researcher to collect extensive data on the individual(s), institution(s) and event(s) under investigation. Purposive sampling was used to select the participants for this study. The Institutional Review Board at a large KwaZulu-Natal public university approved the research. The comprehensive primary data was collected using focus group discussions and face-to-face semi-structured interviews. The smallholder farmers who participated in this study were from five different areas under traditional leadership. The selected areas were Mbumbulu Traditional Council (TC), Qadi TC, Mnini TC, Shangase TC and Ximba TC, which fall within the eThekweni Metropolitan Municipality jurisdiction. There were three focus group discussions with the smallholder farmers per area, and each focus group comprised five to sixteen smallholder farm members. In total, there were fifteen focus group discussions. Also, the total number of smallholder members from these different areas who participated in this study, were seventy-nine. All farms that participated in this study are involved in planting and harvesting vegetables. In addition to the focus groups with the smallholders, there were four semi-structured face-to-face interviews with the municipal officials from eThekweni municipalities. All the interviews and focus group discussions took place in environmental settings, as agreed upon by the participants.

Data collection methods

The study utilized a qualitative approach and the participants were selected using the purposive sampling strategy. The researcher used a tape recorder during the focus group discussions and interviews. In addition, a notebook was also used to write things down that were not caught on tape, e.g., the participants' expressions, gender representation and the farmers' behaviours. During the focus group discussions, the researcher also observed the farms' physical conditions and operational activities. The focus group discussions were conducted on the smallholders' farms to understand their challenges related to infrastructure, and each focus group discussion lasted for +/-90 minutes.

The smallholder farms that the researcher visited consisted of 5-16 members. They all perform in-and-out-of-farming activities (from ploughing to the sale of fresh produce). Many of the smallholder farmers are middle-aged and older women, with the participation of a few young people. Out of 15 smallholder farm sites visited, only one had two young people actively involved. The smallholder farms are between one and five hectares of land for production. Almost all the farms (14 out of 15) visited utilised all their space for production and they all indicated that their space was insufficient for them to produce more. In South Africa, agricultural activities fall within the scope of national and provincial agricultural departments, but not municipal competency. The municipalities that are involved in supporting certain agricultural activities are thus doing it because of the empowerment and skills transfers to the farmers and are not obliged to allocate budgets or resources towards rural/urban agricultural development. Therefore, on the side of the municipality, the municipal officials interviewed directly or indirectly deal with the smallholder sector. They were managers from the following units within eThekweni: Municipality: Economic Development & Facilitation, Business Support (Retail Market), Business Support (Fresh Produce Market), and Parks and Leisure. The interviews with the individual municipal officials were +/-45 minutes, and the interviews took place at their offices.

Data analysis

The qualitative data collected during the focus group discussions and interviews were transcribed, coded and analyzed using the thematic analysis (TA) technique. A highly inductive analysis technique was used – that is, the themes emerge from the data and are not imposed upon them by the researcher. In ensuring anonymity and confidentiality, the researcher used “MO” for municipal officials, “SFM” for smallholder farmers at Mbumbulu TC, “SFQ” for smallholder farmers at Qadi TC, “SFMN” for smallholder farmers at Mnini TC, “SFS” for smallholder farmer at Shangase TC, and “SFX” for smallholder farmers at Ximba TC. All responses from farmers under the same area were combined and the relevant code was used. i.e., farmers’ responses from Qadi TC were coded as “SFQ”.

In promoting the trustworthiness of this study, four criteria were used: credibility (the researcher utilized a few techniques in addressing credibility, such as prolonged engagement with the participants and also persistent observation, especially when the

researcher was conducting focus group discussions with the smallholder farmers); dependability (the researcher achieved dependability by ensuring that the research process followed was clearly explained and ensured that the logic was applied); confirmability (the researcher provided reasons for the utilisation of the methodology, theoretical framework and analytical choices throughout the study. This was done to ensure that the readers understand why certain decisions were taken); and transferability (the characteristics of the participants and the setting of this study were explained to assist other scholars in deciding whether the findings of this study could apply to the research setting similar to eThekweni municipality).

The shortcoming of this paper is that the data were only collected from smallholder farmers and eThekweni officials, while a network of stakeholders plays a critical role in the development and growth of smallholder farmers. The main focus was to collect data from the smallholder farmers as the government institutions always claim to support the smallholders through training, financing, advising and the infrastructure required by the farmers. This is evident in the eThekweni IDP (2022/2023) where it is stated that the municipality has a set of empowering programmes created for smallholder farmers, such as fencing and irrigation, poultry farms, tunnel farm rentals, training and mentorship and access-to-market programmes.

RESULTS AND DISCUSSION

The availability of on-farm and off-farm infrastructure plays a critical role in ensuring smooth and fast production on the farm. Proper infrastructure is, therefore, a source of profitable development. A lack of, or underdeveloped infrastructure within the areas where smallholder farmers operate, is one constraint that blocks them from more significant agrarian output markets. This section first discusses the on-farm infrastructures critical for the farmers' production and operations.

On-farm infrastructure for agricultural smallholder farmers

A lack of on-farm infrastructures or equipment, such as production tools, cold storage, and irrigation, is one of the challenges that the smallholder farmers experience as this curbs their production rates. A discussion on on-farm infrastructure is presented below:

Production tools

In most cases, the smallholder farmers cannot afford mechanically powered technologies such as tractors, plows, threshing or shelling machines and seeders to produce larger quantities. All the smallholder farmers visited do not own or have access to a plow or tractor. A few smallholder farmers (2 out of 15 farms) sometimes rent tractors; otherwise, they use hand-held hoes, spades, watering cans and other non-mechanized tools to cultivate and irrigate their farms. Most smallholder farmers indicated that the municipality and the provincial Department of Agriculture had assisted them with some means of production. Specifically, SFQ & SFX stipulated that:

The municipality has played an essential role in supporting us with the water tanks, irrigation system, water, pipes, toilets, hoe, spades, wheelbarrows, containers for equipment and sometimes the tractor.

Some of the farmers also mentioned that:

The provincial government Department of Agriculture has assisted with fencing, pumping water engine, tractor, nursery, penthouse with water, and toilets. In contrast, the municipality has previously supported us with spades, hoes, borehole openings, and sometimes tractors. (SFS, SFQ, SFM)

Smallholder farmers' appropriate use of agricultural equipment and production tools could contribute to their farms' viability by enhancing production efficiency. This study found that many smallholder farmers do not have the appropriate agricultural tools and equipment needed to farm. The main concerns for farmers were their inability to secure tractors, lack of proper irrigation systems and insufficient storage for their produce. Such challenges have stopped them from using their land to its fullest potential. Despite this, officials from the municipality indicated that the government had played a critical role in supporting smallholder farmers. Some of the interviewed municipal officials (MO2 & MO4) stipulated that the municipality has supported the smallholder farmers through irrigation, water tanks, and fencing. This support is always in the community set-up so that numerous community members can benefit from such support by being involved in the farms.

Other municipal officials (M01 & MO3) stated that the municipality has also helped smallholder farmers identify small pieces of land for crop production. The municipality has also assisted the farmers with fencing their farms, supplying water to the farms and supplying water tanks. Furthermore, the municipality helps farmers with certain tools and seeds every financial year, once they are in the database. Although the farmers have noted and appreciated the government's support, they believe the government must consult with them first to determine where help is needed most. Aliber and Mdoda, 2015; Ayinke, 2011; Chikazunga and Paradza, 2012 conducted studies on smallholder contract farming, socio-economic characteristics of smallholder farmers, the role of smallholders in the food system and support for smallholder farmers in South Africa. These authors noted that the government support system is not strong enough to support smallholder farmers, causing the farmers to be incapable of taking advantage of the numerous opportunities the government has instituted. One of the critical interventions in the agricultural sector for poverty alleviation, food security, rural development and smallholder farmers' income generation is providing support services by the government. Without appropriate farmer support services and consultation, emerging farmers' sustainability, growth and development could be challenging to achieve. On the other hand, with adequate access to farmer support services, emerging agriculture can “contribute to increased agricultural growth and rural development and positively impact the farm income” (Khapayi & Celliers, 2016).

The agricultural activities amongst many smallholder farmers in rural settings continue to be the primary source of their livelihoods. In most cases, the smallholder farmers' knowledge of producing crops is based mainly on indigenous agriculture, passed from generation to generation through experience and careful observation. Smallholder farmers' lack of financial, natural and physical resources also causes them to follow traditional farming methods to produce their crops. Many smallholders interviewed still plant their crops manually, given their limited access to tractors and implements for cultivation. In other words, most smallholder farmers use hoes to overturn the soil to plant the crops. The household members dominate the labour pool, and women carry out most of the farming activities.

Irrigation systems

One of the critical productive assets in the agricultural sector, which leads to substantial upsurges in yields, is irrigation. Rapsomanikis (2015) noted that “irrigated land is twice as productive as rain-fed land”. Some of the benefits of irrigation include a reduced risk of crop failure, higher yields and higher income. It also enables smallholders to adopt more “diversified cropping patterns and to switch from low-value subsistence production to high-value market-oriented production” (Rapsomanikis, 2015). In most cases, most smallholder farmers cannot finance expensive irrigation equipment such as sprinklers. Almost all the farmers (14 out of 15 farms) interviewed do not have proper or modern irrigation systems, but still use traditional methods such as watering cans, buckets and water pipes to irrigate their crops. Traditional methods are cheaper than modern techniques, but are more time-consuming and depend on humans to function. The responses from the farmers indicate that they are still using traditional methods to irrigate their crops. The smallholders operating from the Qadi, Shangase, and Mbumbulu areas indicated that the Department of Agriculture has supported them with pipe water connections to their farms and water tanks. They usually connect pipe water to the tap water to irrigate. They also indicated that the water tanks help them when the water is not coming out of the taps, as those tanks will be having water. However, they mentioned that it is not easy to irrigate the entire farm using pipe water as they do not have the proper irrigation tools; hence, buckets and watering cans to irrigate the crops still dominate in these smallholder farmers.

The smallholder farmers operating from Ximba and Mini areas stipulated that the municipality used to supply them with water through a water tank truck, as there was a water shortage in their areas. Also, the municipality gave them the pumping water engine, but it was not working. This case was reported to the municipality, but the technician failed to fix it. As this engine is not working, they usually contribute money as farm members to hire the pumping water engines to get water to their farms' tanks. If contributions are not made, they fetch water in the holes for irrigation. For smallholder farmers to produce more, they also need efficient irrigation systems to save time and grow crops consistently to create more reliable food supplies. The lack of a proper irrigation system means that smallholder farmers find it difficult to harvest higher-quality crops, prolong the growing season, maximize the benefits of fertilizer applications and utilize areas that would otherwise be less productive.

Office and storage space

When many crops have been harvested, they must often be stored before they can be transported. As perishable products' quality declines if they are stored improperly, it is critical for farmers, especially those who sell weekly, to find an excellent way to keep their fresh produce intact. An advantage of properly storing fresh produce is that it can be sold at higher prices after the harvest season, where the supply is lower. Apart from the storage facilities, office spaces are also vital for any business. The need for office space for smallholder farmers is critical for three reasons: meetings, performing administrative tasks and keeping a record of the farm's daily operations. Office space thus makes the entire farm run more effectively. This study found that only 4 out of 15 of the farms visited had offices on their farms and none of them had cold storage facilities:

We do not have a storage facility for our harvested crops and tools. In most cases, we harvest when customers at the farm gate want to buy our fresh produce. In other words, we do not harvest all our fresh produce at once as we do not have a storage facility and proper markets to sell. The challenge of harvesting more is that the crops (as they are perishable) end up rotten within our farms. Thus, we harvest and prepare them the same day for the market, which takes our time (SFMN, SFS, SFM)

We have a packaging house and storeroom. Although we have these structures, we do not have electricity within the farm. The lack of electricity affects us in a way that we cannot harvest or operate until late as we do not have lights within our structures. This affects us more during the winter as it gets darker early, and we tend not to finish our operation. (SFQ, SFX)

Based on this finding, critical questions can be raised, such as: if the smallholder farmers do not have office spaces, where will they operate from, especially when keeping and filing critical information for their farms? If they do not have cold rooms or storerooms, how can they introduce a stock control system to avoid the deterioration of their produce? According to Diola, Deret, Morel, Du Vachat and Kiaya (2013), the best harvesting, storage and processing practices are crucial in maximizing agricultural interventions' benefits. Furthermore, Diola et al. (2013) stipulated that "over 20% of the physical harvest of produce is lost due to inadequate storage and

handling practices". Larson, Lampietti, Gouel, Cafiero and Roberts (2014) also indicated that smallholder farmers must have the right storage facilities to avoid product deterioration and wastage. As noted by the farmers, the lack of storage facilities has led to products being sold directly from their farms and has caused a decline in product quality. Therefore, the lack of such critical infrastructure could negatively contribute to farmers' demotivation to further participate in the agricultural sector as time and money are lost.

Those farms (11 out of 15) that do not have offices on their farms could not see any value in installing it due to a lack of connectivity (electricity), computer/s and computer literacy. This indicates that the farmers lack specific business or entrepreneurial skills, as offices could be essential to their farms' functioning. The active participation of youth in agricultural activities could assist in closing specific gaps that the senior farmers are overlooking, as they could develop innovative ways of running the farms. As with any other business, the internal processes should be handled by individuals in the institution. Thus, the smallholder farmers' responsibility is to ensure they have the appropriate on-farm infrastructure for a smooth operation. On the other hand, some factors will always be beyond the farmers' control, which might directly or indirectly affect their growth and development.

Off-farm infrastructure

The government's ability to prioritize and improve road networks, water supply and energy in rural areas is critical for the agricultural sector. Faiz (2012); Chambers (2014) claimed that improving and prioritizing such services might significantly impact agricultural productivity, attract new development activities and smooth labour movement between residences and workplaces. Such off-farm infrastructures are discussed below under the same sub-heading. This study found that the government played a critical role in providing such infrastructure within the areas around the farms in question.

Road networks, water and electricity

Properly investing and providing services such as electricity, water, and road networks are critical tools for social and economic development in urban and rural areas. The availability of proper road networks in rural regions is essential in moving fresh produce from a farm to a market. Almost all the farmers (14 out of 15 farms)

interviewed noted that the government had succeeded in providing quality roads. Thus, the smallholder farmers do have access to paved roads that connect to different road networks, so that their products can be transported to markets. Although road networks play a critical role in the agricultural sector, one should note that it would be difficult for smallholder farmers to harvest without enough rainfall or water.

The South African government has made notable progress towards providing proper roads and quality water. However, many farmers still do not have access to sufficient and quality water, especially those who live in rural areas (South African Human Research Council, 2018). Water is critical for all sectors and human needs, which means that the agricultural sector competes with other industries and ordinary human needs for water. Almost all the interviewed farmers (10 out of 15 farms) indicated that they have water taps on their farms, while the other five farms use engines to pump water and sometimes fetch water in the holes that were dug. Those farmers who mainly use the engines to pump water further indicated that they are more dependent on rainfall for water as the cost of maintaining and re-fuelling the engines is high. Those farmers who have tap water on their farms highlighted the importance of rainfall as sometimes the taps run dry. Olayide, Tetteh and Popoola (2016); and Nhamo, Matchaya and Nhemachena (2016) noted that farmers' dependence on the unpredictable rainfall is one of the restraining factors for agricultural productivity. The government should ensure proper planning, a careful selection of farmers who will receive support and more significant investment in infrastructure in those areas where farmers depend heavily on the rain-fed system for production. While water availability and an adequate road network are vital, electricity is also paramount.

Although there is electricity in all the communal areas the researcher visited, most farmers (12 out of 15 farms) do not have electricity. Ensuring that there is power is the responsibility of the farmers. The smallholder farmers are supposed to find financial assistance or make financial contributions to ensure that power is available on their farms. The lack of electricity on the farms means that they will not have cold storage for their harvested produce, landlines for communication purposes or computers for storing critical information about their farms' operations. On the other hand, smallholder farmers find it challenging to secure funding from public and private sector financial institutions for operational costs and business growth. Tregurtha, Vink and Kirsten (2010); Owusu-Antwi and Antwi (2010); and Chisasa (2014) noted that the lack

of access to funding is because the financial institutions consider smallholder farmers to have low levels of production efficiency and they regard them as a high agricultural lending risk compared to large-scale commercial farmers.

Based on this study's results concerning infrastructure, it is clear that the government has played an essential role in ensuring that the necessary off-farm infrastructure is in place to allow smallholder farmers to operate. On the other hand, smallholder farmers are not taking certain actions to ensure that their farms perform at the optimal level. Therefore, better access to on-and-off-farm infrastructure could produce more positive benefits, such as increasing farmers' investment in production and strengthening their profitability and accessibility to the markets. Furthermore, the off-farm infrastructure that the government provided within the farmers' areas has allowed them to connect with different markets for their output. Conversely, the lack of on-farm infrastructure affects smallholder farmers' ability to produce and store large amounts of quality crops and effectively keep their farms running. While infrastructure is critical for smallholders to access markets easily, their ability to obtain information about the markets, gain advice on their products, and apply technology is vital.

CONCLUSION

The government has played an essential role in ensuring the delivery of off-farm infrastructure to improve citizens' well-being and create a conducive environment for businesses. Furthermore, the government has played a vital role in supporting the smallholder agricultural sub-sector with on-farm infrastructures, such as water tanks, water pump engines, fencing, irrigation systems, watering cans, containers for keeping tools, hoes, rakes, shovels and spades. Such support from the government has a significant impact on smallholder farmers as it ensures productivity efficiency. However, the government has failed to assist smallholder farmers with access to finance to enable them to procure certain on-farm infrastructure. The farmers highlighted a lack of infrastructures, such as cold storage, tractors, irrigation systems and power, as significant challenges that curb their production rate and ability to maximize profits.

Off-road infrastructure such as roads is vital for market development to distribute inputs and outputs to and from the smallholder farms. For the development of the agricultural smallholder sector, the improvement of transport services and road

infrastructure must be linked to the roads, leading to more significant markets and ensuring a high impact on the smallholder sector's infrastructure. Furthermore, inadequate road infrastructure and transport services, high transport costs and missing sections in the road and transport network, pose a considerable challenge to market integration and accessibility by the smallholder sector. On the other hand, inadequate or insufficient on-farm infrastructure continues to impede agricultural smallholder farmers' activities. The majority of the smallholder farmers' key challenges are lack of agricultural on-farm infrastructures such as fencing, storage and processing facilities, equipment and tools, irrigation systems, tractors, and lack of on-site electricity—these infrastructures further constrain the marketability of perishable goods such as vegetables. The smallholder farmers also experience other important challenges, such as limited access to loans from commercial banks, financial options and formal savings accounts.

It can be concluded that the infrastructural challenges facing smallholder farmers in South Africa, such as those identified in this study, limit their productivity and income. To address these challenges, there is a need for infrastructural development, which requires the government and other stakeholders' investments. Such investments can help smallholder farmers access reliable water supply, storage facilities and transportation, increasing productivity, and income and reducing poverty. Furthermore, to address the challenges, the departments directly dealing with agricultural activities, especially the smallholder farmers, from these two spheres of government must create a single joint planning and coordination structure to discuss development priorities and planned projects for the smallholder sub-sector. The planning system that the government is currently using, remains unsuited to the task of long-term planning for the development of the smallholder sector. This is due to the substantial disintegration of roles and powers across the three spheres of government. This disintegration has resulted in government policies and programmes achieving sub-optimal outcomes relative to the state's resources for preparing and implementing them. Therefore, for the provincial Department of Agriculture and municipalities to improve, they should incorporate stakeholder insights, lay a policy foundation for a whole-of-government approach to planning and set the direction for the smallholder sector's planned future. Creating a coherent planning and coordination system could

assist government institutions in ensuring that better outcomes are achieved from the delivery of support services to smallholder farmers.

The data of this paper was only collected from smallholder farmers and municipal officials in the eThekweni municipality in KwaZulu-Natal. The study did not include other important stakeholders in this sector, such as extension officers, the provincial Department of Agriculture, NGOs and financial institutions. Thus, a broader investigation into the impact of agricultural role players in the infrastructural development of the smallholder sub-sector is required. Furthermore, future studies could examine the impact of entrepreneurial skills on smallholder farmers' success or failure in accessing and expanding their markets for their produce.

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Impact of unemployment on emigration in Nigeria

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ABSTRACT

The current waves of emigration of Nigerians to Europe, America, and other countries (also known as the “japa” syndrome) have attracted the interests of researchers in a bid to exploring the drivers of such waves. While there is plethora of evidence in the literature on these drivers, the role of the unemployment rate as a determinant of emigration in Nigeria has been without consensus. This study is thus designed to analyse the dynamics of unemployment as a determining factor of the stock of Nigerians emigrating abroad. With the emigration and unemployment rate as the focus variables, exchange rate and economic growth were added as intervening variables for robustness purpose. The analytical technique in this study was anchored by the autoregressive distributed lag (ARDL) model. Time series data spanning the period of 1981-2022 on Nigeria were sourced from the World Bank’s World Development Indicators and the Central Bank of Nigeria’s Statistical Bulletins. Findings show that, while unemployment has an insignificant impact in the short run, it exhibits a significant impact on the propensities of Nigerians to migrate abroad in the long run. In addition, the volatility in the naira-dollar exchange rate significantly influences emigration, with an increased rate tending to discourage the emigration move because of the higher costs of moving. Similarly, the migration stock seems to exhibit cyclical behaviour, such that booms in economic activity increases the number of Nigerians migrating abroad. It is therefore recommended that the Nigerian government should implement measures that will overhaul the wage rate and general working conditions of workers in the country to make living worthwhile. In the long run, measures such as the promotion of productive activities to bolster employment opportunities for Nigerians should also be put into place to address the problem of a brain drain from the country.

Keywords: migration, unemployment, dynamics, ARDL, time series, Nigeria

INTRODUCTION

According to the World Health Organization (WHO, 2023), an average of 2,000 Nigeria-trained doctors leave Nigeria for other countries such as the United States or Canada or the United Kingdom every year. Also, there is an annual turnover of about 500 software engineers in Nigerian firms in search of better working conditions abroad (Bloomberg, 2023). Relatedly, in a 2022 survey by Phillips Consulting asking Nigerian skilled workers about their plan to migrate abroad, 52% answered in the affirmative (Akwaja, 2023). These developments are subsumed in the “japa” syndrome, a new buzzword used in social and political spaces to describe the exodus of Nigerian skilled workers abroad.

While the current emigration of Nigerians to such countries as Europe and America is not a new development, its impact on a brain-drain from, and the reigning labour market conditions in Nigeria has led to scholarly and political discourses (see for example Okunade & Awosusi, 2023; Adhikari et al., 2021; Obi-Ani et al., 2020). A common denominator in the analysis of emigrating skilled labour from Nigeria to foreign countries is the rate of unemployment in the country of origin (Ojo et al., 2023; Adhikari et al., 2021). This means one would attribute the search for domestically-unavailable jobs as the main driver of the decision to move abroad (Onah et al., 2022). Thus, the literature is replete with researchers who have empirically investigated the relationship between the stock of emigration and the unemployment rate in Nigeria (Okunade & Awosusi, 2023; Olubiyi, 2021; Ogbenika, 2019). Nevertheless, the dynamics of the rate of unemployment in the short and long run, are hardly captured by the available evidence in literature.

Thus, the present study is designed to investigate whether the rate of unemployment in Nigeria could explain the dynamics of emigration from the country by exploring the short-run dynamics of unemployment with respect to its long-run properties. Given that employment may not uniquely interact with emigration, there is the need for intervening variables to add robustness to the empirical analysis intended in this study. The exchange rate and the economic prosperity in a country, are considered very germane to the decision of the citizens to migrate. That is, while the exchange rate directly affects the cost of migration (Shin, 2021), the rate of unemployment is directly connected to the rate of growth in economic activity (Olayemi et al., 2023). Therefore,

both exchange rate and economic growth are included in this study to interact with the baseline variables (emigration and unemployment).

The remainder of this paper is organized into four sections. Section 2 takes a brief tour of the literature evidence of the nexus between unemployment and emigration. Section 3 discusses the methodological approach adopted in this study. It also explains issues regarding the data collection and technique of data analysis. Section 4 presents and discusses the empirical findings. Finally, Section 5 concludes the study, noting the short- and long-run policy implications and recommendations to reduce the propensity of Nigerians to migrate abroad.

LITERATURE REVIEW

Theoretical literature review

Human Capital Theory of migration

According to the human capital theory, the observable migration patterns reflect the productivity of workers in a country and the demand for such productivity in the country (Korpi & Clark, 2017). This means that if a worker has high productivity, which is not demanded accordingly in their country, the worker has a high propensity to migrate to another part of the world which is in demand of such productivity (Kooiman et al., 2018). In the context of Nigeria, the human capital theory may provide cues which explain the migration of software engineers, social workers, and cyber-security experts who experience a mismatch between the demand for and supply of their labour services in Nigeria.

A major offshoot of the human capital theory is that the value of labour (that is, the prevailing wage rate) in a country influences workers' drive to stay in the country (Navarro & Zhou, 2020). For example, as argued by Tibajev (2022), the decision of foreigners to move to the United States relative to Europe is existentially connected to the high wage rate in America. Therefore, given the existence of high-wage labour services in the United States, the country is said to be successful in attracting the best talents from all parts of the world (Tibajev, 2022). A core advantage of high human capital is indicated in the growth rate of the economic potentials of the country (Navarro & Zhou, 2020). Thus, countries that have positioned themselves to attract workers with high human capital are said to experience accelerated economic growth (Navarro &

Zhou, 2020). Again, a notable example is the United States, which has the highest labour productivity within the OECD countries.

New Economics of labour migration theory

This theory hinges on the premise that the migration decision of a worker might be explained by their need for joint insurance for the worker's household. Originally put forward by Stark and Bloom (1985), the New Economics of Labour Migration (NELM) theory maintains that poverty-induced migration emanates from the cost-benefit analysis of the family as a whole. That is, where it is best for a family member to emigrate in order to boost the joint income of the family, other family members pool resources in support of the decision of such member (Taylor, 1999). In another perspective, the migration decision results from the need to diversify risks to the household income (Abreu, 2012). In other words, if the economic events in a country portend risks to socio-economic stability of a household, the members of the household may elect that some should be contributing to household finances from outside the country (Abreu, 2012).

Characteristically, the NELM model explains the dynamics of remittances sent back home from migrants. According to Porumbescu (2015), the remittances are a way of heeding the informal contract between the migrants and their relatives back home. Also, this explains in part why migrants from African and Asian countries are quick to send remittances within one to three months of their arrival in foreign countries. Simply put, Porumbescu (2015) stated that the migrants feel obliged to their family members who have supported their migration decision mainly for economic reasons. By extension, Wadood et al. (2023) related that the NELM is also useful to explain the phenomenon whereby the successful migrants abroad draw other family members from home to their countries of residence or other countries with similar prospects to uplift the economic power of the family as a whole. Nevertheless, a major consequence of this is that where all the family members have exited their home country, the remittances would suffer in the long term. Potentially, this may negatively affect the home country which had been benefitting from remittance-sourced foreign exchange and productivity (Wadood et al., 2023).

EMPIRICAL LITERATURE REVIEW

Evidence from Nigeria

Cookey and Ochuba (2024) analysed the link between unemployment and emigration in Nigeria over the period 1990-2022. The analysis specified an autoregressive distributed lag (ARDL) model to measure the dynamic impact of the total number of unemployed persons in Nigeria over the emigration rate in the country. The unemployment rate was investigated within the framework of gender and location. Thus, there were five variants of unemployment rate (total, male, female, urban and rural) in the empirical analysis of the ARDL model. The study found that all the variants of unemployment have a positive and significant impact on net migration in Nigeria with the exception of male unemployment which was insignificant in its impact. It was concluded that a major factor pushing Nigerians to countries in Europe and America, is high unemployment rate in Nigeria.

Rufai et al. (2019) assessed the impact of gender-specific unemployment and poverty on the geographical mobility of Nigerian workers to foreign countries. The study specified and estimated a logit regression model with an endogenous treatment effect approach. Findings showed that the likelihood of migration is higher for male workers than female workers in Nigeria. In addition, while male workers often migrate for employment-related reasons, female workers generally migrate to establish or protect their marital relationships. Furthermore, Rufai et al. (2019) argued that the root cause of migration is the high rate of poverty in the migrants' households. This tells that lack of sufficient living wages, despite being in employment, is a principal cause of people's resolve to seek greener pastures elsewhere in the world. Nonetheless, the remittances sent back home (especially by male Nigerian migrants) have slowed down the growth in unemployment in Nigeria (Rufai et al., 2019). This outcome follows the premise that the recipients of remittances generally deploy them for employment purposes. Further evidence of this can be found in Nwokoye et al. (2020) and Ihedimma and Opara (2020). In a related study, Oyeleke (2023) stated that the current migration of Nigerians abroad is partly triggered by the persistent absence of quality jobs, which would uplift most Nigerians from abject poverty in their own country.

Ezeabasili et al. (2023) investigated the relationship between unemployment and cross migration, using time series data from Nigeria and the Benin Republic. The authors did a comparative analysis of the association between unemployment and the

migration patterns of citizens in both countries. However, their findings revealed a negative relationship between unemployment and migration in both countries. The correlation coefficient was significant for Nigeria, while it was insignificant for the Benin Republic.

As evidence from other developing countries, Duplantier et al. (2017) explored the determinants of the migration choices of Ghanaian youths, using the household survey data collected through the Ghana Living Standards Survey (GLSS). The study collated the perspectives of students of 136 secondary schools, in order to determine their propensities to relocate abroad after their university education. The data were analysed using percentages and the mean values of the variables considered in the analysis. The study established that an expectation of high-paying jobs in foreign countries is the major factor driving the preferences of Ghanaian youths to migrate abroad. The Ghanaian authorities were, therefore, called upon to institute mechanisms of improving labour market conditions (especially workers' wages and remuneration) in the Ghanaian economy.

Mueller et al. (2020) also examined the relationship between climate-induced migration and unemployment in three middle-income countries in Africa (Botswana, Kenya and Zambia). The study used the census data gathered from about 4 million individuals over the period of 22 years. The data analysis took insights from the panel technique of a fixed-effects regression model. It was revealed that, over the period of the analysis, a decline in the numbers of migrants from Botswana (by about 11%) and Kenya (close to 10%) became clear. However, increased migration was noted in Zambia (by approximately 24%). The authors found unemployment to play a mediating role between climate change and migration patterns in the sampled countries. In particular, while unemployment was found to be highly correlated with a climate emergency in these countries, the climate emergency, of which the consequences manifested markedly in Europe and America, made some workers in the sampled countries to reconsider their motivation to migrate abroad.

Huynh and Vo (2023) analysed the emigration-unemployment nexus in a group of 47 Asian countries (25 upper-income and 22 lower-income countries) over the period 1990-2020. A mix of estimation techniques guided the empirical analysis of the collected data. These techniques included fixed-effects (FE) models, random-effects

(RE) models, generalized least squares (GLS) models and generalized method of moments (GMM) models. The empirical findings were that migration reduced unemployment in all the countries, when considered jointly. However, where the analysis hinged on the categories of the countries, migration increased unemployment in low-income or lower-middle countries such as India, the Philippines, Indonesia and Vietnam. Also, economic growth was found to intervene in the structure of the relationship between migration and unemployment in these countries. More specifically, economic growth generally reduced the unemployment rate, which in turn reduced migration in the sample countries (Huynh & Vo, 2023).

Showing evidence from Developed Countries, Fromentin (2013) examined the relationship between immigration and unemployment, using time series data sourced from the French economy. The data were concerned with variables such as unemployment, immigration, wage and gross domestic product. The author specified a vector error correction model in order to analyse the relationships among these variables. Having found that a long-run relationship exists between the variables, the VECM estimates indicated that immigration negatively affects unemployment in the short run, while (weak) positive effects of migration flows on employment take place in the long run. These findings portend that the immigrants add to the unemployment count in the immediate years after their arrival. On the other hand, in the long term, the immigrants become established, contributing to the economic activity in their host country, in this case France (Fromentia, 2013). Nevertheless, this long-term impact is weak because the immigrants may reconsider their immigration status when they have realized their original purpose, which includes better employment, higher wages and improved living conditions (Fromentia, 2013).

Jean and Jimenez (2011) obtained similar findings as Fromentin (2013) while assessing the unemployment impact of immigration in 18 OECD countries over the data period 1984-2003. Although there was no significant long-run relationship between unemployment for the natives and the number of immigrants, short-run lags exist in the demand for, and supply of labour among the citizens of the sampled countries. Nevertheless, in the long term the temporary shake-ups in the labour dynamics clear out, resulting in win-win outcomes for both the migrants and their host countries. Nonetheless, Jean and Jimenez (2011) state that the high unemployment benefits available in the OECD countries may have contributed to an increased

joblessness rate among the natives, but not necessarily affecting the immigrants in these countries.

Related to Jean and Jimenez (2011)'s findings, Sargent (2023) argued that Brexit that had happened in the UK in 2016 was occasioned by the possibility of immigrants, to constrain the employment conditions of the locals. Similarly, Bonatti (2019) evaluated the Italian unemployment dynamics in the context of the increased immigration of foreigners in mostly low valued-adding activities. The author revealed that the high unemployment rate of the Italian citizens in high-paying jobs is caused by the influx of other Europeans in key economic sectors of Italy. However, the high unemployment in low-paying jobs is connected to immigrants from African and Asian countries. Therefore, Bonatti (2019) called on the Italian authorities to intervene in the trajectories of the unemployment of Italians, as may be explained by the immigration policy in Italy. While further evidence about these trajectories was put forward by Rosolia and Porreca (2020), Fusaro and Lopez-Baro (2021) submitted that the massive migration of Italian citizens to other countries in Europe and America was due to persistent unemployment (mostly among skilled workers) in the Italian economy.

By and large, literature has shown a mixture of evidence on the unemployment-migration nexus. Therefore, it becomes imperative to examine the nexus further in the context of Nigeria, considering the efflux of migrants from the country in recent times, giving rise to the slogan "japa".

METHODOLOGY

Model specification

This study applied the autoregressive distributed lag (ARDL) model technique. The rationale for the choice of this technique is to explore both the short-run and long-run dynamics of the relationship between unemployment and emigration in Nigeria, and also because the data are of a mixed order of integration. Exchange rate and economic growth are considered to be intervening variables in this study. This is because the exchange rate (between the naira and the dollar) is a determinant of the propensity of Nigerians to migrate abroad, and also because the levels of economic growth directly influence the rate of emigrant flow – increased economic prosperity implies less emigration flow. Therefore, the baseline model is constructed as:

$$EMI = f(UNE, EXR, ECG)..... (1)$$

where EMI is the emigration stock of Nigerians, UNE is unemployment, EXR is exchange rate, ECG is economic growth and f represents the functional relationship. In econometric terms, equation 1 is rewritten as:

$$EMI_t = \beta_1 UNE_t + \beta_2 EXR_t + \beta_3 ECG_t + e_t \dots (2)$$

where β_1, β_2 and β_3 are parameters measuring the impact of UNE, EXR and ECG on EMI, respectively. e is a stochastic error term which is normally distributed with zero mean and invariant variance – these properties are important to prevent the coefficient estimates from being biased and inefficient. t is the time period in the analysis (in this case a year). Equation 2 is otherwise called the non-dynamic long-run model of the ARDL. The standard (dynamic) ARDL which combines the long-run model and short-run model is re-written as:

$$EMI_t = \beta_1 UNE_{t-1} + \beta_2 EXR_{t-1} + \beta_3 ECG_{t-1} + \sum_{i=1}^{\rho} \alpha_i \Delta EMI_{t-1} + \sum_{i=1}^q \varphi_i \Delta UNE_{t-1} + \sum_{i=1}^r \theta_i \Delta EXR_{t-1} + \sum_{i=1}^s \pi_i \Delta ECG_{t-1} + e_t \dots (3)$$

where β_1, β_2 and β_3 are long-run coefficients, α 's, φ 's, θ 's and π 's are short-run coefficients, and ρ, q, r and s are optimal lag lengths on variables which had been first-differenced. Δ is a notation for change and e is a stochastic error term.

As informed by the Akaike and Schwartz information criteria, the optimal lag length is 2, meaning that the interpretation of an estimate in a particular year extends to the previous two years. It is important to measure the adjustment process of the short-run dynamics to their long-run equivalents. This calls for the error correction model (ECM). However, the ARDL allows for the inclusion of the speed of adjustment in order to indicate the ECM approach. Therefore, equation 3 is rewritten as:

$$\Delta EMI_t = \alpha_0 + \sum_{i=1}^q \varphi_i \Delta UNE_{t-1} + \sum_{i=1}^r \theta_i \Delta EXR_{t-1} + \sum_{i=1}^s \pi_i \Delta ECG_{t-1} + \xi ECM_{t-1} + e_t \dots (4)$$

where ξ is the speed of adjustment, measuring how the short-run variation of the model converges to its long-run values within a year. Note that, while other variables retain their descriptions, only the short-run variables feature in the ECM model.

Data requirements and sources

Time-series data on the variables mentioned above were used for the estimation of the ARDL/ECM model. The unemployment rate (in %), the stock of Nigerians who

emigrated abroad and the growth rate of GDP (in %) were all sourced from the World Bank's WDI. However, data on real exchange rate (₦/\$) were obtained from the Central Bank of Nigeria (CBN)'s statistical bulletins. All data covered the 42-year period (1981-2022). It is worthy to note that the data on emigration is not directly available on the WDI or elsewhere. Rather, the data on a net migration stock is used to proxy the emigration stock in this study. Also, the series of unemployment rate used in this study followed the International Labour Organization (ILO)'s benchmarks for the computation of the unemployment rate. This implies that the levels of unemployment rates may not be as high as they would have been if the hitherto NBS's methodology were adopted. Also, the latest statistical bulletin of the CBN was published in 2023, implying that the end date of the time series in this study is 2022. Finally, the official data of the naira-dollar exchange rate are their annual average rates, as revised in the various bulletins of the CBN. Importantly, only the latest data (with no further revisions) were considered in this study.

Estimation technique

Having presented the time series data in an Excel spreadsheet, they were transferred to the Eviews workfile to kick-start the data analysis which proceeded in five steps. First, the descriptive statistics of the data were calculated and interpreted. These statistics covered the first moments (mean and standard deviation) and the second moments (skewness, kurtosis and Jaque-Bera statistic). Second, the correlation coefficients were determined. This showcased the degrees of relationship among the variables. Third, unit root and bounds tests were conducted to ascertain the degrees of stationarity and cointegration among the variables. Fourth, the ARDL and ECM models in equations 3 and 4 were estimated to obtain the short-run estimates, long-run estimates and the speed of adjustment. Finally, diagnostic checks such as the R-squared and F-start were conducted to explain the general characteristics of the model.

EMPIRICAL FINDINGS

Descriptive analysis

The descriptive statistics of the variables are presented in Table 1. The average emigration stock in Nigeria over the period 1981-2022 was 25,872. This represents the count of emigrants from Nigeria as being more than the count of immigrants to Nigeria. The standard deviation of 37,832 suggests that migration is prone to large

fluctuations among Nigerians. This is further described by the wide gap between the maximum value (145,917) and minimum value (98,121) of the emigration stock. The negative value of skewness (-0.76) suggests that the migration patterns are disproportionately biased towards the negative values – this means the periods of low emigration stock are more than the periods of high emigration stock. The kurtosis (2.64) is less than the threshold of 3, implying that the series of emigration are leptokurtic – there are many outliers in the series. Finally, the Jaque-Bera statistic (2.87) points out that the series of emigration are normally distributed.

Table 1: Descriptive statistics of the variables

	EMI	UNE	EXR	ECG
Mean	25,872	4.40	108.99	3.04
Stand. dev.	37,832	0.65	112.58	5.39
Minimum	98,121	3.70	0.62	-13.13
Maximum	145,917	6.00	438.46	15.33
Skewness	-0.76	1.92	1.18	-0.82
Kurtosis	2.64	5.51	2.41	4.62
Jaque-Bera stat.	2.87*	24.25**	8.58**	9.09**

* means the statistic is significant at 10%

** means the statistic is significant at 5%

Computed by authors (2024)

The mean value of the unemployment rate is 4.4%. While this may be somewhat surprising to anyone who is aware of the unemployment dynamics in Nigeria, it may be noteworthy that the National Bureau of Statistics recently changed the methodology used to compute the unemployment rate. That is, an unemployed person is now defined as someone who has not worked for only 1 hour in the previous week of the labour survey, as against 4 hours in the previous method. The NBS claimed to have aligned its methodology to the ILO's benchmarks of labour statistics. Therefore, the unemployment rate in Nigeria is characteristically low with the maximum value being 6% while the minimum is only 4% over the 42-year period. In essence. The standard deviation (0.65) shows low fluctuations around the unemployment rate, which is positively skewed (1.92) and flat-tailed with very few outliers (kurtosis = 5.51). The

Jarque-Bera statistic explains that most values of the unemployment rate (24.25) revolve around its mean value.

The mean real exchange rate is ₦108.99/\$ ± 112.58. Given that the standard deviation is more than the mean value, it follows that the real exchange rate is subject to large fluctuations. This is consistent with the standard description of an exchange rate as a highly-volatile variable – the exchange rate may change many times even in a single day. It is worthy of note that the exchange rate analysed in this study does not accommodate the current floating regime being pursued by the Central Bank of Nigeria. This is because such an exchange rate is still unstable and there is no reliable source which collates all the official naira-dollar rates. While the series of exchange rates is positively skewed (1.18), its kurtosis (2.41) indicates that it is thin-tailed with very many outliers. A further confirmation of this is the large range between the minimum and maximum values (₦0.62/\$ and ₦438.46/\$). Like the behaviour of other series, the Jarque-Bera statistic (8.58) holds that the series of real exchange rates considered in this study are normally distributed.

The average growth of economic activity over the period of analysis is 3.04%. This goes with the standard deviation of 5.39%, indicating that the economic growth in Nigeria changes very often. The minimum value of -13.13% (relative to the maximum value of 15.33%) suggests the operation of a business cycle in Nigeria. For example, the recent episode of recessionary trends in Nigeria, as the aftermath of the Covid-19 pandemic, was followed a the period of growth. Nevertheless, the skewness value (-0.82) reveals that the periods of low growth trump the periods of high growth in the country. The kurtosis value (4.62) further demonstrates that there are both negative and positive outliers in the series of economic growth collated for analysis in this study. Consistent with the trend of the other variables, the series of economic growth are normally distributed – as given by the Jarque-Bera statistic of 9.09.

Correlation analysis

The degrees of relationships among the variables are summarised in Table 2. It is noted that unemployment and economic growth are highly negatively correlated (-0.81). This is relatively straightforward to argue, because labour supply seems to hold more influence as a determinant of economic activity than capital and technology in Nigeria. As a result, a rise in economic growth is associated with a fall in

unemployment. In addition, the exchange rate and economic growth have a strong negative relationship (-0.76) because the production of domestic firms in Nigeria is majorly conditioned on materials and resources sourced from abroad. Therefore, the constant naira depreciations discourage the procurement of productive inputs, which in turn decrease the level of aggregate output produced. Particular notice is taken of the correlation between emigration and exchange rate (0.72). Intuitively, the Nigerian emigrants require the foreign exchange in order to bring their migration dream to reality. This causes them to demand the United States dollar and supply naira on the foreign exchange market, explaining the rationale for the high correlation between the stock of net migrants from Nigeria and the naira-dollar exchange rate. Nevertheless, there is weak correlation between the unemployment rate and emigration stock (0.35). This lends credibility to the claim that the primary driver of the emigration of Nigerians to Europe and America may not relate to high unemployment in Nigeria. Rather, people may be disposed to leave Nigeria simply in search of greener pastures, not necessarily because they are jobless in the country.

Table 2: Correlation coefficients of the variables

	EMI	UNE	EXR	ECG
EMI	1.00			
UNE	0.35	1.00		
EXR	0.72	0.68	1.00	
ECG	0.55	-0.81	-0.76	1.00

Authors' computation (2024)

Stationarity analysis

The stationarity properties of the series were ascertained using the tools of Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. For robustness purposes, the unit root specifications involve both intercept and deterministic trends. The ADF and PP statistical values are as presented in Table 3 – the critical values are generated automatically on the EViews software. The ADF and PP statistics for EMI and EXR are less than their critical values at levels, but are greater at first differences only for UNE and ECG. This means that EMI and EXR are stationary at levels, while UNE and ECG are stationary at first differences. In other words, EMI and EXR are I(0) while UNE and ECG are I(1). It is noteworthy that the mix of I(0) and I(1) lends credibility to

the use of ARDL in this study. The existence or otherwise of long-run relationships (cointegration) in the combination of the series with different orders of integration, will be indicated by the bounds test in the next sub-section.

Table 3: ADF and PP statistics of the variables

	Levels		First differences		Order of integration
	ADF	PP	ADF	PP	
EMI	-4.4859*	-4.5402*	-8.2385*	-8.1298*	I(0)
UNE	-2.1482	-2.3786	-6.3982*	-6.4300*	I(1)
EXR	-4.2551*	-4.3880*	-6.4921*	-7.4922*	I(0)
ECG	-2.0338	-2.1298	-9.3918*	-9.0046*	I(1)

* means the statistic is significant at 5%

Bounds test analysis

The bounds test is invoked in order to determine the existence of a long-run relationship in the series being combined in the model. In the context of the ARDL in this study, the bounds test shows the cointegration properties of the series of UNE, EMI, EXR and ECG. Without ascertaining these properties, the short-run dynamics of the series cannot be reconciled with their long-run properties. The bounds test analysis is summarised in Table 4 where it is noted that the bounds F-statistic (17.45) is greater than the lower and upper critical values at 1%, 5% and 10%. This implies that the short-run relationships among UNE, EMI, EXR and ECG can be reconciled with their long-run properties. As a result, this clears the pathway for the empirical analysis of ARDL in this study.

Table 4: Bounds test for cointegration in the variables

F-statistic: 17.45 (lag structure, $k = 3$)

Bounds critical value at 10% – Lower: 3.17, Upper: 4.14

Bounds critical value at 5% – Lower: 3.79, Upper: 4.85

Bounds critical value at 1% – Lower: 4.41, Upper: 5.82

(Three regressors and no deterministic trends in the model)

Critical values for the bound tests follow Narayan (2005)

ARDL analysis

Short-run estimates

The past values of the emigration stock have a positive impact on its current values. Specifically, an increase in the stock of emigrants by 100 persons in the previous year increases the stock by about 128 in the current year. Similar increases in the previous two years, elevate the current-year stock by about 104. This shows that the immediate past events around the migration patterns have more influence than recent events in determining the decisions of Nigerians to migrate abroad. While an increase in unemployment rate has a positive impact on the emigration stock, this impact was found to be insignificant in both the current year and immediate past year, but significant in the immediate past two years. This phenomenon lends support to the initial claim that the outflow of Nigerians to foreign countries is not necessarily related to the absence of jobs in Nigeria. Rather, people's migration decisions are more informed by the need to seek a higher standard of living, higher wages or more impressive working conditions.

Table 5: Short-run estimates

	coefficient	t-statistic
Δ EMI (-1)	1.28*	6.55
Δ EMI (-2)	1.04**	1.69
Δ UNE	6.34***	1.28
Δ UNE (-1)	5.11***	-1.37
Δ UNE (-2)	6.45*	2.33
Δ EXR	-3.84**	-1.92
Δ EXR (-1)	-1.76*	-3.58
Δ EXR (-2)	1.25*	-4.08
Δ ECG	10.33*	4.41
ECM (-1)	-0.5354*	-7.73
$R^2 = 0.7241$;	F-stat = 14.86*	F-stat prob (0.02)

* means the estimate is significant at 5%

** means the estimate is significant at 10%

*** means the estimate is not significant

On the other hand, the fluctuations in the exchange rate were found to be a significant driver of emigration in Nigeria. Given that the naira has been depreciating in value against the dollar in the long term, one is not far from reality by sensing that the Nigerian migrants pay updated attention to the developments on the foreign exchange market while making their migration decisions. Thus, a 1-naira increase in the exchange rate in the current year (which is termed naira depreciation, because the exchange rate is quoted as naira per dollar) leads to a decrease in the migration stock by about 3.84. A similar relationship is obtained in a one-year lag of exchange rate movement (-1.76). However, an increase in exchange rate over the past two years results in higher emigration (by about 1.25). Thus, it can be argued that the migrants would have adapted to a two-year change in the exchange rate while concluding their plans to migrate. In addition, the coefficient estimate of economic growth (10.33) indicates that it has a positive impact on the emigration stock. This finding is somewhat counter-intuitive because one would expect people to have less incentive to emigrate during periods of economic booms. However, it is noteworthy that economic booms improve the personal disposable incomes of people, making them to be more interested in travelling abroad. This is corroborated by the fact that the set of people who are commonly involved in migrating abroad from Nigeria are the affluent rather than the less privileged.

The ECM term is estimated as -53.54%, meaning that about 54% of the deviation in emigration stock from the long-run dynamics will be corrected in one year. That is, full adjustment will take place in approximately two years. The R-squared of 72.41% implies that all the regressors account for about a 72% variation in the regression (emigration stock). The F-stat (14.86) shows that all the regressors are jointly statistically significant.

Long-run estimates

The behaviour of the regressors in the long-run, reflect their behaviours in the short run, except for unemployment. This shows that, while unemployment may not matter significantly in determining changes in the migration decisions of Nigerians in the short run, it is a significant determinant of emigration in the long run. More particularly, an increase in unemployment rate of 1%, increases the stock of emigrants by about 10.24 in the long-run. More emphasis on this is indicated by the result showing the long-run estimate of the unemployment coefficient as the most significant in the class of all the

long-run estimates. The finding is consistent with the assertion of the human capital theory of migration, as found by Nwokoye et al. (2020), Ihedimma and Opara (2020), and Oyeleke (2023), that the current migration of Nigerians abroad is partly triggered by the persistent absence of quality jobs, which would uplift most Nigerians from abject poverty.

Beyond unemployment, changes in economic growth and exchange rate are also significant to bring about long-run changes in emigration.

It is also worthy to note that the R-squared of the long-run model is considerably lower than that of the short-run estimates (58.75% versus 72.41%). This indicates that, in the long run, the variables included in this study may not hold strong power to influence changes in emigration stock. That is, other factors related to financial incentives and labour market conditions, may hold more influence as drivers of the migration patterns of Nigerians. Like that of the short-run estimates, the F-stat of the long-run estimates suggests that they are jointly significant as determinants of the stock of emigrants from Nigeria.

Table 6: Long-run estimates

	Coefficient	t-statistic
UNE	10.24*	-11.06
EXR	4.34*	3.56
ECG	9.65*	6.80
R ² = 0.5875	F-stat = 4.26*	F-stat prob (0.01)

* means the statistic is significant at 5%

CONCLUSIONS AND RECOMMENDATIONS

This study has analysed the impact of unemployment on emigration in Nigeria, with the exchange rate and economic growth considered to be the intervening variables. The empirical findings indicated that, while unemployment has no short-run significant impact on the dynamics of the emigration of Nigerians, it is a significant long-run driver of the propensities of Nigerians to migrate abroad. This shows that the absence of sufficient jobs in the immediate period, does not explain the emigration decisions of Nigerian now, but at a later time. However, the volatility in the naira-dollar exchange rate significantly influences the cost of emigration, with an increased rate tending to discourage the emigration move. Similarly, the migration stock seems to exhibit

cyclical behaviour, such that booms in economic activity increases the number of Nigerians migrating abroad. This could be inferred from the fact that an individual smitten by the menace of unemployment in the short run, while enduring it, gathers momentum to emigrate from the country in the long run. To avoid the loss of skilled labour in Nigeria in the long run, the government needs to work on reducing the unemployment rate in the country in the short run. Given these findings, it is recommended that the Nigerian government should overhaul the wage rates and working conditions of workers in Nigeria. That is, while there should be emphasis on reducing the unemployment rate in the long run, the short-run focus should be directed at increasing the minimum wage and legislating improved working conditions for the Nigerian labour force. As indicated in this study, this promises to be an effective mechanism for discouraging the brain drain which can be derived from the exodus of Nigerians (especially skilled workers) to foreign countries.

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Effectiveness of content marketing on social media platforms: A study of Facebook, YouTube, WhatsApp, and Instagram in southwestern Nigeria

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ABSTRACT

The study examined the effectiveness of content-marketing strategies implemented across diverse social media platforms in Nigeria, by focusing on Facebook, YouTube, WhatsApp, and Instagram. The study employed a cross-sectional design through the use of a structured questionnaire, targeting an active social media user sample with diverse demographic backgrounds across South Western Nigeria. A judgmental technique was adopted to administer a questionnaire to respondents based on reach and engagement to evaluate the performance of content-marketing strategies. Data collected were analysed by means of correlation and regression analysis, using SPSS to determine how the effectiveness of content-marketing influences and shapes the consumption preferences of consumers. The study findings indicate that consumer engagement through the effectiveness of Facebook, YouTube, WhatsApp, and Instagram have shaped consumer perceptions and behaviour within the South-

western part of Nigeria. It was specifically discovered that content types (videos, images, text) do shape consumer perceptions and behaviours in Southern Nigeria. The study concludes marketers, businesses, and digital content creators can enhance user behaviour and consumption preferences by optimizing strategies on Facebook, YouTube, WhatsApp, and Instagram within the Nigeria context. The study yields practical recommendations for businesses to leverage the full potential of social media in the dynamic and culturally diverse Nigerian market. Finally, the study recommended that modifying content-marketing approaches to align with the Nigerian audience's unique characteristics will foster meaningful brand-consumer relationships.

Keywords: content marketing, consumption preferences, performance, social media platforms

INTRODUCTION

The globe currently resides in a time dominated by the internet, where individuals find it necessary daily. The COVID-19 pandemic compelled everyone to stay indoors, leading to increased internet usage. Consequently, various activities such as social media engagement, advertising, buying and selling, and content marketing have experienced a significant boost, primarily conducted through online platforms.

Recently, the advertising landscape, particularly online, has undergone significant transformations (Bátorfy & Urbán, 2020). According to (Rabindranath & Singh, 2024), advertising is defined as "any form of non-personal presentation and promotion of ideas, goods, and services, usually paid for by an identified sponsor.

Usually, establishments or companies secure advertising slots on television or radio, in spaces in newspapers, or in prime locations for billboards on busy streets (McGuigan, 2023). However, despite these efforts, direct communication with target consumers remained a challenge. The advent of new media introduced a novel aspect of human communication known as online advertising, causing a complete shift in the advantages and disadvantages of advertising. Online advertising can be described as the promotion of products or services on the Internet (Bala & Verma, 2018).

Social media marketing involves utilizing social media platforms and websites to promote products or services (Li, Larimo & Leonidou, 2021). While e-marketing and digital marketing remain prevalent terms in academia, social media marketing is

gaining increased popularity among both practitioners and researchers. The emergence of social media has revolutionized the way individuals and businesses connect and interact.

Initially designed for personal and familial social connections, digital social networks have evolved into valuable tools for businesses to advertise products, engage with consumers and suppliers, and manage relationships with other companies. Platforms such as Instagram, Twitter, and Facebook have become integral parts of human life, adopted by individuals and businesses alike (Singh, Halgamuge & Moses, 2019). The widespread use of digital social networks has compelled businesses to develop innovative marketing strategies to establish a lasting presence in the minds of their customers (Connolly, 2020).

Marketing encompasses the various actions a company takes to encourage the purchase or sale of a product or service. It involves activities such as advertising, selling, and delivering products to consumers or businesses.

Content marketing, on the other hand, is a strategic marketing approach employed to captivate, involve, and maintain an audience through the creation and dissemination of pertinent articles, videos, podcasts, and other media. This method aims to establish expertise, enhance brand awareness, and ensure that your business is remembered when the time comes for customers to purchase from your industry.

Their rapid growth has rendered social media impossible to overlook by both individuals and businesses (Brown & Duguid, 2017). Supporting this perspective, Appel et al. (2020) highlight that social media are reshaping the way many businesses engage with their customers. Similarly, consumers utilize social media to take control of their shopping experiences and connect with others. They elaborate that these platforms have become instant marketing tools, employed by ambitious advertisers to enhance awareness of their products and services, thereby establishing a robust online presence and community.

This research will specifically concentrate on social networks such as Facebook, YouTube, WhatsApp, and Instagram within the digital landscape of Nigeria. These platforms offer business organizations the means to connect with their target markets, while also providing individuals the opportunity to engage with the organizations and brands they favour, gaining insights into products and services.

A Facebook page serves as a valuable free marketing tool for businesses, allowing them not only to showcase their products and services, but also to express their personalities and character through customizable pages featuring links, images, and posts (Rajalakshmi, 2021). Facebook's advertising options, such as Marketplace Ads, offer businesses the opportunity to create ads with a headline, copy, image, and a click-through link to a Facebook page, app, or external website (Paunoska, 2020).

YouTube marketing involves creating and uploading videos on YouTube to promote brands or products, ultimately expanding traffic, growing the customer base, and reaching new audiences (Rich, 2018).

WhatsApp Marketing facilitates friendly communication between businesses and customers, where companies utilize the WhatsApp app to share news about products, and special offers, or promptly assist customers with any concerns. This messenger marketing approach allows brands to connect with a vast audience, build strong customer relationships, and increase sales, particularly considering WhatsApp's status as the world's most popular messaging platform with 2 billion active monthly users (Jannah, 2023).

Instagram marketing, catering to individuals aged 16-34, focuses on growing brand awareness, audiences, leads, and sales. Strategies encompass organic content through photos, videos, or carousel posts, reels, and stories, as well as paid content such as Instagram ads, including story ads and shopping ads. Influencer marketing and shopping tools like the Shop tab, Product tags, catalogs, Live shopping, and Instagram Checkout are also key components of Instagram marketing (Nyikos, 2023).

It is crucial to comprehend the underlying reasons that drive people to engage with social media, just as it is vital to recognize their role as highly efficient online advertising channels. This phenomenon arises from the widespread adoption of social media by the masses, even though many aspects of their impact remain uncertain. This research investigates the impact of content marketing on social media platforms, focusing on a case study of the interaction between internet users and Facebook, YouTube, WhatsApp, and Instagram within the digital landscape of South West Nigeria.

RESEARCH PROBLEM AND AIMS

On the digital terrain of South Western Nigeria, marked by a thriving population actively engaging with diverse social media platforms, businesses are increasingly channeling investments into content-marketing strategies to establish and fortify their online presence. Despite the growing adoption of this trend, there is a substantial research gap concerning the nuanced effectiveness of content marketing on specific social media platforms—specifically, Facebook, YouTube, WhatsApp, and Instagram—within the distinctive socio-cultural and economic context of South Western Nigeria.

The challenge at hand revolves around the lack of a comprehensive understanding of how content-marketing strategies are perceived, adopted, and either succeed or encounter challenges across these diverse platforms. The intricacies of user behaviour, cultural influences, and platform-specific features that impact the efficacy of content-marketing campaigns in the South Western Nigerian digital landscape remain largely unexplored. Moreover, given the rapid evolution of social media dynamics, there is a critical need to investigate the dynamic nature of content consumption and its influence on user engagement, brand visibility, and ultimately, business success.

The research questions address the following key inquiries:

- How does content-marketing impact consumer engagement and purchasing behaviour on Facebook, YouTube, WhatsApp, and Instagram within the Nigerian digital landscape?
- How effectively do various content types (videos, images, text) shape consumer perceptions and behaviours on the selected social media platforms in Nigeria?

By delving into these aspects, the research seeks to provide actionable insights for businesses, marketers, and policymakers operating in the South Western Nigerian digital space. It aims to guide them in crafting tailored and culturally resonant content-marketing strategies that align with the preferences and behaviours of the local audience. This research is not only academically significant, but also holds practical implications for optimizing digital marketing efforts in a region characterized by its unique cultural diversity and socio-economic features.

Thus, the research aims to investigate the effectiveness of content marketing on Social media platforms: A study of Facebook, YouTube, WhatsApp, and Instagram in South Western Nigeria.

LITERATURE REVIEW

In Nigeria today there is a growing vibrant social media landscape, with millions of users actively engaging on various platforms. The most popular social media platforms in Nigeria include Facebook, YouTube, WhatsApp, and Instagram. Facebook: Widely used for both personal communication and business marketing, Facebook offers a range of tools for content marketing, including posts, ads, and groups. In addition, YouTube: As a leading video-sharing platform, YouTube is ideal for brands looking to create and share video content, tutorials, and vlogs. In the same way, WhatsApp is increasingly used for marketing through its Status feature and direct messaging. Instagram: Known for its visual content, Instagram is popular for photo and video sharing, stories, and reels, making it a valuable platform for brands targeting younger audiences. These platforms provide diverse opportunities for brands to connect with their target audiences through tailored content strategies. In this context the history of content marketing on social media is a testament to the rapid evolution of digital technologies and changing consumer preferences. From the early days of static web content to the dynamic, interactive, and highly targeted strategies of today, content marketing continues to adapt and innovate, offering brands new ways to connect with their audiences. This history can be traced through several stages:

Early beginnings: Late 1990s to early 2000s

Content marketing in its modern form began to take shape in the late 1990s. At that time, companies started recognizing the potential of the internet to reach wider audiences. Netscape, for example, appointed a director of online and content marketing in 1998, reflecting early recognition of the strategic value of content (Rowley, 2008).

Emergence of social media platforms: Mid-2000s

The real evolution of content marketing began with the rise of social media platforms. Facebook, launched in 2004, was among the first to offer a platform where brands could create pages and engage directly with users. This allowed for more dynamic

and interactive content strategies. Twitter, which emerged in 2006, further transformed the landscape by introducing microblogging. Brands could now share short, real-time updates and interact directly with their audiences, significantly enhancing engagement (Bala & Verma, 2018).

Expansion and diversification: Late 2000s to early 2010s

The late 2000s and early 2010s saw the proliferation of new social media platforms, each offering unique content formats. YouTube (launched in 2005) became the go-to platform for video content, allowing brands to create and share a wide range of video content, from tutorials to advertisements (Burgess & Green, 2018). Instagram, which debuted in 2010, popularized visual content with its focus on photos and short videos. It quickly became a powerful tool for brands to showcase products and lifestyle imagery. LinkedIn, initially launched in 2003 as a professional networking site, also evolved to become a key platform for content marketing, particularly for B2B companies. It allowed brands to share industry insights, company news, and thought leadership articles. (Reis, 2018)

Integration of analytics and influencers: Mid-2010s

By the mid-2010s, content-marketing strategies on social media became more sophisticated with the integration of analytics. Platforms like Facebook and Instagram provided detailed insights into user behaviours and engagement metrics, allowing brands to fine-tune their content strategies for better results (Eaton, 2020). This period also saw the rise of influencer marketing. Brands began to collaborate with social media influencers—individuals with large, engaged followings—to reach specific demographic groups more effectively. Influencer marketing became a key component of social media content strategies, offering a more personalized and credible approach to audience engagement.

Content marketing

Content marketing is defined as a strategic marketing method that emphasizes producing and sharing valuable, relevant, and consistent content to attract and retain a specific target audience, ultimately leading to profitable customer actions. In contrast to traditional advertising, content marketing seeks to engage users by offering valuable information and building a stronger connection with the brand (Mansour & Barandas,

2017). Content marketing is a marketing and business process that attempts to generate profitable customer acts by generating valuable content for customers to attract, retain, and interact with a defined market segment (Emekeokhale, 2021). High-quality content marketing is essential for the success of any online marketing strategy. Companies must perform thorough research in order to develop content that is relevant to their target audience. The goal of content marketing is to educate and inform consumers in order to build a strong relationship with them and ensure brand loyalty (Baltes, 2015). The process of developing and delivering valuable free information in order to gain people's trust, through communication that is done in a way that piques the recipient's interest and creates brand recognition, with the aim of educating, entertaining, engaging, and inspiring them (Järvinen, 2016).

Social content marketing on social media platforms refers to the strategic creation and sharing of content tailored to engage a specific audience, with the aim of building brand awareness, fostering community, and driving customer actions. This involves leveraging various types of media such as text, images, videos, and interactive posts to connect with users in meaningful ways that resonate with their interests and behaviours on social platforms.

According to Tuten (2023), social content marketing encompasses the practices of producing relevant and valuable content that attracts and retains a clearly-defined audience, ultimately leading to profitable customer actions. It focuses on creating authentic and relatable content that not only promotes a brand, but also encourages social interaction and community building within the platform's ecosystem. For instance, a company might use Instagram to post visually appealing photos and stories that highlight their products in everyday use, thereby fostering a sense of authenticity and relatability. Meanwhile, on LinkedIn, the same company might share insightful articles and industry news to establish thought leadership and professional credibility.

Overall, the goal of social content marketing is to use the power of social media to build lasting relationships with customers by providing them with valuable and engaging content that meets their needs and interests (Ebrahim, 2020)

Content marketing has been analysed and defined by various scholars, who highlight its strategic importance and multifaceted nature in modern marketing practices.

Content marketing is defined as a strategic approach aimed at producing and distributing valuable, relevant, and consistent content to attract and retain a specific audience, ultimately driving profitable customer action (Jeganathan & Szymkowiak, 2020). This definition underscores the intent behind content marketing to not just engage audiences, but also to achieve specific business objectives. Simona Vinerean (2014) emphasizes the role of content marketing in building trust and relationships with customers by providing them with useful and engaging information, which can lead to increased customer loyalty and brand preference. Vinerean points out that effective content marketing requires understanding the target audience's needs and preferences to tailor content that resonates with them.

However, the following are the essential benefits of content marketing:

The essential benefits of content marketing

- **Brand awareness:** Effective content marketing can increase brand visibility and establish a brand's presence in the digital landscape.
- **Audience engagement:** High-quality content can engage users, encouraging them to interact with the brand through likes, comments, shares, and direct messages.
- **Lead generation:** By providing valuable content, brands can attract potential customers and nurture leads through the buyer's journey.
- **Customer retention:** Engaging content can help maintain customer interest and loyalty, leading to repeat business.
- **Search Engine Optimization (SEO) Benefits:** Quality content improves search engine rankings, making it easier for potential customers to find the brand online.

Social media trends usage in Southwestern Nigeria

Social media usage in Southwestern Nigeria has been on a steady rise, influenced by increased internet penetration and smartphone adoption. Here are some key trends and statistics: **Internet penetration:** As of 2023, Nigeria has an internet penetration rate of approximately 50%, with a significant portion of users located in urban areas like Southwestern Nigeria (Adetayo & Williams-Ilemobola, 2021). **Social media popularity:** Facebook remains the most popular social media platform in Nigeria, followed by

WhatsApp, YouTube, and Instagram. These platforms are widely used for both social interaction and business marketing. Content consumption: Users in Southwestern Nigeria prefer visual and interactive content. Video content on platforms like YouTube and Instagram sees high engagement rates, while text and image-based content on Facebook also performs well. Mobile usage: The majority of social media users access platforms via mobile devices (Ray & Saeed, 2015). This trend highlights the importance of mobile-optimized content for effective marketing. The likes of Facebook has over 27 million users in Nigeria, with a significant concentration in urban regions (Oyetunde, 2017). YouTube: High engagement with video content, especially among younger demographics. WhatsApp: Widely used for personal communication and increasingly for business interactions. Instagram: Popular among younger users, with high engagement rates for visual content. Understanding these trends and statistics helps marketers develop strategies that align with user preferences and behaviours in Southwestern Nigeria, enhancing the effectiveness of their content-marketing efforts.

Case studies of successful campaigns

Coca-Cola Nigeria ran a successful content-marketing campaign on Facebook that leveraged video content to celebrate the Nigerian culture and promote its products. By using engaging storytelling and high-quality visuals, the campaign achieved significant engagement, including thousands of likes, shares, and comments. The campaign's success was attributed to its cultural relevance and the use of influencers to amplify the reach (Akingbade, 2024). MTN Nigeria utilized a series of Facebook posts featuring customer testimonials and user-generated content. By showcasing real customer experiences and encouraging users to share their stories, MTN fostered a sense of community and authenticity. The campaign saw a substantial increase in engagement metrics and helped build stronger customer loyalty (Yusuff & Odubanjo, 2020). Indomie, Nigeria's content-marketing strategy on Facebook included interactive posts, such as recipe ideas and cooking tips, combined with contests and giveaways. This approach not only engaged users, but also encouraged them to share their own content, leading to a viral effect. The campaign's success highlighted the importance of interactive and user-focused content (Idowu, 2023).

METHODOLOGY

Research methodology refers to the practical aspects of conducting a research study. Specifically, it involves how a researcher systematically designs the study to ensure valid and reliable results that address the research aims, objectives, and questions. (Snyder, 2019).

Research design

The research design that was employed in this study is a survey research design. This survey research design helped the researcher to analyse the effectiveness of content marketing on social media platforms: A case study of Facebook, YouTube, WhatsApp, and Instagram amongst South Western Nigerian Population, with sample and sampling techniques.

Population

The total population for this study comprises some selected citizens in South Western Nigeria. The Google questionnaires were randomly sent to about 200 WhatsApp users in South Western Nigeria. However, only 142 users filled out and submitted the Google questionnaire.

Instrumentation

The instrument that was used was a Google questionnaire. It elicits information from the participants in South Western Nigeria

Procedure for data collection

The researchers created a Google-based form and the link was sent to some selected users of WhatsApp in South Western Nigeria. The questionnaires came with an introductory note, as well as an anonymity disclaimer to protect the data collected during this research.

Data-analysis techniques

The participants' personal and status data were described using percentages. Research questions 6-20, with the corresponding hypotheses, were asked using different statistical techniques to test their level of significance.

RESULTS

The data obtained through online questionnaires were subjected to statistical analysis through the employed SPSS version 24.

Results

The characteristics of the study respondents were established with regard to age and gender. Of the study participants, 65.5% were male and 35.2% were female. The participants with a score of 5.6% were Under 18 years of age, 28.1% were between 18-24 years of age, and 49.2% were 45 years and older. Most of the participants in the 49.2% group, were between the ages of 25-34 years of age. The respondents are active users of social media platforms in South Western Nigeria.

Table 4.1: The demographics characteristics of the respondents

Participant demographics	Sub constructs	Frequency (F)	Percentage (%)
Sex	Male	95	65.5%
	Female	50	35.2%
Age bracket	Below 18 years	8	5.6%
	18-24 years	40	28.1%
	25-34 years	70	49.2%
	35-44years	21	14.5%
	Above 45 years	6	4.22%

Participants = 142

Analysis of the research questions

Table 4.2: How does content marketing impact consumer engagement and purchasing behaviour on Facebook, YouTube, WhatsApp, and Instagram within the Southwestern states of the Nigerian digital landscape?

Variable	Mean	Standard deviation	R	R ² (%)	Remark
Content marketing	13.70	2.78	0.507**	0.257 (25.7%)	Positive influence
Consumer engagement and purchasing behaviour	14.97	3.11			

Field survey, 2024

The table above indicates a positive relationship between consumer engagement and purchasing behaviour through the effectiveness of Facebook, YouTube, WhatsApp, and Instagram within the Southwestern Nigerian digital landscape ($r = 0.507$). Facebook, YouTube, WhatsApp, and Instagram had a mean value of 13.70 and a

standard deviation of 2.78, while consumer engagement and purchasing behaviour had a mean value of 14.97 with a standard deviation value of 3.11. This indicates that Facebook, YouTube, WhatsApp, and Instagram determine purchasing behaviour within Southwestern Nigeria by 25.7%.

Table 4.3: What is the effectiveness of various content types (videos, images, text) in shaping consumer perceptions and behaviours on the selected social media platforms in Southwestern Nigeria?

Variable	Mean	Standard deviation	R	R ² (%)	Remark
Various content types	19.36	3.12	0.162	0.026 (2.6%)	Positive relationship
consumer perceptions and behaviours	14.97	3.11			

Field survey, 2024

The table above indicates the effectiveness of various content types (videos, images, and text) that had the mean value 19.36 and a standard deviation of 3.12, while consumer perceptions and behaviours in Southwestern Nigeria had a mean value of 14.97 with a standard deviation value of 3.11. This indicates that there is a positive relationship between various content types (videos, images, text) in shaping consumer perceptions and behaviours on the selected social media platforms in Southwestern Nigeria. ($r = 0.162$). The implication is that content types (videos, images, text) shape consumer perceptions and behaviours in Southwestern Nigeria by 2.6%.

ANALYSIS OF STUDIED VARIABLES

This part provides the statistical analysis of the studied constructs. This is done through descriptive statistics; Mean (*M*) and Standard Deviation were calculated.

Analysis of data using correlations of the studied variables

Constructs	n	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Consumer purchasing behaviour	14 2	11.5 7	2.70	1				
2. Facebook	14 2	14.4 4	3.00	.294	1			
3. Youtube	14 2	14.6 3	3.48	.236	.60	1		
						6		

4. WhatsApp	14 2	14.3 4	3.45	.340	.49 2	.46 8	1	
5. Instagram	14 2	14.6 3	3.88	.416	.51 2	.40 0	.58 5	1

M= Mean; SD= Standard Deviation.

The descriptive statistics of the constructs above show that Facebook ($M = 14.44$, $SD = 3.00$) is a good predictor of consumer purchasing behaviour in Southwestern Nigeria ($M = 11.57$, $SD = 2.70$) ($R = 0.294$). YouTube ($M = 14.63$, $SD = 3.48$) has a positive correlation with consumer purchasing behaviour in Southern Nigeria ($r = 0.294$), while WhatsApp. ($M = 14.34$, $SD = 3.45$) has a positive correlation with consumer purchasing behaviour in Southwestern Nigeria ($r = 0.340$), and Instagram ($M = 14.63$, $SD = 3.88$) has a good correlation with consumer purchasing behaviour in Southern Nigeria ($r = 0.416$),

Hypothesis testing

H0: Content marketing does not influence consumer engagement and purchasing behaviour within the Southwestern Nigerian digital landscape

Constructs	Unsaturated coefficients		Standardized coefficients	T	P
	B	SE	Beta (β)		
Constant	4.656	1.126		4.134	.000
Content marketing	.080	.013	.466	6.239	.000

Constant= 4.656, $F(1, 140) = 38.928^{***}$, $p < .001$, $R^2 = .0218$

The above regression outcome in the table indicates that content marketing is responsible for a difference of 21.8 % in consumer engagement and purchasing behaviour within Southwestern Nigeria ($R^2 = .0218$; $F(1, 140) = 38.928^{***}$, $p < .001$). The results indicate that content marketing influences consumer engagement and purchasing behaviour within the Southwestern Nigerian digital landscape ($\beta = 0.466$; $p < 0.001$).

The B value delineates that consumer engagement and purchasing behaviour within the Southwestern Nigerian digital landscape would be determined by one unit increases in the use of content marketing. Therefore, it is predicted that 1 unit increase in the use of content marketing would lead to a corresponding 0.080 unit increase in consumer engagement and purchasing behaviour. The null hypothesis is, therefore, rejected because it lacks statistical backing.

Hypothesis testing

H0: Various content types (videos, images, text) do not shape consumer perceptions and behaviours on the selected social media platforms in Southwestern Nigeria

Construct	Unsaturated coefficients		Standardized coefficients	T	P
	B	SE	Beta (β)		
Constant	7.745	1.073		7.215	.000
Content marketing	.265	.073	.294	3.639	.000

Constant= 7.745, $F(1,140) = 13.245^{***}$, $p < .001$, $R^2 = .0.080$

The results of the regression table indicate that various content types (videos, images, text) are responsible for the variance of 80% consumer perceptions and behaviours ($R^2 = .0.080$; $F(1,140) = 13.245^* p < .001$). The results obtained by means of various content types (videos, images, text) influence consumer perceptions and behaviours ($\beta = 0.294$; $p < 0.001$). The B value indicates levels of increase in consumer perceptions and behaviours, which are functions of a 1-unit rise based on the consumer engagement of various content types (videos, images, text). The results obtained here, indicate that a 1 unit increase in various content types (videos, images, text) had a corresponding 0.265 increase in consumer perceptions and behaviours, with all other factors held constant. The null hypothesis is therefore rejected, due to lack of statistical support.

Result implications

The results summary in the table shows that content marketing on social media is a good predictor of consumers' purchase decisions in the Southwestern states of the Nigeria digital landscape. The study shows all the dimensions of content marketing Facebook, YouTube, WhatsApp, and Instagram with coefficient and probability values of $\beta = 0.466$; $p < 0.001$) and ($\beta = 0.294$; $p < 0.001$). The $F(1, 140) = 38.928^{***}$, $p < .001$, shows that Facebook, YouTube, WhatsApp, and Instagram are good predictors of the customers' experiences through contents, images and text on social media platforms. This explains $R^2 = .0.218$ accounted for an increase in one 1-unit customers' value in the use of content-marketing tools. The $F(1, 140) = 13.245^{***}$, $p < .001$, shows the fitness and the overall significance of the regression model. It implies that various content types (videos, images, text) shape consumer perceptions and behaviours

through the selected social media platforms in Southwestern Nigeria. That is the adjusted $R^2=0.080$ coefficient of the determination suggested that 80% in consumers purchase behaviour is accounted for by the use of Facebook, YouTube, WhatsApp, and Instagram. However, the model does not explain 20% of the change in customers' purchase behaviour among active users of social platforms in Southwestern Nigeria. This implies that there are other factors associated with customers' purchase behaviour that were not captured in this model.

CONCLUSION AND RECOMMENDATION

The result affirmed that the effectiveness of content marketing on social media platforms is veritable tool that enhances the purchase decisions of customers that actively use Facebook, YouTube, WhatsApp, and Instagram. The first results indicate a positive relationship between consumer engagement and purchasing behaviour through the effectiveness of Facebook, YouTube, WhatsApp, and Instagram within the Southwestern Nigerian digital landscape. This is consistent with the position that platforms such as Instagram, Twitter, and Facebook have become integral parts of human life, adopted by individuals and businesses alike (Singh et al., 2019). It was specifically discovered that content types (videos, images, text) shape consumer perceptions and behaviours in Southwestern Nigeria. This is in agreement with the position that content marketing objectively developed and assists in delivering valuable free information in order to gain people's trust. This communication is directed at piquing the recipients' interest and creating brand recognition, with the aim of educating, entertaining, engaging, and inspiring them. It can be reported that the growing trend of active social media users calls for the effective use of content marketing for business organization in Southwestern Nigeria. This indicates that organization product offerings should transcend focus on quality products to customers. The study findings have shown that Southwestern Nigeria has shown good engagement in social media. This supports the findings by Internet penetration: As of 2023, Nigeria had an internet penetration rate of approximately 50%, with a significant portion of users located in urban areas like Southwestern Nigeria. This indicates that the proponents' users of social media have increased in Southwestern Nigeria. The study concludes that marketers, businesses, and digital content creators can enhance user behaviour and consumption preferences by optimizing strategies on Facebook, YouTube, WhatsApp, and Instagram within the Nigerian context. To this end, the study

submits that, in future, trends such as the integration of virtual reality (VR) and augmented reality (AR) in social media platforms, will continue to rise which will be accompanied by influencer collaborations, and the growing importance of privacy and personalization by shaping the future of content marketing. The study yields practical recommendations for businesses to leverage the full potential of social media in the dynamic and culturally diverse Nigerian market. Finally, the study recommends that modifying content-marketing approaches to align with the Nigerian audience's unique characteristics, will foster meaningful brand-consumer relationships.

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The use of market intelligence to improve market performance of retail SMMEs in Cape Town

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ABSTRACT

Gaining knowledge about the desires of consumers and the actions, plans, and methods of competitors is valuable for recognising marketing prospects and evaluating market success. However, due to the increasing demand from consumers for better product quality and the rise in competition, the utilisation of market intelligence becomes important for an improved understanding of market conditions – both customers' needs and competitive strategy.

Objective: This paper argues that the utilisation of market intelligence to assess market performance would enable effective marketing response to demand, actions, and tactics of customers and competitors.

Previous work: A previous study has presented data on a marketing environment characterised by complexity, with both difficulties and possibilities. A finding that shows how market intelligence is used, improves understanding of market conditions for effective marketing action.

Methodology: This study employed a positivist paradigm and utilised a survey approach to gather quantitative data from 30 purposively randomly selected respondents from retail small, medium, and micro enterprises (SMMEs) in the central area of Cape Town. The data analysis was conducted utilising both descriptive and inferential statistics.

Findings: The results indicate that the limited use of market intelligence prevents retail SMMEs from adequately understanding market conditions, thereby hindering their market performance. Enhanced market intelligence practices are crucial for improving the ability of SMMEs to respond effectively to market demands and competition.

Keywords: market intelligence; market performance; retail businesses, SMMEs

INTRODUCTION

The identification of marketing opportunities — critical to determining market performance — relies on a deep understanding of competitors' activities, strategies, and customer needs (Kotler, 2016). As customer demands for better products grow and market rivalry intensifies, market intelligence has become essential for analysing competitors' and customers' behaviours and tactics. This approach aids small and medium-sized enterprises (SMMEs) in evaluating their market position, and identifying opportunities and challenges in a complex and dynamic business environment. This paper argues that data forms the cornerstone of market intelligence and that adopting a data-driven business strategy can significantly enhance SMME performance in volatile, competitive environments.

A data-driven business strategy leverages technology, customer data, and analytics to identify leads, maintain customer relationships, attract new customers, and increase revenue. In the context of the fourth industrial revolution—characterized by high volumes of data generated every second—the potential of such strategies is enormous (Sanil et al., 2022). Effective use of market intelligence, reflected in improved business performance, enables SMMEs to enhance their competitiveness. While market intelligence has long been recognized as a critical tool for success (Ncube & Ndlovu, 2022), its adoption by SMMEs in developing economies remains limited (Keelson, Cúg, Amoah, Petráková & Addo, 2024).

South Africa exemplifies these challenges due to its unique socio-economic landscape and complex economic climate. Since the end of apartheid in 1994, the country has worked to integrate into the global economy, while pursuing economic growth, poverty reduction, and unemployment alleviation. However, fostering SMMEs as a driver of economic activity has been difficult, despite sound macroeconomic policies (Mhlongo & Daya, 2023). Recognizing the critical role of SMMEs in addressing unemployment and promoting development, the South African government has actively supported

SMME growth since 1996 (Enaifoghe & Ramsuraj, 2023). SMMEs are viewed as pivotal for stimulating economic reform, particularly given that South Africa's labour market is dominated by low-skilled employment (Ayandibu & Houghton, 2017). Furthermore, SMMEs have the potential to address poverty through entrepreneurship and innovation.

Despite these efforts, the SMME failure rate in South Africa remains among the highest globally, with an estimated 60-70% of businesses failing within their first three years of operation (Global Entrepreneurship Monitor, 2022). Previous studies (Eze & Lose, 2023; Fatoki, 2014) attribute this high failure rate partly to the ineffective use of market intelligence. SMMEs often lack the resources and skills needed to fully leverage market intelligence for competitive advantage. Venter et al. (2018) highlight a persistent gap between understanding market intelligence and applying it strategically (Venter & van Rensburg, 2014).

Given the critical role of SMMEs in South Africa's economy and the proven benefits of market intelligence, this study focuses on the use of market intelligence by fast-moving consumer goods (FMCG) retail SMMEs in Cape Town. It aims to explore specific strategies and tactics employed by these businesses to leverage market intelligence and investigate the challenges they face in implementing such practices. This inquiry is particularly relevant considering South Africa's economic context, where fostering SMME growth remains integral to realising broader socio-economic goals.

STATEMENT OF THE RESEARCH PROBLEM

Retail small, medium, and micro enterprises (SMMEs) in Cape Town face significant challenges in effectively utilizing market intelligence to drive business performance, despite its critical role in decision-making and competitive positioning. High failure rates among SMMEs—approximately 60–70% within their first three years of operation (Bushe, 2019)—highlight systemic barriers such as limited access to resources, inadequate training, and the lack of structured approaches to market intelligence. These challenges are particularly pronounced in South Africa, where economic volatility and resource constraints compound the difficulties faced by SMMEs (Langton & Mafini, 2023).

Market intelligence has long been recognized as a valuable tool for identifying opportunities, minimizing risks, and responding to dynamic market conditions (Carson,

O'Connor & Simmons, 2020). However, studies show that its application remains inconsistent among SMMEs in developing economies, including South Africa, due to gaps in understanding and utilization (Ogunsola, Dlamini & Hadebe, 2023). Barriers such as budgetary constraints, lack of training, and misconceptions about market intelligence as a form of corporate espionage, further hinder its adoption (Mboniyane & Ladzani, 2011).

Considering the critical role of SMMEs in economic growth and employment creation, this study investigates the extent to which retail SMMEs in Cape Town employ market intelligence, the barriers they encounter in its application, and the impact of these challenges on their market performance.

Objective and sub-objectives of the study

The main objective of the study was to investigate the market intelligence use in retail SMMEs in Cape Town. Sub-objectives seek to understand the extent to which market intelligence is used by SMMEs and, in so doing, how they identify the implementation process of market intelligence, and establish how the use of market intelligence improves performance

Main research question

Do retail SMMEs in Cape Town use market intelligence? Sub-questions: to what extent does the use of market intelligence contribute to improved market performance?

Research design, epistemology, and methodology

The research design serves as the blueprint for a study, outlining how data will be collected, analysed, and interpreted to answer the research questions (Babbie, Mouton, Vorster & Prozesky, 2010). A research design guides the selection of the participants as well as the data collection tools. For this study, a descriptive research design was selected, as it aligns with the study's objective of exploring the opinions of FMCG owner-managers of market intelligence to improve market performance. Descriptive research is particularly useful for answering questions such as "who," "what," "when," "why," and "how." Furthermore, it enables researchers to examine phenomena and make judgments that may contribute to theory development. In this

study, a descriptive research design provided a comprehensive view of market intelligence practices among FMCG SMMEs in Cape Town.

Epistemology

Epistemology addresses the nature and scope of knowledge within a discipline and considers what constitutes valid knowledge (Fasco, Asiimwe, Tushabe and Ssekabira, 2024). Research can be conducted within various epistemological paradigms, including realism, interpretivism, and positivism. This study adopts a positivist epistemological stance.

Positivism assumes that social reality can be objectively observed, measured, and empirically explained (Alakwe, 2017). Under this paradigm, the researcher functions as an objective analyst, drawing conclusions based on observable data independent of personal opinions or biases. The positivist approach is appropriate for this study, as it relies on quantitative data, which enables the objective measurement and analysis of market intelligence practices.

METHODOLOGY

Given the adoption of positivism, a quantitative research approach was deemed the most suitable for this study. According to Bryman et al. (2014), quantitative research involves the collection and analysis of numerical data to test hypotheses and identify patterns (Bryman et al., 2014). This approach was chosen to quantify the adoption, utilization, and benefits of market intelligence among FMCG owner-managers in Cape Town. By collecting data on the percentage of participants who use market intelligence and its impact on their businesses, the study aimed to provide empirical evidence of its role in improving SMME performance.

Research population and sample

The target population for this study consisted of FMCG retail SMMEs located in Cape Town's central district. To select participants, the study employed a convenience (or accidental) sampling technique, distributing 100 questionnaires among these SMMEs. This sampling method was chosen due to the ease of access to participants, making it a practical choice for the researcher.

Data collection, analysis, and interpretation

Primary data was collected using a questionnaire survey, chosen for its efficiency in gathering large volumes of information within a limited timeframe. Questionnaires are well-suited for quantitative research, offering a structured format to capture data that can be statistically analysed. Although this method has certain limitations, such as potential response bias or incomplete answers, these challenges were mitigated by careful administration.

To enhance the response rate and data accuracy, the questionnaires were hand-delivered to respondents and collected immediately after completion. The data obtained was analysed using the Statistical Package for the Social Sciences (SPSS) Version 25, ensuring robust statistical analysis. The quantitative approach enabled the investigation of the cause (marketing dynamics) and effect (information/knowledge) within the phenomenon of market intelligence and marketing performance. This systematic analysis provided insights into how FMCG retail SMMEs utilize market intelligence to enhance their market outcomes.

LITERATURE REVIEW

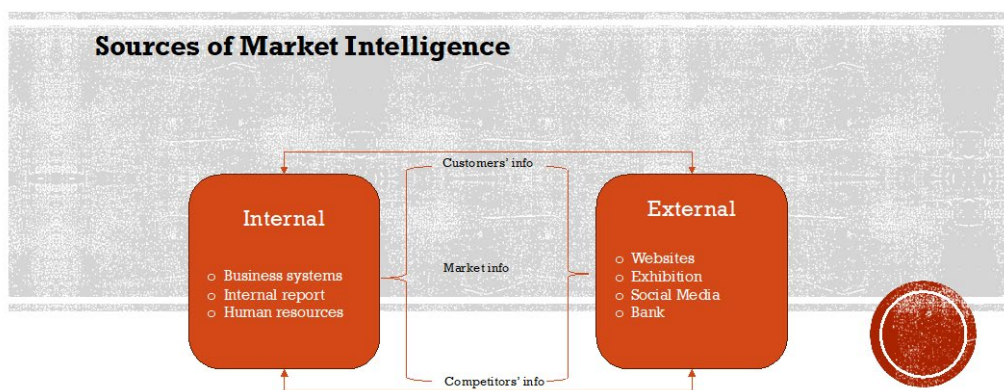
Market intelligence is important to retail SMMEs, due to new market realities characterized by changes and challenges occasioned by new technology, globalization and the social structure of society. These changes create the need for businesses to become more proactive and responsive in their marketing approaches. Most businesses and retail SMMEs could benefit from the use of market intelligence that recognizes the possible impact the changes and challenges could have on their market performance. Market intelligence is often used interchangeably with other business data collection terms such as competitive intelligence, market research, environmental scanning, and business intelligence. In this paper, market intelligence will be used consistently to denote the collection of data as information to understand market conditions and competitive activities for an effective marketing response to gain competitive advantage and improve small business performance.

Sources of market intelligence

The data used for market intelligence is usually from both internal and external sources.

Internal sources of information refer to data that are collected from within the business, and this can be sourced from employees, and sales reports as well as other stakeholders in the business. External sources of information on the other hand are usually obtained from that external environment of the business that may have a direct or indirect impact on the business. Sources of such information are the internet, competitors, the government, publications, and manufacturers, to name but a few.

Below is a diagram to illustrate the sources of market intelligence



Source: Anyongodi, Onojaefe, (2024)

Benefits of market intelligence

It helps an organisation monitor the performance of its products closely and adjust where needed (Igbaekemen, 2014). Information obtained with respect to how products are performing compared to the products of competitors, will help the organisation decide on what changes to make to the product, or what marketing strategy to adopt to increase its sales performance.

Relevant market intelligence information helps managers to make management decisions under all kinds of circumstances such as certainty, uncertainty and risk. This is because it provides an organisation with a decision support system. Sewdass and DuToit (2015) agree with this benefit of market intelligence by mentioning the fact that market intelligence will help a company achieve its business goals through improved decision-making (Sewdass & Dutoit, 2015).

According to Venter and Rensburg (2014), market intelligence enables businesses to identify opportunities for profitable growth (Venter & van Rensburg, 2014). Additionally, market intelligence empowers organizations to respond more quickly to changes in the business environment, as businesses making active use of market intelligence, are better equipped to detect shifts in market trends early. This proactive approach allows them to make informed decisions and implement strategies to address potential disruptions before they escalate.

Challenges of market Intelligence

Even though market intelligence offers many benefits, it is not without its own shortcomings. The availability of too much information may be one of the biggest challenges that businesses face with regard to market intelligence, as it becomes very difficult to glean what is timely and necessary. Another challenge is that, because of a lack of education in the field, some business owners consider market intelligence to be corporate espionage, which they then refuse to take part in. Other challenges cited by (Muller 2007) are:

1. Budgetary and resource constraints – lack of funds and/ or willingness to invest.
2. Return on investment – unable to understand the benefits of ROI.
3. Lack of the training, skills, and competency needed to collect and use the information

Business performance

Business performance is broadly defined as a firm's ability to realise its objectives and deliver value to the stakeholders. Modern definitions highlight the importance of both financial and non-financial indicators in evaluating performance (Neely 2007). Performance encompasses efficiency (meeting internal expectations), effectiveness (fulfilling external demands), and competitiveness in the market (Dorf & Raitanen, 2005). For this study, performance is defined as a set of metrics reflecting profitability, market share, and sales growth — critical indicators of business success in competitive environments.

Recent studies underscore the significant role of market intelligence in driving business performance. Waithaka et al. (2016) found that firms with advanced market intelligence practices, achieved superior financial performance in competitive markets

(Waithaka, 2016). They observed a positive impact of competitive intelligence on customer satisfaction and operational efficiency in Kenyan retail businesses. In Nigeria, Ezenwa et al. (2018) reported that competitor-driven pricing strategies contributed significantly to customer retention and revenue growth. These findings reinforce the importance of market intelligence in enhancing business performance, particularly for SMMEs.

This study focuses on three key indicators of business performance:

Profitability: Profitability reflects a firm's ability to generate revenue exceeding its cost. Metrics such as a net profit margin and operating profit margin are commonly used to assess profitability, with improvements indicating sound decision-making and operational efficiency.

Market share: Market share measures the proportion of the market controlled by a business's products or services. Growth in market share is a strong indicator of competitive success and customer acquisition, while a decline signals potential performance issues.

Sales Growth: Sales growth, encompassing all activities leading to product consumption, is a direct measure of business success. Sustained increases in sales indicate effective marketing strategies and customer engagement efforts.

Data analysis

A structured questionnaire was used to collect the data. Section A gathered background information about the SMMEs, including business structure, workforce size, years in operation, and respondent demographics. Quantitative data were analysed, using statistical methods to examine the relationships between market intelligence practices and performance metrics, with a focus on identifying actionable insights for SMMEs.

Results

Demographic characteristics and business profile

The study analysed 30 participating businesses, categorized into three types: sole proprietorships (16.7%), partnerships (23.3%), and companies (56%). Table 1 summarizes the distribution of business types.

Additionally, most businesses were small enterprises, with 60% employing fewer than 50 employees. Employment size was distributed as follows: 1–10 employees (60%), 11–50 employees (33.3%), 51–100 employees (3.3%), and above 100 employees (3.3%). Table 1 presents the employment distribution.

Regarding business age, the majority (53.3%) had been operational for 1–5 years, 6.7% had operated for 6–10 years, while 11–20 years and 20+ years were represented by 23.3% and 16.7%, respectively. This indicates that most businesses were relatively young.

Participants were primarily managers (93.3%), while 6.6% were owners. In terms of educational background, 50% held diplomas, 33.3% had matric certificates, 13.3% held degrees, and 3.4% had master's qualifications (Table 1).

Table 1: Demographic characteristics and business profile

Characteristics	Frequency (n)	Percentages
Form of Business		
Sole Proprietor	5	16.7
Partnership	7	23.3
Company	17	56
Number of Employees		
1–10 Employees	18	60
11–50 Employees	10	33.3
51–100 Employees	1	3.3
Above 100 Employees	1	3.3
Position in Business		
Owner	2	6.6
Manager	28	93.3
Educational Background		
Matric	10	33.3
Diploma	15	50
Degree	4	13.3
Masters	1	3.4

Market intelligence utilization

Adoption and sources

Eighty percent of the respondents reported that they used market intelligence, while 20% indicated they did not. The adoption rate showed significant statistical differences ($\chi^2 = 0.002$, $p < 0.05$) and a moderate practical effect size (Cramér's $V = 0.4$) (Table 2). The main sources of market intelligence included the internet, newspapers, and

customers (43%), followed by suppliers and adverts (30%) and consultants or industry publications (27%) (Table 3).

Table 2: Use of market intelligence

Use of Market Intelligence	Yes (%)	No (%)	P-value
Respondents	80	20	0.002*

*Significant differences ($p < 0.05$) at 95% confidence level

Table 3: Sources of market intelligence

Sources	Percent (%)
Internet, newspapers, customers	43%
Suppliers, adverts	30%
Consultants, colleagues, industry publications	27%

Duration and presentations

Among the users of market intelligence, 58% had been collecting and analyzing data for under 5 years, 17% for 6–10 years, and 25% for over 11 years. Regarding presentation, 70% of respondents used face-to-face meetings, reports, and emails, 20% employed daily flashes and briefs, and 10% utilized presentations.

Table 4: Duration of use of market intelligence

Duration of usage of market intelligence	Percent (%)
0-5 years	58
6-10 years	17
11 and above	25

Table 5: Market intelligence presentation methods

Market intelligence presentation methods	Percent (%)
Face-to-face meetings, reports, and emails	70
Daily flashes and briefs	20
Presentations	10

Usage and contributions

Market intelligence was primarily used for advertising, promotion, and sales (53%), decision-making and market share determination (30%), and SWOT analysis (17%). Respondents agreed that market intelligence contributed to minimizing risks, uncovering potential problems, and aiding planning. A significant proportion (79%, $\chi^2 = 0.001$, $p < 0.05$) identified these benefits.

Table 6: Usage of market intelligence information

Area of information usage	Percent (%)
Advertising, promotion and sales	53
Decision-making and determining market share	30
SWOT analysis	17

Table 7: Contributions made by market intelligence

Contributions made by market intelligence	Yes (%)	No (%)	P-value
Respondents	79	21	0.001*

*Significant differences ($p < 0.05$) at 95% confidence level

Factors that relate to information gathering, decision-making and business performance

This section examines how market intelligence contributes to information gathering, decision-making, and business performance based on respondents' perspectives. A Likert scale was used to capture the degree of agreement, neutrality, or disagreement, with a series of statements. The findings revealed both strengths and gaps in the application of market intelligence, as detailed below.

The study found that 75% of respondents agreed that they actively kept track of their loyal customers. This is significant because knowing customers supports brand building, helps meet expectations, and fosters repeat business. A statistical analysis confirmed the relevance of this finding ($p = 0.025$). Similarly, 71% of respondents indicated that they were aware of their competitors, which enables better market positioning and the development of competitive strategies. This finding was also statistically significant ($p = 0.027$).

In terms of competitors' strengths and weaknesses, 63% of respondents agreed that they knew their competitors' strengths, while 67% reported awareness of their competitors' weaknesses. Such knowledge is critical for strategic planning, market positioning, and process improvement. Both results were statistically significant, with p-values of 0.004 and 0.000, respectively. Furthermore, 62% of the respondents stated that they collect and analyse information about their competitors, a practice that contributes to better market analysis and forecasting. This finding was also statistically significant ($p = 0.001$). However, while 62% reported having a formalized market intelligence department, 38% were neutral on the matter, and the finding did not reach statistical significance ($p = 0.273$).

Regarding the role of market intelligence in decision-making, 67% of respondents agreed that it supported their decisions, but this finding was not statistically significant ($p = 0.061$). Similarly, only 38% of respondents believed that market intelligence directly impacted their sales growth, with 50% remaining neutral. Despite this, the finding was statistically significant ($p = 0.008$). These results suggest that, while market intelligence is perceived to aid decision-making, its direct impact on tangible outcomes like sales growth may not yet be fully realized.

The study also explored whether market intelligence provided a competitive edge. Only 38% of respondents agreed that market intelligence enabled them to compete better against their rivals, while 54% were neutral and 8% disagreed. Nevertheless, this finding was statistically significant ($p = 0.000$). The limited agreement may indicate that many businesses are not leveraging market intelligence to its full potential in competitive settings.

When examining business performance, the results indicated mixed perceptions. Only 8% of respondents agreed that their businesses had performed better before adopting market intelligence, while 71% were neutral, and 21% disagreed. This result was statistically significant ($p = 0.000$). Conversely, 53% of respondents agreed that their business performance had not changed since implementing market intelligence, with 38% being neutral and 8% disagreeing. However, this finding was not statistically significant ($p = 0.155$). Furthermore, only 7% of the respondents believed that market intelligence greatly improved their business performance, while 40% were neutral and 53% disagreed. This finding was statistically significant ($p = 0.014$). These results suggest that, while market intelligence is being used, its perceived impact on overall business performance remains limited.

Statement	Agree	Neutral	Disagree	N	P-values
We know our customers	75%	25%	0%	24	0.025*
We know our competitors	71%	29%	0%	24	0.027*
We know the strengths of our competitors	63%	33%	4%	24	0.004*
We know the weaknesses of our competitors	67%	29%	4%	24	0.000*
We collect and analyse information about our competitors	62%	38%	0%	24	0.001*

Our business has a formalized market intelligence department	62%	38%	0%	24	0.273
Market intelligence helps our decision-making	67%	33%	0%	24	0.061
Market intelligence is directly related to our sales growth	38%	50%	12%	24	0.008*
We compete better with our rivals due to market research	38%	54%	8%	24	0.000*
Our business performed better before market intelligence	8%	71%	21%	24	0.000*
Our business performance has not changed since we started doing market research	53%	38%	8%	24	0.155
Our business performance has greatly improved since we started doing market research	7%	40%	53%	24	0.014*

*Significant differences ($p < 0.05$).

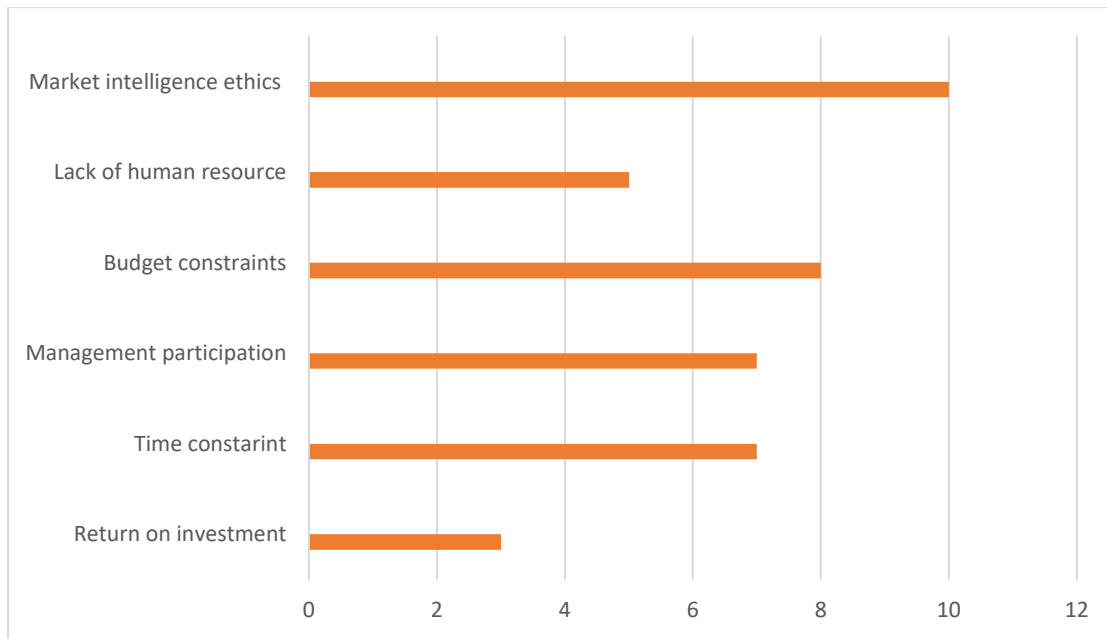
Challenges in carrying out market intelligence practices

The most frequently cited challenge was market intelligence ethics, followed by budget constraints, indicating that ethical considerations and financial limitations are significant barriers to effective market intelligence practices.

Other notable challenges included management participation and time constraints, reflecting the difficulties in securing leadership buy-in and allocating adequate time for comprehensive market research. A smaller proportion of respondents mentioned a lack of human resources, highlighting resource gaps as an additional limitation. Interestingly, return on investment was the least cited challenge, suggesting that while respondents recognize the cost implications of market intelligence, it is not their primary concern.

The findings illustrate that addressing ethical dilemmas and financial barriers should be prioritized to improve the adoption and effectiveness of market intelligence among businesses. Furthermore, enhanced management engagement and optimized time management strategies could help overcome operational constraints, enabling businesses to fully leverage market intelligence practices.

Figure 1: Key challenges faced in conducting market intelligence practices



SUMMARY AND CONCLUSION

This study investigated the market intelligence practices of SMMEs in the Cape Metropole, examining how these businesses perceive and utilize market intelligence. The key findings are as follows:

Most SMMEs (80%) reported using market intelligence in their daily operations, while 20% indicated that they did not. Among those utilizing market intelligence, 43% relied on the internet, newspapers, and customers as primary sources of information, 30% cited suppliers and adverts, and 27% mentioned industry publications.

Despite the recognized benefits of market intelligence, only 30% of respondents reported using it for decision-making and market-share analysis. A majority (53%) used it for advertising and promotions, while only 17% applied it to SWOT analysis. Notably, 79% of respondents acknowledged the relevance of market intelligence to their business, although 21% did not.

When examining specific factors, 62% of respondents agreed they collected and analysed competitor information, and 67% stated that market intelligence supported decision-making. However, only 38% recognized its relevance to improving sales, with 50% remaining neutral. Similarly, only 38% believed market intelligence helped them compete better with rivals, while 54% were neutral.

Regarding business performance, 71% of the respondents were neutral about whether their businesses performed better before implementing market intelligence, and 21% disagreed with the statement. Furthermore, 53% felt that market intelligence had not added value to their businesses, while 38% were neutral. Only 7% believed their business performance had greatly improved since adopting market intelligence, with 40% neutral and 53% disagreeing.

Finally, the two main barriers preventing effective market intelligence practices were identified as ethical concerns and budget constraints.

In conclusion, while many SMMEs recognize the value of market intelligence, its full potential is underutilized. Significant gaps exist in applying market intelligence for strategic purposes such as decision-making, market-share analysis, and sales improvement. Addressing barriers such as budget limitations and ethical considerations could help SMMEs optimize market intelligence practices and enhance business performance.

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The effectiveness of inflation targeting on economic growth in South Africa

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ABSTRACT

One of the primary objectives of a central bank in any country is to maintain economic stability using the monetary policy mechanism. South Africa is facing severe inflation and low growth. The Reserve Bank of South Africa acted by hiking the interest rate to lower inflation and stabilize the economy. The study investigates the effectiveness of inflation targeting on economic growth in South Africa for the period 2001Q1 to 2022Q3. The study employed the Autoregressive Distributed Lag (ARDL) error correction model to explore the long-run and short-run relationships between variables. The results of the ARDL bounds cointegration test expressed that there is a long-run relationship between variables. The long-run estimates indicated a positive relationship between inflation targeting and economic growth. Furthermore, the results indicated that there is no directional causality between inflation targeting and economic growth. According to the significant results of the study, it is possible to conclude that an inflation-targeting monetary policy, as implemented in South Africa, shows no significant adverse effects on economic growth. This conclusion suggests that, adopting an inflation-targeting system led to a positive impact. It is strongly recommended that South Africa keeps utilizing inflation targeting as its monetary-policy framework since the target range of 3 to 6 percent enables policymakers to determine when they are deviating from the target. An effective inflation-targeting system needs the support of the public sector, individuals, and firms to establish confidence in SARB's monetary policy.

Keywords: inflation targeting, economic growth, inflation expectations, South Africa, Autoregressive Distribution Lag, Granger causality.

INTRODUCTION

Since being introduced three decades ago, inflation targeting (IT) has grown in prominence as an operational framework for monetary policy (MP) in South Africa. According to Duong (2021), IT was initially limited to a small number of advanced nations. Currently, several emerging nations are adopting this MP regime. The initial nation to adopt an IT regime was New Zealand in 1990 (Nene, Ilesanmi, Sekome 2022). It was swiftly followed by several developed and emerging-market economies. In Africa, formal IT is still uncommon; the Republic of South Africa (SA) and Ghana are two nations who officially adopted this regime (Nene et al., 2022). In SA, it was announced by the finance minister (Aye, 2020) in February 2000 that the nation had officially embraced the IT regime. The South African Reserve Bank (SARB) established a target that falls between 3-6% for headline inflation in consultation with the finance minister (Ncanywa & Ralarala, 2020).

Several studies examined the practical use of an IT framework. In their research Kose, Yalcin, and Yucel (2018) studied the effectiveness of the IT mechanism in 16 inflation-targeting nations and made inferences by contrasting it to twenty-one non-inflation-targeting economies. The main results proved that nations who embraced IT saw a significant fall in inflation expectations and inflation rate. In 2019, nations that adopted an IT regime increased enormously to forty-one, with three quarters being developing countries (IMF, 2019).

Looking at the South African economy, the headline inflation rate exceeded the target range of 3-6%. According to Stats SA (2023), the annual inflation rate in SA rose by 6.9% in January 2023 to 7% in the second month of 2023. As a result, goods and services became prohibitively costly, putting pressure on consumers' cost-of-living. Inflation has a detrimental impact on society, since it erodes purchasing power (Yuliastanti, Farhan, Rahayu, Sumaryono, and Kumayati, 2020). Now we can no longer buy the same goods and services with the same amount of money because of the high inflation rate.

Economic growth is the most significant variable in determining a country's economic success. The growth of the economy is defined by Susilowati and Sadirsan (2022) to be an annual rise of output for goods with services as measured by increasing gross domestic product (GDP). From 1994 to 2023, South Africa's GDP annual growth rate

averaged 2.24%, with an upper limit of 19.20% in 2021Q2, and a lower limit of -16.20% in 2020Q2 (Stats, SA, 2023). The main reason was the Covid-19 pandemic. Economic growth is the most effective technique of alleviating poverty and raising living standards in emerging countries (Yulianti, et al., 2020). The inflation rate is currently at its highest level and the growth in the economy is declining more drastically (SARB, 2023). The Covid-19 outbreak and Russia's invasion of the Ukraine both lead to significant impacts on the economy (SARB, 2023). Hence, this study aims to investigate the effectiveness of IT in South Africa's economic growth from 2001 to 2023.

LITERATURE REVIEW

This section presents the theories adopted by the study and a review of previous empirical studies related to the topic at hand.

Theoretical literature

The first theory used in the study is the monetary transmission mechanism, which assists on how the monetary transmission affects different variables such as inflation expectations in terms of total demand. According to Van Wyngaard (2019), changes in repurchase-rate influences the value of finances, as well as the bank commercial rates. One of the most important channels for a well-functioning monetary transmission mechanism, is the expectation channel. A change in expectation has an immediate effect on short- and long-term interest rates.

The second theory is the endogenous growth theory. This theory presupposes a constant, but rising return on capital. It defines growth as being the result of variables inside a production system, such as population growth, increased capital, and economies of scale (Ledwaba, 2022). One factor determines this theory, namely a rate of return on investment. The inflation rate tends to lower the rate of return, causing slow capital growth, and also a decreasing economy (Van Wyngaard, 2019).

The third theory is the Solow-Swan growth model. This model predicts the degree of economic growth in a steady-state equilibrium. When the capital declines, the economy grows more efficiently and produces more output from less inputs of capital. According to Ghatak and Sanchez-Fung (2007), this will lead to an increase in economic growth. The fourth theory is the Classical growth theory. According to Adam

Smith (1789), land expansion, investment, growth in population and an increase in overall productivity, promote the growth of production. Growth is self-supporting, since it demonstrates growing returns to scale. Money saved is an investment source, which is also part of the economy.

The monetary theory of inflation was also used in the study. Milton Friedman states that inflation is the result of a rise in money supply at a pace faster than the rate of economic growth. As long as the demand for money remains consistent, changes in the amounts of cash will impact the price levels. Such change can also influence the real worth of the national income and economy, but in the short term (Olu and Odih (2015). Last is the Keynesian theory of inflation. Keynes maintains that changes in the amount of money, indirectly affects production and employment, due to the interest rate level being altered and because the economy functions below full capacity.

EMPIRICAL LITERATURE

Several studies have been examining the relationship between economic growth, inflation targeting (IT) and inflation expectations in both industrialized and developing countries. Nene et al., (2020), studied the effectiveness of IT policy in combating inflation uncertainty and promoting economic growth in some selected African and European economies. The findings showed that IT policy is insignificant in reducing inflation uncertainty, in SA as well as Ghana, where the results remain inconsistent. However, IT had a significant impact on the reduction of inflation uncertainty in European countries such as Poland. A study was conducted by Mohammed, Hadrat, and Emmanuel (2016) on the influence of IT on economic growth in Ghana from 1980 until 2013..They concluded that IT had a significant positive link with economic growth in the long run. A panel study by Daboussi (2014) examined the influence of IT on non-targeting nations. The findings showed that IT reduces inflation, as well as promoting economic growth.

Wolassa (2015) investigated the impact of IT on inflation volatility and economic growth in SA. The results revealed that IT was proven to be effective in lowering inflation rates and volatility. Furthermore, reduced inflation rates were projected to boost investor confidence, raise savings, lower interest rates and result in growth. Ncanywa and Ralarala (2020), conducted investigations on the effects of expectations of inflation on total demand from 2001 until 2017, using quarterly data collected from

SARB. They concluded that, in the long-run, the expected inflation had a negative association with total demand and was significant. A study on the impact of inflation and inflation uncertainty on economic growth in SA was conducted by Mandeya and Ho (2021). They concluded that inflation had a short- run link with economic growth. Turan and Rajta (2015), investigated the effects of IT on economic growth in Albania from 1991 to 2013. Based on impulsive responses, they arrived at the conclusion that IT and economic growth had an adverse relationship. Furthermore, according to the Granger causality results, economic growth has no effect on IT.

In a study by Mkhathshwa et.al. (2015), they investigated how inflation rate influenced economic growth in Swaziland for the period 1980-2013. Using the Autoregressive Distributed Lag (ARDL), they revealed that inflation had an adverse association with economic growth. Furthermore, causality testing concluded that inflation and economic growth had a unidirectional association. A study of the causal effect of inflation expectations on economic decisions was conducted by Coibion, Gorodnichenko, and Ropele (2020). They revealed how providing details on inflation rate causes changes in the inflation expectations of firms, resulting in them raising their prices as well as experiencing a rise in their need for credit.

RESEARCH METHODOLOGY

This section explains research the methods utilized in this study for examining our data. The research study solely utilized secondary data time series. The data was collected quarterly and spans the years 2001Q1 to 2022Q3, yielding a total of 87 observations. The timespan of the data is limited to 2022Q3 due to the availability of data. The data was collected from SARB, Quantec Easy data, and IMF data. Descriptive statistics were utilized for the purposes of this study. According to Molele (2022), descriptive statistics are essential to reflect on the nature of investigated variables.

The Keynesian model, which emphasizes that supply and demand within the economy are the two factors that influence overall economic growth, was applied. Also, this study adapts the model of Ncanywa and Ralarala, (2020). As a result, the linear inflation-targeting, and economic-growth model, are estimated as follows:

$$GDP_t = f(INFEX_t, CPI_t, INT_t, REER_t,) \quad (1)$$

$$LGDP_t = \alpha + \beta_1 INFEX_t + \beta_2 LCPI_t + \beta_3 INT_t + \beta_4 LREER_t + \varepsilon_t \quad (2)$$

where: $LGDP_t$, is a logarithm of the GDP proxy for economic growth, which is measured in R millions, and will be logged to be uniform, being the dependent variables. $INFEX_t$, denotes the inflation expectations proxy for inflation-targeting, measured in the percentage change period, being the independent variable. $LCPI_t$, is the log of the consumer price index proxy for the inflation rate, INT_t , is the interest rate, $LREER_t$, is the log of the real effective exchange rate, which are control variables, These variables have an enormous effect on the economy. L , denotes the logarithm, α , denotes the constant, β_1 - β_3 , denotes the coefficient of each explanatory variable, ε_t , denotes the error term, and t , denotes the time trend.

According to Gujarati and Porter (2009), if variables are non-stationary, this will provide erroneous findings. The study used Phillip-Perron (PP), advised by Phillip, also Perron (1988), along with the Augmented Dickey-Fuller (ADF) test, suggested by Dickey and Fuller (1979) in testing stationarity.

To estimate the relationship between inflation targeting and economic growth both in the long run and the short run, the study employed the autoregressive distribution lag (ARDL) model. This technique was developed by Perasan, Shin, and Smith (2001). The choice of the ARDL bounds-testing approach is justified by its various advantages. Firstly, The ARDL model enables testing for cointegration, irrespective whether the research includes variables that are stationary at level I (0), first difference I (1), or a mixture of levels and first difference (Pesaran et al., 2001). Secondly, The ARDL is effective in the study because it eliminates inclusive inferences through the bounds test. Thirdly, ARDL can handle small sample data without producing spurious findings (Ncanywa & Ralarala, 2022) Therefore, the ARDL approach was considered suitable for this study. The ARDL model used in this study can be expressed as follows:

$$\begin{aligned} \Delta LGDP_t = & \beta_0 + \sum_{i=1}^p \beta_1 \Delta LGDP_{t-i} + \sum_{i=1}^p \beta_2 \Delta INFEX_{t-i} + \sum_{i=1}^p \beta_3 \Delta LCPI_{t-i} + \\ & \sum_{i=1}^p \beta_4 \Delta INT_{t-i} + \sum_{i=1}^p \beta_5 \Delta REER_{t-i} + \delta_1 LGDP_{t-1} + \delta_2 INFEX_{t-1} + \delta_3 LCPI_{t-1} + \\ & \delta_4 INT_{t-1} + \delta_5 REER_{t-1} + \varepsilon_t \end{aligned} \quad (3)$$

where Δ represents 1st difference, β_0 denotes constant, ε_t denotes the error term, $\delta_1 - \delta_2$ coefficients represent long-term & short-term links denoted by $\beta_1 - \beta_5$ coefficients, and ε_t indicates the error term.

According to Engel and Granger (1987), ECM is employed to adjust the short-term with long-term behaviour for economic variables. A different term for ECM, is speed of adjustment. This speed of adjustment must be negative and significant. Coefficient means that any short-run alterations between variables will result in a stable long-run connection among the variables (Mandeya & Ho, 2021). However, a positive coefficient of speed of adjustment indicates that the model is unstable and not economically viable. Ledwaba (2022) states that causality can be defined as the link between cause and effect This implies a causal link between two sets of variables; assume Y and X. As advised by Engel and Granger (1887), the research used Granger causality to examine the direct impact of the variables. Diagnostic tests are conducted in the study to assess whether the model is valid (Gujarati and Poter, 2009). Furthermore, models of time series must adhere to normal linear regression model assumptions. The study employed CUSUM along with CUSUMsq to examine stability. Ntuli (2022), asserts that stability is critical if one is unsure when structural change occurred, and that the approaches are ideal for stationary data.

RESULTS AND DISCUSSION

This section focuses on the presentation, appraisal, and the analysis for conclusions of data that were analysed using the E-views 12 statistical program to meet the objective of the study. Table 1 below displays the descriptive analysis.

Table 1: Descriptive statistics

	LGDP	INFEX	LCPI	INT	LREER
Mean	5.993215	5.587356	1.915090	10.76820	2.034341
Skewness	-0.783218	0.935846	-7.39E-05	0.789468	-0.232473
Kurtosis	2.366331	4.986997	1.668954	2.951617	2.648498
Jarque-Bera	10.35031	27.01129	6.422354	9.045760	1.121517
Sum	521.4097	486.1000	166.6128	936.8333	176.9876
Sum Sq. Dev	0.349867	278.0561	1.70990	537.7281	0.148301
Observations	87	87	87	87	87

Source: Author's computation using E-views

The descriptive stats in Table 1 show that LGDP, LCPI and LREER are negatively skewed, implying a long, left tail. However, the INFEX and INT are positively skewed showing a long, right tail. Kurtosis analysis flattens the data collection in comparison to the normal distribution (Kausar, et, al, 2020). Kurtosis has a general value of 3. If

the value obtained is larger than 3, this is referred to as leptokurtic, and if the value obtained is less than 3, this scenario is known as platykurtic. In this case, the LGDP (2.3366331), LCPI (1.66894), INT (2.951617) and LREER (2.648498) are less 3, which means a platykurtic, while INFEX is (4.986997), which is greater than 3, indicating a leptokurtic.

Table 2 displays the unit root test results conducted using both Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests for all five variables. Gross domestic product (*LGDP*), inflation expectations (*INFEX*), inflation rate (*LCPI*), interest rate (*INT*), and real effective exchange rate (*LREER*) were all found to be non-stationary on levels and stationery on first difference. Therefore, the study employed the ARDL bounds test developed by Pesara et al. (2001).

Table 2: Unit root test results (ADF with PP)

Order of Integration	Variable	Augmented Dickey Fuller		Phillips-Perron	
		Intercept	Trend	Intercept	Trend
Level	<i>LGDP</i>	-2.895472 (-2.896779)	-1.197639 (-3.464865)	-2.573628 (-2.895512)	-3.162724 (-3.462912)
1st Difference		-9.943069* (-2.896779)	10.62549* (-3.464865)	-14.84396* (-2.895924)	-28.07463* (-3.463547)
Level	<i>INFEX</i>	-2.627657 (-2.895512)	-2.636989 (-3.462912)	-2.914400 (-2.895512)	-2.953326 (-3.462912)
1st Difference		-8.766969* (-2.895924)	-8.725839 (-3.463547)	-8.766969* (-2.895924)	-8.725839* (-3.463547)
Level	<i>LCPI</i>	0.198267 (-2.895924)	-3.118586 (-3.465548)	0.0034280 (-2.895512)	-2.263694 (-3.462912)
1st Difference		-4.921972* (-2.895924)	-4.899489* (-3.463547)	-4.964544* (-2.895924)	-4.942962* (-3.463547)

Level	<i>INT</i>	-2.804030 (-2.895924)	-3.729908 (-3.463547)	-2.045782 (-2.895512)	-2.590784 (-3.462912)
1st Difference		-4.263503* (-2.895924)	-4.258928* (-3.463547)	-4.418216* (-2.895924)	-4.360248* (-3.463547)
Level	<i>LREER</i>	-2.548601 (-2.895512)	-2.623078 (-3.462912)	-2.676933 (-2.895512)	-2.754445 (-3.462912)
1st Difference		-8.381094* (-2.895924)	-8.330328* (-3.463547)	-8.381094* (-2.895924)	-8.330328* (-3.463547)

Source: Author's computation using E-views 12. Notes: * denotes the rejection of the null hypothesis at 0.05 levels. Critical values are in parenthesis ().

Table 3: Bounds test results

Model		Calculated F-statistics	
LGDP=f (INFEX, LCPI, INT, LREER)		F-statistics 4.851438***	
Critical value bounds		No of independent variables K= 4	
Significance	Lower bounds I (0)	Upper bounds I (1)	Results
10%	2.2	3.09	Cointegration
5%	2.56	3.49	Cointegration
2.5%	2.88	3.87	Cointegration
1%	3.29	4.37	Cointegration

Source: Author's computation. Notes: *** stipulate cointegration at 1% level of significance.

Table 3 displays the ARDL bounds test results for cointegration. As shown in Table 3, the computed F-statistics value of 4.851438 is greater than both the lower and upper critical values at all levels of significance, implying that there is cointegration in the model. This indicates that the variables have a long-run relationship in econometrics (Brooks, 2014). F-statistics should be greater than all the levels of significance to have a long-run association.

Table 4: Long-run coefficient results

Variable	Coefficient	Std.Error	t-Statistic	Prob.
INFEX	0.009922	0.004241	2.339235	0.0219
LCPI	0.330113	0.079249	5.288367	0.0000
INT	-0.008026	0.005425	-1.910471	0.0597
LREER	0.423955	0.151394	2.800341	0.0064

C	5.605170	0.188022	29.81117	0.0000
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Source: Author's computation

Table 4 provides estimated long-run results of the ADRL model. Inflation expectations (INFEX), inflation rate (LCPI), and real effective exchange rates (LREER) have a positive long-run relationship with economic growth. On the other hand, interest rate (INT) is negatively related to economic growth. Furthermore, they are all statistically significant at 5%, with only the interest rate being significant at 10%. The empirical results imply that a 1% increase in inflation expectation will result in a 0.009922% increase in economic growth. The findings are consistent with the study of Koser et al., (2018), Mohammed et al., (2016), Wolassa (2015), and Daboussi (2014). They found that inflation inflating had positive relationship with economic growth. However, these findings contradict the study of Tanjong and Siswanto (2021), Ncanywa and Ralarala (2020), and Turan and Rajta (2015).

Table 5: Short-run coefficient results and the error correction model

A	Coefficient	Std.Error	t-Statistic	Prob.
D(INFEX)	0.003243	0.001276	2.540737	0.0135
D (LCPI	-0.904766	0.423131	-2.138266	0.0364
D(INT)	0.010900	0.002787	3.911341	0.0002
D(LREER)	0.271938	0.052602	5.169758	0.00000
CointEq (-1)	-0.103208	0.014631	-7.053980	0.0000

Source: Author's computation

Table 5 depicts short-run results obtained using the ARDL approach. Inflation expectations are 0.003243, showing a positive relationship in the short run, which is statistically significant at 5%. A 1% rise in inflation expectations in the short run will lead to a 0,003243% rise in economic growth. Table 5 further shows that the speed of adjustment is less than zero and negative at -0.103208 and statistically significant at 0.0000. This implies that the speed of adjustment is acceptable in both the short run and long run. The results show that about 10.32% of disequilibrium will converge towards equilibrium in the next stage, due to the study employing quarterly data.

Table 6: Granger causality

Null Hypothesis	Obs	F-Statistics	Prob.	Conclusion
INFEX does not Granger Cause LGDP	85	1.02175	0.3646	Accept null hypothesis

LGDP does not Granger Cause INFEX	85	0.07258	0.9301	Accept null hypothesis
LCPI does not Granger Cause LGDP	85	2.53518	0.0856*	Reject null hypothesis
LGDP does not Granger Cause LCPI	85	2.782 81	0.0679*	Reject null hypothesis
INT does not Granger Cause LGDP	85	2.58010	0.0821*	Reject null hypothesis
LGDP does not Granger Cause INT	85	3.57751	0.0325**	Reject null hypothesis

Source: Author's computation. Note: Probabilities are denoted by asterisks as 10%* 5%** and 1%***

The Engle-Granger causality model was used to analyse the causal influence of the variables under study. The results in Table 6 show that there is no directional causality between the inflation expectations (INFEX) and economic growth (LGDP), or economic growth (LGDP) and inflation expectations (INFEX) respectively. This means that, the economic growth does not follow inflation expectations; they don't influence each other.

Table 7: Diagnostic test results

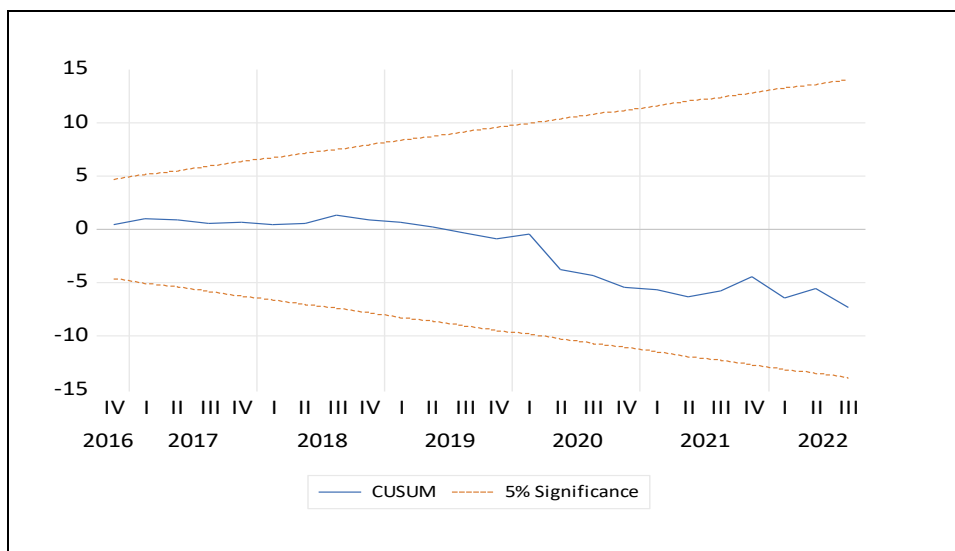
Test	H_0	Test statistic	P-value	Conclusion
Normality test	Residuals are normally distributed	1.27273 3	0.5293	Residuals are normally distributed
Breush-Godfrey serial correlation LM test	There is no serial correlaton	2.31763 8	0.3139	There is no serial correlation
Heteroskedasticity: Breush-Pagan-Godfrey	No Heteroskedasticity	46.6871 7	0.2900	There is no heteroskedasticity
Heteroskedasticity: ARCH	No Heteroskedasticity	0.32520 7	0.5685	There is no heteroskedasticity
Heteroskedasticity: White	No Heteroskedasticity	46.3026 4	0.3775	There is no heteroskedasticity

Heteroskedasticity: Harvey	No Heteroskedastic ity	17.4949 4	0.4894	There is no heteroskedasticity
Ramsey RESET test.	The model is correctly specified	1.71164 1	0.1908	There is no specification error

Source: Author's computation

Table 7 shows the diagnostic test for normality, Breush-Godfrey serial correlation LM test, heteroskedasticity for Breush-Pagan Godfrey, ARCH, White and Harvey and Ramsey RESET tests. All the probability values for the diagnostic test are above 10% level of significance. Therefore, all the null hypotheses cannot be rejected. This implies that the model is normally distributed, free from serial correlation, no heteroscedasticity and the model is correctly specified. Then, the study proceeded to test whether there is stability in the model specification, and this was done by running the CUSUM test and the CUSUM of square test, as revealed in Figures 1 and 2, respectively.

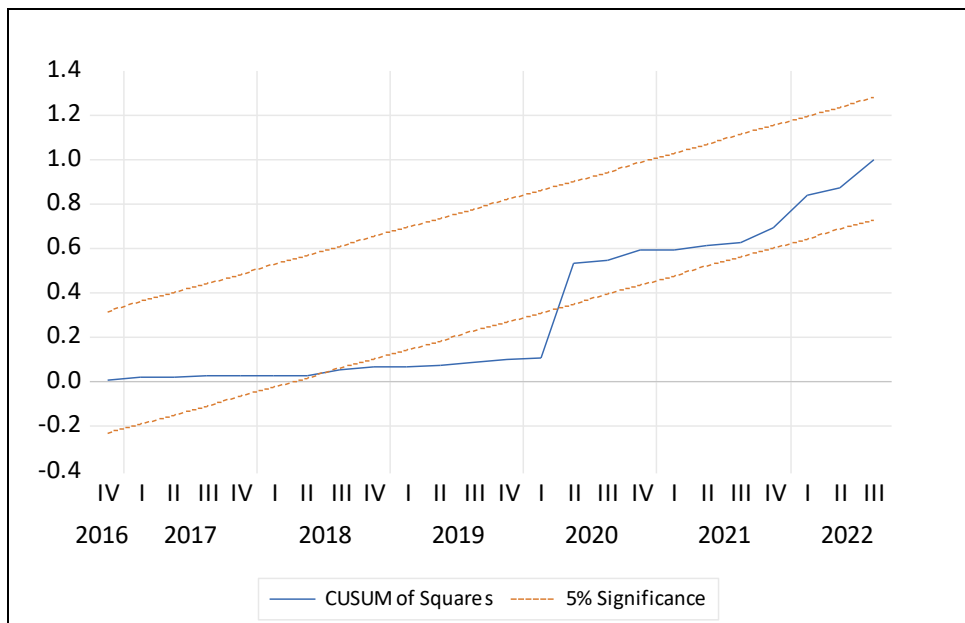
Figure 1: CUSUM test for the ECM model



Source: Author's compilation using E-views

According to the CUSUM test in Figure 1, the CUSUM test parameters are within the critical lines of a 5% level of significance throughout the sample period. This serves as evidence that our estimated model is stable as displayed above.

Figure 2: CUSUM of squares test for the ECM model



Source: Author's compilation using E-views

Additionally, we run the CUSUM of squares test to verify with certainty that indeed the model is stable. The line representing the CUSUM of squares in figure 2 breaks out for a short period and then goes back inside the 5% lines of significance. That proves that the model is stable.

CONCLUSION AND RECOMMENDATIONS

The study aimed to investigate the effectiveness of inflation targeting on economic growth in South Africa from 2001Q1 to 2022Q3, on a quantitative basis. The ARDL bounds test was employed to determine whether cointegration existed among variables. Long-run estimates indicated a positive association between inflation targeting and economic growth. The inflation targeting of 0.009922, suggests that a 1% rise in inflation targeting will result in a 0.009922% rise in economic growth. However, inflation targeting, and economic growth have a positive relationship even in the short term. The speed of adjustment to equilibrium is less than 0 as well as unfavourable at -0,1038208, but also significant at 1% indicating that a 1% rise will result in equilibrium at a rate of 0.1038208%.

The results provided in this study clarify whether inflation targeting is beneficial to SA economic growth. According to the results of the research, it is possible to conclude

that IT monetary policy, as implemented in South Africa, shows no significant adverse effects on economic growth. Inflation expectation and economic growth are positively correlated. As inflation expectations rise, so does economic growth. This conclusion suggests that, adopting an inflation-targeting system led to a positive impact on economic growth.

In accordance with the study's findings, recommendations can be made as follows. Firstly, it is highly advised that SARB keep utilizing an inflation-targeting regime. The study adheres to the general advice that, if inflation fails to remain within the target limits, this may reduce savings, hinder investment, and lead to social and political dissatisfaction (Cape, 2018). The study recommends that policy makers take measures that guarantee price stability to foster an atmosphere that is favourable to economy, both in the short and long run. Additionally, measures that promote economic growth and permit the SARB to concentrate on the duties of combating inflation and uncertain prices, should be adopted. An effective inflation-targeting system needs the support of the public sector, individuals, and firms to establish confidence in the SARB's monetary policy.

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Reshaping South African public healthcare through patients' perspectives: The case of Hartebeeskop Clinic

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ABSTRACT

The South African public healthcare landscape is hamstrung by service quality challenges that are multi-faceted and complex. Patient-centric challenges underscore the intricate nature of delivering quality healthcare services. However, amidst these complexities, resilience must emerge as a transformative force, reshaping public healthcare for quality service delivery. At the heart of addressing these challenges lies the implementation of a robust Quality Management System (QMS). Clinics can unlock the benefits of heightened patient satisfaction. Yet, the journey towards successful QMS implementation is fraught with obstacles, necessitating a more concerted effort. While numerous studies have explored service delivery in South Africa's public clinics, a critical gap persists in the inclusivity of patients' perspectives. This study aimed to bridge this gap by delving into the challenges in service delivery at the Hartebeeskop Clinic. Adopting a quantitative methodology, the study offers valuable patients' insights into the intricacies of healthcare service delivery, by administering a patient survey. With a population of 6000 patients and a sample size of 363, systematic probability sampling ensured robust data collection. The findings pinpoint shortcomings in dimensions of service quality relating to tangibles, reliability, responsiveness, assurance and empathy. The recommendations that emanate, underscore the cultivation of a patient-centric ethos. Addressing staff attitudes emerges as a pivotal endeavour, necessitating strategic interventions encompassing communication, training, and organizational culture.

Keywords: healthcare, quality, service, clinics, patient

INTRODUCTION

South Africa's public healthcare system caters to the health needs of a diverse population of more than 58 million people (Miot et al., 2017). The provision of public healthcare services in South Africa faces numerous challenges such as extended waiting times, staff shortages, insufficient resources, subpar infrastructure, and ineffective service delivery systems, resulting in diminished patient satisfaction and a lack of trust in the public healthcare system (Botes et al., 2019). However, quality in healthcare has traditionally focused on achieving clinical outcomes (Luthra, 2020), an approach that did not specifically focus on patient satisfaction. While measuring patient satisfaction is a crucial aspect of healthcare management, its direct measurement can be complex due to the need for adaptation to local cultural and systemic factors. Measurement tools, such as the Press-Ganey survey, have been found to show bias (Compton, Glass & Fowle, 2019). Noting that the literature suggests that there is a positive relationship between quality service delivery and patient satisfaction, this study adopted the measurement of quality service delivery as a proxy for patient satisfaction, premised on the notion that patients are best positioned to give their own perceptions of service quality. The potential beneficiaries of this study include Hartebeeskop Clinic patients, clinic staff and management, and the South African National Health Department.

RESEARCH PROBLEM

The dimensions of service quality include tangibles, responsiveness, assurance, reliability and empathy (Hosseini et al. 2018). Furthermore, Seelbach & Branan (2022) identify six healthcare quality domains crucial for achieving high-quality healthcare: safety, effectiveness, patient-centeredness, timelines, efficiency, and equitable healthcare quality. Despite these indicators, concerns persist regarding the quality of healthcare services in South African public clinics. Reports from TimesLIVE (2018) highlight public grievances, including resource shortages, extended waiting times, medication shortages, and perceived indifference from staff and nurses. To address such concerns, the Hartebeeskop Clinic implemented innovative measures such as extended hours (Belveredeere Community, 2022). However, patients continue to express dissatisfaction with issues like prolonged waiting times, medication supply chain challenges, and interactions with healthcare providers (Belveredeere Community, 2022). To comprehensively assess the quality of healthcare service

delivery at local public clinic facilities, it is essential to consider factors arising from the perceptions of patients (Gorgiladze et al., 2020). Thus, the aim of this study was to ascertain the quality-of-service delivery at the Hartebeeskop Clinic through patients' perspectives. The objective of this study was to ascertain the gaps in service delivery at the clinic, by conducting a survey amongst patients. This study is crucial, as the aim is directly aligned to SDG Goal 3 (Good health and well-being).

LITERATURE REVIEW

The South African public health care system

The Department of Health (DoH) in South Africa functions in accordance with the guidelines set forth in the National Health Act 61 of 2003 (South Africa, Department of Health, 2003), which mandates the establishment of a well-organized and standardized health system in the country, outlining the specific responsibilities of the three levels of government in providing health services. The National Health Act No. 61 of 2003 supports the creation of district health systems tailored to the population size served by health facilities. The Hartebeeskop Clinic, situated in Hartebeeskop within the Gert Sibande District Municipality of Mpumalanga, South Africa, operates as a government-funded healthcare facility, offering free health care services to the community.

Quality Management System in South African public health care clinics

Numerous studies evidence that a well-implemented quality assurance system can deliver high-quality patient care (Matahela, Adekola & Mavhandu-Mudzusi, 2023). De Wet's (2019) study showed a significant increase in patient satisfaction levels in two public healthcare clinics in the Western Cape province, where patient satisfaction scores increased from 65% to 88% following QMS implementation. Another study by Barron (2018) evaluated the impact of QMS implementation on patient satisfaction in four public healthcare clinics in KwaZulu-Natal province, where it was found that patient satisfaction levels increased from 54% to 78% following QMS implementation. A further study by Seleti et al. (2018) evaluated the impact of QMS implementation on waiting times in a public healthcare clinic in Limpopo province and reported that waiting times for patients decreased by 40% following QMS implementation. The study also reported improvements in appointment scheduling, patient flow management, and staff communication. Similarly, a study by Joubert (2019) evaluated the impact of

QMS implementation on waiting times in four public healthcare clinics in Gauteng province. The study reported a significant reduction in waiting times, with the average waiting time decreasing from 111 minutes to 62 minutes following QMS implementation.

Kog (2018) investigated the factors influencing the implementation of QMS in the healthcare sector, where it was found that leadership support, staff engagement, and organizational culture were significant determinants of QMS implementation. The organizational culture within public clinics significantly influences staff attitudes, a culture of respect, communication, and continuous improvement in positive staff attitudes (Johnson, 2017). Many criticisms of the South African healthcare system revolve around the unsatisfactory demeanour of staff in public facilities and the mistreatment of patients by nurses. Identified factors include organizational issues like poor communication, professional insecurities, a desire for control, and an ingrained perception of patient inferiority (Alkman, 2018; Aikman, 2019).

Service quality and patient satisfaction

In healthcare, quality is defined as the degree to which health services meet or exceed the patient's expectations (Lee et al., 2019). The evolution of quality management in healthcare has been characterized by the adoption of a patient-centred approach and the use of data analytics to improve quality (Porter, 2023), where the focus is on meeting the patient's expectations and improving the patient's experience (Luthra 2020).

Service quality is a multidimensional construct that encompasses various aspects of healthcare services, including accessibility, responsiveness, empathy, reliability, and assurance (Alghamdi, 2021; Jalal, 2017). Patient satisfaction, on the other hand, refers to patients' subjective evaluation of the healthcare services they receive (Gray, 2014). It reflects patients' perceptions of the quality of care, including the technical quality of care and the interpersonal aspects of care (Gupta & Goyal, 2019; Cohen et al., 2018).

Several studies have investigated the relationship between specific dimensions of service quality and patient satisfaction. These studies have found that different dimensions of service quality have different effects on patient satisfaction (Alghamdi, 2021; Hosseini et al., 2018; Cohen et al., 2018). Numerous studies corroborate that distinct service quality dimensions impact patient satisfaction differently. For instance,

Jun and Norris (2015) highlight the profound impact of empathy, communication, and responsiveness on patient satisfaction in Korean healthcare. Similarly, Ng et al. (2017) observed significant effects of reliability, tangibility, and empathy on patient satisfaction in Malaysian healthcare. Another study by Kim et al. (2019) emphasized that responsiveness and assurance dimensions had the most substantial impact on patient satisfaction in the context of Korean healthcare.

Further studies have explored the connection between the quality of healthcare services and patient satisfaction. For instance, Alghamdi's (2021) investigation into Saudi Arabian hospitals established that higher service quality significantly predicted increased patient satisfaction. Similar findings were observed in Jalal's (2017) study on Pakistani hospitals, and Lee and Yom's (2019) examination of Korean healthcare settings. Moreover, Neyestani (2017) demonstrated the significant impact of service quality on patient satisfaction, echoing the results of Jankovic and Kelley (2018) in the context of Serbian healthcare, and Liu and Kang (2020) in Chinese healthcare.

Notably, the literature suggests that various dimensions of service quality play distinct roles in shaping patient satisfaction. Jun and Norris (2015) identified empathy, communication and responsiveness as crucial factors in Korean healthcare, while Ng et al. (2017) highlighted reliability, tangibility, and empathy in Malaysian healthcare, and Kim et al. (2019) emphasized responsiveness and assurance in the Korean healthcare setting. Furthermore, the interpersonal relationship between patients and healthcare providers emerges as a key factor influencing patient satisfaction. Studies, including those by Lee and Yom (2019) in Korean healthcare and Cai (2021) in Chinese healthcare, underscore the significance of healthcare providers' empathy, communication skills, and respect in determining patient satisfaction. In essence, the quality of the patient-provider relationship appears pivotal in shaping the overall satisfaction experienced by patients in various healthcare contexts.

Another factor that influences patient satisfaction is the quality of healthcare facilities and equipment. Patients tend to be more satisfied with healthcare services when the facilities are modern, clean and comfortable, and when the equipment is up-to-date and well-maintained. A study in the Pakistani healthcare context by Yousuf (2020) underscored the substantial influence of the physical environment of healthcare facilities on patient satisfaction. Similarly, findings from Kim et al. (2021) revealed that

the quality of healthcare facilities and equipment significantly affected patient satisfaction within the Korean healthcare landscape.

Patient expectations were identified as another crucial element in shaping satisfaction levels. Studies conducted in Iranian and Saudi Arabian healthcare contexts by Bahadori and Rono (2016), and Anbari et al. (2019), respectively, highlighted the significant impact of patient expectations on satisfaction levels. High expectations, when unmet, were associated with reduced satisfaction with healthcare services. Al Awa (2014) demonstrated the impact of cultural differences on patient satisfaction in Saudi Arabian healthcare, while Kim et al. (2019) found similar patterns in the Korean healthcare context.

Furthermore, the connection between service quality, patient satisfaction, and healthcare outcomes was highlighted in several studies. Wang et al. (2019) in Chinese healthcare and Kim et al. (2021) in Korean healthcare found that service quality and patient satisfaction had significant implications for healthcare outcomes. However, it is important to note certain limitations in the reviewed literature. The studies were conducted in diverse countries, limiting the generalizability of findings due to variations in cultural differences, healthcare systems, and patient expectations. Methodological differences in measuring service quality and patient satisfaction across studies also hindered direct comparisons. Overall, these findings underscore the need for healthcare providers to prioritize service quality improvements to enhance patient satisfaction and, consequently, positively impact patient outcomes.

Determining the quality of healthcare service delivery at local public clinic facilities requires an in-depth consideration of factors from patients' experiences and perceptions (Gorgiladze et al., 2020).

RESEARCH METHODOLOGY

This study adopted the positivist research approach which advocates value neutrality and systematic methods replicable by other researchers to ensure objectivity and to prevent subjective interpretations from influencing the research findings (Teddlie & Tashakkori, 2019). A sample size of 363 patients was deemed to be representative of the population of 6000 patients that is served by the clinic, as per the clinic manager. The data collection involved the administration of a questionnaire to patients. Permission was sought from the Department of Health committee, to administer the

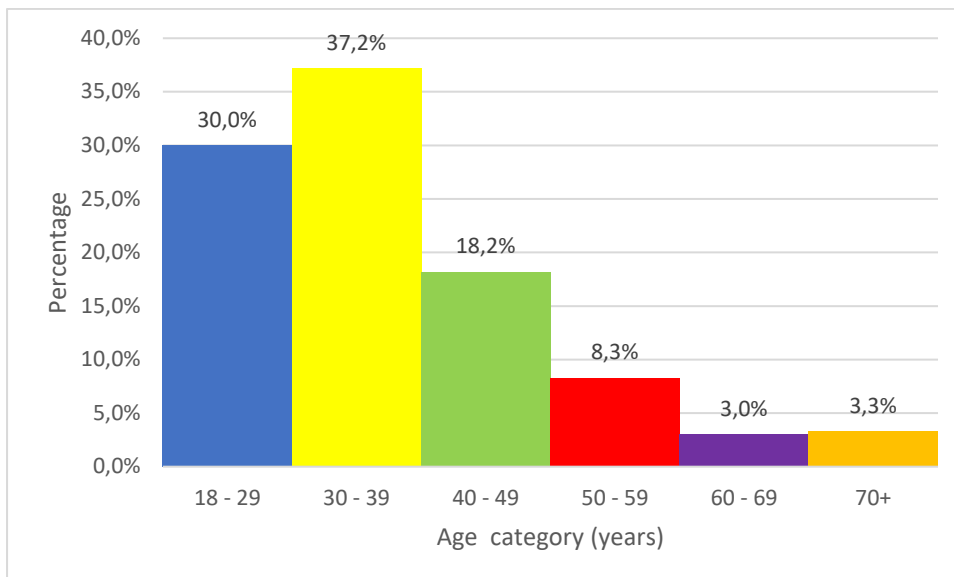
survey amongst patients at the Hartebeeskop Clinic and ethics approval was granted by the Durban University of Technology Institutional Ethics Research Committee. The questionnaire was sectioned in accordance with the five service quality dimensions. Likert Scaling was adopted, allowing participants to express their responses through a five-point scale, ranging from strongly disagree (1) to strongly agree (5). Questionnaires were distributed using systematic sampling. The researcher approached the patients in the waiting area at the clinic, explained the purpose of the study before each patient signed the consent form. The questionnaires were written in English and translated into Siswati (the dominant language) to accommodate patients who are not fluent in English. The data was analysed using version 29 of the **Statistical Package for the Social Sciences (SPSS)**.

RESULTS

Age of respondents

Figure 1 presents the age distribution of 363 patients, categorizing them into distinct age intervals.

Figure 1: Age category of patients



Source: Researcher's own construction

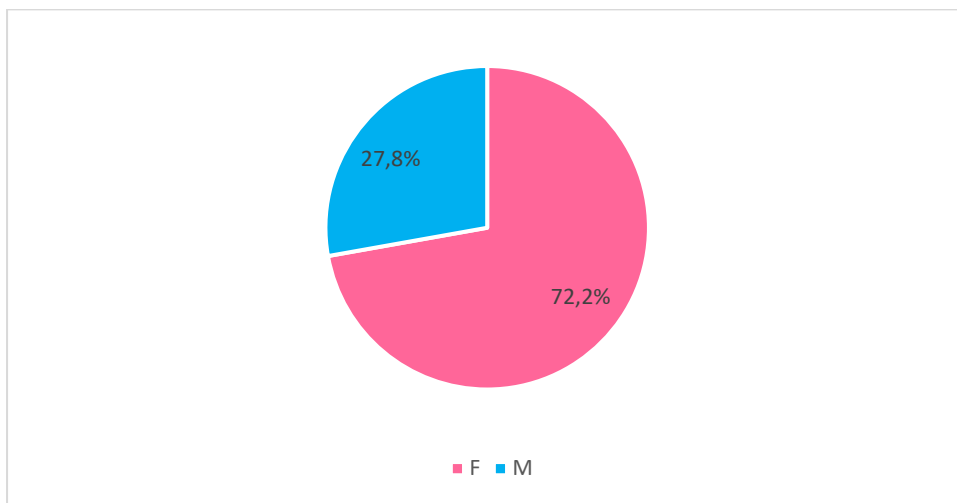
The concentration of patients in the 30 to 39 age group may necessitate targeted healthcare services and preventive measures tailored to the health needs of this demographic. While the age distribution provides valuable insights, it is also essential

to consider potential confounding factors such as gender which may influence health outcomes.

Gender distribution of patients

Examining the gender distribution among patients illuminates the demographic composition in the studied population. By analysing male and female representation, the goal is to reveal patterns, disparities and insights, contributing to a nuanced understanding of healthcare dynamics in this context. The presentation of patient gender is depicted in Figure 2.

Figure 2: Gender of patients



Source: Researcher's own construction

A notable gender disparity, with a greater number of female participants compared to their male counterparts was observed. Specifically, 72.2% of the survey sample consisted of female patients, while only 27.8% were male patients. Rampamba et al's. (2017) study also found that a higher proportion of women than men visit public healthcare facilities. That which follows is an analysis of responses to items pertaining to dimensions of service quality, namely tangibles, reliability, assurance, responsiveness and empathy.

Tangibles

This study examined the tangibles aspect of healthcare services, focusing on patients' perceptions of the physical aspects of the clinic environment. The data provides insights into various factors such as the quality of equipment, comfort in the waiting area, ease of location, medication understanding, operating hours, cleanliness, and

the professional presentation of nursing staff. The item statistics are presented in Table 1.

Table 1: Tangibles item statistics

	Mean	Std. Deviation	Cronbach Alpha
The equipment used by the nurses is advanced.	3.50	1.15	0,818
The clinic has comfortable chairs in the waiting area.	3.95	1.07	
It is easy to find the clinic.	3.89	1.12	
Medication instructions are written in a way that I can easily understand.	3.44	1.23	
Operating hours are convenient for me.	3.59	1.17	
The facilities in the clinic are clean.	3.70	1.06	
The nursing staff are professionally dressed.	3.85	0.98	

Source: Researcher's own construction

Patients generally perceived the tangibles dimension positively, with means ranging from 3.44 to 3.95. The clinic's comfort (3.95) and the professionalism of the nursing staff attire (3.85) received particularly high scores, while the patients found it easy to locate the clinic (3.89) and appreciated the cleanliness of facilities (3.70). Medication instruction clarity (3.44) scored slightly lower. The level of advancement of the equipment (3.50) and convenient operating hours (3.59) also contributed to a positive overall perception. The dimensions exhibited good internal consistency, as reflected in Cronbach's Alpha value at 0.818. The item "Medications instructions are written in a way that I can easily understand" had a lower mean score, suggesting that there might be room for improvement in the communication related to the instructions for medication use.

Reliability

The reliability dimension aimed to assess the satisfaction levels of patients regarding aspects of healthcare service quality. The item statistics are presented in Table 2.

Table 2: Reliability item statistics

	Mean	Std. Deviation	Cronbach Alpha
I am satisfied with the knowledge of the nurses.	2.46	1.108	0.876
Service is delivered at promised times.	2.03	1.033	
I can depend on the nurses.	2.02	1.033	
The nurses respond within the timeframe.	2.19	1.114	
The nurses are always willing to help me with any health problem	2.09	1.025	
My records at the clinic are free of errors.	2.21	1.054	
Nurses are sincere when attempting to solve patients' problems.	3.07	1.057	
Overall composite:	2.30		

Source: Researcher's own construction

The findings suggest that patients have diverse perceptions regarding aspects of nursing services. A mean of 2.30 suggests a moderate level of satisfaction on average. The Cronbach Alpha value for this construct is 0,876, which confirms that there is an acceptable level of consistency within the responses. Patients expressed reservations regarding the consistency and dependability of the services provided, raising concerns about the clinic's reliability dimension. Recognizing and addressing these concerns are vital for the clinic's reputation and the well-being of its patients.

Responsiveness

Effective communication and responsiveness are crucial aspects of healthcare services, contributing significantly to the overall patient experience. In the context of nursing care, communication between healthcare professionals and patients plays a pivotal role in ensuring that instructions are understood, waiting times are minimized, and patient queries are promptly addressed. The dimension of responsiveness deals with how the nurses respond to patients, and the statements in Table 3 make up this dimension.

Table 3: Responsiveness item statistics

	Mean	Std. Deviation	Cronbach Alpha
There is effective communication between the nurses and me, resulting in understanding their instructions.	2.53	1.072	0.877
Nurses do not keep me waiting unnecessarily.	2.95	1.069	
I get enough time to interact with the nurse.	3.02	1.086	
It is easy to obtain information when dealing with queries.	2.55	1.076	
Patients' complaints are responded to within an acceptable timeframe.	2.72	1.051	
Overall composite:	2.75		

Source: Researcher's own construction

The overall findings suggest that the patients hold moderately positive perceptions in the responsiveness dimension. While the mean scores provide an indication of satisfaction, the standard deviations give insights into the variability in patient responses. The Cronbach's Alpha value of 0.877 indicates a satisfactory level of internal consistency among the items. There is a significant issue pertaining to responsiveness at the Hartebeeskop Clinic, specifically in the realm of communication between healthcare providers and patients. The findings underscore a notable deficiency in this crucial aspect, leading to negative perceptions among patients regarding the services provided. Effective communication is the cornerstone of a patient-centric healthcare system, impacting patient satisfaction and overall experiences. To address this issue, the clinic should prioritize initiatives aimed at improving communication channels between healthcare professionals and patients. Implementing robust training programs for staff to enhance communication skills, fostering an environment that encourages open dialogue, and utilizing technological solutions for efficient communication can contribute to a more responsive healthcare experience.

Assurance

This study explored the dimension of assurance in healthcare, examining patients' perceptions of the trustworthiness, professional skills, and confidentiality practices of nurses. The data reveals varying degrees of confidence expressed by patients, providing insights into the factors that contribute to a sense of assurance in the clinic's healthcare delivery. The value for the Cronbach Alpha is 0,676 which is lower than the recommended 0,70, but only three statements were considered in the construct.

Table 4: Assurance item statistics

	Mean	Std. Deviation	Cronbach Alpha
The behaviour of the nurses at this clinic is trustworthy and instils confidence in me.	3.25	1.040	0.676
I have confidence in the staff's professional skills.	3.18	1.068	
Confidentiality is assured with the nurses.	2.95	1.105	
Overall composite:	3.13		

Source: Researcher's own construction

The mean for the statements for this dimension is 3,13, showing respondents' tendency to be neutral in answering statements. The survey reveals moderate levels of confidence in clinic staff. The mean scores for trustworthiness (3.25) and confidence in professional skills (3.18) suggest a generally positive perception. However, the lower mean for confidentiality (2.95) indicates a slightly lower confidence level.

Empathy

Empathy is a critical component in healthcare, influencing the quality of patient-nurse interactions and overall patient satisfaction. It encompasses various dimensions, including individual attention, understanding health conditions, perspective-taking, recognition of feelings, and perceived care. The Cronbach's Alpha value is 0,80. which indicates an acceptable level of consistency in the way the responses were given.

Table 5: Empathy item statistics

	Mean	Std. Deviation	Cronbach Alpha
The nurses give me individual attention.	3.13	0.955	0'80
The nurses know how to handle my health condition.	3.14	0.916	
The nurses see things from my perspective.	3.24	0.883	
The nurses understand my feelings.	3.13	0.956	
I think that the nurses care about me.	2.71	1.176	

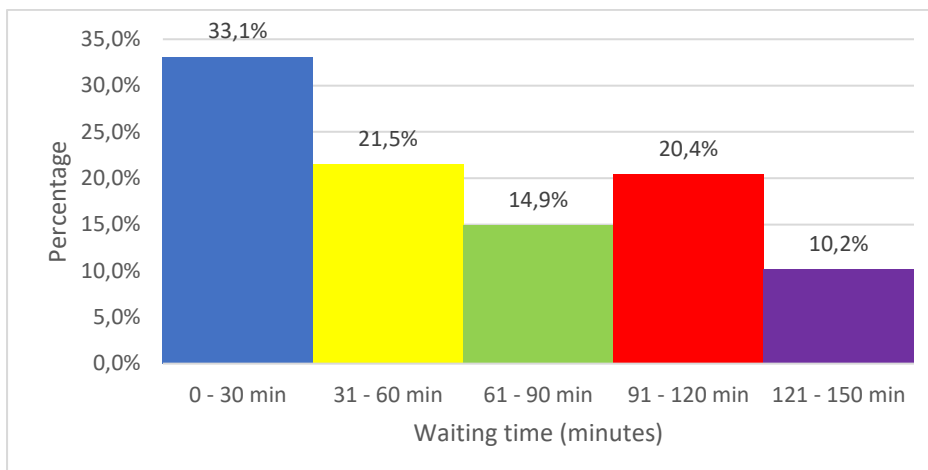
Source: Researcher's own construction

The survey reveals generally positive perceptions of nursing care. Participants rated individual attention, the nurses' competence in handling health conditions, and their understanding of patient perspectives favourably, with mean scores ranging from 3.13 to 3.24. However, the perception of nurses' caring was rated lower than the other items (Mean = 2.71), suggesting a potential area for improvement.

Waiting times

The survey also investigated waiting times to be attended to at the clinic. The study explored the time experienced by individuals until attended to by an administrator in a healthcare setting. Analysing this aspect is crucial for understanding and improving the efficiency of administrative processes, ultimately enhancing the overall patient experience in healthcare facilities, as presented in Figure 3.

Figure 3: The distribution of the waiting times until attended to by an administrator



Source: Researcher's own construction

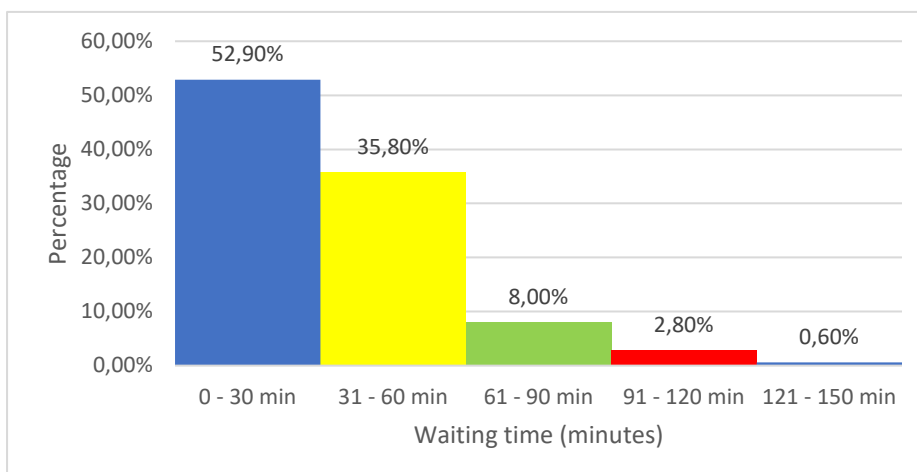
Findings regarding patient waiting times in the healthcare setting reveal a diverse distribution, with 33.1% of patients experiencing waiting times within the optimal range of 0 to 30 minutes. However, challenges arise as 21.5% wait between 31-60 minutes, and 14.9% endure waiting times between 61 to 90 minutes. The data further indicates that 20.4% of patients wait 91 to 120 minutes, while 10.2% face extended wait times of 121 to 150 minutes. This data indicates that patients at the Hartebeeskop clinic are experiencing longer waiting times which leads to patients' dissatisfaction.

This waiting time analysis aligns with existing research on patient satisfaction and healthcare efficiency (Smith et al., 2020; Johnson & Kuhm 2019). Prolonged waiting times have been associated with patient dissatisfaction (Smith et al., 2020), highlighting the imperative for healthcare institutions to optimize their processes. The study underscores the importance of addressing and minimizing waiting times as a priority for healthcare providers to ensure patient-centred care and enhance overall satisfaction (Johnson & Kuhm, 2019). These findings emphasize the need for strategic interventions to streamline administrative processes and improve efficiency in healthcare settings.

Waiting time until attended to by a nurse

The analysis of time distribution in a dataset provides valuable insights into the patterns and trends within a given context. In this dataset, we explore the time duration spent on a task, categorized into five intervals: 0-30 minutes, 31-60 minutes, 61-90 minutes, 91-120 minutes, and 121-150 minutes. Understanding how individuals allocate their time across these intervals can shed light on productivity, task complexity and user engagement, as presented in Figure 4.

Figure 4: Waiting times until attended to by a nurse



Source: Researcher's own construction

The data exhibits a notable distribution of participants across different time intervals. A significant majority, comprising 52.9%, spent between 0 and 30 minutes on the task. This suggests that a substantial portion of the sample engaged in relatively short-duration activities. Moving to the next interval, 35.8% of participants spent between 31 and 60 minutes waiting before receiving nursing attention, indicating a significant engagement beyond the initial half-hour. Between 61 and 90 minutes, there is an 8.0% engagement and beyond 90 minutes, the engagement sharply declines, with 2.8% spending 91 to 120 minutes and only 0.6% dedicating 121 to 150 minutes. This nuanced analysis of time distribution provides valuable offering implications for task design and user experience. The findings suggest the need for task designers to consider the varying time preferences and engagement patterns of users, allowing for tailored interventions to optimize time utilization. Understanding these patterns can contribute to the development of more effective and user-friendly systems or activities, ultimately enhancing overall task performance.

CONCLUSION

The objective of this study was to ascertain the gaps in service delivery at the clinic, by conducting a survey amongst patients. A quantitative study was conducted to survey patients' perspectives on service quality. The findings were presented in alignment with each service quality dimension to bring to the fore identified gaps. Patients expressed reservations regarding the consistency and dependability of services provided, raising concerns about the clinic's reliability dimension. While patients expressed moderately positive perceptions in the responsiveness dimension, there is a significant issue pertaining to responsiveness, specifically in the realm of the communication between healthcare providers and patients. The perception of nurses' caring was rated low, suggesting a potential area for improvement.

RECOMMENDATIONS

By prioritizing reliability and taking proactive steps to improve service consistency, the clinic can enhance patient satisfaction. The clinic should consider the establishment of staff training programs to enhance skills. Performance evaluations can be conducted to identify areas for improvement to ensure that each staff member consistently meets the clinic's service standards. Furthermore, fostering open communication channels with patients is paramount. The clinic should actively seek

feedback, address patient concerns promptly, and maintain transparency regarding any challenges faced.

Regarding responsiveness, the clinic should prioritize the implementation of targeted initiatives for staff to enhance their communication skills. This can include strategies for effective patient engagement, active listening, and clear and empathetic communication. Fostering an environment that encourages open dialogue is equally crucial. Creating platforms for regular feedback and communication channels that empower patients to voice their concerns can contribute significantly to improving the overall patient experience. Incorporating technological solutions for efficient communication, such as patient portals or messaging systems, can enhance responsiveness and streamline information exchange.

To enhance assurance, the clinic should conduct qualitative research to understand the specific behaviours or practices influencing perceptions of nurse behaviour, provide training or communication to address any identified concerns and reinforce positive aspects. Furthermore, the study could be extended to gain deeper insights into the factors influencing perceptions of individual attention, feelings and caring, and implement training programs focusing on improving empathy

Changing staff attitudes requires strategic efforts, focusing on resource allocation, communication, training, and organizational culture. Continuous monitoring and adaptation of these strategies are essential for sustained improvement in staff attitudes and, consequently, enhanced care quality for the community (Patel, 2022).

LIMITATIONS OF THE STUDY

The literature review's temporal scope, spanning from 2017 to 2023, may have overlooked important studies published prior to 2017. This study is focused exclusively on a single public group and the findings are specifically applicable to rural health systems, as the participants are from rural areas within the Gert Sibande District at Elukwatini. Nonetheless, the insights gained from this case can offer valuable lessons for other health facilities.

FUTURE STUDIES

The synthesis of objectives, findings and recommendations and the recognition of study limitations collectively enriches the academic discourse and sets the stage for

ongoing scholarly engagement in the area of the provision of public health care. Subsequent research endeavours may benefit from expanding the scope to encompass settings beyond rural clinics, to provide a more comprehensive understanding of these distinct contexts.

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The analysis of rainwater harvesting practices in a selected rural community along the South Coast

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ABSTRACT

Rural communities worldwide have limited access to centralised water infrastructure, leading them to rely on traditional and unsafe rainwater harvesting practices. These communities take it for granted that rainwater collected from rooftops is naturally pure and suitable for drinking without needing any treatment. The aim of this study was to investigate rainwater harvesting practices in a selected rural village in KZN, South Africa. The study adopted a quantitative research method and collected empirical data through surveys. Participants were chosen using a convenience sampling technique, ensuring they met specific inclusion criteria related to rainwater usage. Descriptive and inferential analysis was performed on the data collected. Roof harvesting was widespread, and had been adopted due to its simplicity and adaptability, often using metal roofing for perceived cleanliness. Plastic tanks were popular for rainwater storage, but cleaning frequency varied widely among respondents. Despite rainwater being used primarily for household tasks and consumption, concerns about its quality were evident, with reports of illnesses like abdominal pain and diarrhoea. The findings emphasise the need to improve rainwater harvesting practices in rural South African communities. Recommendations include enhancing storage, implementing FIFO for water management, using initial filtration with mesh and cloth filters, considering cost-effective options like ceramic or bio-sand filters for water quality, employing chlorination or boiling for disinfection, and conducting regular maintenance. Community workshops and interactive educational materials are suggested to promote effective water management.

Keywords: rainwater harvesting, rooftop, storage, filtration, contamination, water quality

INTRODUCTION

Rural communities throughout the world face ongoing challenges in water supply, exacerbated by factors such as population growth, urban expansion, climate change, inadequate funding mechanisms, and governance issues (Umukiza et al., 2023; Ertop et al., 2023; Ndeketeya & Dundu, 2019). To mitigate these challenges and the increasing threat of droughts and declining water resources, many rely on traditional yet often inadequate rainwater harvesting practices (Nwogu et al., 2024; Ross et al., 2022; Gwenzi et al., 2015).

Rainwater harvesting, a long-established traditional practice, has been widely accepted globally for its potential to augment water supply in regions facing water scarcity (Owusu & Asante, 2020; Raimondi et al., 2023; Mogano & Okedi, 2023; Maharaj & Friedrich, 2024; Mbua et al., 2024). This method offers various economic, environmental, technological, and societal benefits, helping individuals, communities, and the environment (Hafizi et al., 2018; Dao et al., 2021). Key components essential for rainwater harvesting systems include catchment areas, gutters, pipes, and storage facilities (García-Ávila et al., 2023; Ertop et al., 2023; Raimondi et al., 2023). However, critical considerations such as the type of roofing materials, storage tank size, rainfall availability, and rigorous disinfection processes are necessary to meet potable water standards, especially in resource-limited communities (Alim et al., 2020; Umukiza et al., 2023; Maharaj & Friedrich, 2024).

Studies have shown that the microbiological quality of untreated harvested rainwater often contain pathogenic and opportunistic bacteria such as *Escherichia coli* (*E. coli*), *Campylobacter* spp., and *Cryptosporidium* spp. (Bae et al., 2019; Mbua et al., 2024). Additionally, harvested rainwater can lack essential minerals like sodium, potassium, and fluoride, and may harbor heavy metals, organic substances, and other microorganisms (Anabtawi et al., 2022; Latif et al., 2022). These contaminants contribute to various gastrointestinal illnesses among users (Chidamba & Korsten, 2015; John et al., 2021; Nwogu et al., 2024; Mbua et al., 2024). Moreover, the choice of storage vessels significantly affects bacterial contamination, surpassing concerns about physicochemical or metal contamination (Nwachukwu et al., 2024). Challenges such as bacterial growth and insect breeding in storage tanks exacerbate these issues (Lebek & Krueger, 2023; Ertop et al., 2023).

Despite these risks, many people assume that harvested rainwater is naturally pure and suitable for drinking without rigorous treatment (Latif et al., 2022). In South Africa, where municipal water access is unreliable or absent, households rely on rooftop harvested rainwater for drinking, cooking, bathing, and cleaning (Chidamba & Korsten, 2015). These systems are widely adopted across diverse landscapes, notably in rural areas, commercial agricultural lands, as well as urban areas such as cities and towns facing constant water scarcity challenges (Lebek & Krueger, 2023; Ndeketeya & Dundu, 2019). The country's history is characterised by profound inequalities resulting from policies that historically deprived rural communities of essential services, including water access, and hindered the development of necessary infrastructure in these areas (Matimolane et al., 2023).

The poor rural townships in South Africa often lack the financial resources to set up and install effective rainwater harvesting systems, which typically include a catchment area, conveyance system, and storage facility. As a result, rainwater is frequently collected directly into small containers or improvised setups involving buckets, drums, or makeshift gutters and waterspouts, as depicted in Figure 1.

Figure 1: Rural types of makeshift rainwater harvesting systems



Source: Adapted from Matimolane et al. (2023) and Owusu and Asante (2020)

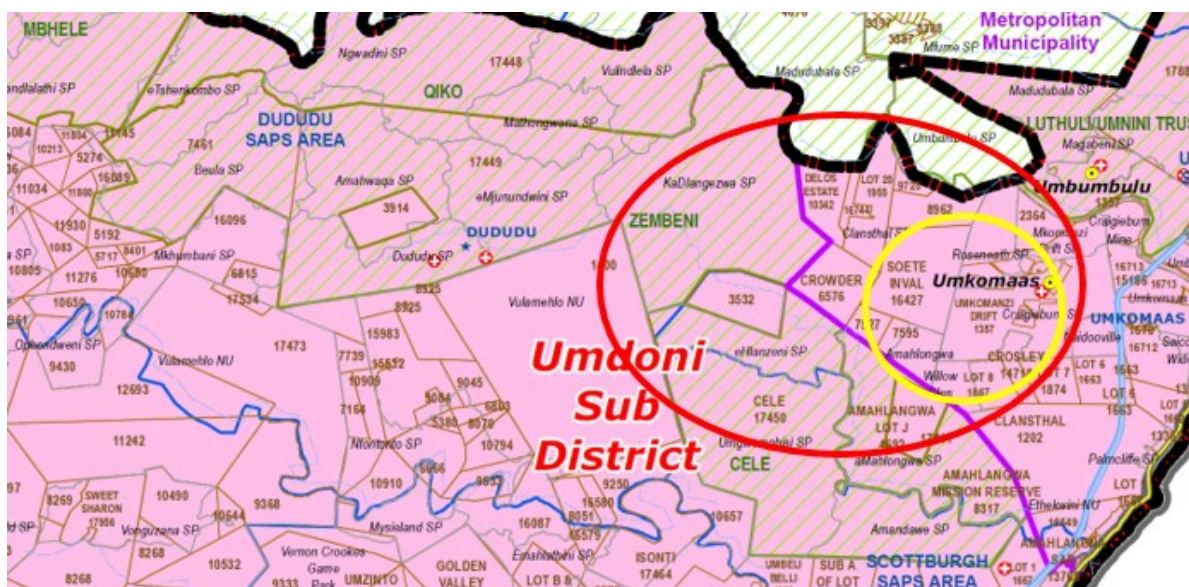
Many of these rainwater harvesting systems are installed independently by households without any external support from government (Owusu & Asante, 2020).

While these systems can mitigate water scarcity, they also pose significant health risks due to potential water contamination (García-Ávila et al., 2023; Raimondi et al., 2023). In addition to financial constraints, poor maintenance of collection and storage systems is a concern noted by Dao et al. (2021). These issues are often attributed to local habits and lifestyles, particularly prevalent in rural areas. Therefore, addressing these challenges and risks associated with rainwater harvesting systems is essential for promoting sustainable water management practices in rural communities. Thus, this study aims to provide a comprehensive analysis of current rainwater harvesting practices in a selected rural community, to understand their specific needs and limitations, and develop practical suggestions and awareness to enhance the safety and reliability of harvested rainwater.

Context of the study

The study took place in the Amahlongwa ward, a rural community which lies in the outskirts of the Umkomaas region on the South Coast of KwaZulu-Natal (Figure 2). This area falls under the governance of the Umdoni local municipality, which is considered as a Category B municipality within the Ugu District (Anon, nd). The community is administered by traditional leaders, specifically under the Zembeni tribal authority, which is under the jurisdiction of local chiefs (Anon, 2021).

Figure 2: Location of Amahlongwa ward



Source: Adapted from Anon (2021)

The Zembeni tribal authority predominantly comprises a population of black Africans, with the Zulu ethnic group being the largest (Stats SA, 2011). The area relies heavily on subsistence agriculture, with many households engaged in farming activities to sustain their livelihoods (Naicker et al., 2023). Access to basic services and infrastructure in this ward varies, with some areas facing challenges such as limited healthcare facilities, inadequate water supply, and insufficient sanitation services (Stats SA, 2011). Efforts by the Umdoni local municipality and various non-governmental organisations are ongoing, with the aim to improve these conditions and enhance the quality of life for these residents (Umdoni Municipality, 2022). These communities depend on municipal tankers for water, and the situation worsens during dry periods when there is no rainfall. The primary sources of water for residents are rainwater harvesting and collecting water from the Mkomazi River, making the community vulnerable during times of insufficient rainfall (Makhaye, 2022).

METHODOLOGY

The study adopted a survey research strategy to provide a comprehensive analysis of the current rainwater harvesting practices in the selected rural community on the South Coast. According to Taherdoost (2022), this type of research strategy involves employing a sample and structured questionnaire to assess the characteristics, attitudes, beliefs, and behaviours of the community members. Statistical methods are then applied to analyse these aspects, aiming to generalise the findings to reflect the broader perspectives within the community. This approach was preferred for its ability to systematically gather and analyse quantitative data, offering insights into the prevalent practices and perceptions regarding rainwater harvesting in the study area.

Survey instrument design

A survey questionnaire was designed to collect empirical data on rainwater harvesting systems, water storage conditions, usage patterns of harvested rainwater, and the associated health effects within the selected community. These focus areas were identified through literature as critical determinants of rainwater harvesting and, therefore, informed the framework of the questionnaire. In addition, previous studies (Mbua et al., 2023, Owusu & Asante 2020; Dao et al., 2021) were also used as a guide to craft specific questions pertinent to these focus areas. The questionnaire

incorporated categorical data questions so that the respondents could select from the choices presented to them.

Given the community-specific nature of the study, the questionnaire was intentionally designed to be simple and short, aiming to ensure ease of understanding and quick completion, thus maximising response rates from the participants. Furthermore, the survey was made available in both the English and isiZulu languages, to accommodate the diverse language preferences among the participants. The questionnaire was structured into five sections as follows: Section 1 captured biographical details, Section 2 delved into rainwater harvesting systems, Section 3 examined the storage conditions of harvested rainwater, Section 4 focused on the uses of harvested rainwater, and Section 5 investigated perceived health effects associated with harvested rainwater.

Sampling strategy

The target population for the study was approximately 514 houses, as identified through various local government records, community organisations, and internet sources (Stats SA, 2011). This figure was further validated by the tribal chief, thus establishing the appropriate target population for the scope of the study. A sample size of 221 was deemed adequate for the study, using the sample size determination tables from Singh and Micah (2014). This sample size gives a 95% confidence level and 5% margin error, thereby enhancing the reliability of the study's findings.

A convenience non-probability sampling technique was chosen for this study, due to practical considerations and time constraints. This approach allowed for participants to be selected based on their availability and willingness to participate, rather than through a random selection from a predefined list (Pace, 2021). Convenience sampling is frequently utilised in research settings where logistical constraints limit the ability to access the entire population (Rahi, 2017). One adult member from each household was approached to participate in the survey as a means to ensure a diverse representation of perspectives within the community.

Fieldwork

The data was collected over a three-week period. Participants who met the inclusion criteria were recruited for the study. The questionnaires were administered and

retrieved by the researcher with the support of a team of local research assistants. These research assistants were specifically recruited in the local ward to assist in recruiting, administering, and retrieving the questionnaires. Participants were approached in their homes, on the streets, and at approved community gatherings to ensure a comprehensive reach within the community. For participants who were unable to read or write, the research assistants read the questions aloud and recorded their responses. This approach ensured inclusivity and accuracy in data collection.

One significant challenge encountered was the language barrier between the researcher and some participants. Although some participants were fluent in isiZulu and English, they preferred to communicate in isiZulu. This was subsequently resolved with the help of the indigenous research assistants who were familiar with the community and understood them very well. Their involvement facilitated smoother communication with the participants, thereby enhancing the quality of the data collected. Throughout the data collection period, attention was given to ensuring ethical standards and maintaining the confidentiality of participants. Informed consent was obtained from all the participants, and they were assured that their responses would be used solely for research purposes. At the end of the three-week period, the researcher had obtained 221 completed responses, achieving a 100% response rate. This high response rate highlights the effectiveness of the recruitment strategy and the commitment of the community to participate in the study.

Method of data analysis

The data collected from the survey were analysed using the Statistical Package for the Social Sciences (SPSS) software, version 25. Descriptive statistics, such as percentages, were employed to analyse and interpret the distribution of responses among the respondents. Additionally, the inferential Pearson's chi-square goodness-of-fit test was used to determine whether the observed frequencies of a single categorical variable significantly differed from the expected frequencies in this study. A significance level of $p < 0.05$ was used, as recommended by Turhan (2020), to determine statistical significance.

The reliability of the measuring instrument was ensured by conducting the test-retest reliability method, which assesses the consistency of results over time. This method involves administering the same questionnaire to the same participants at two different

points in time and then comparing the results. A kappa value between 0.6 and 1 is considered indicative of good to excellent reliability (Sainani, 2017). In this study, the reliability test was performed by administering the survey two weeks apart to the same participants. The calculated kappa value was 0.737, confirming that the questionnaire had high reliability. Additionally, two questions in the survey (3.2 and 4.3), which requested similar information, but were phrased differently, obtained similar responses, further confirming the reliability of the instrument. The validity of the instrument was maintained through content validity, by ensuring all questions were linked to relevant literature. This approach ensured that the survey covered all necessary aspects of rainwater harvesting practices and related issues comprehensively.

RESULTS AND DISCUSSION

Section 1 - Biographical information

This section of the questionnaire was formulated to acquire comprehensive demographic data on households, specifically focusing on the number of occupants and their age distribution. Such information was deemed appropriate for determining household water consumption patterns within the community.

Table 1: Demographic analysis

Indicator 1	Category	Percentage
1.1 Household Size	1 – 2	15.7
	3 – 5	72.4
	≥6	11.9
1.2 Age Group	≤12	11.7
	13 – 18	11.4
	19 – 39	36.6
	40 – 59	27.4
	≥60	12.9

In terms of household size distribution, indicator 1.1 in Table 1 demonstrates that 15.7% of households consist of 1 to 2 residents, 72.4%, have between 3 to 5 residents, and 11.9% of households have 6 or more residents. Thus, the weighted average household size is approximately 4 residents within this community. The substantial representation of households having between 3 to 5 individuals, signifies a prevailing

inclination towards moderate-sized domestic arrangements. This trend, as observed, aligns with the findings of Alim et al. (2020), who emphasise that household size significantly influences water consumption rates, with larger households generally consuming more water due to an increased demand for daily activities and hygiene practices.

For indicator 1.2, the predominant age group in this community ranges from 19 to 39 years, encompassing 36.6% of the surveyed participants. Following closely are individuals aged 40 to 59 years, making up 27.4% of the sample. Children under 12 years constitute 11.7%, teenagers aged 13 to 18 years make up 11.4%, and senior citizens aged over 60 years account for 12.9%. These findings accentuate a potentially higher utilisation of household water resources, as younger age groups often engage in more active lifestyles and may have greater water consumption needs.

Section 2 - Rainwater harvesting systems

The results for rainwater harvesting systems are presented in Table 2.

Table 2: Rainwater harvesting systems

Indicator 2	Category	Percentage	P value
2.1 Type of harvesting technique	Roof Harvesting	61.4	0.000
	Deep Pit	20.3	
	Non-Roof Harvesting	18.3	
2.2 Type of roofing material	Metal	54.2	0.000
	Other	15.1	
	Thatch	14.7	
	Tiling	14.7	
	No Response	1.3	

As depicted in Table 2, indicator 2.1 shows that the majority of the respondents (61.4%) make use of the roof harvesting technique, while 20.3% employ the deep pit technique and 18.3% practice the non-roof harvesting technique. The low percentages for the deep pit technique and non-roof harvesting technique indicate that these techniques are less prevalent among the respondents. The deep pit technique requires the excavation and construction of underground storage facilities, which may not be feasible or practical in all areas (Ertop et al., 2023). On the other hand, the non-roof technique could possibly include other methods, such as direct rainwater

collection, which may be less practical depending on factors like water availability and appropriateness.

The widespread adoption of roof harvesting aligns with existing literature, indicating that it is the most prevalent rainwater harvesting technique, particularly in areas where access to reliable clean water sources is limited or uncertain (Tengan & Akoto, 2022; Alim et al., 2020; Owusu & Asante, 2020; Nwachukwu et al., 2024). This preference may stem from the perception that rainwater collected from rooftops is generally safer than surface water from rivers, lakes, or shallow wells, prior to ground contact (Gwenzi et al., 2015; Latif et al., 2022; Lebek & Krueger, 2023). However, Matimolane et al. (2023) identified that many rural households in South Africa typically employ basic and opportunistic approaches to rainwater harvesting, which may compromise the integrity of the rainwater harvesting system and pose potential risks. The statistically significant result ($p < 0.05$) suggests that the preference for roof harvesting is not by chance, but is likely due to practical and perceived benefits.

For indicator 2.2, it can be observed that 54.2% of the respondents prefer metal roofing materials for rainwater harvesting, while 14.7% of the respondents prefer the thatch and 14.7% prefer the tiled roofing material option. In addition, 15.1% of the respondents indicated that they use some other type of roofing material for rainwater harvesting, demonstrating the diversity of options available in the market. The prevalent usage of the metal roof within this community is consistent with García-Ávila et al. (2023) and Raimondi et al. (2023) who indicated that the metal roofing materials are often favoured due to their durability, ease of installation, and ability to provide a clean collection surface. In contrast, the thatch and tiled roofing type materials may be less popular due to potential complications in installation, maintenance, and the risk of contamination (Ertop et al., 2023).

Studies have shown that the type of roofing materials used for rainwater harvesting can significantly impact the quality of the rainwater collected (Tengan & Akoto, 2022; Alim et al., 2020; Bae et al., 2019). These findings highlight the practical and environmental considerations that likely influence the community's choice of roofing materials for their rainwater harvesting processes. The significant p value (< 0.05) underscores that the preference for metal roofing materials is not random, but is likely influenced by factors such as durability and ease of installation.

Section 3 – Storage conditions of harvested rainwater

The results for the storage conditions of harvested rainwater are presented in Table 3.

Table 3: Storage conditions of harvested rainwater

Indicator 3	Category	Percentage	P value
3.1 Type of storage container	Plastic JoJo Tank	52.5	0.000
	Plastic Container	36.1	
	Metal Drum	11.4	
3.2 Duration of rainwater storage in storage container	≤2 Weeks	31.7	0.000
	3 - 4 Weeks	45.2	
	5 - 8 Weeks	18.6	
	≥9 Weeks	3.6	
	No Response	0.9	
3.3 Frequency of cleaning storage containers	Weekly	24.7	0.000
	Monthly	15.7	
	Quarterly	16.1	
	Yearly	40.8	
	Others	2.7	

Indicator 3.1 in Table 3 reveals that 52.5% of respondents prefer using plastic JoJo tanks for storing harvested rainwater, 36.1% utilise other types of plastic containers, and 11.4% store rainwater in metal drums. The predominant use of plastic JoJo tanks indicates the preference for storage facilities specifically designed for rainwater harvesting, whereas ordinary plastic containers and drums may be considered makeshift solutions, as indicated by Lebek and Krueger (2023). The preference for general plastic containers for water storage reflects a common belief in their safety compared to other materials, likely due to their durability, ease of handling, and cost-effectiveness, as indicated by García-Ávila et al. (2023). Plastic containers are also less prone to corrosion than metal drums, potentially extending their lifespan and maintaining the quality of the stored water (Ertop et al., 2023).

Furthermore Nwachukwu et al. (2024) and Mbua et al. (2024) demonstrated that water contamination is significantly influenced by the type of storage system used, with the poor hygienic conditions of storage vessels contributing to water degradation between sources and points of use. The obtained p-value (< 0.05), which demonstrates statistical significance, suggests that the preference for plastic tanks over alternative

storage methods is influenced by considerations such as safety, durability, and cost-effectiveness. This finding is consistent with prior research, emphasising the critical role of effective storage systems in preserving the quality of harvested rainwater.

Indicator 3.2 demonstrates that the majority of respondents (45.2%) store harvested rainwater for 3-4 weeks, followed by 31.7% who store it for ≤ 2 weeks, 18.6% for 5-8 weeks, and 3.6% for ≥ 9 weeks or more. This distribution pattern suggests that water is generally stored for shorter durations, likely influenced by the type and size of storage containers used, such as basic plastic containers and metal drums commonly reported by respondents in this community. These containers typically have smaller capacities compared to larger storage JoJo tanks, leading to the quicker depletion of stored water. This correlates with Umukiza et al. (2023) who stipulate that the volume of collection and storage facilities may limit the amount of rainwater that can be stored.

Thus, the observed shorter storage durations can be seen as practical limitations imposed by container size on water availability over time in this community. Closely related to this are the catchment surfaces, which affect the quantity of water collected and the storage volume. This is in line with Ndeketeya and Dundu (2019) who found that people living in these rural communities are very poor and have very small houses or shacks that have small roof areas leading to limited catchment surfaces. This in turn leads to lesser water collection and faster depletion. The statistically significant finding ($p < 0.05$) indicates that the observed trends in storage duration are not random, but are influenced by factors such as container size, catchment surface area, and household water demand, reinforcing the importance of these factors in rainwater harvesting practices.

According to the results depicted for indicator 3.3, 40.8% of the respondents clean their storage container once a year, 24.7% opt for cleaning weekly, 16.1% prefer cleaning quarterly, and 15.7% clean their containers monthly. The majority of respondents who clean their storage containers annually are possibly using the large JoJo tanks, which are specifically designed to require less frequent maintenance. Ross et al. (2022) reported similar findings, noting that some storage tanks are designed to remain maintenance-free for up to five years. This is consistent with Anabtawi et al. (2022), who reported that periodic cleaning of storage tanks prevents the build-up of microbial contaminants, thus ensuring the stored water remains clean.

Conversely, the respondents who indicated more frequent cleaning, are likely using other types of storage containers, such as large buckets or drums, which may not be suitable for long term water storage. This correlates with Matimolane et al. (2023), who observed similar practices in rural communities in South Africa. Additionally, Dao et al. (2021) highlighted the importance of frequent reservoir cleaning awareness in rural areas of Vietnam. The observed p-value (< 0.05) highlights significant variation in the frequency of cleaning storage containers among respondents. This variation may be influenced by the specific type and design characteristics of the containers used, which are crucial factors in maintaining water quality within rainwater harvesting systems.

Section 4 – Usage of harvested rainwater

The results pertaining to the usage of harvested rainwater are presented in Table 4.

Table 4: Usage of harvested rainwater

Indicator 4	Category	Percentage	P Value
4.1 Activities harvested rainwater used for	Household Cleaning and Laundry	34.9	0.000
	Cooking, Washing and	31.8	
	Drinking	26.0	
	Farming and Irrigation	7.3	
4.2 Activities harvested rainwater not used for	Farming and Irrigation	62.9	0.000
	Others	17.9	
	Drinking	12.2	
	Cooking and Washing	4.4	
	Household Cleaning and Laundry	2.6	
4.3 Shelf life of harvested rainwater	≤2 Weeks	24.0	0.000
	3 - 4 Weeks	53.8	
	5 - 8 Weeks	19.9	
	≥9 Weeks	2.3	

Indicator 4.1 in Table 4 reveals that harvested rainwater is predominantly used for household cleaning and laundry (34.9%), cooking and washing (31.8%), drinking (26%), and farming and irrigation (7.3%). These findings align with Matimolane et al. (2023), who established that harvested rainwater plays a significant role in various domestic and agricultural activities in rural communities. Notably, these findings highlight the diverse applications of harvested rainwater in the respondents' daily lives, given that 57.8% of its usage is for cooking, washing, and drinking. This underscores

the importance of ensuring water quality meets potable standards. While harvested rainwater is generally perceived as clean and safe, its suitability for cooking and drinking requires rigorous treatment before consumption, as emphasized by Dao et al. (2021) and Latif et al. (2022). Additionally, the p-value (< 0.05) confirms that the utilisation patterns of harvested rainwater across different activities are not random but reflect specific needs and practices within the community. This emphasises the critical importance of water quality management in ensuring safe usage.

It is evident from indicator 4.2, that the majority of respondents (62.9%) do not prefer to use harvested rainwater for farming and irrigation purposes. Additionally, 2.6% abstain from using it for household cleaning and laundry, 4.4% avoid using harvested rainwater for cooking and washing, and 12.2% express reluctance to use it for drinking. Furthermore, 17.9% of respondents indicated other unspecified uses for which they do not use harvested rainwater. The high proportion of respondents that do not use harvested rainwater for farming and irrigation contrasts with the findings of Hafizi et al. (2018), who reported its common use for these purposes, often without requiring any special treatment. One possible reason for this discrepancy could be attributed to the limited availability of water within the community, thereby prompting prioritisation of other essential needs such as cooking and drinking. On the other hand, the reluctance to use harvested rainwater for other activities could be influenced by the respondents' perceptions and beliefs regarding water quality and safety, which is aligned to Maharaj and Friedrich (2024). The statistically significant p value (< 0.05) indicates that people's choices about using harvested rainwater for different purposes are not random.

Indicator 4.3 reveals that the majority of the respondents (53.8%), report that their harvested rainwater lasts between 3 to 4 weeks, while 24% indicate a duration of less than 2 weeks. Additionally, 19.9% state that their harvested rainwater supply can last between 5 to 8 weeks, and a small fraction, 2.3%, report a shelf life greater than 9 weeks. The statistically significant p-value (< 0.05) indicates that these observed durations are not randomly distributed, but are influenced by factors such as container type, storage conditions, and regional climate variations. This finding is consistent with Owusu and Asante (2020), who reported similar results for the usage period of harvested rainwater in Ghana. The reason for shorter shelflife durations could be attributed to the deterioration of harvested rainwater quality over time, as noted by

Alim et al. (2020). This degradation is due to the presence of dissolved solutes, such as chemicals, organic matter, and microbes introduced during the harvesting process, which can negatively impact the quality and suitability of harvested rainwater for consumption (John et al., 2021). The microorganisms present in harvested rainwater can proliferate over time, especially in warmer climates like South Africa, leading to the accelerated deterioration of water quality and shorter shelf life.

Section 5 - Health effects of harvested rainwater

The results for the health effects of harvested rainwater are presented in Table 5.

Table 5: Health effects of harvested rainwater

Indicator 5	Category	Percentage	P value
5.1 Frequency of falling sick	Monthly	55.2	0.000
	Quarterly	35.4	
	Yearly	9.0	
	Others	0.4	
5.2 Health symptoms associated with the use of harvested rainwater	Diarrhoea	22.1	0.000
	Abdominal Pain	21.7	
	Skin Rashes	20.5	
	Others	15.9	
	Dehydration	12.4	
	Vomiting	7.4	

Indicator 5.1 in Table 5 shows that the majority of respondents (55.2%) fall sick quarterly, 35.4% fall sick yearly, and 9% fall sick monthly. Of particular concern within the community are the respondents who fall sick quarterly and monthly, indicating a more immediate and potentially alarming health issue that may be related to the consumption of harvested rainwater. The statistically significant p-value (< 0.05) associated with the frequency of falling sick indicates that the observed patterns are not random, but are likely influenced by factors such as water quality, usage practices, and the potentially inadequate treatment or storage methods of harvested rainwater. These findings can be supported by Hafizi et al. (2018), whose study revealed that poor quality roof-harvested rainwater contained contaminants above the World Health Organisation guidelines. This supports the community's perception that their frequent illnesses may be linked to water quality. The presence of pathogens, heavy metals, and other pollutants commonly found in untreated harvested rainwater can pose

significant health risks when consumed, as demonstrated by Tengan and Akoto (2022).

Indicator 5.2 highlights significant incidences of gastrointestinal illnesses such as diarrhoea (22.1%), vomiting (7.4%), and abdominal pain (21.7%) among respondents. Additionally, symptoms suggestive of dehydration (12.4%), skin rashes (20.5%), and other unspecified conditions (15.9%) were reported. These findings align with research by Mbua et al. (2024), who documented similar health issues in the Cameroon, linked to the consumption of untreated harvested rainwater. John et al. (2021) emphasise that untreated harvested rainwater serves as a pathway for pathogens to enter human systems. For example, gastrointestinal symptoms like abdominal pain and diarrhoea could indicate exposure to waterborne pathogens such as *Cryptosporidium* spp. Conversely, skin rashes may signify contact with irritants or allergens present in contaminated harvested rainwater (Mbua *et al.*, 2024). The statistically significant p-value (< 0.05) associated with these health outcomes indicates that the observed incidences are not random, but are likely influenced by factors such as water quality and the presence of contaminants in harvested rainwater.

SUMMARY OF THE MAIN FINDINGS

Firstly, roof harvesting emerged as the predominant technique within the community, owing to its practicality and adaptability. Additionally, metal roofing materials were preferred for their perceived cleanliness and durability. Secondly, the widespread adoption of plastic tanks for rainwater storage underscored their popularity, although variations in cleaning frequencies among users indicated a need for targeted education on maintenance practices. Thirdly, it was observed that rainwater harvesting serves crucial roles in household activities, such as cleaning, cooking, and drinking, emphasising its importance in water-scarce environments. However, concerns among certain households regarding water quality accentuated the imperative for rigorous treatment and filtration methods to mitigate contamination. Lastly, the study highlighted health implications associated with harvested rainwater consumption, including occurrences of gastrointestinal illnesses such as abdominal pain and diarrhoea.

RECOMMENDATIONS

Storage systems and processes

Due to the high price of the preferred storage containers such as JoJo tanks, and considering the financial challenges faced by the people living in this rural area (Naicker *et al.*, 2023), it is suggested that alternative solutions and funding options to make these tanks more accessible should be explored. One approach is to seek assistance from government programs or non-governmental organisations (NGOs) that focus on water security and rural development. These entities often have grants or subsidised programs aimed at improving water storage infrastructure in underserved communities (Umdoni Municipality, 2022). While JoJo tanks are highly recommended due to their durability and suitability for water storage, other cost-effective plastic tanks can serve as interim solutions while funds are being secured for more permanent installations.

The community should be encouraged to adopt the First-In, First-Out (FIFO) principle to ensure that the oldest stored water is used first, which helps maintain the quality of the stored water and prevent long-term storage issues. This can be established by using standardised protocols by marking all storage containers with the date of water collection and using charts or calendars to help families track storage durations easily. This will ensure that water is consumed within safe storage periods, reducing the risk of contamination.

Rainwater treatment

The community needs to be made aware of the importance of installing a filter before the water enters the storage tank. Since proper filtration systems can be very expensive, a practical starting point would be to install mesh screens at the inlet of their storage tanks to prevent leaves, insects, and other larger contaminants from entering. In addition, they can use reusable cloth filters made from locally available materials, like cotton or synthetic fabrics, to further remove larger particles and debris from the collected rainwater before it is stored. There is also the option of using other types of low-cost filtration methods, such as ceramic filters or bio-sand filters, to effectively remove sediment, bacteria, and protozoa (Latif *et al.*, 2022). These filters can be constructed using locally available materials like sand, gravel, and clay, making them easily accessible to the community. The community can further improve their

water quality by implementing a filter at the outlet points of their storage tanks. This will add another layer of protection to safeguard the quality level of the water.

In addition to filtration, it is essential for the community to consider adding chlorine to the stored rainwater as a means to eliminate any remaining bacteria that may still be present. Chlorination is a straightforward method recommended by Mbua et al. (2024) and Nwogu et al. (2024) for rural communities to disinfect water and prevent waterborne diseases. This practice is simple to implement and can be achieved using various household chlorine products, to ensure that the water remains safe and suitable for household use.

Apart from the above methods, the quickest and safest low-cost method to treat harvested rainwater is by boiling it before drinking or using it for cooking. According to Dao et al. (2021) and John et al. (2021), boiling effectively eliminates harmful pathogens and ensures that the water is safe for consumption. This makes boiling an accessible and reliable option for poor rural communities, as it requires minimal resources and can be implemented using basic household equipment, providing an immediate solution to improve water safety.

Cleaning and maintenance

It is important for the community to ensure the regular cleaning and maintenance of their catchment areas and their respective storage systems to prevent the accumulation of debris and contaminants that can compromise the water quality, as advised by Gwenzi et al. (2015). For the catchment surfaces, such as rooftops, this can be done by drawing up a cleaning schedule guide and timeframe and sticking to these. The community can use simple tools like brushes and mild detergents to effectively clean these catchment surfaces.

In terms of the storage systems, while JoJo tanks are designed for periodic cleaning, the major concern arises for those community members that are using plastic buckets, containers, and metal drums. These alternative storage containers should be cleaned frequently, as they are not designed for storing water. The cleaning should be conducted using chlorine-based disinfectants to eliminate bacterial growth. After applying the disinfectant, proper rinsing and drying of the tanks are necessary to remove any residual chlorine that could possibly affect the taste and safety of the

stored water. This practice is critical, to ensure that the water remains safe for consumption.

Community education

It was evident from the findings that the collection, treatment, storage, and maintenance of rainwater harvesting systems at the household level are deeply embedded in longstanding habits and rural lifestyles within this community, something that was also identified by Dao et al. (2021). Therefore, community-led workshops, facilitated by local leaders and health authorities, are instrumental in disseminating the above-mentioned best practices for rainwater harvesting and fostering community ownership of water management initiatives. The involvement of local leaders, such as the Induna, will ensure that the information conveyed is culturally relevant within the community; thereby fostering acceptance and adherence to recommended practices. As highlighted by Owusu and Asante (2020), promoting the commitment to rainwater harvesting technology through education and awareness initiatives remains essential for fostering sustainable water management in rural areas.

It would be beneficial to develop easily accessible educational materials, such as pamphlets, posters, and illustration guides to complement the workshop efforts. The diagrams should be clear and visually appealing to illustrate proper maintenance procedures for catchment areas and storage systems, step-by-step guides for installing and maintaining filtration devices, and instructions for water treatment methods like boiling and chlorination. These materials should however be custom-made to the literacy levels and language preferences of the community, to ensure maximum reach and effectiveness. In addition, these workshops can be interactive through demonstrations and hands-on activities that allow participants to practice the skills learned, such as constructing simple filtration systems using locally available materials. This practical approach will build confidence and competence among the community members in managing their water resources effectively.

CONCLUSION

The study of rainwater harvesting practices in the selected rural community reveals both challenges and opportunities for improving water security and quality. It highlights the entrenched nature of traditional rainwater harvesting management practices within the community, influenced by longstanding habits and rural lifestyles. By emphasising

the importance of the regular maintenance of catchment areas and storage systems, the use of appropriate filtration methods, and the adoption of water treatment techniques like boiling and chlorination, the study offers actionable and practical recommendations for existing rainwater harvesting processes with minimum investment costs. Community-led workshops emerged as a pivotal element to disseminate the essential knowledge and skills to the community. Supplementary educational materials, such as illustration guidelines and practical demonstrations, play a crucial role in reinforcing workshop teachings and facilitating sustained improvements in water quality management practices. It is anticipated that this integrated approach, informed by local insights and supported by community engagement, will lay the foundation for resilient water systems that can adapt to future challenges. By empowering local stakeholders and promoting the adoption of best practices, we can enhance the efficacy of rainwater harvesting in ensuring safe and reliable water access for all members of our rural communities.

LIMITATIONS AND FUTURE AREAS FOR STUDY

This study utilised convenience sampling, a non-probability sampling approach selected due to practical considerations. While this method allowed for efficient data collection, it also introduces certain limitations that affect the generalisability of the findings. Specifically, convenience sampling may lead to sampling bias, as it does not provide each member of the population with an equal chance of selection (Pace, 2021). Therefore, these findings should be interpreted with caution, as they may not fully represent the broader population. Future research should consider using random sampling techniques to enhance the generalisability of the findings. Additionally, replicating this study across diverse populations could help validate and extend the results.

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Exploring the nexus of social entrepreneurship and the social economy in South Africa: A new paradigm for change

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ABSTRACT

This paper aims to investigate the dynamic relations between social entrepreneurship and the social economy. It argues that this strenuous relationship acts as a new paradigm of change to promote comprehensive local economic development. What triggered this paper is the persistence of an unpalatable environment such as poverty, unemployment, and inequality in South Africa. The challenge is also the lack of adequate documentation and conceptualization of the concept of social entrepreneurship and social economy in a South African context. It underscores that since the concept of social entrepreneurship is relatively new in South Africa, it needs to be explored and put in context to ensure a holistic social economy, thus enhancing local economic development. It highlights the essential role that social entrepreneurs play in using the tools of the social economy to address urgent social problems such as poverty. The paper explores how working together can advance sustainable development, social inclusion, and economic equity. This conceptual paper uses a literature-based methodology to investigate the connection between social entrepreneurship and social economy. This methodology allowed researchers to browse published documents on the subject under investigation. The findings reveal how this nexus could significantly influence socioeconomic change, offering valuable information for policymakers, social entrepreneurs, and stakeholders in the social economy. As part of its recommendations, the document ultimately supports the increasing acknowledgment and incorporation of social entrepreneurship in the

Netherlands to the social economy framework, government departments, and agencies to enhance its influence on social change.

Keywords: local economic development, poverty, social economy, social entrepreneurship, South Africa.

INTRODUCTION

The persistence of socioeconomic challenges in South Africa needs urgent attention. For far too long people on the ground have experienced and endured the hardships of poverty, afflictions, and growing social and economic inequalities (Gordon, Booysen & Mbonigaba, 2020). Social entrepreneurship aims to use the operational effectiveness of accomplished business individuals to improve and support communities, particularly in regions facing issues such as severe poverty and limited prospects (Baporikar, 2016). Regardless, South Africa has reached a situation where one cannot tell a poor person to be patient, because poverty is not patient, it needs an immediate solution. For that reason, social entrepreneurship and social economy become the third economic sector that could comprehensively ameliorate the quandaries, hardships, and afflictions that most of the marginalized individuals and communities experience. The social economy sector does not receive urgent enough attention and support from the government as it should. Much focus is put on the private sector and government in trying to reduce poverty and overlook social entrepreneurs who could help and rescue people from misery and poverty. This paper will delve into the dynamics of social entrepreneurship and social economy and demonstrate how the nexus of social entrepreneurship and social economy could be a new paradigm and catalyst for change.

The increase in social entrepreneurship should be analysed in relation to the larger change in the social economy. Social entrepreneurship is a new trend that offers creative answers to ongoing social issues such as poverty, limited education opportunities, and access to clean water (Abeysekera, 2019). Although social entrepreneurship is becoming more well-known and attracting greater attention globally, there is no commonly agreed definition for the concept, partly due to a lack of established theory and the diverse contexts in which social entrepreneurship activities take place (Baporikar, 2016). The definition of social entrepreneurship

remains unclear; therefore, it is a topic of debate. Grieco, Michelini, and Lasevoli (2015) posit that social entrepreneurs are individuals who take part in business endeavors in order to address societal needs. Social enterprises may take the form of non-profit, or hybrid organizations (Abeysekera, 2019).

Furthermore, social enterprises aim to achieve sustainability in both financial and social aspects through the implementation of business models (Baporikar, 2016). In essence, social entrepreneurship aims to provide services or products that address unmet needs or offer alternative solutions to social problems to create value or make a positive impact on society. Social entrepreneurship is commonly seen as a tool to tackle unjust conditions that lead to isolation (World Youth Report, n.d.). While social entrepreneurs care about profits, these are not the driving force behind their initiatives. Social enterprises have established financial goals to facilitate and enhance the desired social impact. Usually, most of the earnings made are returned to the business in a way that will continue to enhance the social impact objectives and sustainability of the social enterprise (Peek, 2022). The popularity of social entrepreneurship and social enterprise organizations has reached unprecedented levels in the social economy. The state's failure to fulfill its citizens' needs has inspired regular people to create entrepreneurial solutions to address social inequalities (Moss, 2012).

The social economy is seen as a key strategy to help reduce poverty and revitalize local economies, making it a crucial innovative approach (Hosu, 2012). The participation of social actors is necessary for the revitalization of local communities. The social economy includes various models, all aiming to establish a more inclusive and sustainable economic framework. It consists of a diverse group of private entities, such as associations, cooperatives, foundations, nonprofit organizations, voluntary groups, and social enterprises (World Economic Forum, 2022). The social economy is a unique type of economic structure and ownership that goes beyond the public and private sectors, focusing on social rather than financial goals and not driven by profit like capitalism or socialism (Defourny & Nyssens, 2013). This economic model is gaining attention from activists, practitioners, policymakers, and academics, including human geographers (Thompson, 2020). The following paragraph provides a brief nexus between social entrepreneurship and social economy.

Given that South Africa uses a dual economic system (public and private sectors), it still experiences low economic growth, unemployment, poverty, and inequality. Therefore, this article seeks to shed light and provide an alternative that could be adopted to improve the living standards of poor and marginalized people. The nexus between social entrepreneurship and social economy offers new insights into how the local economy and development could be enhanced. As Abeysekera (2019) puts it, social entrepreneurs accept a social responsibility that comes from their willingness to tackle social ills. However, they do not receive the necessary support from the government. Social entrepreneurs are individuals who identify specific challenges and use their business means together with compassion to ameliorate such problems in a community (Abeysekera, 2019). By engaging in both social and economic endeavours, social economy is therefore, sustained. The social economy could be rejuvenated through the reinvestment of profit by social entrepreneurs in tackling socioeconomic woes. The social economy also gives priority to businesses that seek to address the social challenges in the communities (Defourny & Develtere, 1999; Valencia, Bocken, Loaiza, & De Jaeger, 2023). Such businesses could be in the form of nonprofit organizations (NPOs), private entities, foundations, and cooperatives. At the centre of such businesses are social entrepreneurs who serve as the drivers and catalyst for social and economic change, thus contributing to an inclusive social economy (Abeysekera, 2019).

METHODOLOGY

This paper adopted a literature-based methodology, which is a type of methodology that is purely conceptual and has adopted a qualitative approach. Data was collected through a review of the already published literature. This means that it used secondary data. It accessed secondary data from journal articles, books, internet sources, reports, and any other relevant publications necessary to achieve the purpose of the paper. Furthermore, a thematic analysis was used to analyse the data. Clarke and Braun (2017) understand a thematic analysis as a technique used to identify, examine and interpret patterns of significance (referred to as 'themes') in qualitative data. Thus, the themes identified in the paper were critically interpreted and meaning was provided to facilitate clarity and understanding.

LITERATURE REVIEW

What forms of social economy are there in South Africa?

There are different organizations that contribute to the social economy. Such organizations include co-operatives; community-based enterprises; trade-union owned enterprises; informal enterprises with specific social objectives; Non-Government Organisations (NGOs); NPOs; social enterprises; philanthropic enterprises (private, international, government); social financing organisations; cooperative finance institutions; cooperative Banks; stokvels; voluntary associations; nonprofit trusts or charitable trusts; nonprofit companies; Public Benefit Organisations (PBOs) and Foundations (Department of Economic Development, 2019). These are organizations that could contribute positively towards the growth of the social economy.

Quarter, Mook and Armstrong (2009) state that the social economy operates at the intersection of the public and private sectors, where businesses or organizations with a social purpose thrive. Around 2.8 million social-economic organizations in Europe provide practical and creative answers to significant issues in EU society, such as generating good employment opportunities, promoting equal chances, and socioeconomic integration for marginalized groups (including individuals with disabilities) (European Commission, 2024). They also have a vital role in Europe's social welfare systems and aid in rejuvenating rural and underpopulated regions, thus supporting the European Union's long-term vision for its rural areas (European Commission, 2024). This is what is missing in the South African economic system. Even if the social economy is recognized in South Africa, it is not yet fully explored and effective in addressing some of the socio-economic needs of the people. The reason is that, historically, government policies have neglected the social entrepreneurship sector in favor of for-profit companies (Nkabinde & Mamabolo, 2022). The absence of a well-crafted legal framework tailored to social companies poses further obstacles to their expansion and long-term viability. Because of this, many social entrepreneurs have to compete with standard companies for funding, which might reduce their effect and goal. All social economic organizations in South Africa face challenges to being sustainable, due to financial constraints among others (Kim & Li, 2023). Moulart and Ailenei (2005) believe that social innovation in the social economy involves bringing social justice back into production and distribution systems,

while according to Defourny and Develtere (1999), the social economy encompasses all economic activities carried out by enterprises, particularly cooperatives, associations, and mutual benefit societies.

Cedric Buffler of the Trident Institute in South Africa has been recognized as a highly influential social entrepreneur for his efforts in implementing the managing business activities program for more than 160,000 small and medium enterprises since 1991 (Maziriri, Nyagadza, & Maramura, 2024). He received training from more than 4,800 trainer-mentors from 350 organizations, all focused on improving social change, innovation, and sustainability.

Social economy as the third sector of the economy

At the moment, individuals are uncovering or reaffirming the presence of a third sector which operates alongside the private, profit-driven sector and the public sector, with its classification and description differing between countries (Defourny & Develtere, 2009; Vaceková, 2016). This phenomenon is occurring across Europe, North America, Central and Eastern Europe's transitional economies, and the countries in the Southern Hemisphere (Defourny & Develtere, 2009; Valencia et al., 2023). Le Roux (2013) underscores that the social economy is a separate sector that falls between the public and private sectors. It includes all economic activities carried out by organizations like cooperatives, associations, and mutual benefit societies, with the goal of producing goods, services, and knowledge while promoting both economic and social objectives and encouraging solidarity (Moulaert & Ailenei, 2005; Borzaga & Galera, 2014). Although it is important not to restrict the scope and interpretation of the social economy, typically it will encompass actions focused on fulfilling human social needs instead of creating a physical item (Le Roux, 2013). This third sector (social economy) is not effective in South Africa, essentially because much focus is put on the public and private sectors. The challenges are that the South African economy is discussed at the national level, while the local economy receives scant attention. The social economy is not used to its full potential. If social entrepreneurs were at the heart of the social economy, then the living standards of the people would be enhanced. Moulaert and Ailenei (2005) propose that the social economy consists of a mixture of elements of market, state, and civil society. In these fresh connections, the combination of market, non-market, and non-monetary economies demonstrates

that the economy goes beyond just the market and encompasses redistribution and reciprocity principles (Moss, 2012).

The world is at times experiencing socioeconomic woes, and social entrepreneurs step in to reduce the socioeconomic inequalities that exist in different communities. Today, there are countless social enterprises worldwide that are addressing these issues, and their influence is profound. Only in sub-Saharan Africa, social enterprises are believed to have generated jobs for around 28 to 41 million people. Social entrepreneurship is more than just a trend in developing countries (Krishnamurthy, 2023). For example, in the United Kingdom (UK), there are believed to be more than 100,000 social enterprises. Though individual social enterprises may be small, when combined they create a significant impact, much like numerous fireflies lighting up the night sky (Krishnamurthy, 2023). Therefore, social enterprises play a very crucial role in enhancing the social economy and attempts to fill the vacuum left by both the public and private sector. Therefore, the social economy becomes a third sector that must be exploited and its benefits should be fully utilized to improve the living standards of the people.

In the South African context, the social economy is 'a people-centred approach to economic development based on the principles of sustainable economic activity that stimulates socially and environmentally responsible growth by leveraging and simultaneously building solidarity and social inclusion' (Department of Economic Development, 2019: 4) The government of South Africa acknowledges that the social economy can boost economic growth and promote greater social unity, integration and unity. Hence, Moss (2012) and Ajide and Dada (2023) infer that, while South Africa increasingly adopts the social economy, it is crucial to remember that many of the issues society faces are similar globally: governments fall short in meeting needs, NGOs strive for sustainability, and individuals are urged to address widespread poverty and unemployment.

Social return on investment

Social Return on Investment (SROI) is a tool that measures the worth of the social, environmental, and economic results produced by a company's actions (Arvidson, Lyon, McKay & Moro, 2013). By putting monetary values on these results, SROI offers a complete perspective of the impact generated for each investment unit, allowing

stakeholders to evaluate the efficiency and effectiveness of projects and initiatives in providing measurable social advantages (Sopact, 2024). Meanwhile, SROI focuses on social value, not money. Money serves as a universal measure of value and is, therefore, an effective and widely recognized method of expressing value (Yates & Marra, 2017). The United Nations Development Programme (UNDP) (n.d.) and Banke-Thomas, Madaj, Charles, and Van den Broek (2015) indicate that SROI is a structure for evaluating and tracking the worth generated by a project or set of actions, going beyond just financial gains. It includes expenses and advantages related to society, health, the environment, and the economy. In the context of this paper, the SROI would mean that social entrepreneurs need to play a critical role in re-investing their profits to the benefit of communities. By investing in social activities and programs, social entrepreneurs are able to market their businesses and build the profile of the companies, and their companies become renowned. This ultimately enhances the image of social enterprises. Once people get to know the social impact of the enterprises, they are likely to support them, and such enterprises may increase their sales. The nexus between social entrepreneurship and social economy must exploit this SROI to improve the living standards of the people.

Challenges of social entrepreneurship

Tough legal restrictions, lengthy and costly registration processes, and the lack of a recognized designation for social enterprise firms in many countries in the area are obstacles to social entrepreneurship, causing practical logistical difficulties and limitations (Abdou & El Ebrashi, 2015). In the same breath, Seda and Ismaili (2019) underscore that the majority of social enterprises in the country operate as non-profit organizations, leading social entrepreneurs to face challenges with strict regulations and slow processes that hinder their ability to grow and become sustainable

Financial constraints are a major challenge facing social entrepreneurs. Dzomonda (2021) contends that African governments, including South Africa, have not provided sufficient funding opportunities for social entrepreneurs. In this sense, social entrepreneurs face a challenge when trying to secure funding because many financial organizations do not fully understand who they are (Coetzee & Meldrum, 2015). Meghna and Arya (2019) show that financial status is a significant obstacle encountered by social entrepreneurs, due to the fact that the majority of them utilize

their personal funds to operate the company. At times, they borrow money from lenders, which puts a significant burden on them. The absence of financial support is seen as a barrier to the growth of social entrepreneurship. Khosla (2021) says that there are only a few financial institutions that support social enterprises due to a fundamental limitation.

Dzomonda (2021) and Satpal (2023) indicate that some challenges of social entrepreneurship include lack of government support. This appears to be a difficult one because social entrepreneurs are still relatively new, although they are partially recognized by government, and the support they receive from the government is very scant. Satpal (2023) understands that poor planning and lack of a business strategy haunt the sustainability of social entrepreneurship and limit the growth of social entrepreneurs. However, access to markets is a hindrance for social entrepreneurs because they normally operate in one location and do not have collaboration with other stakeholders or partners that could help them grow (Paina-Racolta, 2018).

The new paradigm for change: the nexus between social entrepreneurship and social economy

The intersection of social entrepreneurship and social economy is a strong group of creative business strategies and socially motivated goals. Social entrepreneurship involves finding and solving social problems with sustainable business models, while the social economy involves all economic activities that aim to tackle social and environmental issues (Kickul & Lyons, 2020). Mutual commitment to generating both social impact and financial gain is central to this connection. Social entrepreneurs and social-economics organizations understand that conventional market-oriented strategies frequently do not adequately serve marginalized communities and the environment (Wu, Wu, & Arno Sharpe, 2020). They aim to achieve fair and long-lasting results by incorporating social and environmental factors into their efforts (Le Roux, 2013). Social entrepreneurship applies entrepreneurial approaches in the social field, integrating innovative technologies, business tactics, and collaborations to improve long-term scalability and sustainability. Simultaneously, the social economy provides social entrepreneurs with access to resources, connections, and policy structures, setting them up for success. Social entrepreneurship and social economy both tackle significant global issues such as climate change, poverty, education, and healthcare

simultaneously (Borzaga & Galera, 2014). They are implementing business and social innovation to create a future that is more equitable and environmentally friendly for all.

The social economy is increasingly acknowledged for its ability to address persistent issues of structural poverty and social exclusion. It is a strategy for economic development that many regions and countries have embraced due to the inability of the dominant paradigm to focus on social justice, equity, and environmental protection. The social economy is one sector of a diverse economy that includes both the private and public sectors (Mendell, 2014). In South Africa, this sector could be revived by involving social entrepreneurs, because social enterprises frequently generate employment and economic prospects, especially in regions with elevated levels of unemployment. Social entrepreneurship can aid in economic development by supporting local communities and promoting entrepreneurship, thus contributing to enhancing social economy (FasterCapital, 2024).

Greater evaluation would be beneficial to the social economy's impact in providing tangible goods and services and fostering community cohesion, as well as empowering individuals to participate more fully in society. Although the social economy is not a cure-all for issues related to social exclusion, there is increasing evidence that innovative social economy organizations play a significant role in promoting social inclusion (Moss, 2012). Social-economy enterprises work in a competitive landscape alongside traditional businesses when it comes to providing welfare services. Nevertheless, they seem to be more appropriate for addressing the constraints of traditional profit-driven incentive systems (OECD/Noya & Clarence, 2008). Social-economic entities, such as cooperatives, associations, mutuals, foundations, and social enterprises, primarily function within local communities, building and benefiting from formal and informal networks of people, knowledge, and resources at the local level (Moss, 2012). The social economy requires a supportive environment that recognizes its value and facilitates its functioning in order to thrive. It is equally crucial to recognize that numerous social economy organizations need the same assistance as conventional businesses do (OECD/Noya & Clarence, 2008). However, social entrepreneurs, as agents of change, have a social impact in different communities, which could assist in growing the social economy. For example, one could think of a social enterprise that offers vocational training programs to people who are out of work. The social impact of the organization can be assessed by

monitoring the number of people who complete the training and secure jobs. Additionally, an evaluation of the long-term economic and social benefits experienced by individuals and their communities can help determine the impact (FasterCapital, 2024).

Just as business entrepreneurs are important to the economy, social entrepreneurs are crucial to society (Baporikar, 2016; FasterCapital, 2024). Sivathanu and Bhise (2013) show that, in the same way that entrepreneurs revolutionize the business world, social entrepreneurs serve as catalysts for change in society, identifying overlooked opportunities to enhance systems, develop innovative strategies, and find solutions to positively impact society. While a business owner can establish new industries, a social entrepreneur generates fresh solutions for social issues and puts them widely into practice. Like business entrepreneurs, they may seek profit, but their focus lies on bringing about social change (Baporikar, 2016: 2). They are frequently motivated and innovative individuals who seize new opportunities, challenge established standards, and persist until they have transformed the world to the good (Austin, Stevenson & Wei-Skillern, 2006 cited in Baporikar, 2016). A social entrepreneur identifies practical solutions to social problems by combining innovation, resourcefulness, and opportunity (Peek, 2022). Committed to producing social value, entrepreneurs identify new processes, services, and products, or unique ways of combining proven practices with innovation to address complex social problems (Dzomonda, 2021). Whether the focus of their work is on enterprise development, health, education, the environment, labour conditions, or human rights, social entrepreneurs are people who seize the problems created by change as opportunities to transform societies (Wu, Wu & Arno Sharpe, 2020). In so doing, social entrepreneurs contribute to the growth of the social economy.

DISCUSSION

Social entrepreneurship is a multifaceted concept with different interpretations and strategies, aiming to generate social impact through innovative solutions, addressing a wide range of social issues such as poverty, unemployment, social isolation, and the aging population, among others. Irawan and Suryanto (2019) show that variations in environments, individuals, and events in a specific location, lead to positive outcomes and solutions. Social entrepreneurship arises from the choices and efforts of social

entrepreneurs, who are individuals who start or direct various expressions of social entrepreneurial activities. Their primary goal is to generate social impact by offering solutions to social issues while also recognizing and maintaining economic value (Paina, 2018). Therefore, social entrepreneurs and the social economy have an intricate relation, and thus cannot be separated from each other. This is because social entrepreneurship could act as a catalyst for change that could enable the social economy to be rejuvenated and sustained. This is only possible if the South African government would give social entrepreneurs more support. Not only the national government, but also the local government should play a critical role in recognizing and supporting social entrepreneurs and perhaps including social entrepreneurship in their local economic development (LED) strategies.

CONCLUSION

This paper highlighted how social entrepreneurs could enhance the living standard of people by creating employment and ameliorating poverty, among others. They should be recognized by the local government and also documented. Because social entrepreneurs initiate innovative ideas which could assist in growing the social economy, as well as inclusive community-led development initiatives. By participating in the social economy, individuals will have a sense of empowerment and ownership, thereby increasing the number of social entrepreneurs in different communities. As South Africa is fighting to improve socioeconomic conundrums present in a dual economic system, social entrepreneurs and the social economy may be an intervention to reduce socioeconomic ills. Therefore, the combination of both may be regarded as the new paradigm for change.

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Sustainability of community cooperatives in South Africa: Evidence from cooperatives in Jozini Local Municipality, KwaZulu-Natal

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ABSTRACT

This paper is based on a study that examined community cooperative sustainability. The study was conducted in Jozini Local Municipality in KwaZulu-Natal, South Africa. Community cooperatives are a cornerstone of sustainable development in rural areas, especially in the agricultural sector, and play a vital role in providing livelihood opportunities to those at the lower end of the economic spectrum. However, concerns regarding the sector's sustainability remain. The study adopted a qualitative research approach that entailed a literature review and semi-structured interviews to explore the sustainability challenges that confront the sector. The study's findings suggest that cooperatives face a myriad of challenges that threaten their sustainability. Our investigation concludes that specific policies, strategies, and actions are required to support the sector in enhancing its sustainability. Finally, it is recommended that the government, through appropriate legislation, should work with relevant stakeholders in the sector to craft a framework to enhance the sustainability of the sector.

Keywords: cooperatives, community, sustainability, South Africa

INTRODUCTION AND BACKGROUND

South Africa has created an enabling environment for community cooperatives to thrive and prosper (Okem, 2016). This is because the post-Apartheid Government identified cooperatives as one of the mechanisms to undo the apartheid legacy and address the structural challenges of unemployment, poverty, and inequality in the country (Companies and Intellectual Property, 2015). Consequently, the number of

community cooperatives registered in South Africa has grown (Companies and Intellectual Property, 2015). However, these cooperatives have encountered numerous challenges, and many struggle to sustain themselves beyond government grants (Mushonga, 2018). Studies have shown that cooperatives' sustainability without government funding is doubtful in South Africa (Tsholoba, 2015; Mushonga, 2018). This is despite the important role that cooperatives are expected to play in community development, thereby threatening the developmental objectives of post-apartheid rural development in South Africa.

Tsholoba (2015) postulates that South Africa has made strides in establishing pro-poor cooperatives, but their sustainability has proved to be a challenge for the country. Mohlala (2020) posits that numerous cooperatives in South Africa are unable to sustain themselves beyond their first year of registration and struggle to create jobs and drive development in their respective communities (Department of Trade and Industry, 2012). Derr (2013) found that very few cooperatives in South Africa have managed to successfully navigate their path and create sustainable livelihoods in their respective communities. In the same vein, authors such as Modimowabarwa and Richard (2015), Thaba and Mbohwa (2015), and Tsholobo (2015) have studied the reasons behind the prevalent challenges that hinder the implementation and sustainability of community cooperatives. These authors found that most of the cooperatives go out of business before they even begin their operations. Scholars have attributed this challenge to a lack of access to markets and the difficult economic climate in the country.

Conceptualising the importance of cooperatives

Globally, cooperatives are recognised as one of the mechanisms for supporting development and economic growth at the local level by creating employment, increasing income, and reducing poverty (Zentsi, 2021). In the developed world, for example, in the United States of America and European countries, the role of cooperatives has long been recognised. For instance, in Europe cooperative organisations account for over 60% of the harvest, the handling and marketing of agricultural products and creating sustainable agricultural employment for local communities (Tsholoba, 2015). America's Electric Cooperatives (2016) posit that over 50% of the world's agricultural production is marketed through cooperatives.

A World Cooperative Monitor report (2020: 47) posited that “At least 12% of people on earth are cooperators of any of the 3 million cooperatives on earth”. The report further postulated that “Cooperatives provide jobs or work opportunities to 10% of the world’s employed population, and the three hundred largest cooperatives generate 2,146 billion USD in turnover, while providing the services and infrastructure society needs to thrive”. The International Cooperative Alliance (2021: n.p) emphasised that “More than 12% of humanity is part of any of the 3 million cooperatives in the world”. The foregoing assertions concretise the thesis that cooperatives are no marginal phenomenon in the world, as they contribute significantly to development and economic growth.

In the South African context, the phenomenon of cooperatives emerged to perform a crucial role in development, especially for white commercial farmers in the country, predominantly during the apartheid era (Ortmann & King, 2006, cited in Zentsi, 2021). The democratic government of South Africa has recognised cooperatives’ significance, noting that developed countries with robust economic growth have thriving cooperative sectors. This is evident in the enactment of the Cooperative Act of 2005 in South Africa, which repealed the apartheid legislation on cooperatives. Additionally, the South African Government has made substantial investments in supporting cooperatives, as noted by Zentsi (2021). For instance, South Africa’s Department of Agriculture, Fisheries and Forestry (DAFF) allocated R178 million to support agricultural cooperatives in the country between 2014 and 2015. However, despite the sector’s outlined importance, its sustainability remains uncertain despite the government’s support initiatives.

RESEARCH METHODOLOGY

This section presents a discussion of the research methodology employed for gathering the primary and secondary data for the study.

Study setting

The empirical study was conducted by the first author, who resides within the Jozini Local Municipality (JLM). The JLM is one of the local municipalities within the uMkhanyakude District located in the northern part of KwaZulu-Natal (JLM Annual Report, 2023). The JLM is a predominately rural municipality characterised by a lack of economic development, abject poverty, and poor service provision (Statistics of

South Africa, 2022). There are a significant number of community cooperatives within the municipality, particularly in the agricultural space.

Research approach

The study adopted a qualitative research approach that entailed a review of the extant literature and semi-structured interviews with ten key participants. The study aimed to interrogate the sustainability of community cooperatives in South Africa. Therefore, it employed a constructivist paradigm, which enabled the researchers to explore and understand the challenges that threaten the core existence of community cooperatives (Makhakhe et al., 2017) from the lived experiences of the members of cooperatives themselves (Shannon-Baker, 2022).

Sampling strategy and sample size

The study adopted a non-random sampling strategy because it enabled the researcher to choose information-rich cases that would yield insights and an in-depth understanding of the topic under investigation (Patton, 1990, cited in Shoba & Mtapuri, 2022). The database of existing community cooperatives within Jozini is freely available from the JLM and reported in its IDP and annual reports. The first author purposively selected three cooperatives from the database. These three cooperatives complied with the study's inclusion and exclusion criteria. The inclusion criterion was that the selected cooperative must have been in existence for more than two years; any cooperatives that did not meet this requirement were not eligible to be included in the study. The sample comprised ten participants – eight cooperative members and two officials from the JLM.

Data collection

The first author collected data between June and July 2023 in Jozini. Semi-structured face-to-face interviews were conducted with ten participants using an interview guide. The interview guide was shared with the participants in advance, which allowed them ample opportunity to prepare for the interview. A tape recorder was employed to capture information, and all interviews were conducted in the participants' local language (isiZulu). Each interview lasted approximately 20 to 30 minutes. The first author sought and obtained consent from all participants before data collection commenced.

Data analysis

The thematic analysis approach (TAA), as presented by Braun and Clarke (2006), was used to analyse the collected data. The first author translated the audiotaped data verbatim from isiZulu to English. The TAA entailed “the systematic organising, sorting, and coding of the data into themes and sets by locating and examining repeating patterns that emerged”, in line with Braun and Clarke (2006), as undertaken by Shoba and Mtapuri (2022: 4). This was done in line with Jili’s (2019) assertion that, when undertaking thematic analysis, researchers are expected to firstly familiarise themselves with the data; secondly, to generate initial codes; thirdly, to search for patterns (themes) among the codes, evaluate the themes, describe and name the themes, and finally, to produce the final report. The next section presents the literature reviewed on the subject under investigation.

LITERATURE REVIEW

Historicising cooperatives

Scholars such as Mohlala (2020), Moshungu (2018), Okem (2016), and Zeuli and Cropp (2004) have historicised the global evolution of cooperatives. According to Mohlala (2020), people tend to become more successful when they work together to achieve common goals. Mohlala (2020) opines that cooperative formation is one of the mechanisms that allow people to work together to attain their common goals and fulfil aspirations. Okem (2016) traced the emergence of cooperatives to Europe around the 19th century, and the primary countries that actively participated in cooperatives were Britain and France during the beginning of the Industrial Revolution and the end of the Age of Enlightenment. Zeuli and Cropp (2004) noted that the formation of the Rochdale Society in England inaugurated a modern cooperative movement in the world. Zeuli and Cropp (2014) describe how the founders of the Rochdale Society contributed to the evolution of cooperatives by initiating the guidelines and principles that ultimately led to the promulgation of laws regulating cooperative development worldwide.

Moshungu (2018) contends that the emergence of the Industrial Revolution in Europe led to the concept of cooperatives. The Council of Europe (2021) stated that the Industrial Revolution era in Europe and the United States of America led to changes in how things were done, particularly manufacturing processes. The Industrial

Revolution introduced a paradigm shift and a departure from labour-intensive production systems to mechanised operations. New machine tools were introduced, which culminated in mechanised factory systems. This situation prompted the introduction and establishment of cooperatives. Moshunga (2018) contends that cooperatives were established in response to industrial capitalism's market failures. Moshunga (2018) also postulates that capitalism created social and economic inequalities, which triggered innovative ways of alienating market distortion. Scholars such as Jarka, Gunnar and Gert (2003), Tchami (2007), and Okem (2016) argue that, during the Industrial Revolution, skilled and unskilled labourers – artisans and general labourers – lost their livelihoods as production became mechanised.

The foregoing situation concretises Moshunga's (2018) assertion that cooperatives emerged as a defensive mechanism for communities without organisations defending them against capitalism. Consequently, it could be argued that cooperatives emerged as a result of the aforementioned background. Subsequently, cooperatives have become vehicles for assisting communities globally in improving their socioeconomic status (Majee & Hoyt, 2011). However, despite these structures' role in South Africa, concerns remain about their sustainability. The ensuing section discusses the concept of community cooperatives in the South African context.

Conceptualising the notion of community cooperatives in South Africa

The concept of cooperatives in South Africa can be divided into two parts: the historical discrimination of the black majority and favouring the white minority during the apartheid era, and the post-apartheid era when the democratic government aimed to redress the past imbalances. The ensuing discussions are based on both aspects of the cooperative movement in South Africa, during apartheid and after apartheid.

Cooperatives during the apartheid era

Historically, the first community cooperative in South Africa was established in Pietermaritzburg, a Natal colony, in 1892 (Satgar 2007; Genesis Analytics 2014). However, at the beginning of the 19th century, farmers united to establish agricultural societies in Natal, the Cape Province, the Orange Free State, and Transvaal (Van Niekerk, 1994). Van Niekerk (1994) indicates that there were 53 established and thriving cooperatives in 1907, with an additional 80 cooperatives in the process of registration. According to Piesse et al. (2003), the Apartheid Government regulated

and implemented the Land Acts of 1913 and 1936, which benefited white commercial farmers and excluded black farmers. Rena (2017) opines that in 1912, the Apartheid Government introduced systems such as the Land Bank (alternatively known as the Land and Agricultural Bank) to cater for white agricultural cooperatives' success, the Marketing Act of 1937, and the Cooperative Societies Act of 1922 and 1939. Van Niekerk (1994) argues that after the Cooperative Societies Act, there were 81 registered cooperatives in 1922. This number had risen to 405 by 1929. However, Strickland (1937) argues that South Africa was affected by the Great Depression, which led to a significant decline in the price of agricultural products. By 1930, 429 registered agricultural cooperatives had closed, and in 1941, only 202 remained. The Apartheid Government, through the Marketing Act of 1937, assisted the white agricultural cooperatives with input supplies, markets for outputs, low-cost loans, infrastructure assistance, and disaster aid. Vink (2012) states that the Act favoured "white" agricultural farmers and demonstrated discrimination against "black" and "coloured" farmers. This resulted in severe inequalities in South Africa's economic, social, and political spheres. Thaba and Mbohwa (2015) conclude that these cooperatives eventually developed into lucrative enterprises which controlled agricultural production, marketing, and processing in rural areas.

Cooperatives in the post-apartheid era

South Africa gained its full independence and freedom in 1994, nearly 30 years after most African countries achieved their independence (Wassermann, 2017; Oliver & Oliver, 2017). South Africa was under apartheid rule, which was a racial-based system (Ellis, 2019). The apartheid system regrettably enforced segregation in the country and ensured that the black majority was prevented from participating in the country's mainstream economy (Blakemore, 2019). The black majority were viewed as tools "to be used to turn the country from a rural society into an industrialized one" (Blakemore, 2019:1). This situation ensured that the black majority remained mired in extreme poverty and hopelessness.

Therefore, when South Africa attained freedom in 1994, the new democratically elected government inherited a nation with high levels of poverty, unemployment, and inequality (Muthambi, 2014). Notably, the legacies of apartheid (poverty, unemployment, and inequality) persist in the country (Ramarokha, 2019). This is

exemplified by the fact that South Africa rates among the most unequal societies in the world (World Bank, 2019). South Africa has a Gini coefficient of 0.63 and a Palma ratio of 7.1, proof of the country's apartheid legacy (Ramarokha, 2019). This is further evidenced by the unemployment rate in South Africa, which has reached an unprecedented level at 32.5% (World Bank, 2020), with youth unemployment, by expanded definition, exceeding 50%, which is fundamentally higher than in other developing countries and emerging economies (IMF, 2020).

Research conducted by the World Bank (2021) and IMF (2021) estimates that South Africa's economy contracted by a significant 7% in 2020, which significantly undermined the country's efforts to reduce poverty and inequality. This situation and the country's overall efforts to mitigate the legacies of apartheid were remarkably undermined by the recent COVID-19 pandemic, despite the democratic government's attempts over the past decades to implement pro-poor policies and initiatives in the most vulnerable communities in the country (Mathumba, 2014). The post-apartheid government identified community initiatives in the form of cooperatives as one of the mechanisms by which the country could break the cycle of poverty and redress apartheid's socioeconomic legacy.

The democratic government introduced the Co-operative Act of 2005, which repealed the apartheid legislation on cooperatives in South Africa. This new act created a platform for communities in South Africa, especially rural communities, to organise themselves voluntarily to work on their economic and social needs through a jointly owned and democratically formed enterprise under the principles espoused in the Co-operatives Act. However, these efforts have been met with significant challenges, as the sector's sustainability remains uncertain. Taimni (1997) argues that cooperatives face global credibility, capital, ideology, and governance challenges. Similarly, Rena (2017) argues that most cooperatives cannot cushion and self-sustain themselves against harsh realities because of limited resources. Rena (2017) emphasised that, successfully establishing any type of cooperative depends on financial stability and the cooperative members' commitment. Rena (2017) argues that cooperatives face a high risk of conflict between members and shareholders due to the complexities involved with decision-making. In this regard, McElwee (2005) emphasised that cooperative development is an important issue that needs to be addressed by all

stakeholders in economic development. Rena (2017) continues to emphasise that skills development is required to properly manage cooperatives.

EVIDENCE FROM THE LITERATURE: FACTORS INFLUENCING COOPERATIVE FUNCTIONALITY

Various factors stemming from cooperatives' immediate environment continuously impact their operations. Depending on their severity, these factors can hinder performance, leading to diminished productivity or the cooperative's collapse. Several of these factors are discussed below.

Lack of education: Education deficiency, particularly among elderly cooperative members, commonly undermines performance by limiting the business acumen and managerial skills essential for sustainability (Mulaudzi, 2017). This educational gap stifles creativity, hampers marketing capabilities, and impedes growth potential (Raniga, 2021). Members' inability to read or write restricts their ability to negotiate business deals and market products beyond their local or regional boundaries (Moloto, 2012; Okem, 2016a; Shava & Hofisi, 2019).

Absence of training: The absence of training poses a significant challenge to any organisation, with cooperatives being particularly vulnerable due to their frequent formation by individuals with limited education. Training is necessary to bolster technical, managerial, marketing, and bookkeeping competencies often lacking in cooperatives. Cooperatives frequently falter due to members' lack of training, hindering their capacity to maximize production and impeding profitability and sustainability. In rural areas, where skills and competencies are limited, this deficiency undermines cooperatives' competitiveness (Gotyi, 2019; Gxambuza & Nzewi, 2021; Mohlala, 2020).

Knowledge deficits: Lack of education typically results in a knowledge deficit. Given that cooperatives are typically initiated by elderly individuals with limited educational backgrounds, a prevalent lack of knowledge regarding the purpose, fundamental principles, values, and legal framework underpinning the cooperative business model exists (Bophela & Khumalo, 2019). With members lacking essential knowledge about the governance of their enterprises, their meaningful contribution to operations is improbable, jeopardising functionality and sustainability. Moreover, this knowledge

gap fosters misconceptions about the benefits of cooperative membership (Kanyane and Ilorah, 2015).

Insufficient commitment: Members' attitudes and dedication significantly influence organisational performance. Commitment emerges as the cornerstone of any successful cooperative endeavour (Gotyi & Theletsane, 2021) and has a pivotal role to play in fostering self-help among members and inspiring innovative leadership and management practices (Zeuli & Cropp, 2004). A cooperative's success correlates directly with the level of commitment exhibited by its members; higher commitment levels correspond with heightened chances of success (Cishe & Shisanya, 2019).

Ineffective information dissemination: The inadequate dissemination of information regarding government support programmes for cooperatives contributes to their underperformance (Gotyi, 2019). This issue is particularly prevalent in remote rural communities, as state support services are primarily concentrated in urban areas (OECD, 2021; Gxambuza & Nzewi, 2021; Gwebityala, 2022). Cooperative management must play an active role in information dissemination to members. The timely provision of information is essential for informed decision-making and cooperative operation. Effective communication within cooperatives is pivotal for enterprise success, highlighting the importance of information sharing (Mohlala, 2020; DAFF, 2012).

Inadequate business management: Numerous cooperatives are founded by individuals with limited education and skills, resulting in poor business acumen, insufficient managerial experience, and leadership deficiencies (Fonte & Cucco, 2017; Nefale, 2020; Dube, 2016). Consequently, members lack the necessary tools for effective management and strategic execution, with operational systems often misaligned with strategic plans and lacking adequate financial management (Mthembu & Hlophe, 2020; Muriithi, 2017). Fuyane, Sikwela and Mushunje (2016) contend that cooperatives should engage in high-value markets to elevate members' living standards. Nonetheless, institutional challenges such as insufficient financial support and inadequate planning, coupled with the emergence of complex agricultural supply chains, often pose significant hurdles for agricultural cooperatives. These obstacles hinder their ability to contribute to socioeconomic development and limit their access to lucrative markets (Fuyane and Sikwela, 2016).

Conflict mismanagement: Cooperatives are susceptible to conflicts due to their diverse membership base. Failure to manage these conflicts effectively, can destabilise cooperative operations and sustainability. Conflict-resolution skills are crucial for maintaining productivity and ensuring sustainable operations (Dube, 2016). Transparency and effective consultation as guiding principles within cooperatives upheld through agreed-upon constitutions, play a pivotal role in managing group dynamics (Buthelezi, 2020).

Capital constraints: Cooperatives are typically initiated with limited capital and assets, hindering their ability to finance operations and secure loans from financial institutions. Low capitalisation not only constrains enterprise funding, but also diminishes creditworthiness (ILO, 2018; Gaurav, 2020; Buthelezi, 2020; Aneme, 2017). Despite government investments aiming to stimulate economic growth, challenges persist, including limited access to information and qualifications, leading to poor capacity and resource utilisation in rural areas (Tchami, 2007; Mohlala, 2020; DAFF, 2012).

FINDINGS FROM QUALITATIVE DATA

Qualitative data was generated through semi-structured interviews conducted with knowledgeable participants. The themes that emerged from the semi-structured interviews were analysed, and the data presented in the order in which the themes emerged.

Theme One: A bridge to access resources

The study revealed that some cooperatives are formed primarily to access funding opportunities, often enabled by the lack of due diligence and compliance mechanisms implemented by the funding agencies. Gotyi (2019) asserts that numerous cooperatives are not formed out of joint objectives and needs, but as a bridge to gain access to resources available at the given moment. These sentiments are encapsulated in the excerpts presented below.

“Cooperatives are not treated as businesses, but rather as addressees of government funding. They are more concerned with receiving government benefits than with becoming productive.” (Participant 1, 16 June 2023)

“Most people I know formed cooperatives because Ithala bank was funding cooperatives and when the funds were finished, they decided just to leave the business to die.” (Participant 10, 16 June 2023)

The abovementioned comments exemplify the importance of members being aware of the governing principles and values before being allowed to register a cooperative. The analysis of government documents from the Department of Agriculture, Land Reform and Rural Development regarding cooperatives did not provide a solid direction in terms of mechanisms to prevent corruption in the sector. The Co-operative Act does not explicitly state what course of action should be taken in situations where a cooperative is formed for corrupt reasons. The study's findings also revealed that funding agencies are also to be blamed for not implementing mechanisms to ensure cooperatives' compliance after receiving financial assistance.

Theme Two: Political Interference

One of the more important factors affecting cooperatives' sustainability in South Africa is the colonisation of the state institutions by politically affiliated public sector personnel. The state apparatuses in South Africa are weak, inefficient, incoherent, poorly managed, and lack agency to execute their mandate due to political interference in the public sector. Masuku and Jili (2019) studied political interference in the public sector in South Africa and noted that politics cannot be divorced from the affairs of government, but it should overlap in such a way that it takes the place of governance and governing policies. The study's findings revealed that some cooperatives in Jozini were formed to siphon public funds by those affiliated with the ruling party, the African National Congress, which dominated South African politics until the recent changes in the country's political landscape. This was articulated by the participant in the excerpt presented below:

“Some cooperatives failed because they were created by people related to politicians, so it was relatively easy for them to get access to government funding. When the ANC was in charge here in Jozini, most people registered as cooperatives and they were getting an excessive amount of money, but when the money ran out, most cooperatives died.” (Participant 2, 16 June 2023)

The foregoing comments confirm Ojob and Damian (2021) and Kanyane's (2019) assertions that South African cooperatives, particularly black-owned cooperatives,

confront a range of challenges that adversely affect their performance, which involves among other things, dependence on the government or donors. The abovementioned comments also reveal that political patronage remains on the rise in South Africa. Study findings indicate that cooperatives lack a sense of ownership and dedication because the majority are not founded on their members' goals and initiatives, but rather on accessing government assistance. One of the participants was open about access to government funding as the primary reason for establishing their cooperative. The participant stated that,

“People joined cooperatives with the intention of making fast money. Cooperatives were viewed as the quickest way to produce money. Ithala and Vula funds were supporting cooperatives. People always expect to receive money from the cooperative right away.” (Participant 3, 18 June 2023)

Theme Three: Lack of accountability and conflict management

The semi-structured interviews with participants identified the lack of accountability and a sense of responsibility as contributing factors to the collapse of numerous cooperatives in Jozini. This finding indicates that cooperatives' poor performance in the country could be attributed to the lack of accountability among the members.

“Cooperatives were formed because it was easy to get money from Ithala back then, and babengafuni izinto eziningi, and we heard that if the business failed, you wouldn't have to pay back the money, because the cooperative as an entity would be responsible for the debt, so we opted to try our luck and it worked, but luckily our cooperative has been operating for over eleven years, but other cooperatives that we registered with us at that time they all collapsed.” (Participant 8, 16 June 2023)

During the discussions, conflict was also cited as one of the issues plaguing cooperatives in Jozini. One of the participants stated that cooperatives are prone to dispute since each member believes they have an equal claim to the organisation's ownership.

“We formed this cooperative because Vula funds were giving funds to small business enterprises, then we decided to register as a cooperative, and

received funds, but some members quit because of minor conflicts we had.”
(Participant 7, 18 June 2023)

The above statement is aligned with Gotyi's (2019) claim that cooperatives are vulnerable to numerous types of exploitation and conflict. Mohlala (2020) found that most cooperatives become embroiled in infighting, which is often due to low levels of trust among members, who, as a result, tend to make undemocratic decisions. In this regard, the lack of education among cooperative members has been identified in the literature as one of the main causes of conflict. In this context, Gxabuza and Nzewu (2021) opine that conflicts occur due to disparities in educational background, experiences, and skills among team members, as well as social category diversity due to variances in colour, racial or ethnic background, gender, and age among team members. Participants noted that most cooperatives lacked cohesion, which resulted in internal disagreements and members' lack of willingness to collaborate. This was articulated by participants in the excerpts presented below.

“Membership conflict is common. Infighting usually starts as soon as money is made accessible to the cooperative. The fights are mainly about who controls the money resources. Similarly, if the cooperative is successful, competition for control of the cooperative will arise. Most of the time the person who proposed the cooperative would want to take and control it to turn it into his or her own private firm”. (Participant 6, 18 June 2023)

“Conflict over financial resources is popular. Members would demand that money be distributed amongst themselves once they had money in the bank.”
(Participant 3, 28 June 2023)

“Once the funding is provided, conflict ensues due to differing perspectives on how to spend the funds.” (Participant 4, 04 July 2023)

CONCLUDING REMARKS

The study aimed to understand the challenges affecting cooperatives' sustainability in South Africa. The researchers utilised cooperatives based in Jozini Local Municipality, KwaZulu-Natal as a case study. The findings indicated that lack of economic opportunities constitutes the primary reason behind people participating in cooperatives. This finding validates the literature reviewed for this study, which

revealed that cooperatives are a source of income and employment for the population in remote areas. In agreement with the reviewed literature, the findings revealed that the majority of cooperatives are found in the agricultural sector and are significant in providing much-needed jobs in rural areas worldwide.

The study found that challenges inhibiting cooperatives' sustainability include political interference, lack of education and skills among members, lack of access to funding and markets, inadequate support from the government, and the formation of cooperatives for the wrong reasons. These challenges attest to a lack of understanding of what cooperatives are formed to achieve. Several of these findings confirm other studies conducted on community cooperatives in South Africa. However, the literature review revealed that most cooperatives fail to sustain themselves after the government funding and support have ceased. This implies that cooperatives receive government support, albeit to a limited extent. The findings reveal that local governments must also become involved in cooperatives' affairs by providing them with capital and technical support. This finding aligns with the findings that all spheres of government must actively engage cooperatives to create a sustainable and conducive environment for cooperatives.

The municipality where the study was conducted, does provide financial and limited capacity-building support to the cooperatives in the community. However, interference by politicians who wish to utilise cooperatives as a bridge to access or siphon funds from government-related funding agencies is on the rise. The results also revealed the national crisis of corruption in the country, especially in the public sector. The colonisation of state institutions by politically affiliated public sector personnel appears to continue unabated in the country, where state apparatuses are weak, inefficient, incoherent, poorly managed, and lack agency to execute their mandate due to political interference, which is another of the more fundamental issues affecting cooperatives in Jozini. Indeed, this problem mirrors the national crisis in South Africa, where the state's capacity to discharge its responsibility is handcuffed due to corruption and political interference in state affairs. Other issues, such as those related to a lack of accountability and infighting over cooperatives' resources, emerged as concerns characterising the sector, which significantly contribute to its challenges.

Finally, this study highlighted the challenges confronting community cooperatives in South Africa with specific reference to Jozini Local Municipality. The precarious situation of political interference, with cooperatives seen as a means to siphon state resources by politically affiliated individuals in the public sector, was highlighted. The implications of corruption in the country's development objectives, are evident in our study. In the context of cooperatives, this attests to the lack of specific policies and legislation focused on the sector. The analysis of national documents from government departments showed the existing regulatory framework concerning cooperatives does not provide sufficient direction in terms of mechanisms to prevent corruption in the sector. The Cooperative Act does not explicitly state what course of action should be taken in situations where a cooperative is formed for corrupt reasons. We also noted that funding agencies appear to treat their support to cooperatives as part of their corporate social investments (CSIs), which is probably the reason why no mechanisms are put in place to ensure cooperatives' compliance after funding provision. The foregoing situation could be the result of the relaxed policy systems and regulatory framework concerning the sector. Our findings revealed that most people, even those in government, do not necessarily treat cooperatives as businesses, but as "projects" to assist the poor. In this regard, there is a need for the government to implement proactive measures to strengthen the sector through appropriate policies and legislation to enhance sustainability.

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The role of digitalisation among entrepreneurs operating within the tourism value chain: A case of Annual Tourism Week in Durban, South Africa

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ABSTRACT

Digital technologies have transformed the tourism industry by offering new opportunities and challenges for entrepreneurs. This paper examines the application of Resource-Based Theory (RBT) and Resource Orchestration Theory (ROT) to understand how digitalization enhances the competitiveness of entrepreneurs during the Annual Tourism Week in Durban, South Africa.

This study followed a mixed method, where quantitative data was collected from the online forum responses (surveys, Facebook platform) which were statistically analysed, whilst qualitative data was collected from workshop presentations, panel discussions, focus groups, and open-ended survey questions, providing richer insights and explanations.

The results showed limited awareness of the Artificial Intelligence (AI) platforms, to leverage digital transformation by analysing digital data on their social platforms and developing strategies for entrepreneurs in Durban's tourism sector to utilize digital tools to enhance their businesses. The results further revealed that entrepreneurs' resources, like bundling and leveraging these capabilities into digital entrepreneurship value, are critical. Tools such as generative AI, online customer engagement, and collaborative platforms were not identified as priorities in the tourism business ecosystem. Findings shed light on the extent to which digitalization influences entrepreneurial practices, competitiveness, and sustainability within the tourism value chain.

The study identified barriers to digital adoption and offers insights into strategies for overcoming them. By focusing on a specific case study, this research contributes to a deeper understanding of the interplay between digitalisation and entrepreneurship in the context of destination management and tourism development.

Keywords: digitalisation, digital technologies, tourism week, tourism entrepreneurship

INTRODUCTION

Tourism campaigns play a critical role in promoting domestic tourism in South Africa. Campaigns like “shot left” encourages participation via promotional campaigns under the umbrella of 'Opening the doors of travel to all' South Africans (Rogerson & Lisa, 2005). In such campaigns, the Small and Medium-sized Enterprises (SMMEs) in the tourism value chain utilize digital solutions in several ways to transform the world of work into a global and local context. Although digitalisation among SMMEs has been slow due to certain constraints (Chauke, 2022), digital technology during the Covid-19 pandemic escalated the use of digital or online technology. The tourism industry in South Africa is flourishing due to a vibrant network of SMMEs offering unique experiences. However, these SMMEs often face challenges in embracing digitalization (Skare, de Obesso & Ribeiro-Navarrete, 2023), but are becoming a transformative force reshaping the tourism landscape. This research investigates the role of digitalization among entrepreneurs operating within the tourism value chain, focusing on the case of Durban's Annual Tourism Week.

Advancing sustainable business, regardless of its nature and size, is of critical importance to the enhancement of business growth, and long-term sustainability during the 4IR era. Annual Tourism Week is a vehicle used on an annual basis to address matters that are crucial to the development of the SMME sector. Durban's Annual Tourism Week serves as a pivotal event, fostering industry collaboration, showcasing South Africa's diverse tourism offerings, and stimulating domestic travel (Thinking Pair Group, 2022). Annual Tourism Week is aiming at providing awareness for tourism support for businesses and empowering tourism and the hospitality industry at large. The programme focuses on different key themes focused on the SMMEs every year (Thinking Pair Group, 2022). In 2023, the focus was on the

digitalisation of tourism SMME's, because the tourism industry is increasingly influenced by digitalization, which reshapes how services are delivered, marketed, and consumed. The programme exposed tourism businesses to digital transformation, and discussed technological solutions in the tourism industry. For entrepreneurs, especially those participating in high-profile events like the Annual Tourism Week in Durban, digital tools are essential for engaging with customers, enhancing service delivery, and maintaining competitive positioning within the tourism value chain.

This research adopted the Resource-Based Theory (RBT) and Resource Orchestration Theory (ROT), to provide insights into how these theories can be applied to enhance the operations of entrepreneurs in the tourism sector and to better explain the challenges and opportunities associated with digital adoption for tourism SMMEs. In this study, we examine the awareness and knowledge of advanced tools possessed by the SMMEs that attended a workshop held in September 2023, during the annual tourism week in celebration of tourism month. Advanced digital tools, such as Artificial Intelligence (AI) platforms for data analysis, and marketing optimisation, were discussed. Moreover, we explored the utilization of existing digital resources used by the SMMEs to effectively leverage existing digital tools for online presence, customer engagement (e.g., social media marketing), and collaboration within the tourism network. Furthermore, this research's success stories of SMMEs leveraging social media to inspire and motivate others, was showcased by fostering peer-to-peer learning whilst connecting with potential partners such as professionals and technology providers, leading to valuable partnerships.

PROBLEM STATEMENT

Despite the transformative potential of digital technologies in the tourism industry, entrepreneurs often struggle with constrained resources when implementing digitalization strategies. This study, focusing on entrepreneurs participating in Durban's Annual Tourism Week, aims to understand the challenges associated with this resource limitation. The research utilizes Resource Orchestration Theory (ROT) to analyse how entrepreneurs manage their limited resources during digitalization. While some awareness of digital tools exists, the study identifies a lack of knowledge regarding advanced technologies like Artificial Intelligence (AI) platforms that could further enhance their businesses. Furthermore, the research suggests that

entrepreneurs are not fully leveraging existing digital resources for data analysis, customer engagement, and collaboration. This limited utilization of digital tools hinders their competitiveness and the overall sustainability of their businesses within the tourism value chain. By pinpointing these barriers to digital adoption, the research seeks to develop strategies that empower entrepreneurs to overcome them and successfully integrate digitalization into their tourism ventures.

LITERATURE REVIEW

South Africa's tourism industry thrives on a network of SMMEs offering unique experiences (Mejabi, 2018). However, limited resources can hinder these SMMEs from fully embracing the transformative potential of digital technologies (Madondo, 2016; Bhandari, Zámorský, Ranta & Salo, 2023). Platforms such as the Durban's Annual Tourism Week mimic one of a flagship initiative such as the 'shot left' campaign for the South African tourism industry (Thinking Pair Group, 2022). The platforms were conceived as a means of showcasing South Africa's diverse tourism offerings (Rogerson & Lisa, 2002) by bringing together the tourism stakeholders, including SMMEs, to connect with travel agents, tour operators, and potential international partners (Rogerson & Lisa, 2002). The platform also stimulates domestic tourism to encourage local travel and promote South Africa's tourism experiences to a national audience, whilst providing a space for knowledge sharing, networking, and fostering collaboration between tourism businesses.

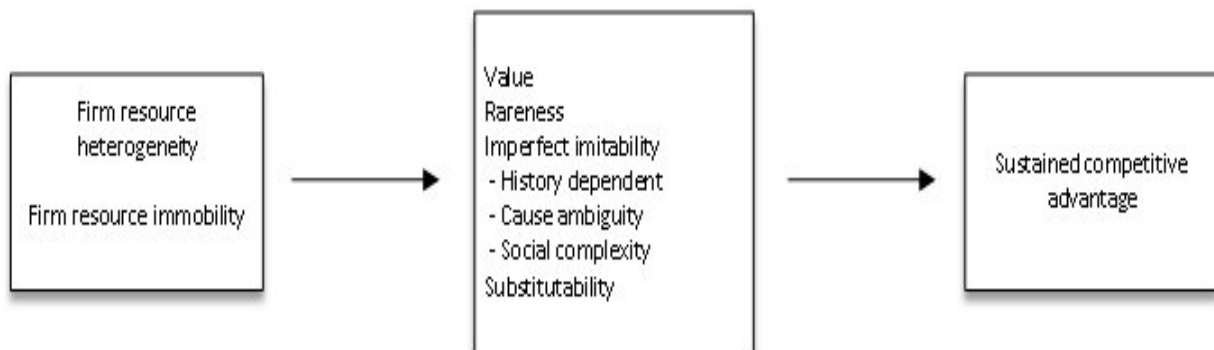
Application of the Resource Orchestration Theory (ROT) to the digitalisation of businesses in the tourism value chain

There are limited studies applying the Resource Orchestration Theory (ROT), to scrutinise the deployment of constrained resource management when digitalising the entrepreneurs' business systems. By investigating these aspects through the lens of ROT, this research aims to contribute to a deeper understanding of the interplay between digitalisation, resource limitations, and entrepreneurial success within the South African tourism sector. ROT emphasizes the crucial role of resource orchestration in entrepreneurial success (Narasimhan et al., 2004). For tourism SMMEs, this translates to effectively managing limited financial capital, human skills, and technological capabilities to leverage digital tools (Al-Deen & Liston, 2015). It will identify specific challenges faced by SMMEs and explore strategies to overcome them,

empowering these businesses to thrive in the digital age. According to Sirmon, Gove and Hitt (2008), the ROT, explicitly considers the role of the entrepreneur/manager in driving sequential processes such as structuring a firm's resources, bundling them into capabilities and, eventually, leveraging these capabilities into value.

The Resources Based View (RBV) theory was not selected because it falls short on identifying the conditions in which resources or capabilities may be most valuable for the entrepreneurs in this study. Although the ROT builds on RBV's 'simple view' by incorporating strategic management and implementation issues, in this case, the authors scrutinised the role of entrepreneurs who need to deploy constrained resource management in the tourism value chain.

According to Burvill, Jones-Evans, and Rowlands (2018), Penrose first developed RBT in 1959 to enhance the effective management of a firm's resources, diversification strategies, and productive opportunities (Utami & Alamanos, 2023). The four pillars of Penrose's model, as explained by Barney (cited in Utami & Alamanos, 2023), are value, rarity, immobility, and sustainability. These pillars collectively provide a firm with a competitive advantage, enabling it to outperform its competitors.



Utami and Alamanos (2023)

The Resource Orchestration Theory (ROT) is an extension of the Resource-Based View (RBV), addressing criticisms regarding the overlooked role of the manager (Helfat, 2007). Critics argue that valuable resources and capabilities necessitate managerial involvement for effective implementation. ROT, therefore, emphasises the manager's role in structuring a firm's resources and bundling them into capabilities, thereby enabling the firm to leverage these resources. ROT emphasizes the dynamic capabilities of firms in managing their resource portfolios and coordinating activities across the organization. In tourism, entrepreneurs must not only possess valuable

digital resources, but also orchestrate them effectively to respond to market demands, innovate service offerings, and optimize value creation during peak tourism events.

Barney, Ketchen, Wright, Sirmon, Hitt, Ireland, and Gilbert (2011) support this view, agreeing with RBV in asserting that resource management is a comprehensive process involving the structuring, bundling, and leveraging of a firm's resources to create value for customers and gain a competitive advantage.

For this research, RBV was rejected due to its lack of emphasis on the human element, which is crucial for empowering entrepreneurs to leverage digital technologies for competitive advantage and the sustainability of their businesses. Moreover, Warnier, Weppe, and Lecocq (2013) argue that ROT considers the conditions under which resources and capabilities may be most valuable for a firm. This consideration aligns with the study's objectives, particularly in a country like South Africa, where structural inequality is a significant concern (Goga & Mondliwa, 2021). By leveraging RBT and ROT, this study highlights how entrepreneurs can effectively manage and deploy resources through digital means to create value and sustain competitive advantages. Through the adoption of the ROT, this study scrutinises the deployment of constrained resource management when digitalising the entrepreneurs' business systems using a convergent parallel design.

Social media platforms and the value of digital entrepreneurship

Social media platforms play a crucial role in showcasing the value of digital entrepreneurship for SMMEs in the tourism sector (Madondo, 2016). The effect of digitalization among entrepreneurs operating within the tourism value chain (in their businesses, locally, regionally and internationally) is paramount to the investment and future direction of any organisation. Strategic platforms for tourism entrepreneurs to digitalise and network (eg; SA Tourism week, an Annual Tourism Week held in Durban). This event addresses the unemployment rate which has increased by 0,2 of a percentage point from 32,7% in the fourth quarter of 2022 to 32,9% in the first quarter of 2023. (STATS SA, 2023). Hence innovative solutions are needed to “upskill South Africans for a growing demand in the digital and services economy to unlock more human capital – particularly among the youth” (Indlulamithi South Africa Scenarios 2030, 2019: 48).

MATERIALS AND METHODS

By focusing on a specific case study, this research contributes to a deeper understanding of the interplay between digitalization and entrepreneurship in the context of destination management and tourism development. A convergent parallel design occurs when the researcher uses concurrent timing to implement the quantitative and qualitative strands during the same phase of the research process, prioritizes the methods equally, and keeps the strands independent during analysis and then mixes the results during the overall interpretation (Cresswell, 2011:70). Convergent Parallel Design is a specific mixed-methods design that involves collecting and analysing data using both quantitative and qualitative methods concurrently, to compare or relate for interpretation purposes.

To comprehensively examine how resource constraints impact digitalization within the tourism industry, this research proposes a convergent parallel mixed-methods design (Creswell & Plano Clark, 2011). This approach will explore the challenges and opportunities faced by tourism SMMEs in Durban, South Africa, utilizing Resource Orchestration Theory (ROT) (Narasimhan et al., 2004). By concurrently analysing both quantitative and qualitative data (Morse, 1991), this research will identify overarching themes regarding challenges, opportunities, and strategies for enhancing SMME performance through digitalization within a resource-constrained environment. The expected outcomes include a deeper understanding of how ROT can be applied to overcome resource limitations and optimize digital adoption for tourism SMMEs, ultimately leading to practical recommendations for sustainable performance improvements.

A quantitative survey distributed on Facebook as part of an invitation to attend the Durban's Annual Tourism Week gathered data on resource availability, digitalization practices, and the performance metrics of participating SMMEs. Digital consent formed part of the data collection process, ensuring participants explicitly agreed to participate before their data is used. For example, there was a statement of engagement mentioning that "By clicking 'Submit,' you agree to participate in this research". Transparency was observed because the participants were informed that through their responses on Facebook posts that they were participating in during the event, data would be collected for research purposes. During the event, participation

was voluntary. Additionally, semi-structured interviews with tourism SMME owners/managers would delve deeper into their perceptions of digitalization, specific resource constraints, and existing digital marketing strategies.

Sampling

The study adopted a non-probability sampling method based on volunteerism. The Annual Tourism Week in Durban provides a unique platform where entrepreneurs who are already engaged in the tourism value chain, gather. This makes volunteer sampling appropriate, as participants are naturally inclined to share their experiences. Entrepreneurs who volunteer are likely to have a vested interest in the topic of digitalisation, ensuring that the data collected is rich and relevant. Volunteers are fully informed about the study's purpose, their role, and the use of their data. This transparency fosters trust and enhances the ethical integrity of the research. Efforts were made to recruit a diverse group of participants to minimize selection bias, ensuring that the findings represented a broad spectrum of experiences within the tourism value chain.

Data collection

Two sets of data were collected, namely quantitative data, that form part of online forum data (e.g., surveys, shared Facebook invitations and responses), which were statistically analysed; and qualitative data coming from presentations, panel discussions, and focus groups during Durban's Annual Tourism Week in September.

Data Analysis

The findings from both methods are then analysed and integrated in the final research report to provide a more comprehensive understanding of digitalization among tourism entrepreneurs.

Ethical consideration

An informed consent letter was issued to the participants stipulating the purpose of the study, their voluntary participation in the study and their right to withdraw from participating in the study at any time. Ethical clearance to conduct this study was obtained from the Tshwane University of Technology's Faculty of Management Sciences Research Ethics Committee (No. CRE2022/FR/07/021-MS (2)). Maintaining

anonymity by retaining the data securely and discreetly, while documenting the findings in a way that did not reveal any identifying characteristics was essential.

Trustworthiness of the study

By rigorously applying the principles of trustworthiness and addressing the inherent limitations of volunteer-based sampling, the study ensures that its findings are credible, relevant, and impactful. This approach not only strengthens the study's validity, but also enriches our understanding of digitalisation's role among tourism entrepreneurs in Durban and beyond. By employing both qualitative and quantitative data collection methods concurrently, the study allows for triangulation, enhancing the credibility of the findings. For instance, qualitative interviews with entrepreneurs can provide in-depth insights into the role of digitalisation, while quantitative surveys validated these insights across a broader sample.

After gathering qualitative data, the researchers presented the preliminary findings to the participants to validate the accuracy of the interpretations, ensuring that the opinions of the entrepreneurs were authentically represented.

Transferability: Detailed contextual information about the Annual Tourism Week in Durban was provided, including its role in the tourism value chain and its relevance to entrepreneurs. This allows other researchers or practitioners to assess the applicability of the findings in similar settings or events.

Dependability: Documenting the entire research process—from data collection tools (e.g., interview guides, survey instruments) to data analysis procedures—ensures that the study can be replicated, enhancing dependability. Moreover, this process allowed engaging colleagues and experts to review the research design and analysis process, identifying any biases or gaps, contributing to the study's robustness.

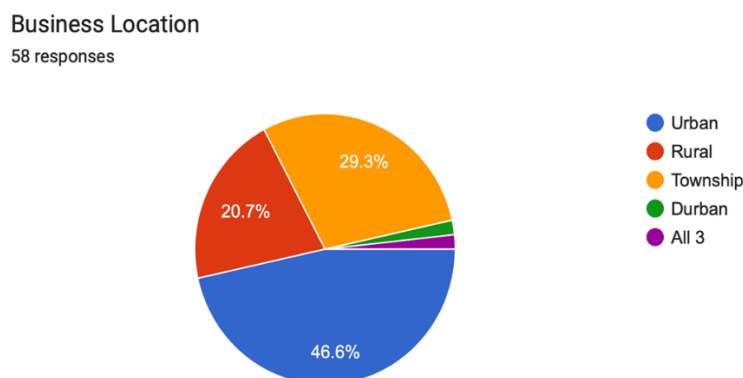
Confirmability: The researchers reflected on their biases and assumptions, ensuring that the findings were grounded in the data rather than subjective interpretations. For example, acknowledging potential preconceptions about digitalisation's role in tourism can help maintain objectivity.

RESULTS AND DISCUSSION

Participation at Durban's Annual Tourism Week was advertised for 60 days (2 months) on Facebook by Thinking Pair, the only platform used to reach tourism stakeholders in their environment. The webpage reached 75.300 people and drew 5217 engagements on the post. There were 719 clicks; however, only fifty-eight (58) respondents from the invitation shared on Facebook indicated that they would love to take part in the survey.

Figure 1 presents the demographics of the respondents. In total, there were fifty-five (55) respondents that were prepared to participate in a workshop. The majority (46.6%) of the respondents indicated that their businesses were based in urban areas, followed by respondents whose businesses were based in townships (29.3%), and then rural areas (20.7%). The rest had their businesses in different places.

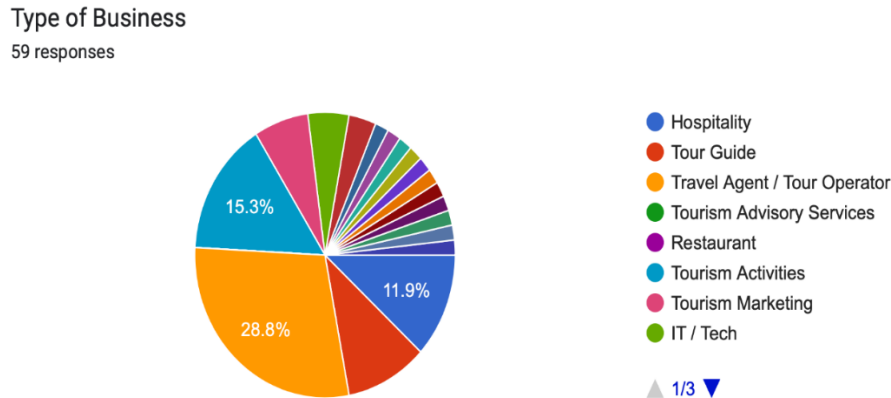
Figure 1: Location of the respondents on Facebook



On the day of the workshop, 125 participants attended and participated in the study. The participants were from different district municipalities (DM) in KwaZulu-Natal, 45 participants were from EtheKwini Metro, followed by 2 participants from King Cetshwayo DM, 2 were from Harry Gwala DM, 1 from uMkhanyakude DM, 1 was from Zululand DM, 1 from uThukela DM, 2 from uMzinyathi DM, and 1 from Ugu DM. Figure 2 showcases the industries or the types of businesses operated by the respondents on Facebook. The majority (28%) of the types of businesses that responded online, were travel agents or tour operators, followed by 15.3% that were dealing with tourism activities and the hospitality sector (11.9%). Of the 59 participants, there were Tour operators / Travel agents (17), Operators of Tourism Activities (9), Members from the

Hospitality Sector (7), Tourism Marketing (4), Tour Guides (6), IT Operators (3), and People from Other Related Sectors (13).

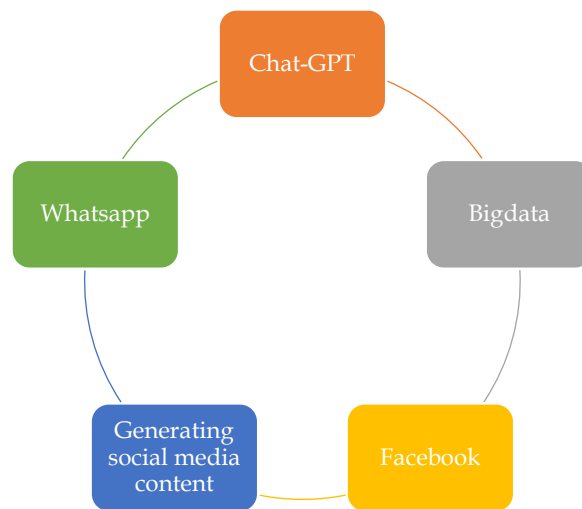
Figure 2: Types of businesses of Facebook respondents



The subsequent section examines the perspectives and interactions focused on enhancing the performance of Small, Medium, and Micro Enterprises (SMMEs) during Durban's Annual Tourism Week, held in September 2023. The event centred on leveraging digital technologies to significantly improve the operational efficiency and overall performance of SMMEs in the tourism sector. Five key areas were highlighted, with a particular emphasis on digital transformation and fostering collaborative efforts among tourism related SMMEs.

This focus was shaped by responses to an invitation posted on Facebook, which encouraged SMME owners and businesses to present challenges they hoped to address during the event (as depicted in figure 3). The solutions provided were facilitated through capacity-building initiatives, where Tech-Preneurs in attendance offered practical and immediate resolutions. These solutions included utilizing ChatGPT for content generation, creating social media content via platforms like WhatsApp and Facebook, analysing Big Data, and engaging in strategic discussions to influence the direction of digital policy within the tourism industry as depicted in figure 3.

Figure 3: Current hindrances to TSCN perceived by SMMEs



The findings from Durban's Annual Tourism Week, held in September 2023, underscore the critical role of digitalization in enhancing the performance of entrepreneurs within the tourism value chain. The event revealed that Small, Medium, and Micro Enterprises (SMMEs) in the tourism sector increasingly recognize the importance of adopting digital technologies to remain competitive and efficient.

Key focus areas during the event included digital transformation and collaborative efforts among tourism related SMMEs. The engagement at the event, which was shaped by responses from SMME owners and businesses via an invitation on Facebook, highlighted several challenges that these enterprises face in embracing digitalization. Notably, SMMEs expressed concerns regarding their limited capacity to leverage advanced digital tools and the need for more practical guidance on digital strategies.

The results demonstrated that capacity-building initiatives provided during the event were effective in addressing these concerns. Tech-preneurs offered immediate solutions, including the use of ChatGPT for content generation, the creation of social media content through platforms such as WhatsApp and Facebook, and the analysis of Big Data to inform strategic decisions. Additionally, discussions on shaping digital policy directions provided SMMEs with insights into future digital trends and how to align their operations with these trends.

Moreover, SMMEs should secure their financial resources through cost-effective digital solutions, such as

- free online website builders and social media marketing platforms,
- investment in training workshops or online courses to equip staff with the necessary skills for digital marketing, social media management, and data analysis (if relevant),
- leveraging existing technologies like smartphones and basic computers to establish an online presence and engage with customers, and
- exploring partnerships with technology providers for access to advanced tools.

When digitalisation is effectively implemented, it can significantly enhance the performance and competitiveness of SMMEs within the tourism value chain. The event highlighted the importance of targeted capacity-building efforts and the role of collaborative digital strategies in driving the digital transformation of SMMEs in the tourism sector. These findings have important implications for the broader adoption of digital technologies among entrepreneurs in the tourism industry, particularly in regions like Durban.

Interventions provided during and post-workshop

Digitalization strategies for SMMEs

We implemented targeted digitalization strategies to enhance the performance of SMMEs. These included utilising social media platforms and website blog sections on site to create engaging content showcasing their tourism offerings and expertise. This content attracted potential customers, whilst activities such as optimizing website content and online listings with relevant keywords to improve search engine ranking and organic reach were discussed in a group of 20 people. This would increase the visibility of the SMME's offerings to potential customers searching online. Social media campaigns and analytics tools (often free with business profiles) were identified as a strategy to understand audience demographics and tailor content accordingly.

Collaboration and knowledge sharing

SMMEs can further enhance their digitalization efforts through collaboration and knowledge sharing among the industry networks, by participating in industry associations and online forums to connect with other tourism SMMEs. Best practices, troubleshooting challenges, and identifying potential partnerships for resource optimization are critical. SMMEs should partner with established tourism businesses

or digital marketing professionals for mentorship. Mentors can provide valuable guidance and support on digitalization strategies specific to the SMME's needs. However, resource constraints can often hinder their ability to fully embrace digitalization. Resources depicted in figure 3 are essential for SMMEs to orchestrate their digitalization efforts.

CONCLUSION AND PRACTICAL IMPLICATIONS

This research investigated the role of digitalization among entrepreneurs operating in the tourism value chain in Durban, South Africa, using the Annual Tourism Week as a case study. By employing Resource Orchestration Theory (ROT), the research explored the challenges and opportunities associated with digital adoption for tourism SMMEs facing resource constraints. By adopting a strategic approach to digitalization informed by ROT, SMMEs in the tourism sector could overcome resource constraints and achieve significant performance improvements. By effectively orchestrating financial resources, human skills, and technological capabilities, SMMEs can leverage digital tools to enhance their online presence, customer engagement, and overall competitiveness within the tourism industry.

Key findings

In the context of the Annual Tourism Week in Durban, South Africa, digitalization plays a crucial role in enhancing the competitiveness of entrepreneurs operating within the tourism value chain. However, several challenges hinder SMMEs from fully capitalizing on digital opportunities. One significant barrier is the limited awareness and knowledge of advanced digital tools, such as Artificial Intelligence (AI) platforms, which could otherwise enable these businesses to optimize operations, personalize customer experiences, and streamline marketing efforts (Soler et al., 2020). Without a strong grasp of these technologies, SMMEs struggle to harness the full potential of digitalization, thereby missing opportunities to differentiate themselves in a highly competitive market.

Moreover, the underutilization of existing digital resources, such as websites, social media, and customer relationship management systems, further restricts the ability of SMMEs to establish a robust online presence, engage effectively with customers, and collaborate within the broader tourism network. This underutilisation is often linked to a reliance on traditional marketing methods which, while still valuable, may not fully

align with the demands of an increasingly digitalized tourism landscape (Xiang, Magnini, & Fesenmaier, 2015). As the tourism industry continues to evolve, SMMEs that fail to adapt to these digital shifts risk being left behind, unable to compete with more digitally savvy competitors. Addressing these challenges requires targeted interventions, including digital literacy programs and support for the integration of advanced technologies, to ensure that SMMEs can thrive in the digital age.

Practical Implications

To enhance the digital capabilities of Small, Medium, and Micro Enterprises (SMMEs) within the Durban tourism value chain, several practical strategies can be implemented.

- First, Capacity Building Workshops: should be developed, tailored specifically to the needs of SMMEs. These workshops should focus on equipping entrepreneurs with essential digital skills, such as website management, social media marketing on relevant platforms, and the use of online booking systems. This foundational knowledge is crucial for SMMEs to build and maintain a strong online presence, engage effectively with their target audience, and streamline their operations.
- Additionally, a Digital Resource Toolkit could be created to highlight successful digital adoption strategies within the Durban tourism sector. This toolkit could feature case studies highlighting how local companies have effectively used digital tools to improve their online presence, optimize booking processes, and enhance the visitor experience. By providing practical examples and actionable insights, this toolkit could serve as a valuable resource for SMMEs looking to implement similar strategies.
- Finally, the development of Social Media Collaboration Platforms could connect SMMEs with digital marketing professionals in Durban. These platforms would offer affordable consulting services or pre-packaged digital marketing solutions tailored specifically for tourism businesses. By facilitating these connections, SMMEs could access the expertise needed to implement effective digital marketing strategies, thereby increasing their competitiveness in the digital tourism landscape.

Collectively, these initiatives would empower SMMEs to leverage digital tools more effectively, enhancing their ability to compete in an increasingly digitalized market.

The proposed strategies address the identified challenges by:

- **Enhancing awareness and knowledge:** Workshops and toolkits can bridge the knowledge gap regarding advanced digital tools.
- **Optimizing resource utilization:** Training programs and collaboration platforms can empower SMMEs to get the most out of existing digital resources.
- **Facilitating adaptation:** By highlighting success stories and fostering peer-to-peer learning, the program can encourage SMMEs to embrace digital opportunities alongside traditional practices.

By implementing these practical implications, this research aims to empower tourism SMMEs in Durban to overcome resource constraints and leverage the transformative power of digitalization. This will lead to a more competitive and thriving tourism sector in Durban and South Africa as a whole.

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Poverty and inequality in the Frances Baard District in South Africa

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ABSTRACT

This paper focuses on poverty and inequality in the Frances Baard District (FBDM) and discusses a local economic development (LED) initiative in the Sol Plaatje Municipality (SPM), as a tool to combat poverty. LED is defined as a collaborative approach that brings together diverse stakeholders from the local community to promote economic growth, foster resilience, and achieve long-term sustainability. Since the new political and economic dispensation, the South African (SA) government has implemented regional and LED initiatives in the country to eradicate poverty. Combating poverty and inequality by helping marginalised rural communities earn an income, and reducing wealth and income inequality between the rich and the poor in rural and urban areas have not met the intended goals of these national LED strategies. After 30 years in the new political dispensation, it is evident that these strategies are failing, and the problems are worsening as resources dwindle and the population grows.

Targeted poverty alleviation strategies in SPM were conceptualised in line with the National Framework for Local Economic Development 2018/28 (NFLED). The 2018/28 NFLED is the revised LED framework in South Africa, that aims to advance an understanding of LED and its role in national, regional, and growth development, identifying necessary actions for successful LED implementation (SA CoGTA, 2017).

This paper gives an analysis of poverty and inequality in the FBDM, as well as the projects that the Sol Plaatje Municipality conceptualised as targeted poverty alleviation strategies in partnership with the Department of Small Business Development (DSBD).

From the analysis it can be concluded that, for the unique conditions of any rural area their unique poverty characteristics must be considered when conceptualising poverty alleviating LED strategies.

It is recommended that the FBDM and its local municipalities overcome their rural disadvantages by facilitating an enabling environment, reducing red tape, revising bylaws, implementing a business retention and expansion programme, and executing vast infrastructure maintenance projects that will promote economic inclusion while addressing the varying characteristics of poverty among poor communities

Keywords: local economic development, Sol Plaatje Municipality, Frances Baard District Municipality, rural, poverty, inequality

INTRODUCTION

According to Jili (2019:1), local economic development (LED) is one of the key performance areas for South African (SA) municipalities. According to Jili (2019:1) a key performance area is a developmental process that is implemented by means of policies and practices, where LED projects have been identified for community growth and benefit. LED is a coordinated economic activity of all the relevant stakeholders collaborating with each other to create an economic development environment that will ultimately boost the quality of life of all community residents within the geographical area of the specific municipality in the region (Meyer, 2013:94). The research conducted by Jili (2019:1) shows that, while LED projects are being introduced as part of the economic growth of municipalities in SA, local municipalities are still faced with the challenges of unemployment, which drive most residents to poverty in urban as well as rural areas, such as townships and villages.

Historically, poverty and inequality are products of the apartheid regime in South Africa. The legacy of apartheid was evil, according to Nnadozie (2013: 83-85). According to Turok (2018), there is widespread consensus that South Africa continues to grapple with a trio of interconnected socio-economic challenges - unemployment,

poverty – and inequality, and that there is still a long way to go to achieve a more equitable redistribution of the wealth of the country.

Poverty has been a global issue for a long time (Li, Wu & Wang, 2021) and eradicating it has become one of the greatest obstacles developing nations must overcome to achieve sustainable development (UN, 2015). Poverty is an affront to human dignity, so resources allocated through local poverty reduction strategies should generate significant poverty reduction efforts when planned and implemented in the rural areas of South Africa (Griffiths & Tan, 2014). According to the United Nations' Millennium Development Goals Report (2021), while substantial strides have been made in alleviating global poverty, approximately one billion individuals worldwide still suffer from extreme poverty, lacking fundamental necessities like nutritious food, clean water, and proper sanitation in 2020.

Poverty is viewed as an economic phenomenon that refers to the inability of individuals or households to afford the essentials of life (Li, Wu & Wang, 2021). Poverty has a devastating impact on individuals, stifling their potential and condemning them to a life of struggle, where basic needs like food, clean water, and healthcare are unmet, and opportunities for education and employment are scarce, ultimately hindering their ability to reach their full potential and live a fulfilling life (Griffiths & Tan, 2014). Poverty is defined by a multidimensional scarcity, encompassing not only a lack of material necessities, but also having limited access to social connections, cultural enrichment, skills development, opportunities for advancement, and essential services, resulting in a comprehensive deprivation that undermines human well-being (Kronauer, 2019).

SA is a developing nation with large numbers of citizens living in poverty in both urban and rural areas, impeding their social and economic development (Turok, 2018). Since the beginning of the inclusive political order in 1994, the country has made significant efforts to solve poverty by allocating resources and providing individuals and communities with the skills and infrastructure necessary to participate in the mainstream economy. These initiatives have helped alleviate poverty to an extent. In 2023 however, 18.9 million people in South Africa were still living in poverty, and the majority are in rural areas (SA DCoG, 2017 & Cowling, 2023), are unemployed, inhabit informal housing, and are vulnerable to the cyclical nature of the economy. According to Cowling (2023), 162,859 more people were forced into poverty than in 2022. Francis

and Webster (2019) argue that the current poverty strategies in South Africa are inadequate in dealing with the problem.

South Africa's National Development Plan 2030 outlines a comprehensive strategy to eradicate poverty, aiming to reduce the percentage of households living on less than R419 per person per month from 39% to zero, effectively ensuring a basic income guarantee for all citizens (National Planning Commission, 2011). In 2010, South Africa's income inequality, measured by the Gini coefficient, ranged from 0.69 to 0.63 (Turok, 2018). However, the country's wealth inequality is a far more pressing concern, with a staggering Gini coefficient of 0.93, surpassing global norms (Turok, 2018; Orthofer, 2016). The wealth disparity is stark, with affluent households holding nearly ten times more wealth than impoverished ones. The top 1% of households control a staggering 70.9% of the country's total wealth, while the bottom 60% hold a mere 7% (World Bank, 2018: xvi). Notably, financial asset ownership is a significant driver of wealth inequality in South Africa (World Bank, 2018).

In South Africa, from childhood to old age, poverty and inequality and the twin burdens of misery and disease, mark every stage of life for most people (Mbeki, 2002).

Strategic preparation and the execution of pro-poor driven poverty and inequality reduction programmes are a much more important policy issues for sub-Saharan countries in the context of LED agendas (Harrison, Todes & Watson, 2008; Nel & Rogerson, 2005). In this regard, several LED-related strategies have been launched by the government to target the reduction of poverty at local government level. South Africa has implemented the Reconstruction and Development Programme (RDP), the Growth, Employment and Redistribution programme (GEAR), the Accelerated and Shared Growth Initiative of South Africa (ASGISA), the National Development Plan 2030 (NDP), and various social assistance programmes. These targeted interventions have successfully mobilised additional resources to combat poverty and improve the lives of vulnerable populations.

Despite the country's transition to democracy, South Africa has struggled to bridge the significant social and economic gaps perpetuated by its past. Instead, the post-apartheid era has seen a widening of these disparities, resulting in South Africa's enduring status as one of the most unequal nations globally (Smith, 2018). However, little is known about the implementation of these national LED poverty reduction

strategies and their impact on poverty reduction in the FBDM and its local municipalities.

This paper's aim is to contextualise the high levels of poverty in FBDM and its local municipalities, a region with a rich mining history, particularly diamond mining, that has generated a great deal of wealth, but whose residents remain poor.

The next section examines the literature:

LITERATURE REVIEW

In South Africa, the responsibility to implement LED (Wekwete, 2014:32) is vested in municipalities. Poverty and inequality are so widespread that they hinder South Africa's nation-building efforts, since gross class poverty and inequality are as counterproductive as racial discrimination in some ways, although the three are linked. With the challenges of poverty, inequality and unemployment still proving to be huge hurdles to overcome, there has been a growing realisation that more impetus needs to be given to the economic challenges in South Africa. (SA DCoG, 2017:06). SA DCoG (2017) stresses the role of LED in South Africa, which is significant in dealing with the challenges of poverty, inequality, and unemployment. At the municipal level, LED plays a vital role in promoting inclusive economic growth. According to the NDP, SA must prioritise employment creation and improve earnings through productivity and growth to combat poverty and inequality (SA DCoG, 2017:7). To achieve this, the National LED Framework (NFLED 2018/28) outlines strategic objectives to intensify efforts against poverty, inequality, and unemployment, focusing on the youth, the different genders, and the unemployed, with the goal of enhancing their quality of life through innovative, inclusive, and competitive local economies (SA DCoG, 2017).

In the NFLED 2018/28, six core pillars have been identified. Municipalities incorporate these in their LED strategies and Integrated Development Plans (IDPs). These pillars are regarded as objectives, and they reflect the government's objectives and socioeconomic policy agenda, as well as stakeholder perspectives gathered during the consultation process. (NFLED, 2018-2028:42). Figure 1 highlights the NFLED 2018/28 pillars.

Figure 1: LED core policy pillars



Source: South African National LED Framework (2018 -2028: 42).

Furthermore, understanding the aims of these core pillars can help build a better understanding of the linkages between LED and broader policy areas, such as urban planning, social development, and environmental sustainability. This might help promote more integrated and holistic approaches to development that address multiple challenges and create more inclusive and sustainable local economies.

An examination of the research on poverty, inequality, and social exclusion reveals that SA has made substantial progress in reducing poverty since the apartheid era. According to the Centre for Sustainable Development in Africa (CSDA, 2019), approximately 2.3 million South Africans escaped poverty between 2006 and 2015. However, despite this progress, poverty remains a pervasive issue in this upper-middle-income country. Moreover, the gains made since 1994 are threatened by a recent reversal in the downward trend of poverty rates, observed between 2011 and 2015.

Using data from five waves of the National Income Dynamics Survey, researchers have identified three distinct categories of poverty: vulnerable, transient, and chronic (Zizzamia, Schotte & Leibbrandt, 2019; Schotte, Zizzamia & Leibbrandt, 2017). According to the Centre for Sustainable Development in Africa (CSDA, 2019), the vulnerable group is at risk of falling into poverty despite being above the poverty line, while the transient poor are likely to escape poverty despite being currently below the line. In contrast, the chronic poor are trapped in long-term poverty, with limited chances of escape. Alarming, the CSDA reports that around 50% of the population is stuck in chronic poverty, perpetuating a persistent state of poverty that dominates the landscape.

In SA low educational attainment and remote living from markets and job possibilities are characteristics of the chronically impoverished (CSDA, 2019). Research by Finn and Leibbrandt (2017) highlights that an individual's poverty status is significantly influenced by factors such as race, household size, and participation in the labour market. The World Bank (2018) notes that chronic poverty disproportionately affects specific demographics, including African households, single-parent households, female-headed households, and rural communities, which are more likely to experience persistent poverty.

Together, the vulnerable populations and the impoverished individuals make up a sizeable portion of SA's total population, estimated at 27% of the total (Zizzamia et al., 2019). Compared to the persistently impoverished, they are usually more educated, live in larger cities, and depend more on their earnings from the labour force. However, because many of them depend on sporadic and unstable employment, their precarious situation in the labour market is connected to economic instability (Zizzamia et al., 2019). When the chronic and transitory poor are combined, it is suggested that for 75% of people, poverty poses a continuous threat to their everyday existence.

Since the dawn of democracy in 1994, South Africa has grappled with escalating inequality, with its Gini coefficient soaring to 0.68 in 2015, ranking among the highest globally (CSDA, 2017:68). The disparity in earnings has worsened over the years, with the coefficient of pay inequality rising from 0.58 in 1995 to 0.69 in 2014 (CSDA, 2017). This widening gap is attributed to the stagnation of semi-skilled workers' wages, contrasted with the significant increases in skilled workers' earnings (CSDA, 2017:68). There is a significant spatial component to poverty and inequality. Rural and urban poverty rates differ, with the former having experienced a greater increase in poverty between 2006 and 2015. Compared to 25.4 % of people living in urban areas, 65.4% of people living in rural areas were poor in 2015 (CSDA, 2017:68).

Deferred democracy dream in the rural areas

The goal of the LED strategies for poverty alleviation in SA's democracy is to push the boundaries of human freedom from the scourge of poverty in rural communities such as the FBDM. The result of the implementation of the national LED strategies should be a democracy that works for all and leaves no one behind. The real objectives of these strategies are not to defer the poor communities' dreams from the rural areas,

but to take them out of poverty, ensuring everyone enjoys the fruits of the new SA democracy.

This paper utilised district and local municipality-level data from the Northern Cape Province's FBDM.

The analysis encompasses a comprehensive review of various indicators, including the Human Development Index (HDI), Gini coefficient, poverty rates, poverty gap rates, educational outcomes, population density, crime statistics, mass infrastructure development, and international trade and tourism metrics.

The FBDM is an administrative region in SA's Northern Cape Province. The region includes Magareng, Phokwane, Dikgatlong, and Sol Plaatje as local municipalities. This region has a population of 434 343, making it the most populous in the province (FBDM, 2020a). Despite boasting an abundance of natural resources in industries like agriculture and mining, the region's social and economic progress has consistently lagged. The absence of a robust development framework has hindered the region's ability to translate its resource wealth into tangible progress, leaving the FBDM area mired in pervasive, profound, and far-reaching poverty, despite concerted efforts to alleviate this (FBDM, 2020b).

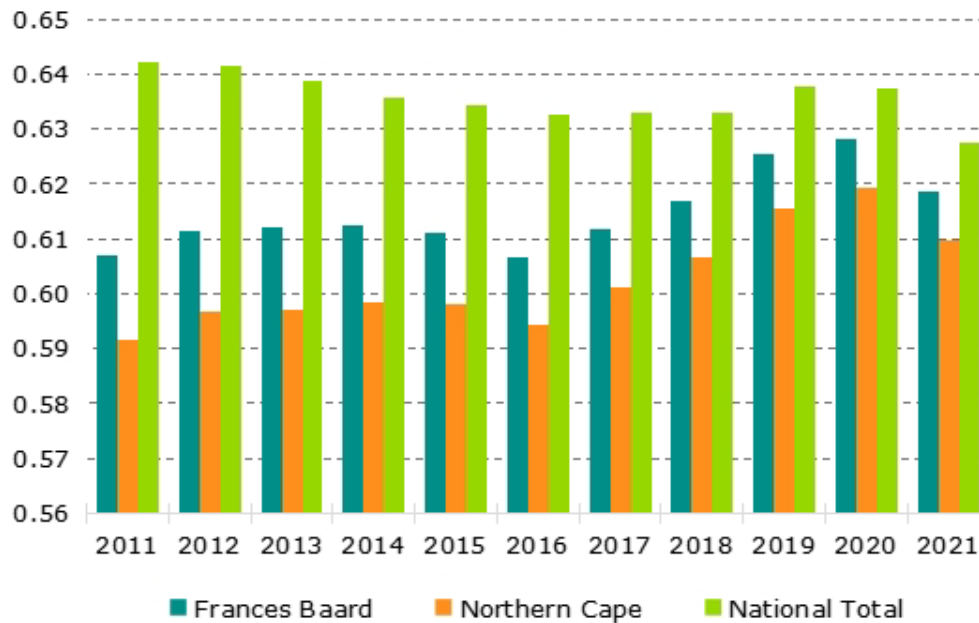
Socio-economic inequality in the Frances Baard District Municipality

Poverty statistics do not do justice to the ugly reality of poverty in the rural municipalities of South Africa (Madonsela, 2018). According to the definition of the upper poverty line, 289 000 people in the FBDM lived in poverty in 2020 compared to 201 000 in 2010; a 43.71% increase. In the FBDM, the proportion of people living in poverty has increased from 56.15% in 2010 to 64.67% in 2020, an increase of 8.52% (FBDM, 2020a & 2020b).

Gini coefficient

The Gini coefficient serves as a statistical indicator of income disparity, ranging from 0 (perfect equality) to 1 (extreme inequality, where one individual holds all the income). A lower Gini coefficient signifies a more equal income distribution, while a higher value indicates greater disparity. As shown in Figure 2, the FBDM's Gini coefficient rose from 0.609 in 2011 to 0.619 in 2021, indicating a worsening of income inequality over the decade (FBDM, 2022). For context, the Northern Cape Province and South Africa reported Gini coefficients of 0.61 and 0.627, respectively, in 2022 (FBDM, 2022).

Figure 2: Gini coefficient – Frances Baard, Northern Cape and National Total, 2011-2021



Source: FBDM, 2022

As shown in Figure 2, a breakdown of the FBDM's population into demographic groups reveals a notable trend. The Gini coefficient for the Asian population segment exhibited a singular increase, with a compound annual growth rate of 0.33%. In contrast, and the Gini coefficient for the white population segment experienced the most significant decline, with a compound annual growth rate of -0.22% (FBDM, 2022:54). This indicates that income inequality decreased among whites, while it increased among Asians, with other population groups showing varying trends.

Figure 2: Gini coefficient by population group - Frances Baard, 2011, 2021

	African	White	Coloured	Asian
2011	0.58	0.43	0.55	0.49
2021	0.57	0.42	0.55	0.51
Average Annual growth				
2011-2021	-0.14%	-0.22%	0.00%	0.33%

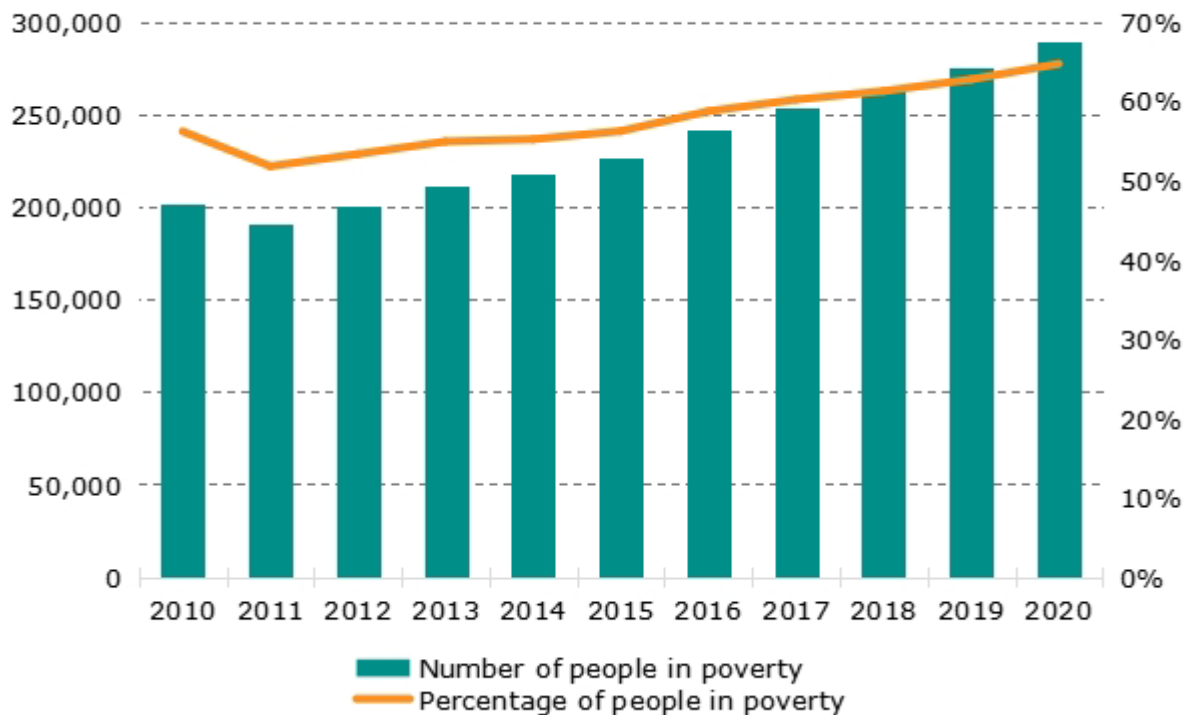
Source: FBDM, 2022

Poverty

According to Figure 3, the FBDM saw a significant rise in poverty levels between 2010 and 2020, with the number of individuals living in poverty increasing from 201,000 to 289,000. This represents a substantial surge from 56.15% of the population in 2010

to 64.67% in 2020, indicating a worsening poverty situation in the region (FBDM, 2020a).

Figure 3: Number and percentage of people living in poverty – FBDM, 2010-2020



Source: FBDM, 2022

As depicted in Figure 4, the African population had the highest poverty rate, with a staggering 75.6% living below the upper poverty line in 2021. The Coloured population saw a notable increase in poverty, rising from 43.94% in 2011 to 48.54% in 2021, representing a 4.6 percentage point surge. Meanwhile, the Asian population experienced a significant increase in poverty, from 7.80% in 2011 to 35.83% in 2021. In contrast, the proportion of White individuals living in poverty decreased by 12.8% and 1.4% points, respectively, over the same period (FBDM, 2022: 56-57).

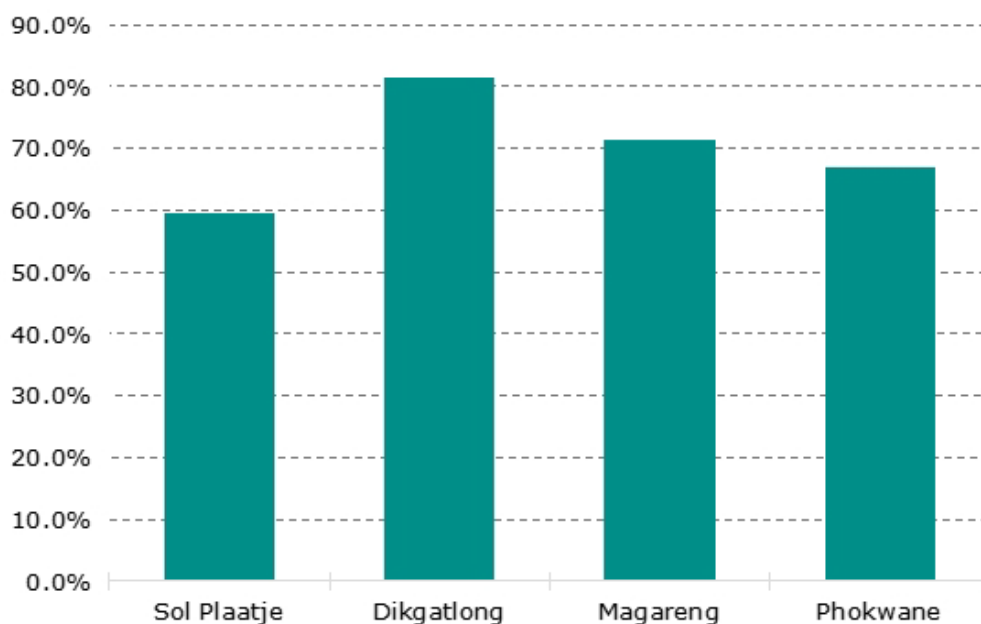
Figure 4: Percentage of people living in poverty by population group - Frances Baard, 2011-2021 [percentage]

	African	White	Coloured	Asian
2011	62.8%	0.8%	43.9%	7.8%
2012	64.4%	0.7%	45.5%	8.2%
2013	66.0%	0.7%	46.6%	8.5%
2014	65.4%	0.8%	45.8%	7.7%
2015	66.2%	0.8%	46.2%	7.6%
2016	69.0%	0.9%	47.8%	9.6%
2017	70.6%	1.0%	48.4%	10.8%
2018	71.9%	1.3%	48.3%	14.4%
2019	73.5%	1.6%	48.6%	24.8%
2020	75.6%	2.3%	50.7%	18.1%
2021	75.6%	2.2%	48.5%	35.8%

Source: FBDM, 2022

Figure 5 highlights the poverty rates across various regions within the FBDM. The Dikgatlong Municipality has the highest poverty incidence, with 81.4% of its population living below the upper poverty line. In contrast, the Sol Plaatje Municipality has the lowest poverty rate, with 59.5% of its population living in poverty, as defined by the upper poverty line (FBDM, 2022:57). This breakdown reveals significant disparities in poverty levels across different regions within the FBDM.

Figure 5: Percentage of people living in poverty - local municipalities and the rest of the FBDM, 2021 [percentage]



Source: FBDM, 2022

Poverty gap rate and food poverty line

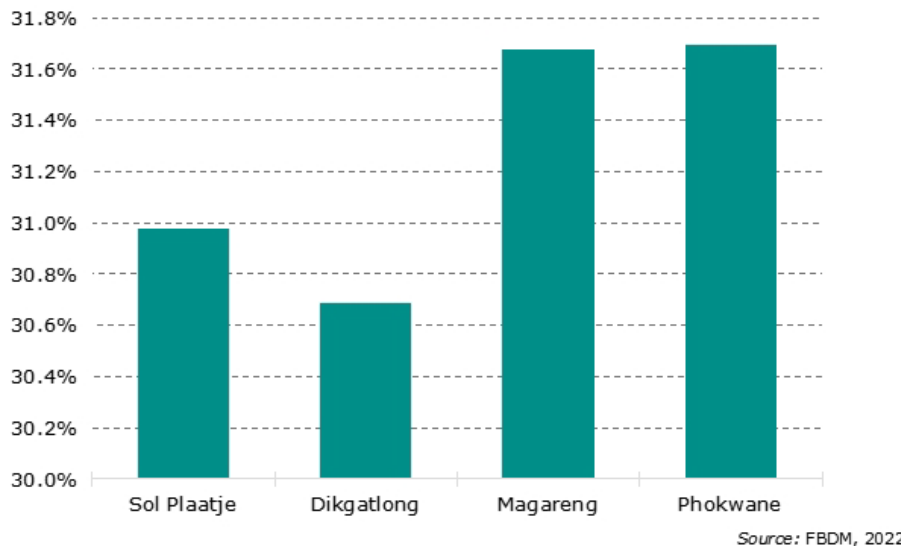
The poverty gap serves as a key indicator to assess the severity of poverty by calculating the average distance of the population from the poverty line, expressed as a percentage of the upper-bound poverty line (Zizzamia et al., 2019). This metric addresses a significant limitation of the poverty rate, which fails to capture the depth of poverty. The food poverty line represents the minimum amount required to meet daily energy needs, while the lower poverty line adds non-food expenses incurred by households to this threshold (Stats SA, 2022). The upper poverty line, as defined by Statistics South Africa (2022), represents the consumption level at which individuals can afford both sufficient food and non-food items without compromising one for the other.

As indicated in Figure 6, the poverty gap rate in the FBDM was 31.1% in 2020 – the rate needed to bring all poor households up to the poverty line and out of poverty. In 2010 the poverty gap rate was 30.6%, an increase that indicates a lack of improvement (FBDM, 2020a).

The poverty income level is the minimum monthly income necessary to sustain a household, and it varies depending on the household's size. As stated by SPM (2012:37-38), a household is below the food poverty line if its combined income falls short of the poverty line. According to Statistics South Africa (2017:4), approximately 25.2% of South Africa's population lived below the food poverty line between 2006 and 2015, a slight decrease from 28.4% in 2006. Notably, larger households require higher incomes to escape poverty, as the cost of supporting additional members increases (SPM, 2012:37-38).

According to Statistics South Africa (2022:3), a significant 55.5% of the country's population falls below the upper poverty line, which is set at R1,335 per month. Furthermore, the lower poverty line stands at R890 per month, and a substantial 13.8 million individuals, equivalent to a quarter of the population, struggle to meet basic food needs, living below the food poverty line of R624 per month. Additionally, South Africa's unemployment rate reached 32.9% in 2021, highlighting the pressing economic challenges faced by the nation.

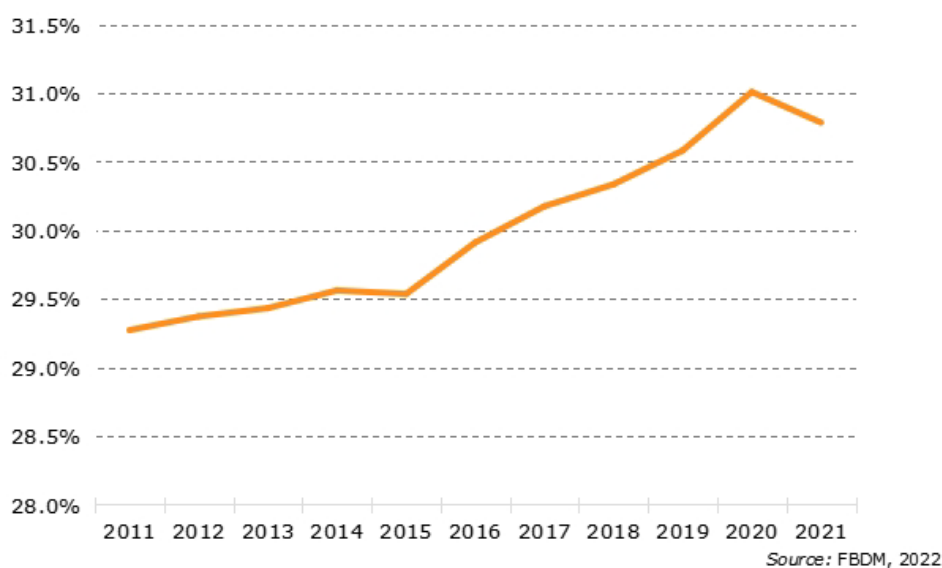
Figure 6: Poverty gap rate – local municipalities and the rest of Frances Baard District Municipality, 2020



In 2021, the poverty gap in the FBDM was estimated to be 30.8%, representing the additional resources needed to elevate all impoverished households to the poverty line and alleviate their poverty (FBDM, 2022:58).

As shown in Figure 7, the poverty gap rate rose from 29.3% in 2011 to 30.8% in 2021, indicating a worsening poverty situation in the FBDM over the decade, with no progress made in reducing poverty levels.

Figure 7: Poverty gap rate by population group – Frances Baard District Municipality, 2011-2021 [percentage]



SUMMARY

After nearly 28 years of implementing anti-poverty strategies, the deterioration in poverty levels in the FBDM is evident despite large investments; the efforts are not delivering the desired results and people continue to sink into poverty. This reality foregrounds the concern that the current anti-poverty strategies being used by the national government are insufficient to solve the growing problem of poverty. Because of the unique nature of poverty in rural areas, different strategies may be required. There is a need to concentrate on anti-poverty resources to improve efficiency and implement targeted measures to ensure that assistance accurately reaches poverty-stricken communities and households.

The strategy to reduce poverty and inequality within the impoverished population is based on the two imperatives of efficiency and implementation, which serve as cornerstones for the effective development of the rural municipalities of the FBDM.

The results of the FBDM's statistical overview report (2022) indicate that the anti-poverty strategies implemented by the government have not reduced poverty and inequality in the region. There is a clear gulf between ideal and reality when noting the promise in the preamble to the South African constitution that aims to build a united nation where the potential of everyone, both rural and urban, is unlocked and life is improved. Constitutional promises and the implementation of the national LED strategies continue to characterise the present poverty in rural areas (Madonsela,

2018). Social and economic disparities pose a significant hindrance to the full realisation of democratic values, social progress, and human well-being, undermining the foundation of a just and equitable society where individuals can reach their full potential.

The effects of poverty are becoming increasingly evident in the FBDM . The case of the FBDM demonstrates that poverty has geographic characteristics and that this pattern is prevalent throughout South Africa. Fransman and Yu (2019) state that the alleviation of poverty is a systematic endeavour. In line with the national policy, the region has invested a variety of tangible and intangible resources to promote poverty alleviation, and development. However, as observed by Fransman and Yu (2019), rural areas suffer different conditions of poverty from those experienced by urban regions, thereby indicating that strategies being implemented on a national scale may not be appropriate for rural areas such as FBDM.

Secondly, the results of the district profile report suggest that poverty and inequality scores in regions affected by poverty and inequality have improved only marginally over the past decades, despite the region's known contribution to Gross Domestic Product due to its mining sector. Inequality in both income and wealth remains high, and this negatively impacts people's overall access to resources, assets, and opportunities. There are widespread racial and gender inequalities, as well as inequalities in wealth, access to services, education, and life expectancy; and in the life chances and opportunities of people in rural areas (Francis & Massie, 2018). The implications are clear: rural areas like the FBDM must deal with high unemployment and the pervasive problem of low wages and high income inequality. This poverty problem requires urgent policy attention for LED poverty reduction strategies to offset these massive disparities between quintiles.

Given these inequalities in the distribution of income and wealth in rural areas, the one-size-fits-all strategies may only apply to wealthy individuals and urban cities. As these studies show, the scar left by poverty is even more painful for rural towns like the FBDM (Griffiths & Tan, 2014).

Our economy is heavily concentrated in the hands of a few and shows little sign of recovering naturally from the de-industrialisation it has experienced since the transition (Bell, Goga, Mondliwa & Roberts, 2018).

To combat poverty, it is necessary to accurately identify objectives, the arrangement of projects, use of funds, implementation of aiding measures, assignment of personnel in charge, and an assessment of the effects of poverty reduction.

The case of Sol Plaatje Municipality (SPM)

As of the first quarter of 2019, the small, medium, and micro enterprise (SMMEs) sectors in South Africa had generated approximately two million job opportunities, highlighting the significant contribution of SMMEs to the country's employment landscape, helping to fight poverty and inequality while most other economic sectors shrank (LGSETA, 2021).

The National Department of Small Business Development (DSBD) and Sol Plaatje Municipality (SPM), which is a municipality under the FBDM, are committed to the role that SMME development can play in addressing some of the most important issues of our time, namely poverty and inequality. To alleviate poverty and inequality, SPM and DSBD formed a partnership to build a facility known as a Shared Economic Infrastructure Facility (SEIF). The SEIF project aims to address the following: create jobs; reduce poverty and inequality; and find innovative ways to improve income streams for women, the youth, and people with disabilities in SPM (NDA, 2023). The term "shared facility infrastructure" describes the upkeep, modernization, and structural underpinnings of a multipurpose building that will be utilized by many businesses (Dtcapital, 2019). With the aim of supporting 120 micro-businesses by creating local economic benefits, the goal of SPM through SEIF is to establish and improve business infrastructure facilities. It is anticipated that, the 120 businesses from the poor communities will perform better when operating from these facilities as they will be integrated into the mainstream economy. The 120 micro-businesses that meet the requirements, namely those of black women, young black people, and people with disabilities, particularly those in townships and rural areas, will be provided with business supplies and the equipment necessary for success and sustainability. Businesses are operated in the following sectors: hair salons, cold storage, shoe retailers, quick food vendors, shiza nyamas, spazas, butchers, vehicle maintenance and repairs.

SPM in the FBDM has taken advantage of the DSBD investment through SEIF to address the plight of those who feel left behind. This investment would create essential infrastructure, cultivating an environment that attracts and supports businesses from disadvantaged communities, particularly in vibrant commercial hubs within townships, rural areas, and inner cities, thereby unlocking their economic potential and promoting inclusive growth (Dtcapital, 2019).

CONCLUSIONS AND RECOMMENDATION

To achieve sustainable development, SA must endeavour to eradicate all forms of poverty. This paper focused on poverty and inequality in the FBDM. A case study of the SPM, one of the municipalities within the FBDM, was also discussed. This is an example of an innovative partnership between SPM and the DSBD to alleviate poverty and inequality. The partnership aims to build a facility to house 120 micro-businesses within an enabling environment to create sustainable businesses.

It is recommended that the FBDM and its local municipalities overcome their rural disadvantages by facilitating an enabling environment, reducing red tape, revising bylaws, implementing a business retention and expansion programme, and executing vast infrastructure maintenance projects that will promote economic inclusion while addressing the varying characteristics of poverty among poor communities.

Future research could be undertaken to determine the efficacy of anti-poverty strategies in the FBDM and its local municipalities.

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Is society's demand for the incorporation of tax governance into corporate governance adhered to? A BRICS corporate governance code perspective

M. van Heerden

ABSTRACT

Problem statement

Society is demanding that companies incorporate tax governance into their corporate governance. To the best of the author's knowledge, no scholarly studies have been conducted on how tax governance is incorporated into corporate governance, specifically from the BRICS (Brazil, Russia, India, China and South Africa) perspective of corporate governance codes. The purpose of this study was to identify whether, and how, the respective codes have incorporated tax governance. The stances of the five emerging economies on tax governance were then benchmarked against the tax governance principles incorporated into the revised G20/OECD Principles of Corporate Governance of 11 September 2023.

Design/methodologies/approach

This study was based on qualitative data, analysed through content analysis. Secondary data, the BRICS corporate governance codes, were analysed for any reference to tax, as well as scholarly articles in this regard. The respective results were then benchmarked against the recently revised G20/OECD Principles of Corporate Governance, also from a tax perspective. The comparative analysis entailed a functional comparison.

Findings

The study revealed that, even though the majority of the BRICS economies, all except China, incorporated tax into their corporate governance codes, it was done only to a minimal extent, typically with only one reference to tax. The lack of incorporation of tax into the corporate governance codes was further emphasised when compared to the recently revised G20/OECD Principles of Corporate Governance.

Conclusion and recommendation

The lack of scholarly articles highlighted the fact that tax governance is a new development in the corporate governance domain for BRICS jurisdictions. It also highlighted that improvements can be made to the respective codes, specifically with regard to incorporating tax governance.

Keywords: emerging economies, BRICS, corporate governance codes, tax governance

INTRODUCTION

Society is demanding that companies make a positive contribution to society and to be transparent. The current unrest with regard to multinational companies' tax planning practices shows that society demands companies to integrate tax governance into their corporate governance. (Gribnau et al., 2018, p. 391)

Four of the top five most admired corporations – Apple, Google, Amazon and Starbucks – have encountered strong public criticism for their complicated global corporate taxation structures (Elbra & Mikler, 2017). In the case of Apple, the European Commission accused the corporation of not paying its fair share of taxes by recording all its European transactions in an Irish company, where the effective tax rate ranged from 0.05% to 1% within the last decade (Barrera & Bustamante, 2018). Similarly, Google implemented complex tax structures through Ireland, the Netherlands and Bermuda, which resulted in Google paying as little as 2.4% tax on its non-US revenues (Elbra & Mikler, 2017). Even though it is argued by these multinational corporations that the structures are legal, it is submitted that it does not necessarily make it morally and ethically right. It therefore comes as no surprise that society demands companies to incorporate tax governance into their corporate governance.

A comprehensive study by International Monetary Fund (IMF) researchers in 2016 estimated that global revenue losses amount to US\$650 billion per annum, of which around one-third relate to developing countries (Cobham & Jansky, 2018). Corporate tax is an important source of government finance in many jurisdictions in the world, especially developing countries, who tend to be more reliant on the corporate income tax as a share of all tax revenues, and have fewer realistic alternative sources of revenue (Crivelli et al., 2016). Developing countries may well be more vulnerable to

erosion of the corporate tax base and “if anything [is] a greater concern for developing countries than for advanced - and a significant one.” (Crivelli et al., 2016, p. 268). Furthermore, the need for corporate governance research on emerging economies is stressed by Filatotchev and Boyd (2009). Add to that societies’ unrest with companies’ tax planning practices. It raises the question: What are emerging economies doing to address society’s demand for tax governance to be incorporated into corporate governance?

The term ‘emerging market’ was coined in the 1980s by Antoine van Agtmael, an economist at the International Financial Corporation, the private sector arm of the World Bank (Mardiros & Dicu, 2014). At the time, the intention was not to provide a definition with specific criteria, yet developing countries embraced the term, as it embodied the promise that they might be on a journey towards something better (World Economic Forum, 2015). The attraction of the term resulted in several organisations, such as the IMF and the United Nations, and financial index providers such as MSCI, JPMorgan and FTSE, set out commonly recognised characteristics of an ‘emerging market’. Unfortunately, it only resulted in different, conflicting criteria and definitions. In an analysis of the different definitions, Mardiros and Dicu (2014) found that these definitions highlight several common characteristics, such as:

- possession of vast territories and large populations;
- economic policies that drive economic growth acceleration;
- expanding of trade and investments;
- favouring middle-class growth, whose primary objective is the evolution of the economy in terms of both production and consumption;
- concerted efforts to improve living standards, social stability and tolerance; and
- economic indicators such as economic growth rate.

Brazil, Russia, India, China and South Africa (BRICS) arguably meet various of the characteristics of an emerging market. “BRICS constitutes about 23% of the world’s GDP, 40% of the world’s population and a 36% share of the supply of primary energy in the world” (Jana, 2022, p. 24). In addition, “the group of five major emerging

economies aims to shape the world order, particularly by restructuring the global governance system” (Sawal & Anjum, 2023, p. 72).

Several comparative studies have been conducted on corporate governance (Aguilera, 2006; Aguilera & Jackson, 2010; Aguilera, 2012; Cioffi, 2000; Deakin, 1997; Elshandidy, 2015; Fleckner & Hopt, 2013; Gilson, 2006; Hopt, 2011; Magnier, 2017; McGee, 2009; Rubach, 1998; [Sassi & Damak-Ayadi, 2023](#); Waweru et al., 2019). Comparative research on corporate governance codes specifically have also been conducted (Nizaeva & Uyar, 2017; Ow-Yong, 2000; Papenfuß, 2023; Qurashi, 2018; Salterio, 2013; Ştefănescu, 2011; Tariq et al., 2022). and even specifically from a BRICS perspective (Charão & De Oliveira, 2023; Majumder et al., 2012; Oliveira et al., 2014; Oliveira et al., 2016; Saraswat, 2018). However, no comparative studies on how tax governance is incorporated into corporate governance could be found. In addition, Ashraf et al. (2019, p. 5) found that “sadly, and too often, researchers writing on emerging economies only cite research on developed economies in North American journals”. Therefore, this study aimed to report on corporate governance from five emerging markets, namely BRICS. Furthermore, Filatotchev and Boyd (2009) believe that research on codes of corporate governance has become important. Hence, the main research objective of this study was to see how the BRICS countries have incorporated tax governance into their respective corporate governance codes, and to then compare the results with how tax governance was incorporated into the G20/OECD Principles of Corporate Governance.

The next section explains the research approach followed for this study. Section 3 presents the findings on the respective corporate governance codes. Section 4 is a discussion of the findings, with section 5 presenting the benchmarking results against the G20/OECD Principles of Corporate Governance. The last section provides a conclusion of this study, as well as its limitations and future research possibilities.

RESEARCH APPROACH

This study was exploratory and based on qualitative data. Secondary data, the BRICS corporate governance codes, were analysed for any reference to tax. No software tools were used for this part of the content analysis. Thereafter, searches were conducted to identify any relevant academic studies on tax governance for each jurisdiction. For this part of the content analysis, the free software *Publish or Perish*

(Harzing, 2024) was used, searching the Scopus database. The search of each of the respective jurisdictions comprised the phrase “Tax Governance” in the title, with the jurisdiction’s name as the keyword. The respective results were then benchmarked against the recently revised G20/OECD Principles of Corporate Governance, also from a tax perspective. For this part of the comparative analysis, no software was used.

With regard to comparative corporate governance research, Bruner (2021) describes two methodological alternatives: functionalism and contextualism. According to Zweigert and Kötz (1998, p. 34). functionalism starts from the point of view that “the only things which are comparable are those which fulfil the same function” and then it continues on the assumption that “the legal system of every society faces essentially the same problems, and solves these problems by quite different means though very often with similar results”. The other alternative is contextualism, which according to Bruner (2021, p. 25) is in stark contrast to functionalism, as he states, “It is not an overstatement to say that contextualism represents anti-functionalism, picking up precisely where functionalist analyses leave off and rejecting outright the sorts of assumptions and conclusions described above.” Contextualism comparative research includes what functionalism tends to exclude from the analysis, for example the dynamics of history, culture, society and political views. In other words, functionalism emphasises similarities, whereas contextualism emphasises differences. As contextualism picks up where functionalist analyses finished, and no functionalist analyses have been performed on tax governance to date, the methodological choice for this study was functionalism.

Findings

Findings on Brazil’s corporate governance code

The corporate governance code of Brazil is governed by the Brazilian Institute of Corporate Governance (Oliviera *et al.*, 2016). The title of the code is the “Code of Best Practices of Corporate Governance” (hereafter Brazil CG Code). The latest version of this code is August 2023, which represents the sixth edition (IBGC, 2023). Tax is referenced only once in the Brazil CG Code. The reference to tax features under the theme “Board of directors”, more specifically, the budget of the board and external consulting. The specific issue raised there is the fact that directors may sometimes

require support from external experts to make independent and informed decisions. The Brazil CG Code best practice recommends that a specific cost centre be set aside for the board to consult with external professionals, such as tax specialists.

To identify any relevant academic research studies on tax governance from a Brazilian perspective, the free software *Publish or Perish* (Harzing, 2024) was used, searching the Scopus database. The search comprised the phrase “Tax Governance” in the title, with the keyword “Brazil”. Only one scholarly article, that of Lesage et al. (2020). was found to deal with tax governance from, *inter alia*, a Brazilian perspective. However, this article rather focuses on tax governance from an administrative perspective, as it focuses on the potential reasons for the willingness of BRIC to accept the automatic exchange of information as well as their acceptance of the Western-dominated OECD as its institutional forum. This study did not include South Africa.

Findings on Russia’s corporate governance code

The corporate governance code of Russia is issued by the Russia Central Bank (CBR, 2014; Latetina & Kosyakin, 2020). The title of the code is “Corporate Governance Code” (hereafter Russia CG Code). The latest version of this code is April 2014 (Uskova, 2023). The code arose as a result of collaboration between market regulators, the Moscow Stock Exchange, international organisations, investors, and international and Russian corporate governance experts (Oliveira et al., 2016). The Russia CG Code has two parts: Part A and Part B. Part A deals with principles of corporate governance, whereas Part B covers recommendations on principles of corporate governance (i.e. best practices). Tax is referenced only once in the Russian CG Code, under Part B, i.e. best practices. Furthermore, it features under the theme “Board of directors”, more specifically, dealing with the issue that the board of directors should include a sufficient number of independent directors. The recommendation is that a person should be deemed to be associated with the organisation (i.e. not be independent) if that person provided the company, or any legal entities controlled by the company, with tax advisory services during the last three years, or if that person was a member of the management body of the entity providing such tax advisory services.

Other than the already mentioned article by Lesage et al. (2020). no other scholarly article was found that dealt with tax governance principles from Russia’s perspective.

The search for Harzing's *Publish or Perish* (2024) encompassed the phrase "Tax Governance" in the title, with the keyword "Russia".

Findings on India's corporate governance code

The accepted corporate governance guide in India is the "Corporate Governance Voluntary Guidelines" (hereafter India CG Code). as issued by the Minister of Corporate Affairs (MCA) in 2009 (MCA, 2009; Varottil, 2017). The India CG Code was considerably influenced by a code issued in 1998 by the Confederation of Indian Industry (CII) on desirable corporate governance practices and has not as yet been revised (Afsharipour, 2011; Qurashi, 2018). The India CG Code itself does not refer to tax. However, India's corporate governance sphere is complex and not as structured and concentrated as those of the other BRICS jurisdictions. Prior to the India CG Code issued by the MCA, the MCA established the National Foundation for Corporate Governance (NFCG). with the aim to promote voluntary, transparent and accountable corporate governance practices within India's business culture (MCA, 2024). The MCA established the NFCG in partnership with the CII, the Institute of Company Secretaries of India, and the Institute of Chartered Accountants of India (ICAI). Subsequently, the Institute of Cost Accountants of India, the National Stock Exchange and the Indian Institute of Corporate Affairs also joined (NFCG, 2017). Adding to the complexity is the fact that the NFCG accredits 47 premier Indian institutions/organisations as national centres for corporate governance (NFCG, 2017). For the sake of completeness, the NFCG's database was searched, including the "Research" tab and the "Knowledge Bank" tab, for any reference to tax. Two documents were found that referred to tax, namely the "Corporate Governance Recommendations for Voluntary Adoption" and the "Guidelines on Corporate Governance for Central Public Sector Enterprises".

The "Corporate Governance Recommendations for Voluntary Adoption" represents a report issued in November 2009 by the CII Task Force on Corporate Governance. The Task Force viewed the role of the auditor as that of "a watchdog and [one who] ought not to escape liability for dereliction of duty to stakeholders by introducing qualifications into [sic] their reports" (CII, 2009, p. 33). Hence, the CII Task Force recommended the ICAI to standardise language of disclaimers/qualifications permissible to statutory/internal auditors in, *inter alia*, tax audit reports. Anything beyond the scope of such permitted language should require the auditor to provide

sufficient explanations. The “Guidelines on Corporate Governance for Central Public Sector Enterprises” determine that public enterprises should adhere to a minimum number of independent directors. For listed public enterprises with an executive chairperson, at least 50% of the board members should be independent, whereas for listed public enterprises without an executive chairperson, or non-listed public enterprises, a minimum of one-third of the board members must be independent. An individual will not be seen as being independent if the person is, or was, a partner or an executive of the public enterprise’s tax firm during the preceding three years.

Other than the already mentioned article by Lesage et al. (2020), no other scholarly article was found that dealt with tax governance principles from India’s perspective. The search on Harzing’s *Publish or Perish* (2024) encompassed the phrase “Tax Governance” in the title, with the keyword “India”.

Findings on China’s corporate governance code

The corporate governance code of China is governed by the China Securities Regulatory Commission. The title of the code is “Code of Corporate Governance for Listed Companies in China” (hereafter China CG Code). The latest version of this code is dated 2002 (CSRC, 2002). The China CG Code does not refer to tax.

In addition to the already mentioned article by Lesage et al. (2020), two additional articles were found, namely those of Christensen and Hearson (2022) and Li (2021). Christensen and Hearson’s (2022) study explains that China is involved in the global tax governance arena on three themes, namely corporate tax avoidance, bilateral tax treaty negotiations and administrative tax cooperation. However, no reference is made to the incorporation of tax governance into corporate governance. Li’s (2021) study involved the observation of China’s rise in the global tax governance domain, with a specific focus on the two-pillar BEPS (base erosion profit shifting) solution. Again, no reference is made to the incorporation of tax governance into corporate governance.

Findings on South Africa’s corporate governance code

South Africa’s corporate governance code is governed by the Institute of Directors in South Africa (IoDSA, 2016; Natesan, 2020). The title of the report is “King IV: Report on Corporate Governance for South Africa 2016” (hereafter SA CG Code). The SA CG Code represents the fourth version and was effective from 1 April 2017. The SA

CG Code refers to tax twice, once under “Fundamental Concepts: Highlights of the King IV Code” and once in the King IV Code itself (IoDSA, 2016). Noteworthy is that the latest version, King IV, is the first South African corporate governance report to have introduced the concept of tax governance (Pahad, 2019). The first reference to tax is under “Fundamental Concepts: Highlights of the King IV Code”, where it states the following under the heading “Tax”:

Tax has become a complex matter with various dimensions. The governing body should be responsible for a tax policy that is compliant with the applicable laws, but that is also congruent with responsible corporate citizenship, and that takes account of reputational repercussions. Hence, responsible and transparent tax policy is put forward as a corporate citizenship consideration in King IV. (IoDSA, 2016, p. 32)

The second reference to tax is in the King IV Code itself under “Principle 3: Responsible corporate citizenship”. This principle provides that the governing body should ensure that the organisation is and is seen to be a responsible corporate citizen (IoDSA, 2016; Pahad, 2019; Thiar, 2019). One of the recommended practices under the responsible corporate citizen principle states the following (IoDSA, 2016, p. 45):

The governing body should oversee and monitor on an ongoing basis, how the consequences of the organisation’s activities and outputs affect its status as a responsible corporate citizen. This oversight and monitoring should be performed against measures and targets agreed with management in all of the following areas:

- a. [...]
- b. *Economy (including ... responsible and transparent tax policy).*

The SA CG Code, therefore, at least requires boards of directors to ensure that the organisation has a tax policy, and that this policy is responsible and transparent. The SA CG Code does, however, not offer further explanations and leaves the interpretation of the terms ‘responsible’ and ‘transparent’ to the discretion of the organisation and its board of directors (Pahad, 2019).

The search on Harzing's *Publish or Perish* (2024), which encompassed the phrase "Tax Governance" in the title with the keyword "South Africa", revealed one article, that of Thiart (2019). Thiart based her study on the principles developed by a Dutch organisation VBDO, known in English as Dutch Association of Investors for Sustainable Development, with the support of PwC and Oikos. Oikos is a Dutch Research School in Classical Studies and is a collaborative institution of six Dutch universities and one Belgian university (University of Groningen, 2020). The reason for Thiart using VBDO's principles was "owing to the lack of South African literature on what constitutes good tax governance". (2019, p. 49)

DISCUSSION

It is evident that all BRICS jurisdictions, except for China, at least refer to tax in their respective corporate governance codes. However, tax governance is only covered to a minimal extent, with typically one issue raised in each code. For Brazil, Russia and India, the reference to tax falls under the heading "Board of directors". The Brazil CG Code recommends that financial resources be set aside for a board of directors to utilise external tax advisors. Both Russia and India raise views on independency concerns, namely that an individual will not be regarded as independent if the person provided tax advice to the company, or any associated company, within the preceding three years. However, Russia spreads the net on independency wider than India, as it considers any person who provided tax advice within the last three years to not be independent, whereas for India, the person providing the tax advice must have been a partner or executive at the tax advisory firm. The SA CG Code deals with tax under the heading of "Responsible corporate citizenship", and requires boards of directors to ensure that the organisation has a tax policy, and that this policy is responsible and transparent. A last observation from India, even though it is not in their code itself, but rather the CII's recommendation, is that the ICAI should standardise the language of disclaimers/qualifications permissible by external and internal auditors. Such standardisation will force auditors to provide sufficient explanations if their qualification deviates from the standard.

There are two noteworthy observations from a bibliometric analysis performed by Dissanayake et al. (2022). Firstly, in their study they mapped the corporate governance research in BRICS economies and concluded that the findings of their

study are useful to researchers in spotting themes and exploring the areas that demand research; however, tax is not mentioned. This is in line with the findings of a systematic review and synthesis for future research on corporate governance in India, where tax was also not mentioned (Almaqtari et al., 2020). According to Almaqtari et al. (2020, p. 2). their study “makes a novel contribution to the strand literature of corporate governance in India. It highlights the substantial knowledge gaps in this field and provides a potential agenda for academicians, research organizations, and funding agencies for future research”. Secondly, Dissanayake et al.’s (2022) study revealed that China has more than 50% of the publications on corporate governance compared to the other BRICS countries, in terms of both number of publications and citations. Yet, the China CG Code is the only code not referring to tax.

Benchmark to G20/OECD Principles of Corporate Governance

BRICS forms part of G20, which is an inclusive, diverse and representative international economic arrangement (University of Toronto, 2010). In turn, the OECD is the world’s leading knowledge centre on international tax governance, but its drawback is the lack of presentation of emerging economies, especially BRICS (Zhu, 2016). The creation of the ‘G20 + OECD’ governance architecture led to one of a few success stories, specifically relating to global tax governance (Zhu, 2016). The success is ascribed to the G20 and OECD each bringing benefits to the table in that the G20 creates political representation and consensus, whereas the OECD provides technical support. The G20 countries and the OECD released the revised Principles of Corporate Governance on 11 September 2023. The BRICS countries all form part of G20. The question therefore is: How do the BRICS codes benchmark against the G20/OECD Principles of Corporate Governance, specifically from a tax perspective?

The G20/OECD Principles of Corporate Governance refers to tax under three of the six principles, namely “Basis for framework”, “Responsibilities of the board” and “Sustainability and resilience”. Each of the six principles has sub-principles, which serve the purpose of helping readers to understand the rationale behind the main principle (OECD, 2023).

The first principle that deals with tax is the principle “Basis for framework”. This principle recommends that a corporate governance framework should promote transparent and fair markets as well as the efficient allocation of resources. The

framework should also be consistent with the rule of law, with appropriate supervision and enforcement (OECD, 2023). Tax features under the sub-principle “Effective oversight of publicly traded companies within company groups”. Caution is raised against company groups that have extensive and complex structures, as these may pose risks to both shareholders and stakeholders. The sub-principle advocates for effective monitoring of these complex group structures. Special mention is made of abusive related-party transactions and profit shifting within the group (i.e. transfer pricing) as part of the group’s tax planning strategies. In addition, the sub-principle calls for cooperation and the sharing of information, both between regulators themselves and between the company group and regulators.

The second principle that deals with tax is the principle “Responsibilities of the board”. This principle is based on the premise that the board is responsible for guiding the company strategically, effectively monitoring management’s performance and achieving adequate returns for shareholders while being accountable to stakeholders, such as the company’s creditors, customers, suppliers and affected communities. Tax features under two sub-principles: “High ethical standards” and “Risk management”. Under the sub-principle that the board should apply high ethical standards, the statement is made that there is an increasing demand that boards, *inter alia*, oversee tax planning strategies and that over and above timeous and targeted information, the board specifically discourages practices such as aggressive tax planning schemes. This ethical sub-principle also highlights that aggressive tax planning can cause not only legal risk, but also reputational risk. In concluding on ethical conduct, the statement is made that the overall framework goes beyond compliance with the law. This is in line with the slow paradigm shift from aggressive, confidential tax planning towards paying their ‘fair share’ in tax, rather than ‘legally’ complying with legislation (Scherer & Schmiel, 2021). The second sub-principle deals with the key functions of the board, including the review and assessment of risk management policies and procedures. Specific emphasis is placed on the development of a tax risk management policy, with the aim that the financial, regulatory and reputational risks associated with taxation are fully identified and evaluated. Furthermore, the suggestion is that the board establish a risk committee and/or expand the role of the audit committee to support the board in its oversight of risk management.

The third principle that deals with tax is the principle “Sustainability and resilience”. The relevance and importance of sustainability in corporate governance are not disputed (Mangena et al., 2023). One of the matters mentioned for consideration by the G20/OECD is environmental liabilities, such as greenhouse gas emissions tax, which could affect the company’s value. It is, however, submitted that the reference to tax under this principle is merely to highlight potential tax liabilities, rather than highlighting a tax governance principle.

A convergence of the tax governance principles within the G20/OECD Principles of Corporate Governance and the tax governance principles in the BRICS codes can be summarised as presented in Figure 1.

Figure 1: Tax governance principles

Principle	OECD	B	R	I	C	S
Framework for publicly traded companies						
Effective monitoring of complex group structures	✓					
Effective monitoring of group’s tax planning strategies, including transfer pricing	✓					
Cooperation with group and regulators	✓					
Sharing of information with group and regulators	✓					
Responsibilities of the board – ethical conduct						
Oversee tax planning strategies	✓					
Provide timeous and targeted tax information	✓					
Overtly discourage aggressive tax planning schemes	✓					
Responsibilities of the board – key functions						
Develop, review and assess tax risk management policy (including consideration of reputational risk)	✓					
Allocate financial resources for a board to utilise external tax advisors		✓				
Independence of prior tax advisors			✓	✓		
Responsible and transparent tax policy						✓

CONCLUSION AND FUTURE RESEARCH POSSIBILITIES

This study is novel in that it highlights the lack of research on tax governance from a BRICS perspective. Furthermore, the study revealed that most of the BRICS codes, all except those of China, have incorporated tax into their corporate governance

codes. However, the incorporation was minimal, with typically only one reference to tax. Even though BRICS, as members of the G20, subscribes to the G20/OECD Principles of Corporate Governance, this study highlights that the respective BRICS corporate governance codes have room for improvement by incorporating tax governance into their corporate governance codes. The author by no means suggest that all the OECD/G20 tax governance principles should be incorporated by the various jurisdictions, as it may not be feasible or practical with regard to implementation and monitoring. The author does, however, propose that as a bare minimum the tax ethics principle could be incorporated into the respective corporate governance codes, as it will require minimal resources. More specifically regarding tax ethics, the code could require companies to disclose their tax policy/strategy, with explicit communication of the organisation's approach to and outlook on tax planning, or the explicit condemnation of aggressive tax planning and use of tax avoidance structures. Communicating the organisation's stance on tax ethics could be an easy and achievable tax governance principle to implement.

Future research can be expanded either to other emerging economies such as Mexico, Indonesia, Nigeria and Turkey (MINT).

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Impact of Siyavula Educational Application in the learning of mathematics by STEM learners

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ABSTRACT

The integration of technology in education has transformed traditional teaching methods and opened new avenues of engaging students in the learning process. Siyavula Educational Application (SEA) is one such technological tool that aims to enhance mathematics education for Science, Technology, Engineering, and Mathematics (STEM) learners. This study investigated the impact of SEA on the learning of mathematics by STEM learners. A survey design was employed to collect quantitative data from Grade 12 STEM learners using a 5-point Likert-scale questionnaire. The study was guided by the Technology Acceptance Model (TAM) from which a hypothesized model was developed with six constructs. Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed to analyse the hypothesized model using the SmartPLS version 3. The study identified six factors that predict the impact of SEA on the learning of mathematics by STEM learners. The results showed that 74.6% of the variance in the actual use of SEA was explained by these factors. The six factors proved to be reliable indicators of the influence of SEA on mathematics learning among STEM learners. Another finding was that STEM learners' attitudes significantly influenced their use of SEA. Teachers should, therefore, focus on factors that improve learners' attitudes towards using SEA, since attitude plays a vital role in determining actual usage of the software. The study also recommended that educational authorities should prioritize the provision of offline portals to enhance the accessibility of the application for learners.

Keywords: Siyavula Educational Application; STEM; Technology Acceptance Model (TAM)

INTRODUCTION

Our daily lives are heavily reliant on technology, with millennials and Generation Z unable to imagine their lives without digital devices (Sabyr, 2020). According to Panzabekovap et al. (2020), since children are technologically proficient, it is worth considering teaching mathematics in technologically enhanced environments. During the COVID-19 pandemic schools in South Africa were forced to close, but learning has largely resumed through online platforms. However, the education system faced challenges such as the loss of school days and disruption of the annual teaching plan (Department of Education, 2021). To address these issues, the Siyavula Education Application (SEA) was introduced as a software solution to promote independent study and help Grade 12 learners stay motivated and acquire valuable skills for university studies. The South African Department of Education supports the use of technology to transform the education system (Department of Basic Education, 2020). Technology has been shown to improve learners' thinking in mathematics education by enabling them to move beyond basic information to more complex concepts.

This study aims to examine the impact of SEA on the learning of mathematics by science, technology, engineering, and mathematics (STEM) learners under the uMhlathuze circuit, South Africa. Learners' attitudes toward mathematics can significantly impact their academic performance, and engaging them in SEA may improve their mathematical abilities, as one of the factors that might affect the impact of SEA. The King Cetshwayo District, located in the KwaZulu-Natal province, experiences high dropout rates and poor performance in mathematics, often attributed to learners' misconceptions and problem-solving competences. Collaboration between the Department of Basic Education, Sasol, and Siyavula has led to the development of professional development tools for mathematics and science education. Siyavula's software allows learners to practice mathematics and science from grades 8 to 12, benefiting both teachers and learners by minimizing paperwork and enabling online engagement (Padayachee, 2021). The software is accessible to all South African schools, learners, and teachers.

This research seeks to investigate the impact of SEA on the learning of mathematics by STEM learners. Hence, this study used the technology acceptance model (TAM) to examine the impact of SEA by STEM learners. The study specifically seeks to answer the following research questions:

1. What are the factors that influence STEM learners to use SEA in the learning of mathematics?
2. To what extent do these factors explain the actual use of SEA by STEM learners?

LITERATURE REVIEW

Siyavula Educational Application

Siyavula is an organization dedicated to creating and facilitating high-quality learning in mathematics and science, with the goal of helping young individuals master essential skills for their future needs. Siyavula strives to uphold excellent educational standards, not only in South Africa but also beyond its borders. They have developed advanced software programs that enable STEM learners to study mathematics and science effectively. Parents and teachers can also enrol in the Siyavula Education Application (SEA), to monitor learners' progress. Parents are provided with a unique learner's identity link, which they obtain through the application. In a study conducted by Yousafzai et al. (2023), they posited that "Siyavula Education" is dedicated to ensuring that educational resources of excellent quality are available to underprivileged communities. Siyavula provides freely accessible digital textbooks and educational materials that align with the South African curriculum (Department of Education, 2021). By offering these resources for free and making them easily accessible, Siyavula aims to challenge prevailing power dynamics that prioritize financial gain over equal educational opportunities and accessibility.

SEA was introduced as a software solution to promote independent study, motivate STEM learners, and equip them with crucial skills for their tertiary education. It also provides assistance to both teachers and learners throughout the teaching and learning journey, while keeping parents informed about their children's academic progress and school-related events. Acting as a learning management system, SEA aims to assist learners in preparing for examinations with guidance from their teachers and parents, who monitor their progress. Furthermore, actively engaging STEM learners through the SEA as a learning management system can enhance teaching and learning, resulting in improved performance in mathematics. This application is very important in assisting grade 12 STEM learners to learn and navigate through the mathematics concepts required for success in their matric examinations. By utilizing

applications like SEA, learners will gradually develop a deeper understanding of mathematics and make notable progress in their studies.

Factors that impact the use of SEA

The successful implementation of a Learning Management System (LMS) in high schools greatly depends on the impact it has on STEM learners (Mohammadi et al., 2021). However, there are a limited number of previous studies that have specifically explored the factors influencing the LMS from the learners' perspective (Abd Ghani et al., 2017). This study seeks to examine the factors that influence STEM learners to use SEA in the learning of mathematics. The majority of studies (Abd Ghani et al., 2017; Ahmed et al., 2022; Al-Adwan et al., 2013; Chibisa, 2021; D'souza et al., 2021; Salloum, 2018) have instead focused on identifying the factors that predict the acceptance of various technologies in education. In a study, Scherer et al. (2019) investigated the implementation of digital technology in education by employing the Technology Acceptance Model (TAM). Scherer et al. (2019) determined factors that might affect the implementation of digital technologies, considering the TAM variable by Davis (1989), perceived usefulness (PU) and perceived ease of use (PEU), attitude towards (ATT) and behavioural intention, all of which were found to be key variables, while subjective norms (SN), self-efficacy (CSE), and facilitating conditions (FC) were named external variables.

Nasser et al. (2011), conducted a study examining the factors that impact students' utilization of LMS in independent schools in Qatar. The findings of the study indicate a significant correlation between information and communication technology (ICT), knowledge, and the usage of LMS. Šumak et al. (2011) conducted a study investigating the factors that have an impact on students' perceptions and acceptance of an e-learning system called Moodle. The study findings demonstrated that two factors, namely Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), directly impact students' attitudes towards using Moodle. Additionally, the study revealed that PU emerged as the most significant and influential determinant of students' positive attitudes towards utilizing Moodle. Consequently, these results suggest that students have a favourable inclination towards using Moodle as an e-learning platform. In a recent study conducted by Thongsri et al. (2019), the researchers examined the variations in perceptions and behaviours between STEM

and non-STEM students. The findings revealed that computer self-efficacy and the perceived usefulness of E-learning play significant roles in influencing the acceptance of E-learning among both STEM and non-STEM students. The study also concluded that non-STEM students are more vulnerable to missing out on the benefits of E-learning (Thongsri et al., 2019). Similarly, another study conducted by Al-Rahmi et al. (2019) in Iraq explored the factors influencing the behavioural intention to use E-learning systems by students. The study identified perceived usefulness, perceived ease of use, subjective norms, quality of information, quality of the system, technical support, and self-efficacy as major factors influencing the behavioural intention among students to use E-learning systems (Al-Rahmi et al., 2019).

Furthermore, this research employed an extended version of the technology acceptance model (TAM) originally proposed by (Davis, 1989). The study identified certain external factors, namely perceived accessibility (PA) and perceived social influence (PSI), which have an impact on the usage of SEA by STEM learners. However, the identified external factors in this study are crucial in understanding SEA as well as learner performance in mathematics. This helps to push up the mathematics success rate in the country. In addition to these external factors, the study also used the TAM variables: perceived usefulness (PU), perceived ease of use (PEU), attitude towards (ATT), and actual use of SEA (AU) to investigate the impact of SEA on the learning of mathematics by STEM learners.

THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

According to Rocco and Plakhotnik (2009), a theoretical framework refers to a set of inter-connected ideas that provide guidance for research by defining which phenomena will be observed and which statistical relationships will be examined. This study chose the technology acceptance model (TAM) as the framework because of its reputation for being reliable and widely used in various fields, including education. The TAM is an improved version of the theory of reasoned action (TRA), which originated in psychology. The TRA suggests that an individual's behaviour is influenced by their behavioural intentions, which are shaped by their attitude towards the behaviour and the social norms associated with it. However, the TRA has limitations, such as its failure to account for the broader social structures that influence behaviour, and also its sole focus on attitude and subjective norms.

To address these gaps in the TRA, the TAM was proposed by Davis in 1989 and has been refined by several authors since then. Numerous studies have been conducted to validate the TAM, demonstrating its explanatory power in different contexts. For example, Van Raaij and Schepers (2008) used TAM to assess the acceptance of virtual learning environments by students and found that the model explained 31% of the variance. Davis also found that the original TAM explained 40% of the variance in individuals' behavioural intentions to use information systems.

The study utilizes the extended technology acceptance model based on Davis's initial framework. This extended model considers external factors such as perceived accessibility (PA), and perceived social influence (PSI), which were not included in the original TAM. By employing the extended TAM, the researcher aims to explore the impact of SEA on STEM learners, while acknowledging the need for additional variables that are relevant to the specific context, as suggested by Davis.

According to Davis (1989), the study of individuals' behaviour revealed that both perceived usefulness (PU) and perceived ease of use (PEU) contribute to their attitudes towards a system. Davis (1989) further proposed that PU and PEU serve as the primary factors influencing users' attitudes towards an application. PEU refers to an individual's perception of the ease with which they can use technology, while PU refers to their beliefs regarding the utility of the technology (Davis, 1989). The TAM received criticism from Carlsson et al. (2006) for its generic nature and its limited applicability to technology adoption across different fields. These studies (Carlsson et al., 2006; Venkatesh et al., 2003) imply that relying solely on the TAM is inadequate for fully understand and explain the adoption of the Siyavula Educational Application (SEA).

Conceptual framework

This study utilized the extended technology acceptance model (TAM) initially developed by Davis (1989) to examine the factors that influence STEM learners to use SEA in the learning of mathematics. The extended TAM was chosen in line with Davis's suggestion that researchers should explore additional context-related variables (Davis, 1989). The researcher incorporated the TAM framework as it allows for the inclusion of specific context variables such as perceived accessibility (PA) and perceived social influence (PSI), which are deemed crucial in this study.

The conceptual framework, as illustrated in Figure 1, consists of six constructs that are subsequently explained. It begins with external factors, namely perceived accessibility (PA) and perceived social influence (PSI) which feed into the original TAM proposed by (Davis, 1989). The original TAM factors, including perceived usefulness (PU), perceived ease of use (PEOU), attitude (ATT), and actual use (AU), follow thereafter. PA and PSI were included in the study following extensive research of the literature, where other scholars (Chibisa & Mutambara, 2022; Salloum, 2018) regarded the factors as critical in the learning of STEM subjects. The other four constructs are the pillars of TAM as suggested by (Davis, 1989). Each construct in the framework was formulated with corresponding hypotheses. Additionally, Venkatesh and Davis (2000) emphasized the importance of hypothesizing the relationships between variables within the model to assess the influence of external factors on TAM constructs.

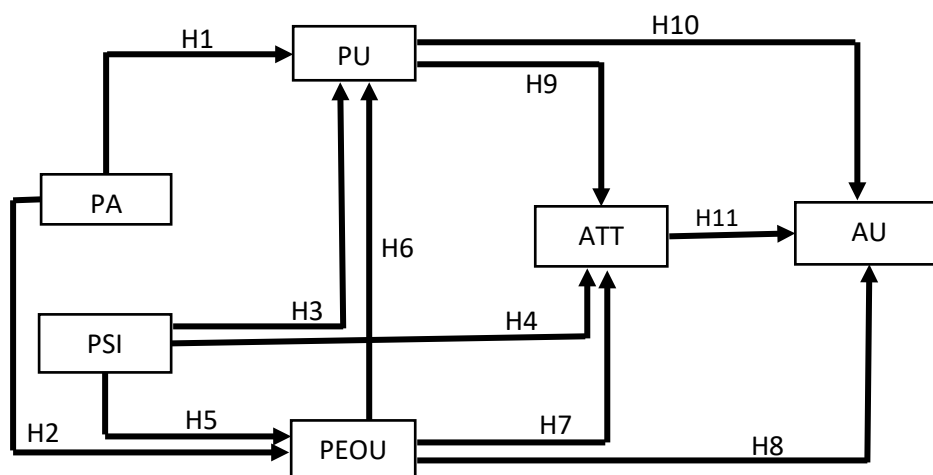


Figure. 1: Conceptual Model of the study

Perceived Accessibility (PA)

Perceived accessibility refers to the level of ease with which a user can access and utilize a given information system (Salloum et al., 2019). In this study, perceived accessibility is related to how STEM learners' access and use SEA. Previous investigations have shown that perceived accessibility is positively correlated with perceived usefulness (PU) and perceived ease of use (PEOU) (Rafique et al., 2020; Salloum, 2018; Saroia & Gao, 2019; Shankar & Kumari, 2019). Salloum (2018) defined

perceived accessibility as one of the factors that influence the acceptance of e-learning in higher education. The results supported the hypothesis that perceived accessibility has a positive impact on PEOU and PU. If STEM learners perceive SEA as accessible, there is a higher likelihood that they will find it more useful and easier to use. Therefore, the following hypotheses were proposed:

H1: Perceived accessibility positively affects perceived usefulness.

H2: Perceived accessibility positively affects perceived ease of use.

Perceived social influence (PSI)

Perceived social influence (PSI) refers to the impact of other individuals on an individual's beliefs, perceptions, and attitudes towards using a specific information system (Chibisa, 2021). Mutambara and Bayaga (2020b) supported the notion that PSI represents the perception that influential individuals would influence others to either use or not use the information system. In this study, PSI relates to the belief of STEM learners that they can be influenced by others to use or not use SEA. Learners' motivation or lack thereof to use the SEA system is influenced by others (Mutambara & Bayaga, 2020a). In a study conducted by Chibisa and Mutambara (2022) on the acceptance of mobile learning among educators and students, PSI was found to be a significant factor in high school educators' and students' decision to use m-learning (Mobile Learning) as an educational tool. Several studies have demonstrated that social influence has a positive impact on perceived usefulness (PU), perceived ease of use (PEOU), and attitude (ATT) (Chibisa, 2021; Lee et al., 2003; Mutambara & Bayaga, 2021; Scherer et al., 2019; Tayo, 2015; Zhang et al., 2020). This suggests that STEM learners may consider social influence as an important factor when deciding to use SEA in their mathematics learning, particularly if their significant others believe that SEA can be beneficial in mathematics learning. Consequently, the following hypotheses were formulated:

H3: Social influence positively affects perceived usefulness.

H4: Social influence positively affects perceived ease of use.

H5: Social influence positively affects attitude towards using.

Perceived ease of use (PEOU)

Perceived ease of use (PEOU) has an impact on both perceived usefulness (PU) and the intention to use a technology (Davis, 1989). These two factors are considered to be users' beliefs in the technology's ability to enhance their intention and actual usage of the technology Mutahar et al. (2018), with PEOU also positively influencing attitude (ATT). Davis et al. (1989) stated that PEOU influences PU, indicating that if individuals perceive a technology as easy to use, they are more likely to consider it useful. In this study, we examine whether STEM learners perceive SEA as easy to use and consequently deem it useful for learning mathematics.

A study conducted by Al-Adwan et al. (2013) found that PEOU has a positive influence on the intention to continue using an e-learning system. Therefore, the following hypotheses are proposed:

H6: Perceived ease of use positively affects perceived usefulness.

H7: Perceived ease of use positively affects attitude towards use.

H8: Perceived ease of use positively affects the actual use of SEA.

Perceived usefulness (PU)

Perceived usefulness (PU) is a fundamental component of the Technology Acceptance Model (TAM), as defined by Davis (1989), representing an individual's belief in the extent to which using an information system would enhance their performance. In this study, PU explores STEM learners' perceptions regarding whether the utilization of SEA would improve their mathematics grades. Research consistently confirms the significant influence of PU within the TAM framework. For instance, in a study conducted by Mutambara and Bayaga (2020a) investigating parental behavioural intentions towards allowing their children to use mobile learning, it was found that parents in rural areas lacked awareness regarding the usefulness of m-learning. Šumak et al. (2011) found a positive relationship between PU and attitude (ATT) and behavioural intention (BI). Additionally, a study by Masrom (2007) identified a significant impact of PU on the intention to use e-learning as an effective educational tool at universities. Thus, if STEM learners perceive that using SEA is beneficial to

their learning, they are more likely to utilize it and achieve better results in mathematics. Consequently, the following hypotheses were examined:

H9: Perceived usefulness positively affects attitude towards using SEA.

H10: Perceived usefulness positively affects the actual use of SEA.

Attitude towards using SEA (ATT)

Attitude towards a behaviour is defined by Chen and Tsai (2019) as the extent to which a person holds a favourable or unfavourable evaluation or appraisal of the behaviour under investigation. According to Escobar-Rodriguez and Monge-Lozano (2012), attitude refers to the degree of positive or negative feelings an individual has towards a learning management system. Previous research has indicated that an attitude towards something positively influences the actual usage of a system, as demonstrated by Salloum (2018), who found a positive correlation between attitude (ATT) and actual system use (AU). This study aims to examine the attitude of STEM learners towards using SEA for mathematics learning. Therefore, the hypothesis is as follows:

H11: Attitude towards use positively affects the actual use of SEA.

Actual use of SEA (AU)

In this study, the term "actual use of SEA" refers to the level of exposure STEM learners have to the application. It represents the resulting measure that assesses the degree to which STEM learners actively utilize SEA for mathematics learning. Various studies have been conducted in this regard, including the research by Hernandez et al. (2011), who observed that 45.6% of learners' attitude and usage behaviour towards ICT resulted in actual use.

METHODOLOGY

Research design

The study employed a quantitative approach to investigate the factors that impact the usage of SEA by STEM learners in the context of mathematics learning. A descriptive research design was utilized, which involves the development of a set of questions that are administered through a questionnaire or interview (Creswell, 2014). Descriptive research designs can be either quantitative or qualitative, and in this case,

a quantitative research approach was adopted. A survey method was chosen due to its ability to gather a large amount of data from STEM learners in uMhlathuze schools. A descriptive, cross-sectional survey design was employed to collect quantitative data through the use of questionnaires (Creswell & Creswell, 2017).

Participants

In this study, the focus was on STEM learners from uMhlathuze circuit schools within the King Cetshwayo District. Six schools were randomly selected, following the methodological conventions found in the literature (Conroy, 2015). The population for this study consisted of 673 learners from the six schools, as per the statistics provided by subject advisors. Prior to collecting data from the targeted population, sampling methods and sample size were considered, as emphasized by Bhattacharjee (2012) and Creswell (2011).

To ensure the representation of all STEM learners in the survey, the study employed stratified random sampling with equal allocation. Each school in the uMhlathuze circuit actively using SEA was treated as a stratum. A total of 52 high schools were using SEA in the circuit. Following the recommendation of Conroy (2015) for a representative sample size to be at least 10% of the population, a sample of six schools was chosen for the study. Within each stratum, respondents were selected using simple random sampling. The "equal number" strategy from the seven-step procedure proposed by Kumar (2018), as cited by Chibisa (2021), was employed. The sample size was calculated by dividing the number of respondents (300) by the number of strata (6), resulting in 50 respondents from each stratum. Numbered class lists were used to randomly select 50 grade 12 STEM learners from each stratum. The objective was not to achieve proportional representation, but rather to ensure representation from each school.

Following the recommendation by Hair Jr et al. (2017), as cited by Mutambara and Chibisa (2022), that the sample size should be at least 10 times larger than the number of indicators of the construct with the most indicators, a minimum sample size of 50 was suggested. In this study, the constructs with the most indicators were perceived usefulness (PU), perceived ease of use (PEOU), and perceived social influence (PSI), each having five indicators. Therefore, data were collected from 300 respondents, exceeding the minimum recommended sample size of 50.

Procedure

To gather the necessary data for addressing the research questions, the researcher modified questionnaires that had been utilized in previous studies (Mutambara & Chibisa, 2022; Šumak et al., 2011). The respondents' answers were assessed using a self-administered questionnaire employing a five-point Likert scale. The data collection took place among grade 12 STEM learners in uMhlathuze circuit schools within the King Cetshwayo District of South Africa. A total of 300 questionnaires were distributed randomly, and 291 questionnaires were returned, resulting in a response rate of 97%.

Ethical Considerations

Research necessitates ethical considerations to ensure that participants are not harmed. The permission was obtained from the KwaZulu-Natal Department of Education to conduct the research in six high schools within the uMhlathuze circuit of the King Cetshwayo District. Key ethical principles include obtaining informed consent from participants, ensuring their safety, maintaining confidentiality and anonymity, and securing approval from relevant organizations (Parkes, 1995).

Instrument

The questionnaire consisted of two sections: Section A and Section B, aiming to collect data on the impact of SEA in the learning of mathematics by STEM learners. The information collected was treated as confidential and solely used for academic purposes by the researcher. Section A included three items related to respondents' demographic information: gender, residential demographics, and weekly hours spent using SEA. Age was not considered as a factor, since the researcher focused on grade rather than age exclusivity, and the age range of STEM learners was relatively narrow, spanning from 17 to 19 years old. To ensure anonymity, learners' responses were kept anonymous.

Section B of the instrument aimed at addressing the research questions regarding the factors influencing the use of SEA by STEM learners in mathematics learning. It included six constructs, each with no more than five indicators or items, measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The

questionnaires were distributed to 300 STEM learners in uMhlathuze circuit schools under the King Cetshwayo District in South Africa and collected after being completed.

Analysis technique

The data for the main model were analysed using SmartPLS version 4, which employs partial least squares structural equation modelling (PLS-SEM). PLS-SEM was chosen as the methodology for evaluating the effects of PA, PSI, PEOU, PU, ATT, and AU of SEA. Also, this methodology was selected due to its ability to comprehensively analyse latent variables that are not directly observable, which is particularly relevant when examining the impact of SEA in learning mathematics. Following the approach proposed by Hair Jr et al. (2017), a two-step process was utilized to evaluate the research model in this study. The first step involved assessing the validity and reliability of the measurement model, while the second step focused on evaluating the structural model to determine if it met the quality standards for empirical research. Studies (Sarstedt et al., 2014; Wong, 2013) indicate that PLS-SEM has several limitations, including issues related to multicollinearity and the use of small sample sizes, among others.

DATA ANALYSIS

Measurement Model

The measurement model elucidates the relationship between constructs and their indicators. To establish the validity and reliability of the measurement model, various assessments were conducted (see Table 1), including internal consistency reliability measured by Cronbach's alpha (CA) and composite reliability (CR), indicator reliability, convergent validity, and discriminant validity. The subsequent section presents the outcomes of evaluating the validity and reliability of the measurement model.

Table 1: Measurement Model

Construct	Indicators	loadings	CA	CR	AVE
Attitude towards	ATT1	0.847	0,910	0,937	0,789
	ATT2	0.877			
	ATT3	0.918			
	ATT3	0.910			
Actual Use of SEA	AU1	0.934	0,893	0,927	0,763
	AU2	0.715			
	AU3	0.924			
	AU4	0.903			
	PA1	0.816	0,873	0,913	0,725

Perceived accessibility		PA2	0.864			
		PA3	0.892			
		PA4	0.831			
Perceived ease of use		PEOU1	0.752	0,849	0,898	0,688
		PEOU2	0.793			
		PEOU3	0.887			
		PEOU4	0.877			
Perceived social influence		PSI2	0.825	0,812	0,869	0,624
		PSI3	0.763			
		PSI4	0.789			
		PSI5	0.783			
Perceived usefulness		PU1	0.850	0,839	0,892	0,676
		PU2	.0842			
		PU3	0.871			
		PU4	0.717			

ATT1 – ATT4 represents the four indicators of the Attitude Towards, AU1 – AU4 represents the four indicators of the Actual Use of SEA, PA1 to PA4 represents the four indicators of Perceived Accessibility, PEOU1 – PEOU4 represents the four indicators of Perceived Ease of Use, PSI2 – PSI5 represents the four indicators of Perceived Social Influence, and PU1 – PU4 represents the four indicators of Perceived Usefulness of SEA.

Indicator reliability

Indicator reliability refers to the extent to which the variance of an indicator can be accounted for by the underlying latent variable (Hair Jr et al., 2017). According to Sarstedt and Cheah (2019), the latent construct should explain more than 50% of an indicator's variance. Hair Jr et al. (2017) suggest a threshold value of 0.7 for the outer loadings, indicating that indicators with loadings below 0.7 should be eliminated from the model (Hair Jr et al., 2014). The outer loadings were evaluated using SmartPLS 3 software. Table 1 displays the results, revealing that all indicators exceeded the threshold value of 0.7.

Internal consistency reliability

The internal consistency reliability of the measurement model was evaluated using Cronbach's alpha and composite reliability. Where the values of composite reliability and Cronbach's alpha for each latent variable are equal to or greater than the threshold value of 0.7, it indicates sufficient internal consistency reliability of the measurement model (Hair Jr et al., 2014). The results of the Cronbach's alpha and composite reliability tests are presented in Figure 1. The results demonstrate acceptable internal consistency reliability as they exceeded 0.7.

Convergent validity

The validity of the measurement model requires the evaluation of convergent and discriminant analysis. Convergent validity was assessed using the average variance extracted (AVE) as a measure of the extent to which items converge to a desired construct or variable (Fauzi, 2022; Hair Jr et al., 2017). It indicates the level of agreement among items in representing the construct being assessed in the model. According to Hair Jr et al. (2014), AVE values should be 0.5 or higher to establish convergent validity. The results depicted in Table 1 demonstrate that all AVE values exceeded 0.5.

Discriminant validity

Discriminant validity in this study was evaluated using the Fornell-Larcker criterion, following the recommendation of Hair Jr et al. (2016). Table 2 presents the results of the Fornell-Larcker Criterion analysis. The diagonal cells in bold represent the square root of the average variance extracted (AVE), while the non-bold values indicate the inter-correlation between latent variables. Discriminant validity is achieved when the top number (the square root of AVE) is greater than the values below it. The indicator reliability, internal consistency reliability, convergent validity, and discriminant validity tests of the measurement model were all successful. Consequently, the measurement model provides the necessary robustness to evaluate the structural model.

Table 2: Fornel-Larcker Criterion

	ATT	AU	PA	PEOU	PSI	PU
ATT	0,888					
AU	0,827	0,873				
PA	0,740	0,732	0,851			
PEOU	0,589	0,489	0,500	0,829		
PSI	0,641	0,778	0,670	0,434	0,790	
PU	0,736	0,772	0,691	0,564	0,659	0,822

Structural model

To determine the statistical significance of each path coefficient, t-tests were performed with full bootstrapping (using 5000 subsamples) following the recommendation by Chin (1998). A calculated t-value greater than the critical value of 1.96 with a p-value of 0.05 or below indicates statistical significance. The results of the

path coefficients are summarized in Table 3. Only one path coefficient was not significant PEOU -> AU ($\beta = 0.044$, $p > 0.05$).

According to Garson (2016), the variation inflation factor (VIF) criteria can be used to assess multicollinearity in the structural model. A VIF exceeding 4 indicates problematic multicollinearity, while a VIF below 4 is not a concern. Table 3 displays the VIF values, which were all below 4, suggesting the absence of collinearity among the latent variables in the study.

Table 3: Structural model

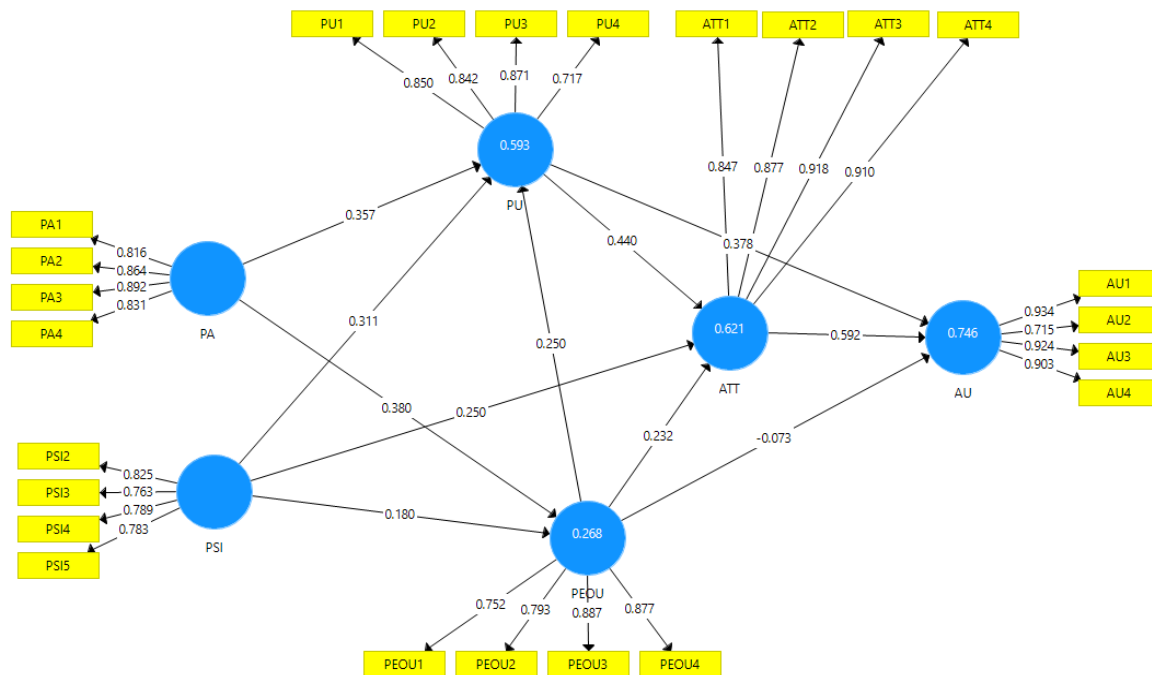
Path	Std Beta	t-Values	p-Values	Decision	f ²	VIF
ATT -> AU	0,045	13,185	0,000	Accepted	0,571	2,414
PA -> PEOU	0,086	4,420	0,000	Accepted	0,109	1,813
PA -> PU	0,062	5,745	0,000	Accepted	0,156	2,010
PEOU -> ATT	0,052	4,490	0,000	Accepted	0,096	1,482
PEOU -> AU	0,044	1,654	0,099	Rejected	0,013	1,624
PEOU -> PU	0,054	4,614	0,000	Accepted	0,113	1,366
PSI -> ATT	0,046	5,450	0,000	Accepted	0,092	1,786
PSI -> PEOU	0,086	2,082	0,038	Accepted	0,024	1,813
PSI -> PU	0,054	5,732	0,000	Accepted	0,128	1,857
PU -> ATT	0,052	8,434	0,000	Accepted	0,240	2,126
PU -> AU	0,056	6,817	0,000	Accepted	0,244	2,313

The f-square value, as pointed out by Chibisa (2021), measures the strength of the relationship between the constructs and represents the effect size. Cohen (2013) suggests that f-square values of 0.02, 0.15, and 0.35 indicate small, medium, and substantial effect sizes, respectively. The f-square values are shown in Table 3. From the results in Table 3, it is evident that only one path ATT -> AU (0,571) had high effect, while three paths PA -> PU (0,156), PU -> ATT (0,240) and PU -> AU (0,244) had a medium effect. The remaining path PA -> PEOU (0,109), PEOU -> ATT (0,096), PEOU -> AU (0,013), PEOU -> PU (0,113), PSI -> ATT (0,092), PSI -> PEOU (0,024) and PSI -> PU (0,128) had a small effect on actual usage.

The R-squared value measures the variance explained by the endogenous constructs and indicates the model's explanatory power (Garson, 2016). According to Cohen (2013), R-squared values of 0.02, 0.13, and 0.26 correspond to weak, moderate, and substantial predictions, respectively. The results in figure 2 indicate that the R-squared values of PU (0.593), PEOU (0.263) and ATT (0.621) are considered substantial.

Figure 2 illustrates that PA and PSI serve as predictors for PEOU, PU, and ATT, which in turn influence AU. All the indicators demonstrated satisfactory loadings.

Figure 2: Structural model



These results indicate that the external variables in the TAM (PA and PSI) collectively explain 26.3% of the variance in PEOU and 59.3% of the variance in PU. The model's R-squared value in this study was 0.746, as shown in Figure 2. This suggests that all the model predictors account for 74.6% of the actual use of SEA by STEM learners. Consequently, this model is considered a good fit for explaining the impact of SEA by STEM learners.

DISCUSSION

Research question 1 in this study aimed to investigate the factors that influence STEM learners to use SEA in the learning of mathematics. The researcher utilized the original TAM variables by Davis (1989), which include PU, PEOU, ATT, and AU. Additionally, two external factors, PA and PSI were added to the TAM. Together, these five factors (PA, PSI, PU, PEOU, and ATT) explained a significant 74.6% of the variance in the actual use of SEA by STEM learners.

The structural model (figure 2) tested two paths associated with the perceived accessibility of the SEA construct, PA → PEOU ($\beta = 0.086$, $p < 0.05$) and PA → PU ($\beta = 0.062$, $p < 0.05$). The results indicated that both paths were accepted, meaning that PA had a significant positive effect on both PEOU and PU. These findings align with previous research by Rafique et al. (2020); Salloum et al. (2019); Saroia and Gao (2019); and Shankar and Kumari (2019), who also found a positive influence of PA on PEOU and PU. This suggests that, when SEA is easily accessible to STEM learners, they perceive it as useful and easy to use for learning mathematics. The study recommends that educational institutions should provide offline portals to enhance accessibility to the application. The PU and PEOU constructs played important mediating roles between PA and AU. This means that the perceived accessibility of SEA positively influences the actual use of SEA by STEM learners, making it a good predictor of their usage. The study recommends that teachers and educational institutions encourage the proper use of SEA by learners and provide support in terms of accessibility.

The PSI construct was tested with three paths, PSI → ATT ($\beta = 0.046$, $p < 0.05$), PSI → PEOU ($\beta = 0.086$, $p < 0.05$) and PSI → PU ($\beta = 0.054$, $p < 0.05$), and the results in table 3 showed that all three paths were accepted. This indicates that PSI had a significant influence on PU, PEOU, and ATT. These results suggest that STEM learners consider social influence to be an important factor in their use of the application, and if they are positively influenced socially, they develop a favourable attitude towards using the application. These findings are consistent with previous studies by Lee et al. (2003); Scherer et al. (2019); Tayo (2015); and Zhang et al. (2020), who demonstrated a positive influence of social influence on PU, PEOU, and ATT. The study suggests that awareness programs should be conducted to emphasize the usefulness of SEA to STEM learners.

Two paths were tested for the PU construct, PU → ATT ($\beta = 0.052$, $p < 0.05$) and PU → AU ($\beta = 0.056$, $p < 0.05$), and the results in table 3 supported both paths. This means that STEM learners' perceived usefulness of SEA has a positive influence on their attitude (ATT) and their actual use (AU) of the application. These findings align with previous research by Masrom (2007); and Šumak et al. (2011), who demonstrated the positive influence of perceived usefulness on ATT and AU. The study suggests that SEA developers should utilize videos that demonstrate and clarify mathematics

problems to enhance its usefulness to STEM learners. Additionally, teachers should encourage the appropriate use of SEA to improve mathematics grades.

The PEOU construct was tested with three paths, and the results in table 3 showed that two paths, PEOU → ATT ($\beta = 0.052$, $p < 0.05$) and PEOU → PU ($\beta = 0.054$, $p < 0.05$) were accepted, while one path, PEOU → AU ($\beta = 0.044$, $p > 0.05$) was not supported. This implies that there is a positive relationship between PEOU and PU, and between PEOU and ATT, but no direct positive relationship between PEOU and AU of SEA. However, PEOU indirectly influences AU through ATT and PU. These findings are consistent with the research by Davis et al. (1989); and Mutahar et al. (2018), who demonstrated the influence of PEOU on PU and ATT. In this study, STEM learners' efforts to learn and use SEA assist in increasing their attitude towards and perceived usefulness of the application.

The ATT construct had one path, ATT → AU ($\beta = 0.045$, $p < 0.05$) that showed a positive effect of ATT and AU of SEA. This path was supported by the data, indicating that STEM learners' attitude towards the application positively influences their actual use of SEA. This implies that STEM learners in this study have a favourable perception of their actual use of SEA. The results align with the findings of Mutambara and Chibisa (2022); and Salloum (2018), who demonstrated the positive influence of ATT on AU. Teachers should focus on factors that improve learners' attitudes towards SEA, as attitudes play a crucial role in its actual use.

Research question 2 aimed to determine the extent to which these factors (PA, PSI, PU, PEOU, and ATT) explain the actual use of SEA by STEM learners. The results indicated that these factors explained a substantial 74.6% of the variance in the actual use of SEA in the learning of mathematics by STEM learners. This explanatory power is considered substantial. Previous research by Mutambara and Chibisa (2022) also demonstrated substantial explanatory power of factors influencing the acceptance and usage of virtual learning. The study suggests that future research should focus on identifying additional factors that account for the remaining 25.4% of the variance.

Overall, this study provides insights into the factors influencing the use of SEA by STEM learners. The identified factors (PA, PSI, PU, PEOU, and ATT) explain a significant portion of the actual use of SEA in the context of learning mathematics. The

study recommends strategies to enhance accessibility, raise awareness, and improve attitudes towards SEA to promote its effective use by STEM learners.

RESULTS AND CONCLUSION

This study investigated the impact of Siyavula Educational Application (SEA) on the learning of mathematics by STEM learners. To achieve this goal, the researcher developed a model that was used to address the research questions. The structural model consisted of six constructs, and there were eleven paths connecting these constructs. Ten of these paths were supported by the data, while one path was not supported (refer to table 3).

All six factors identified in this study have a significant influence on STEM learners' actual usage of SEA (see table 3), indicating their impact on the application. The two external factors of the model, perceived accessibility (PA) and perceived social influence (PSI), contributed 59.3% and 26.3%, respectively, to the PU and PEOU. The combined effect of PU, PEOU, and PSI accounted for 62.1% of the attitude towards the application.

Regarding the actual usage of SEA in the learning of mathematics by STEM learners, the identified variables in the model were found to be good predictors of the impact of the application. The model explained a substantial 74.6% of the variance in the actual usage of SEA. This high percentage suggests that the model was effective in examining the impact of SEA on STEM learners.

LIMITATIONS AND FUTURE STUDIES

The present study primarily examined the impact of SEA on STEM learners. Subsequent research could shift its focus towards investigating the application's acceptance among high school STEM teachers.

To gain a more comprehensive and nuanced understanding of the application, it would be intriguing to conduct a similar study using qualitative methods. This approach could provide additional details and deeper insights into the usage of SEA.

The model employed in the current study accounted for 74.6% of the variability in the actual use of the application. This implies that 25.4% of the impact of SEA, which lies

outside the scope of this structural model, were not captured. Hence, it is advisable for future studies to concentrate on identifying and examining these missing factors.

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