



VIRTUAL INTERNATIONAL CONFERENCE

**MBALI**

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FACULTY OF COMMERCE, ADMINISTRATION AND LAW

## **MBALI CONFERENCE 2022 PROCEEDINGS**

(Management, Business, Administration and Legal Initiatives)

**REJUVENATION, REGENERATION, AND RECOVERY THROUGH INNOVATION**

ISBN No: 978-1-86818-149-0

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# **Mbali Conference 2022 Proceedings**

**Management, Business, Administration and Legal Initiatives**

## **Rejuvenation, Regeneration, and Recovery through Innovation**

ISBN No: 978-1-86818-149-0

Managing Editor: Prof. Irrshad Kaseeram

Associate Editors: Dr Sheunesu Zhou and Ms Isabel Rawlins

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## Foreword

The third MBALI International Conference, held on 2-4 August 2022, was both a resounding success and has grown to new heights with 141 papers; 49 of which were from UNIZULU staff (30) and students (19). The conference attracted more than 80 out of town visitors (University of Free State, Cape Peninsula University of Technology, Western Cape, Fort Hare, University of KwaZulu-Natal, Walter Sisulu University, North-West, Limpopo, Mpumalanga, Durban University of Technology, Pretoria University and University of Johannesburg) as well as international presenters from Nigeria, Zimbabwe, Malawi, Botswana, Ghana, India, Singapore and China. An additional 25 of the 141 papers were presented online; 15 of which were from outside the borders of South Africa. Moreover, we received 56 (46 external and 10 internal) papers that were processed through our double-blinded peer review process. However, only 27 (17 external and 10 internal) corresponding authors agreed to publish in our accredited proceedings.

The Conference held seven exciting plenary addresses over the duration which included the South African Ambassador Corp Head: Anil Sooklal – International Lessons For Development; The Singaporean Ambassador, His Excellency: Zainab Arif Mantaha – Singapore's Meteoric Rise To A World Class Economy; Dr Melanie Van Rooy, Clicks Head of Marketing – Winning In Retail Marketing: Big Data And Personalisation; Prof Sawar H Sohel, Glasgow University – Social-Ecological Resilience To Shocks For Leaving No One Food Insecure; Mr Erich Schlenker, Business Walker College, Appalachian State University – Digital Entrepreneurship: The New Disrupter; Prof Thuli Madonsela, Stellenbosch University – Presentation on Human Rights; and Prof Sukanta Baral, Indira Gandhi National Tribal University – Empowering Rural Women Entrepreneurs: A Critical Study on Intervention of Fintech Platforms.

We also had keynote addresses from Dr Gaby Magomola; The Honourable Mayor of King Cetshwayo District, Mr Arthur Ntuli; ABSA Regional Head, Mr Keketso Motsoene; ABSA Head of Enterprise Development, Retail and Business Banking, Mr Kgalaletso Kay Tlhoale; ABSA Relationship Banking KZN, Mr Norman Venketiah; and entrepreneur, Mr Moses Tembe. All these addresses were

outstanding to say the least. Mr Kgalaletso Kay Tlhoale provided a scintillating account of the banking innovations ABSA has undertaken to bring banking to small black businesses and empower them to become bigger enterprises. Mr Norman Venketiah gave a lucid account of putting customers first and building wealth. Mr Tembe provided a passionate account of his commitment, sacrifice and hard work that led to his business success and he serves as a beacon for aspiring young entrepreneurs to emulate, despite the challenges.

An online Conference Evaluation Survey was undertaken, to which all conference participants had access. Forty-four respondents completed the survey, 95.3% felt the conference maintained the highest standards while 4.7% felt the conference could be improved further. However, 100% of the respondents will recommend the conference to other attendees. Moreover 79.5% of respondents perceived the discussions during sessions to be of a high standard and useful to presenters while 20.5% felt the discussions were okay, and none felt they were of a low standard.

Conferences are frightfully expensive, complex and arduous endeavours, hence we are grateful for the dedicated financial support from ABSA for the third time in a row; the commitment and hard work of the MBALI Steering Committee, the Information Communication Technology Division, Communication and Marketing Division and the Faculty and University leadership support.

**Prof. Irrshad Kaseeram, University of Zululand.**

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# **Assessing the strategic innovation capabilities of SMMEs in improving their performance: A case study**

Ayansola Olatunji Ayandibu

Dr A.O. Ayandibu, Senior Lecturer, Department of Business Management, University of Zululand, South Africa

## **ABSTRACT**

Small, medium, and micro enterprises (SMMEs) play a crucial role in the economy of any given nation. Strategy and innovation as performance tools for small business have not been fully explored within these organisations, hence this research has seen a deeper need for small businesses to better comprehend strategy and innovation as applicable to their businesses. Many researchers have written about how small businesses may be improved on by researching the challenges that they face within their organisations. The current study proposes that founders' initiatives must be considered while improving on the standards of the business. In this study it is also evident that lack of finance is not the major cause of business failure, but misappropriation of funds (not being able to trace costs back to the cost centre).

The data-collection method was both quantitative and qualitative. This is because all small businesses considered are registered with the Business Support Centre (BSC), Pietermaritzburg, KwaZulu-Natal Province of South Africa. Fifty-three (53) small businesses were registered with the BSC at the time of data collection. All these organisations were considered, using the quantitative approach. The General Manager of the Business Support Centre was interviewed: the General Manager is the principal executive who deals with these small businesses directly, having adequate information about them. Based on the data collected, data analysis was conducted with the use of SPSS 27. Interpretation, findings, recommendations, and conclusions were conducted, based on the outcome of the survey.

The study sheds more light on the knowledge of strategy and innovation and how these are being implemented.



This study extends the frontiers of knowledge in the field of small business development with special focus on management of these small businesses. Management of these businesses by organisations that are supporting them like BSC, SEDA should also have consultants that monitor the progress of these businesses.

**Keywords:** Strategy, Innovation, Small Medium and Micro Enterprises (SMMEs), Business Support Centre (BSC) and SEDA

## **INTRODUCTION**

Small, medium, and micro enterprises (SMMEs) play an important role in the economy of many countries (Olawale and Garwe, 2010). According to Ntsika (2002), as cited in Olawale and Garwe (2010), “South African SMMEs contribute 56% of private sector employment and 36% of the gross domestic product”. The small, medium, and micro enterprise (SMME) sector is furthermore a major contributor to technical innovation and new product development, in terms of employment, and economic development, amongst other aspects. (Ou, 2006; Office for national statistics, 2009; Ergas and Orr, 2007; OECD 2005; NDRC, 2007). It has also been argued that governments throughout the world should focus on the developing of SMME sectors to help promote economic growth and development (Ntsika, 2002).

Citing Ntsika (2002) and Statistics South Africa’s Quarterly Labour Force Survey (2012), South Africa has a high unemployment rate of 24.5%: the economically active population unemployed. The best way to reduce unemployment is to increase the creation of the employment opportunities of small businesses, and it will promote small business development and advancement (FinMark Trust, 2006, Olawale and Garwe 2010). Gree and Thurnik (2003), as cited in Olawale and Garwe, (2010), also argued that the “creation of new SMMEs is a way to sustain existing SMMEs, thereby absorbing potential workers to make new businesses grow”. New SMMEs are seen as a solution to South Africa’s economic situation. South Africa is an anomaly among developing countries. It is both a developed country with good infrastructure and also a country with huge social and economic problems. There is a wide gulf between recipients of development aid on the one hand and skilled professionals on the other hand. The economic prosperity of South Africa rests on the creation of SMMEs that will be sustainable, and without this, South Africa risks economic

stagnation (Maas and Herrington, 2006). Also, although the public sector employs a growing number of job seekers in South Africa, which has solved some unemployment issues, increasing attention has been focused on entrepreneurship and new business start-ups, which have great potential in contributing to economic growth, development and job creation (Maas et al. 2006; Olawale and Garwe, 2010).

Despite the attention on building up the small business sector, the failure rate of SMMEs in South Africa is estimated at between 70% and 80%, (Brink, Cant et al., 2003). According to Bridge (2010), in Fin24.com, the failure rate of small businesses in 2010 was 63%. The rate has decreased compared to 2003. On the other hand, (GEM, 2016) stated that the failure rate of small businesses has decreased compared to previous years.

Furthermore, according to the Small Business Administration in the USA (Longley, 2006), over 50% of small businesses fail in the first year and 95% within the first five years (Ferreira, 2007). According to Mafoyané (2015), statistics show that about 80% of start-ups of small businesses in South Africa fail within the first three years of operation and this can be largely attributed to the lack of support.

Both entrepreneurship and innovation are linked to economic growth and development (Stevenson and Lundström, 2007). The relationship between entrepreneurship, innovation, and growth seems to be indirect. Innovation and entrepreneurship bring into existence innovative entrepreneurship and new businesses based on research and new inventions (Akpan et al., 2022). Such enterprises commonly have high growth and development rate potential, and are likely to become future 'cash cow' organisations (Stevenson and Lundström, 2007).

The creation and expansion of new SMMEs helps to produce a high volume of new jobs. Entrepreneurs have high expectations and are often found among the innovative and technology-based firms. However, in order for them to play a major role in economic growth and development, it is also necessary for there to be a real supply of new innovations and processes to renew businesses. Encouraging the activities of entrepreneurs is not only likely to lead to increased entrepreneurship, but also to the forming of a large number of innovative high-growth companies (Stevenson and Lundström, 2007).

Many and great scholars have written about the challenges faced by SMMEs worldwide (Ou, 2006; Office for national statistics, 2009; Ergas and Orr, 2007; OECD 2005; NDRC, 2007; Olawale and Garwe, 2010; Mazanai and Fatoki, 2012 ; (Urban and Naidoo 2012, Massaro, Handley et al. 2016, Tassiopoulos, De Coning et al. 2016). SMMEs are said to be the lifeline of many nations, therefore attention must be drawn to them (Mazanai and Fatoki 2012). Such businesses play a large role in the society, especially in creation of employment which can lead to reduction of the crime rate (Bell 2022). The government of South Africa has established some organisations to promote the betterment of these SMMEs, for instance the Small Enterprise Development Agency (SEDA), and The Small Enterprise Finance Agency (SEFA). These agencies/organisations engage in activities that will benefit small businesses. These organisations are meant to empower small businesses.

After reviewing sufficient literature on the improvement of SMMEs, it was evident that most researchers have considered businesses based on a certain list received from the Chamber of Commerce of various countries and provinces, while some researchers have travelled within a certain area only to obtain data (Mazanai and Fatoki, 2012). In this study, “strategy, innovation, and performance management” of various small, medium and micro organisations will be considered. Understandably, there are many factors that could lead to SMMEs' not performing well, such as a lack of training/education, lack of access to finance, insufficient government support, economic recession, location of business, high interest rates, inexperience regarding the venture, amongst other factors. (Mazanai and Fatoki, 2012) However, how do these SMMEs manage to use strategy and innovation despite these problems? Strategic innovation has been researched to help small businesses to tackle the challenges that small businesses face (Temel and Forsman, 2022).

The researcher has based his research on an organisation with whom certain small businesses are registered. The researcher has reviewed these individual organisations, together with their mentor organisation, the Business Support Centre (BSC), based in Pietermaritzburg, KwaZulu-Natal Province of South Africa. The researcher has therefore been able to have direct contact with all the registered small businesses comprising BSC; also with the management of BSC. The researcher has thus had good access to these specific small businesses to gather adequate information on the problems they face.

## **PROBLEM STATEMENT AND OBJECTIVE OF THE STUDY**

The problem statement is how to solve the issues that small businesses face using strategy and innovation. The aim of this research is to critically examine the way in which strategic innovation is used as a method of addressing performance challenges within SMMEs. In order to meet the aim of the study, the following objectives are to be considered:

To examine the way in which SMMEs understand strategic innovation and entrepreneurial activities which may help them to solve business challenges;

## **LITERATURE REVIEW ON STRATEGY AND INNOVATION FOR SMMES**

The success of every organisation, either small or large, depends on its strategic innovation. Halim, Ahmad, Ramayah and Hanifah (2014) suggest that the term “innovation” is becoming very pervasive and every government across the globe has embarked on numerous approaches to promote innovation. According to Halim et al. (2014), SMMEs need to enhance their innovative capabilities in the emerging markets. They argue that strategic innovation is crucial for the survival of business organization, government agencies and institutions. Therefore, in order for SMMEs to compete and sustain locally and globally, they should have the structures and processes to allow smooth innovation to prosper.

Gandotra (2010) posits that managing innovation has to do with creating a culture where new ideas are generated, valued and supported. The author states that successful organisations that focus on strategic innovation are looking for achievements in which innovation shows up in the quality and quantity of ideas, and the efficiency and effectiveness of implementation of those ideas.

Alam et al. (2013) contend that strategic innovation is an important tool that is used by many companies worldwide to improve productive manufacturing processes and compete with other rivals in the global market. Alam et al. (2013) believe that strategic innovation is an important tool which enables firms to obtain a sustainable competitive advantage over their rivals. According to the authors, there are 21 journals out of 28 studies which showed that there is a strong correlation between strategic innovation and organisational performance. They recommend that strategic innovation creates value for firms which enables them to gain or sustain competitive

advantage over other competitors. From the above discussion, it became clear that strategic innovation is directly related to basic business activities within an organisation.

The article explores various ways in which small businesses deploy strategy and innovation to enhance the performance of their daily activities in the South African market. Strategy and innovation go hand in hand: both help organisations to develop competitive and corporate advantages. Small businesses need to understand how to sustain advantage in competitive challenges and threats to their existence. This article will clarify the differences between strategy and innovation; discussing how to relate both to performance management within an organisation. All firms should develop a business model that will define the manner in which it delivers value to customers, seeks out more customers to pay for goods and services, and also, converts these payments to profit that may be ploughed back into the same business or into any business into which such an organisation expands.

### **Strategy, innovation and performance management defined**

Strategy, innovation and performance management, are driving factors in small businesses. Small businesses are key business motivators that allow new technology to be developed, and allow checks and balances relevant to the planned goals and what is to be achieved. Most small business owners operate simply to satisfy their day-to-day needs. Performance management assists in determining the extent to which an organisation has matched its planning to either the projected or actual outcome.

### **Definition of strategy and strategic management**

Ehlers and Lazenby (2008) defined strategic management as "the process whereby all organisational functions and resources are integrated and coordinated to implement formulated strategies which are aligned with the environment, in order to achieve long term objectives of the organisation and thereby gain a competitive advantage through adding value for the stakeholders". Ehlers and Lazenby (2008) further defined strategy as "an effort or deliberate action that an organisation implements to perform more than its rivals or competitors". Organisations must satisfy the various stakeholders in order to have a competitive advantage over their competitors. This may be by adding value, in other words, adding some unique

characteristics to the product or services which rivals cannot imitate. Such an effect may be achieved by the introduction of strategic management (Ehlers and Lazenby 2008).

Johnson, Scholes and Whittington (2008) defined strategy as “the direction and scope of an organisation over long term, which achieves advantage in a changing environment through its configuration of resources and competences with the aim of fulfilling stakeholder expectations”. An organisation planning to strategise will have to decide about:

- The long-term direction of an organisation;
- The scope of the organisation’s activities;
- Gaining advantage over competitors;
- Addressing changes in the organisation environment;
- Building on resources and competences; and
- Stakeholder values and expectations.

The stakeholders of an organisation are the people involved in the strategic management process:

- Owners / shareholders;
- Customers;
- Employees;
- Suppliers;
- Local community/society in general;
- Strategic partners;
- Government; and
- Unions.

According to Janssens (2014), “strategy is often defined as a contingent plan of action designed to achieve a particular goal”. Johnson, Scholes and Whittington (2008) defined strategy as “the direction and scope of an organisation over the long term, which achieves advantage in a changing environment through its configuration of resources and competences with the aim of fulfilling stakeholder expectations”. Strategy may also be termed a plan of action that has been put in place for an organisation. Strategy is a future plan that is being used as a guideline, offering

checks and balances. Not only large organisations require operating strategies, SMMEs, no matter the size, must also have strategies in place. Strategies help organisations in their day-to-day operational activities.

According to Dobni (2010), strategy and innovation are not related, and hence it is important not to confuse strategy with innovation. Dobni (2010) opines that the tenets of strategy still remain unchanged and are based upon management systems that are underwritten by adherence to goals and objectives, and a connection to a mission and vision. He argues that these systems include but are not limited to timetables, capital and operating budgets, metrics for performance management, and progress reporting. The author defines strategy as a long term gain plan which enables an organisation to achieve its goals as well as obtain sustainable competitive advantage over its rivals.

Kalay and Lynn (2015) describe strategy as a set of activities that help an organisation to differentiate itself from other rivals and to maintain its competitive position in the market. Kalay and Lynn (2015) in their study discovered that firms with strategy are more successful when compared with those that do not possess any strategy. According to the authors, strategy involves planning and controlling business activities in order achieve an organisational goal and at the same time gain competitive advantage over other competitors.

According to Palmer and Wright (2013), strategy refers the means by which an organisation aligns with its environment in order create and maintain competitive advantage. Palmer and Wright (2013) are of the view strategy is all about the game plan of an organisation in achieving its goals or objectives. The authors explain that through strategy organisations are able to gain competitive advantage of their rivals.

### **Definition of innovation**

Innovation is one of the major instruments used to improve on the present position of an organisation. Innovation is a way of improving on the present market share while also enhancing competitive advantage for the organisation over its existing rivals. Innovation may be in the form of new products, or new services, or improvements to previous offerings.

According to (Gronum et al. 2012) innovation is the “implementation of any new or significantly improved products (goods and services), operational process (methods of production and service delivery), and new marketing methods (packaging, sales and distribution methods), or new organisation or managerial methods or processes in business practices, workplace organisation or external relations”. Jones and Tilley (2003) in Edwards, Delbridge et al. (2005) agreed that encouraging innovation in small and medium-sized enterprises (SMEs) plays the role of policy initiatives for stimulating growth and development at the local, regional, and national levels.

Gunday, Ulusoy et al. (2011) stated that innovation (generating new ideas) is one of the key instruments one needs for growth strategies to gain entrance into new markets, or to increase the existing market share and also to provide the organisation with an advantage over its competitors. The manager deploying innovation must be a positive role model; the innovation manager must be open to opportunities, must be courageous, and able to sustain morale when things are not going well. Being versatile and able to adopt mind and skill sets are required to take innovation forward (Barnes and Conti Associates, 2008).

Sanchez, Lago, Ferras and Ribera (2011) describe strategic innovation as the entire set of innovative practices involving the analysis of competition mechanisms, namely: creating an innovative vision, harmonising business strategy, expanding the strategy to all organisational levels, market tendencies, technologies and competitor acts.

According to Lendel and Varmus (2011), strategic innovation is the process of determining strategies, and shaping approaches to aims, methods and ways to enhance and improve the innovative potential of the firm. The authors argue that strategic innovation enables top management to follow the activities of their competitors, to reach customer market information, to use firm resources effectively and to make efficient investments in research and development.

Gebauer, Worch and Truffer (2012) also defined strategic innovation as the creation of new markets, products and services; refers to leaps in customer value and the reshaping of existing markets to achieve value improvements for customers. The above authors are of the view that strategic innovation aims to achieve a competitive advantage by creating customer value and new markets. Strategic innovation occurs



when a firm identifies gaps in an industry positioning map, goes after them, and these gaps grow to become big market.

Enayati, Titkanloo and Mahmoudie (2014) concur that strategic innovation refers to the capability to create and restructure the firm's business idea and concept by changing the market, competencies and business system of the firm. In view of this definition, strategic innovation is wholly correlated with the development of the firm. Among the approaches to innovation, producing and providing new products and services have emerged as a major area of interest for the study. It allows businesses to gain a significant competitive advantage provided that they successfully achieve innovation.

**Table 2.1: Process and stages found in innovating.**

<b>Process found in innovating companies</b>	<b>Stages in standard model (David Nalder's version)</b>
1. Recognising the change imperative. Leaders see a crisis confronting the organisation and help others understand and face it.	1. Recognising the change imperative. Leaders see a crisis confronting the organisation and help others understand and face it. (First step is similar under both models).
2. Developing a widely shared and powerful, but probably vague, goal. The goal should have emotional appeal and thus be easy for people to support. Benefits should be clear not just to the company but also to society. The goal is a theme to drive initial innovations. (However, it is not necessary to repeat ad nauseam).	2. Developing a shared direction. Central to this is "a small number of high-concept principles that speak to strategy, structure, and culture.... communicated through public statements by the CEO, and then...repeated over and over again until they become a kind of corporate mantra".
3. Beginning to innovate. Motivated by a powerful goal, someone innovates in a new and different way, not following any well-defined rules or methodology. (At the same time the organisations may make changes in basic strategy, structure, culture, and/or personnel; however, there may be no	3. Implementing change. Leaders separately develop and implement (a) new basic strategies and ways of working, (b) new formal structure (c) a new culture, and (d) ways of finding and training the right people. The emphasis is on planned, controlled change.

consistent pattern in this within the firms studied).	
4. Learning from initial innovations. Some innovation seems to succeed; people copy initial innovation processes, adapting them to new uses and thus creating new innovations.	4. Considering change. Once senior managers have created the basic changes in Steps 2 and 3, managers below them have to drive the changes into every part of the organisation.
5. Development and operation of innovative strategy routines. Innovation processes based on the ways of innovating that emerged from improvisation become routine. Leaders formalise some elements to increase efficiency and clarity.	5. Sustaining change. Leaders seek the new kinds of change they deem necessary, implementing these.

Source: Adapted from Champions of Change, Nadler (1998) and Wood (2007:22).

According to (Lynch-Wood and Williamson, 2007), the above table reflects the research that uncovered successful practices. It comprises a five-step process of initiating continual strategic innovation. To understand these five steps, the importance of improvisation must be addressed. In order to promote effective strategic innovation processes, leaders must know the difference between improvisational change and planned change. Improvisation is an act of deciding how to do something while in the process of doing it; while planning is a process of thinking about a solution to a problem, organising ahead of time how it may be achieved. Planning is future-oriented while improvisation is present-oriented. From Wood's (2007) study, innovative organisations have learned to create and implement new strategies based on their products or services.

Wood (2007) explained the five (5) leadership steps that support repeated success. The following rules correspond to one of the steps in the process found in innovative companies (see Table 3.1).

Step 1. Recognise the crisis and the need for radical transformation: This step allows managers to recognise present or upcoming challenges or crises confronting the organisation. Managers help other members of the organisation to comprehend the problem, finding satisfactory solutions, while involving employees and stakeholders in the problem-solving.

Step 2. Initiating a widely shared and powerful goal: The goal should be appealing to all members of the organisation, who must be willing to share the objective. The benefit of the objective must not only be for the organisation, it must also be beneficial to society at large. This goal must be exciting yet realistic; attainable, if difficult to achieve.

Step 3. Beginning to innovate: At this stage, the innovation process begins, meaning putting plans into action. Actions must be motivated by powerful and challenging goals. The innovation process can follow a new and different way. While innovating, organisations may amend their culture, structure, strategy, plans, amongst other aspects, simply to afford the best outcome of their actions.

Step 4. Learning from initial innovation: Some innovation tends to succeed, while other efforts fail. The innovation that succeeds and works out for an organisation may be copied, and also improved upon. This allows the organisation to adapt to innovations that work for them.

Step 5. Encourage emergent strategy innovation routines: Innovation routines help the organisation to remain focused while carrying out their innovation processes, thereby allowing them to improve on the present process. This routine aids in the efficiency and effectiveness of the organisation.

Strategic innovation is said to be the developing of growth strategies, new products, services, or business models, that can change the present market situation for the better, generating useful new values for customers and the organisation (Louw and Venter, 2010)

New and challenging structures of the global business environment have been forcing organisations, including banks, to adopt innovative strategies to seek a better performance, thus sustaining their competitive advantage (Olawale and Garwe, 2010; Abdullah and Rosli, 2011).

Strategic innovation processes enable an organisation to focus beyond its established business territories, becoming involved in generating and establishing new ideas that will make the firm superior to competitors (Louw and Venter, 2010). Innovation has been internationally quoted as one of the key drivers of business success for companies suffering the delayed effect of the global financial crisis,

according to IQ Business. Innovation is especially relevant for small, medium, and micro-sized enterprises (SMMEs) in South Africa (Willie Krause, 2011). Given that approximately 80 per cent of the formal business sector in South Africa may be classified as SMMEs or micro enterprises, it is critical to the economic health of our country to identify processes such as open innovation to support these operations (Willie, 2011). Overall, strategic innovation can help SMMEs in the following ways:

- a. New business models that can lead to reorganisation of the entire business;
- b. Increased value for customers and the firm; and
- c. New markets.

Or a combination of all three.

### **Sources of strategic innovation for SMMEs**

There are several sources of innovation for the SMMEs sector. In the linear model of innovation, the traditionally recognised source is manufacturer innovation. Another important source is the end-user of the product (Reguia, 2014). Skibiński and Sipa (2015) argue that sources of innovation are often defined as an impulse leading to undertaking innovative activities. It is important to define the source of innovation because it determines the capacities the company must have in order to timely implement indispensable innovations and to achieve success in the market. According to the authors, the traditional categorisation of innovation source identifiers are: scientific research, invention-rationalization activities and outside technological know-how.

Skibiński and Sipa (2015) further suggest that sources of innovation can be classified into two such as the supply and demand side sources. They postulate that in the case of the supply-side sources, innovations are born as a result of direct scientific research and technology development. Also, in the case of demand-side sources, innovation is influenced by the needs and preferences of the customers, production and environmental protection.

Duda (2013) also identifies several sources of innovation including the needs of client, technological development or advancement. The author suggests that other sources of innovation in the SMMEs sector include recipients, suppliers, co-operators, business partners and competitors. Swaim (2010) also found that sources of innovation can be classified into two mainly internal and external sources.

According to Swaim (2010), the internal sources of innovation in an organisation include scientific research or the result of work carried out within the organisation, inventions and rationalisation project of employees. The external sources of innovation on the other hand include results of research conducted in universities and research and development units, licenses, technical know-how, factual transfer of technology, other companies, professional publications and shows and exhibitions.

Ramis Pujol and Droege (2011) posit that customers are another important source of innovation in an organisation. They are the core element of innovative thinking. The authors argue that customer knowledge and experience helps to shape new products and services and offer insights that fuel innovation. It was further suggested that an in-depth analysis of the customer trends, needs and expectations, provided the starting point for each innovation (Pujol and Droege, 2011). Customers are used as innovators to add value and increase the flexibility of the processes by creating a personal level through continuously involving them along the innovation process (Pine and Gilmore, 2011).

## **METHODOLOGY**

The data-collection method was both quantitative and qualitative. This is because all small businesses considered are registered with the Business incubator in Pietermaritzburg, KwaZulu-Natal Province of South Africa. Fifty-three (53) small businesses were registered at the time of data collection. All these organisations were considered, using the quantitative approach. The General Manager of the Business incubation was interviewed: the General Manager is the principal executive who deals with these small businesses directly, having adequate information about them. Based on the data collected, data analysis was conducted with the use of SPSS 27; interpretation, findings, recommendations, and conclusions were conducted, based on the outcome of the survey

### **Data analysis, interpretation and discussion**

Descriptive data here is depicted in the form of frequency distributions, bar graphs, and pie charts. A discussion of the data represented in the graphical and tabular representations is also included within the chapters.

In presenting the results, this section focuses on the characteristics of the small business owners within the sample and the validity assessments of the overall data derived from the survey. Subsequently, this section includes discussion of the meaning of strategy and innovation as derived from the survey, addresses the specific factors driving a firm's innovation, and then moves to expand on critical factors that affect business sustainability, particularly in relation to innovation. These factors are divided into two groups: external and internal factors so as to differentiate between what factors related to the business environment and what factors occur internally to the business operations. To this end, obstacles faced while innovating in small businesses are addressed substantively within this section.

**Table 3.1: Level of Education of business owners**

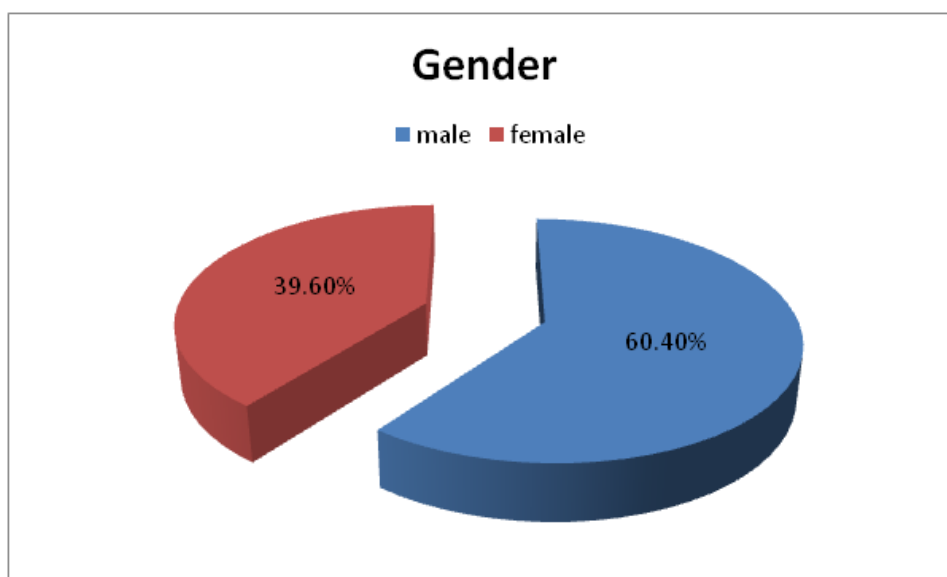
Level of education of business owners	No. of people	Percentage (%)
Below Matric	27	52%
Matric	13	24%
Diploma	6	11%
Bachelor's degree	4	7%
Honours degree	2	4%
Master's degree	1	2%
PhD	0	0
<b>Total</b>	<b>53</b>	<b>100</b>

According to (Rothaermel 2015), most policy analysts have noted entrepreneurship education as among the most important policy instrument for enhancing entrepreneurship or small businesses. The 2009 GEM report, as cited by (Rothaermel, 2015), concluded that entrepreneurship education is crucial in developing new entrepreneurs in the country. Such education has been poorly conceptualised. The educational policies implemented have an impact on business efficiency in the SMME sector.

It would be encouraging should higher institutions be offering entrepreneurship modules, training the upcoming or potential entrepreneurs on how they can make a success of their ventures. This point was also stated by (Isaacs, Visser et al., 2007), who observed that 60% of high schools do not offer entrepreneurship exposure to students, despite its being a learning outcome of the Economic and Management

Sciences' curriculum. Kabongo and Okpara (2010), as cited by Rothaermel (2015), who investigated entrepreneurship offerings in higher education institutions in sub-Saharan African Universities, noticed that most of the 58 universities investigated through an online assessment offer courses in small business management or entrepreneurship, but few offered a specialisation in entrepreneurship.

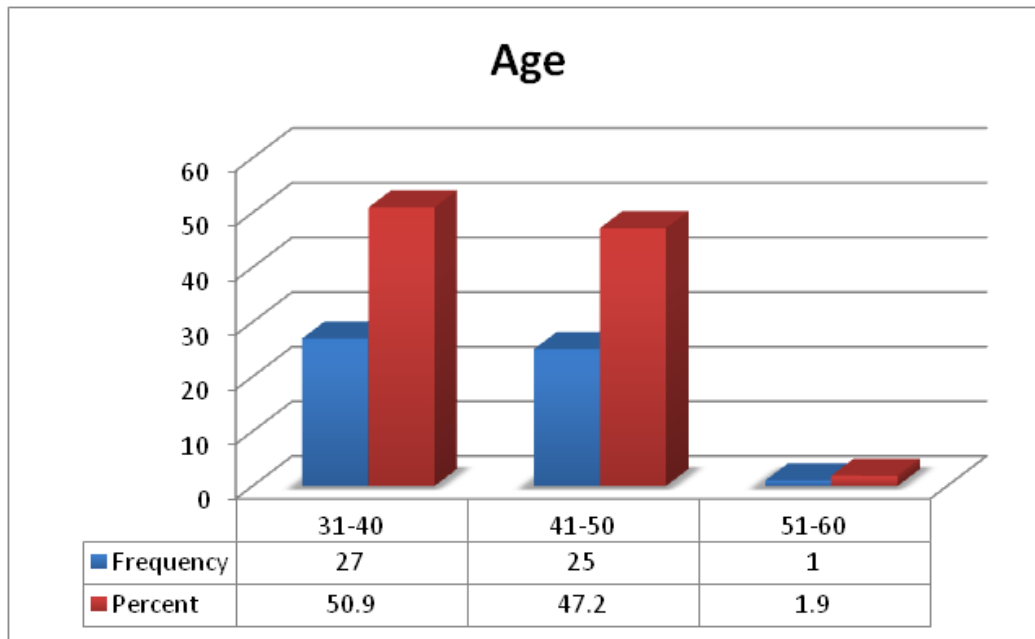
Education also plays a major role in building up potential entrepreneurs for starting up their businesses. Scholars therefore argue that it is advisable to start teaching small business management at higher institutions Soni (2014). Without education levels this high, the businesses in the sample do not have the benefits which are potentially gained through tertiary-level and sustained access business-related education.



**Figure 3.1: Gender**

### **Age**

From the survey results presented below, differentiating the age groups among the respondents, 50.9% fall into the age group 31- 40 years; 47.2% fall into the age group 41- 50 years; while 1.9% fell between the ages 51- 60 years.



**Figure 3.2: Age**

The bar chart above represents the respondents sampled in accordance with age. Age also plays a major role in small businesses because some work requires effort by younger aspiring business owners and other companies will do best under the management of an older person who has more business experience to apply to a small business (Saunders, et al., 2009; Sekaran and Bougie, 2009). What is evidenced by the results is that the bulk of businesses are owned by people in the heart of their working years and are not frequently run by older members of family or owners who have only begun their businesses after a long period within other employment. This speaks to the need for building expertise within businesses and raises concerns in regard to the long term experience of business owners in regard to addressing internal and external factors of business success through strategy and innovation.

The next section will be describing the validity and reliability assessment.

### **Validity Assessment**

For this research project, a reliability test of the scales within the questionnaire was conducted to ensure that there was sufficient inter-item consistency; also that the survey tool would reliably serve as a measure of the construct under study (Atiku, 2014). As a rule of thumb, for a set of questions within a survey tool to exhibit



consistency, they must yield a Cronbach's coefficient alpha value of at least 0.6 or 0.7 (Wu and Wang, 2005; Atiku 2014 Sekaran and Bougie, 2009).

Table 3.2 below shows the coefficient values of the various scales used in the questionnaire.

**Table 3.2: Reliability Test**

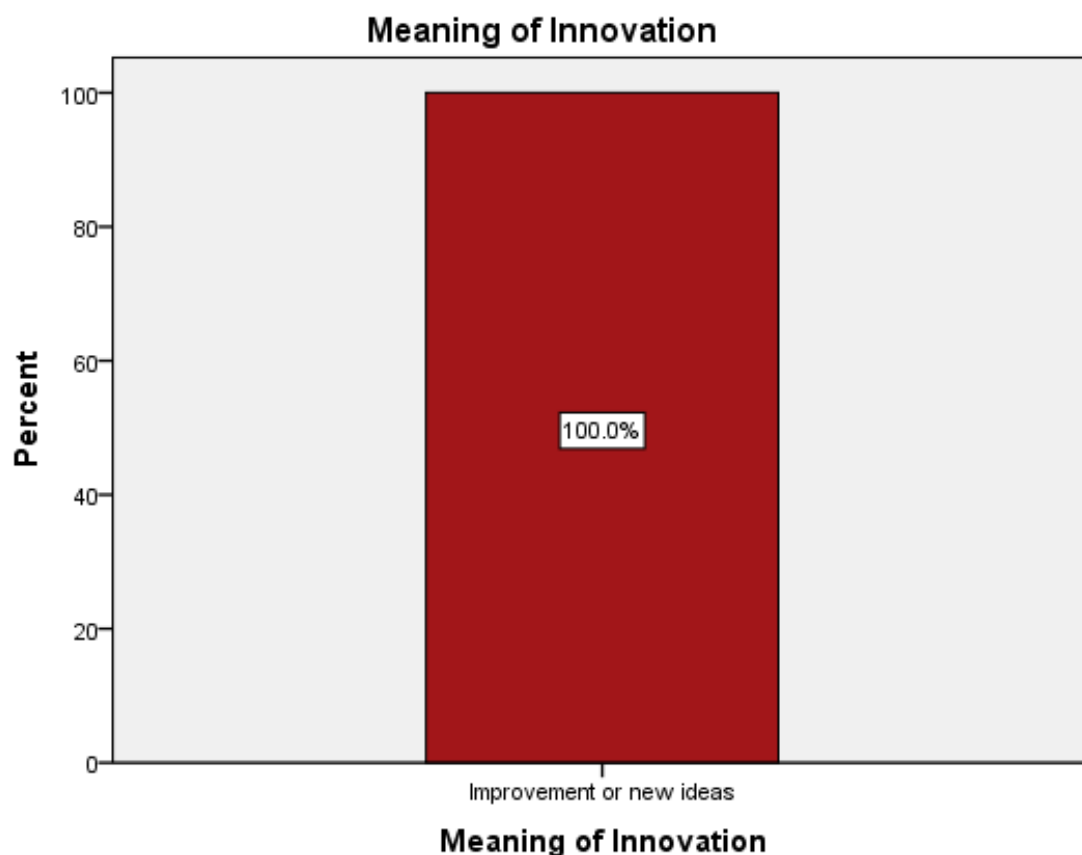
<b>Reliability Statistics</b>		
Construct	Cronbach's Alpha	Number of Items
Innovation Strategy (Q5, 24)	.706	4
Innovation Management (Q17)	.930	6
Innovation Result (Q15)	.919	9
Critical Action for Firm (13)	.815	6
Organisation's Innovative Position (12)	.856	6
Problem of Business Growth (6)	.858	9

As presented in Table 3.2, the Cronbach's alpha coefficient for the scale measuring innovation strategy yielded ( $r=0.706$ ). This is an acceptable internal consistency of the measurement instrument based on the rule of thumb proposed by (Pallant, 2011). Cronbach's alpha coefficient, in the case of an item being deleted (seek strategic partners, alliances or joint venture, process optimisation, expand to new markets overseas and others) was checked on the SPSS 27. Item 4 was found to be reducing the alpha coefficient. It was therefore deleted in order to produce a reliable measurement of innovation strategy. The researcher was left with four reliable items measuring innovation strategy. A six-item scale measuring innovation management yielded an excellent Cronbach's alpha coefficient of 0.930. The internal consistency of a nine-item scale measuring innovation results yielded 0.919. The critical action for small businesses registered with Business Support Centre, Pietermaritzburg, South Africa was measured in this study, the alpha coefficient yielding 0.815. This is also a reliable measurement of the construct (Pallant, 2011). Six items measuring organisational innovative position among small businesses in South Africa, produced a reliability coefficient of 0.856. Finally, the nine items measuring problems of business growth amongst small businesses in operating within the Republic of South Africa yielded a Cronbach's alpha of 0.858. Judging from the foregoing, one may

conclude that all measurement instruments used in this study are reliable, based on the results of the statistical analysis. Based on the above, the data presented in the following sections is considered valid.

### **Conceptualisation of innovation and business strategy by small businesses**

The following section outlines the ways in which small business representatives conceptualise innovation and business strategy. All respondents were able to give the accepted meaning of innovation as it is evident in the literature (Gronum et al., 2012). Business strategy is linked to innovation as strategies are plans of action and innovation basically means creating new ideas and implementing them as strategies (Ehlerd and Lazenby, 2008; Gronum et al., 2012). Respondents were also able to link innovation to their various businesses, giving examples of ways in which the small business can adopt innovation. From the bar chart below, it is evident that all respondents gave the same or a similar meaning of innovation and business strategy as 'improvement or new ideas' (Miller et al., 2021).



**Figure 3.3: Meaning of innovation**

All respondents showed that they knew what was meant by innovation from the way it was articulated to the researcher. This made it easier to explain to them the reasons for this research. According to (Kihangire and Katarikawe, 2008) innovation is defined as “The process of translating an idea or invention into a good or service that creates value or for which customers will pay”. From this definition above, most respondents expressed that innovation is the process of generating new ideas, turning them into value for which customers pay. Small businesses start up in order for their customers to pay for services or goods offered.

From the feedback given by all respondents, the meaning of innovation was explained in detail. The success of every organisation, small or large depends on its strategic innovation. Halim, Ahmad, Ramayah and Hanifah (2014) suggest that the term “innovation” is becoming very pervasive and every government across the globe has embarked on numerous approaches to promote innovation. According to Halim *et al.* (2014) SMMEs need to enhance their innovative capabilities in the emerging markets. They argue that strategic innovation is crucial for the survival of business organizations, government agencies and institutions. Therefore, in order for SMMEs to compete and sustain locally and globally, they should have the structures and processes to allow smooth innovation to prosper. Based on literature and response from the respondents, the researcher also concluded that innovation is key to small businesses.

### **Meaning of business strategy**

Ehlers and Lazenby (2008) defined strategy as “an effort or deliberate action that an organisation implements to perform more than its rivals or competitors”. Organisations must satisfy the various stakeholders in order to have a competitive advantage over their competitors. This may be by adding value, in other words, adding some unique characteristics to the product or services which rivals cannot imitate. Such an effect may be achieved by the introduction of strategic management (Ehlers and Lazenby, 2008). Johnson, Scholes and Whittington (2008) defined strategy as “the direction and scope of an organisation over the long term, which achieves advantage in a changing environment through its configuration of resources and competences with the aim of fulfilling stakeholder expectations”.

Most respondents gave the same or close definition of business strategy. From their understanding, business strategies are “plans of action”. These plans must be activated by being put into practise. Innovation and business strategy must be understood in order to be activated, generating a competitive advantage (Johnson, Scholes et al., 2008). These simple understandings of strategy nevertheless align with the basic premise of the definitions of strategy as defined by the authors above.

Based on the definition of strategy by Dobni (2010), strategy and innovation are not related, so it is important not to confuse the two. Strategy and innovation can work hand in hand, but they are not the same. Dobni (2010) opines that the tenets of strategy still remain unchanged and are based upon management systems that are underwritten by adherence to goals and objectives, and a connection to a mission and vision.

### **Obstacles faced in innovating**

These obstacles highlighted below spans through internal and external factors. These are basically problems that organisations do face while innovation.

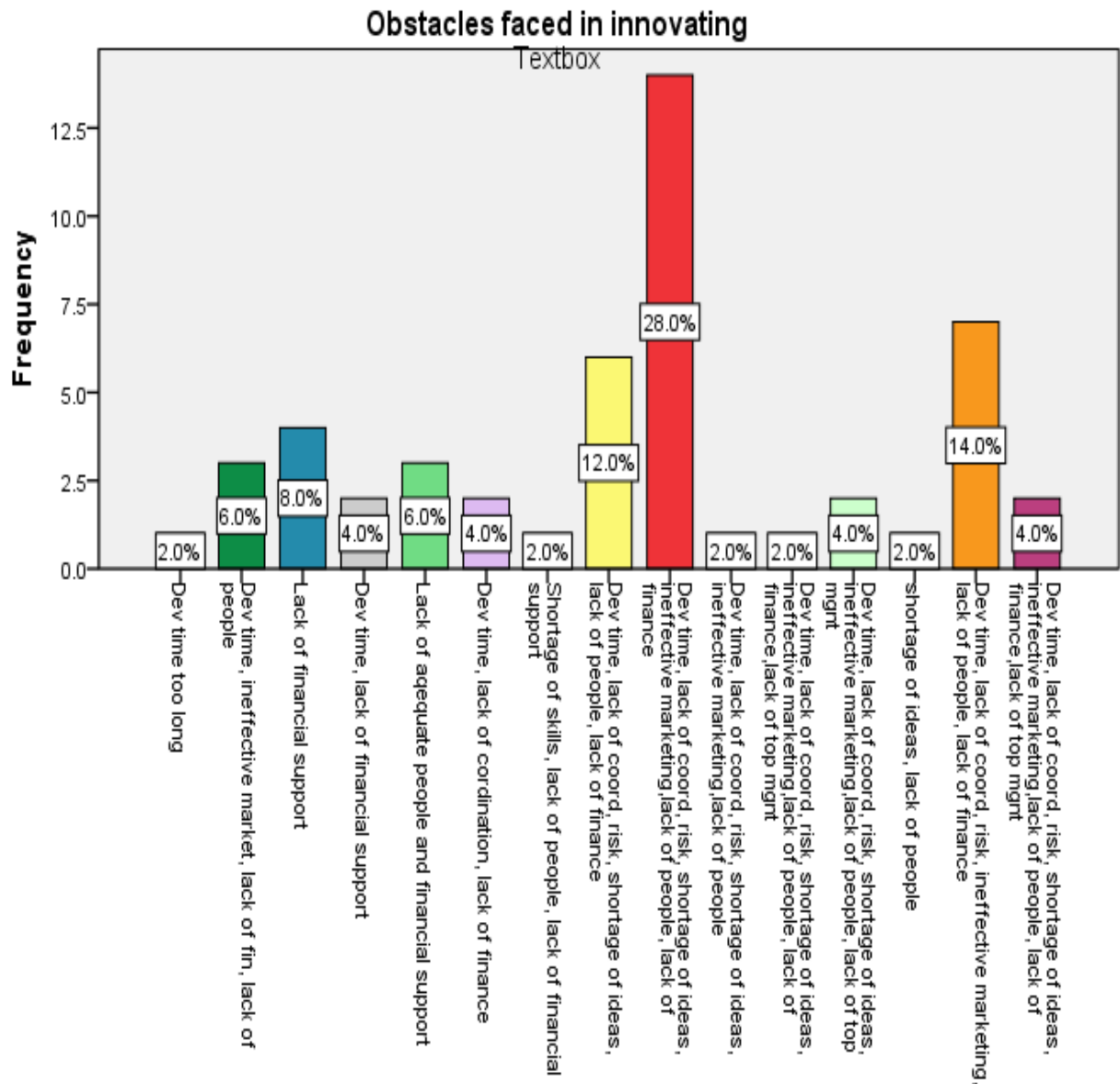
The distribution of respondents based on the bar chart below sets out the various challenges facing small businesses in the process of innovation. Based on the bar chart below, 2% of respondents agreed that the development time is too long for the innovation process; 6% agreed that the development time is too long, there is ineffective marketing and communication, a lack of financial support, and lack of capable people to ameliorate major challenges in the innovation processes; 8% agreed on lack of financial support only; 4% concluded that the development time is too long, and there is lack of financial support. A study by Mustafa and Yaakub (2018) also alluded to the above type of result.

A total of 6% of respondents agreed that a lack of adequate staff members as well as a lack of financial support were serious impediments. Of the respondents, 4% agreed that development time, lack of coordination and lack of financial support made up the largest stumbling blocks to success. A shortage of good ideas or skills, a lack of capable people to execute ideas and a lack of financial support were cited by 2% of respondents as features difficult to overcome. Of the entire group questioned, 12% agreed that development time and a lack of coordination, risk-averse culture, shortage of good ideas, lack of capable people to execute such ideas,

and lack of finance were acute impediments to success. Finally, 28% of respondents concluded that development time was too protracted. A lack of coordination, risk-averse culture, a shortage of great ideas, ineffective marketing, lack of capable people to execute and lack of finance were also seriously inhibiting aspects (Chandra et al., 2020).

A total of 2% of respondents agreed that development time was too protracted, and a lack of coordination, risk-averse culture, shortage of good ideas, ineffective marketing, and lack of capable people to execute ideas, were also negative aspects. Of the respondents, 2% agreed that development time was too protracted and a lack of coordination, risk-adverse culture, shortage of great ideas, ineffective marketing, lack of capable people to execute, lack of finance and lack of top management support were all negative factors. Finally, 4% of respondents concluded that the development time was too protracted, there was a lack of coordination, a risk-averse culture, shortage of great ideas, ineffective marketing, lack of capable people to execute ideas, and lack of top management support.

Another 2% of respondents agreed that a shortage of ideas and a lack of capable people to execute them were serious problems. Furthermore, 14% of respondents concluded that the development time was too protracted, there was a lack of coordination, a risk-averse culture, ineffective marketing, a lack of capable people to execute ideas, and a lack of finance. Lastly, 4% of respondents agreed that the development time was too protracted, there was a lack of coordination, a risk-averse culture, a shortage of great ideas, ineffective marketing, a lack of capable people to execute ideas, a lack of finance, and a lack of top management support.



**Figure 3.4: Obstacles faced in innovating**

From the above chart (Figure 3.4), it is clear that obstacles are faced in innovating, at least 12% of respondents finding major challenges. The following factors were cited by 12% of respondents: development time was too protracted, there was a lack of coordination and management, a risk-averse culture, a shortage of great ideas, a lack of capable people to execute the innovation process, and a lack of financial support for executing the innovation process. All these factors explain the problems faced while innovating.

The combination of the following was selected by 28% of respondents, the highest percentage of the survey respondents. The issues combined were: a development

of innovations takes time, there is a lack of coordination and management of innovation. A risk-averse culture, a shortage of good ideas to execute the innovation plan, ineffective marketing and communication skills, a lack of capable or experienced people to execute the innovation plan. Also, there was a lack of or inadequate finances to set the innovation plan in motion. Respondents agreed that the combination of the above obstacles were the main contributing factors to the problems faced by small businesses (Álvarez Jaramillo, Zartha Sossa et al., 2019).

The last combination was selected by 14% of respondents, as follows: the development time for the innovation process is too protracted, there is a lack of coordination and management of innovation ideas, a risk-averse culture, ineffective marketing or communication, a lack of capable people to execute the innovation process or idea, and lack of or inadequate financial support for executing the innovation ideas.

Based on the response from the General Manager of Business Incubation, the government is one major external challenge that small businesses continue to face. She further stated that the government does need to build the foundation of small businesses/entrepreneurs. The state also needs to set the precedent for small businesses, giving tenders to upcoming people or organisations.

It is evident that internal factors are the factors that the organisation can control on their own. And these factors are meant to be sorted out by these organisations.

## **CONCLUSION**

The elements of this research lead to the conclusion that small businesses truly need strategy and innovation to enhance their business prospects. Small businesses must seek out new ideas that offer the business a competitive advantage. From the outcome of this study, it was confirmed that small and medium businesses must become more aware of ways in which to implement strategy and innovation in augmenting the performance of their businesses. Furthermore, they need greater skills to be able to apply the combinations of strategic actions which they highlight as being most important and the best possible combinations of strategy and innovation. The ability to gather resources and skills to undertake these is viewed as critical since little implementation of strategy and innovation as desired and required by the small businesses can be implemented without these. In this regard, one option

would be for government or organisations wishing to help small businesses offering not only loans, but concomitant advice and monitoring. In this way there will be enhanced nurturing of small businesses through the implementation of strategic innovation, and providing them with the checks and balances necessary to see them reach full maturity and independence.

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# **The nonlinear dynamics of finance-growth in the era of macroprudential policy regime: investigation of the possible optimal level of finance required for growth in Africa's emerging economies**

Sifundo, N Dlamini<sup>1\*</sup>, Lindokuhle, T Zungu<sup>\*</sup>, Yoland, N Nkomo<sup>\*</sup> and  
Lorraine Greyling<sup>‡</sup>

\* Department of Economics, University of Zululand, South Africa.

‡ Dean: Faculty of Commerce, Administration and Law, University of Zululand, South Africa.

## **ABSTRACT**

A panel data analysis of nonlinear financial growth dynamics in a macroprudential policy regime was conducted on a panel of 15 African emerging countries from 1985–2021, where there had been a non-prudential regime from 1985–1999 and a prudential regime from 2000–2021. This paper explored the validity of the inverted U-shape hypothesis in the prudential policy regime as well as the threshold level at which excessive finance boosts growth using the Bayesian Spatial Lag Panel Smooth Transition Regression (BSPSTR) model. The BSPSTR model was adopted due to its ability to address the problems of endogeneity and heterogeneity in a nonlinear framework. Moreover, as the transition variable often varies across time and space, the effect of the independent variables can also be time- and space-varying. The results reveal evidence of a nonlinear effect between financial development and economic growth, where the optimal level of financial development is found to be 92% of GDP, above which financial development decreases growth in

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<sup>1</sup> Dlamini Sifundo Ntokozo is currently an honours student in the Department of Economics at the University of Zululand and a member of the Young Scholar Research Group (YSRG), developed by staff members in the economic department, which aims to guide postgraduate students in research modeling in the department of economics (Unizulu). Considering her effort and the current state of her honours research project, her project was selected for presentation at the Imbali International Conference in 2022. Her academic focus is macroeconomics. In 2020, Economic Research Southern Africa awarded her a diploma for meritorious accomplishments in Economics. She received her BCom (accounting and economics) degree from the University of Zululand in 2021.

these countries. The findings confirmed the Greenwood and Jovanovic hypothesis of an inverted U-shape relationship. Macroprudential policies were found to trigger the finance-growth relationship. The central policy recommendation is that the financial sector should be given adequate consideration and recognition by, for example, implementing appropriate financial reforms, developing a suitable investment portfolio, and maintaining spending on technological investment in Africa's emerging countries below the threshold. Again, caution is needed when introducing macroprudential policies at a low level of the financial system.

**Keywords:** African emerging markets; BSPSTR; economic growth; financial development; macroprudential policy; unconventional monetary policy

## INTRODUCTION

The relationship between financial development and economic growth has been a major subject for many researchers over the past few decades. Financial development has been recognized as a key driver of growth. To date, there have been controversies in both theoretical predictions and the empirical literature in identifying the role played by financial development in economic growth. The literature on this subject matter can be traced back to Schumpeter's (1912) hypothesis. Since then, this issue has been extensively studied by Goldsmith (1969), McKinnon (1973), Shaw (1973), and others, who have produced considerable evidence of correlation between the two variable. After 5 decades, Greenwood and Jovanovic (1990), posited that the nature of financial growth is nonlinear and is characterised by an Inverted U-shape.

Following the advice of both theoretical predictions and empirical literature, African countries have responded by implementing significant changes in financial systems in an attempt to transition the sector from a state-owned to a market-oriented system, allowing the financial sector to carry out its fundamental mandate of financial intermediation more efficiently. The fundamental purpose of these reforms was to widen financial development in order to mobilize more finance, initiatives, and resources with a greater chance of success, thereby promoting growth and reducing inequality. However, in the case of African countries, these financial advancements result in slow growth as well as a high level of poverty and inequality. In light of the above statement, it seems like African countries are failing to achieve high growth and

distribution income. As a result, more studies that shed light on the financial-growth relationship, are needed on these subjects.

The existing literature on this subject matter has brought forth contradictory views on whether financial development has a direct or indirect impact on growth, and the extant literature is massive and contains many conflicting results. Some studies discovered the GJ Inverted the U-shape (Swamy and Dharani, 2019; Abu-Lila *et al.*, 2021; Machado *et al.*, 2021), while others discovered a U-shape in the data (Bahri *et al.*, 2018; Bandura and Dzingirai, 2019). Some others found the Schumpeter hypothesis to be correct (Goldsmith, 1969; Oro and Alagidede, 2018; Jobarteh and Kaya, 2019; Elijah and Hamza, 2019; Abeka *et al.*, 2021), and furthermore others found conclusive results (Erkisi, 2018). The inconsistency in these results may be attributable to, but not limited to, the different model specifications, data sets, and estimations used in assessing the subject matter.

The current study builds on the work documents by Zungu (2022), who developed a panel smooth transition regression (PSTR) in a panel of 10 African emerging countries over the period 1993–2020. The main argument in Zungu's (2022) study was to examine the nonlinear dynamics of the financial–growth relationship by distinguishing the macroprudential policy regime from the non-macroprudential policy regime. His results documented evidence of a nonlinear relationship between the two variable, where their findings confirmed a U-shape relationship that is accompanied by 60.5% of GDP as a minimum level of financial development, above which growth is increased in these countries. In his analysis, he used the log of GDP per capita at a constant price to capture economic growth, alongside domestic credit to the private sector as a share of GDP to capture financial development. To expand the financial growth relationship, the author included financial-institution targeted instruments, inflation, investment, trade openness, and government expenditure as control variables. However, the study by Zungu (2022) only provided the minimum level of finance that is required to improve growth in African countries, which then poses some concerns about what optimal level of finance is required in these countries to sustain growth, considering the current state of financial reform, which is in fact failing to improve growth.



It is because of these ambiguous and frequently contradictory viewpoints that this study strives to expand the literature by determining the optimal point of financial development that is required in African emerging countries to sustain high growth, which most prior studies have ignored. This will provide new evidence in emerging African literature. We adopted similar African emerging countries used by Zungu (2022) and further constructed a balanced panel of ten African economies covering the period 1985–2021.

This current study proposes to clarify the ongoing debate by analysing how much finance is required to improve growth in African emerging economies using a Bayesian panel smooth transition model with spatial correlation. The PSTR is not a new model in the African context. However, in this study, we aim to extend the PSTR to include a Bayesian case with spatial correlation. We further seek to extend the work by Zungu (2022) in the African finance–growth model by incorporating more macroprudential policies into the argument, which were not included in his study. Following the literature on macroprudential policies, we believe they have an indirect or direct impact on the financial-growth relationship. Moreover, the relevance of the adopted model is that it combines the advantages of both the smooth transition model and the spatial econometric model and can be used to deal with panel data with a wide range of heterogeneity and cross-section correlation simultaneously. Then the Bayesian method will have the advantage of completely utilising priori and posteriori information, resulting in improved estimation accuracy and resilience. Considering the model, the group of countries being studied, and the variables adopted in the model, we believe that this will provide new insight into the emerging literature. Finally, the rationale for this research did not emanate from a lack of studies examining the nonlinear effect of financial development on growth in African countries, but rather from the fact that this relationship may differ from the one found in the literature due to differences in smoothness and the macroeconomic variables used, and furthermore, because the study by Zungu (2022) provides the minimum point above which finance can improve growth.

The remaining portion of the paper is organized as follows: Section 2 briefly surveys the related literature. Section 3 presents an overview of the model. Section 4 discusses the results of the SLPSTR models. Section 5 provides concluding remarks and discusses policy implications.

## **THEORETICAL FRAMEWORK**

### **Theoretical channels of financial development and economic growth**

The literature on the relationship between finance and growth has produced numerous channels. The central theoretical debate is still dominated by four hypotheses: the Schumpeter hypothesis (Schumpeter, 1934), the "supply-leading" and "demand-following" hypothesis, Patrick (1966) and Romer's (1986) endogenous growth theory, and Greenwood and Jovanovic's (1990) non-monotonic relationship tracing its roots back to Schumpeter's (1934) hypothesis, emphasising the importance of financial institutions in supporting productive investments and stimulating innovation, and later renamed the "more finance, more growth" theory by King and Levine (1993), wherein finance plays a minor role in economic growth. According to this school of thought, finance is merely a byproduct or outcome of growth. Later, King and Levine (1993) developed the "supply-leading" theory, which contends that financial development is a necessary precondition for economic growth; thus finance leads to growth and causation flows from financial development to economic growth. According to its supporters, the number and composition of financial development factors directly increase savings in the form of financial assets, resulting in capital creation and thus economic growth. According to their supporters, the quantity and composition of financial development variables influence growth by directly increasing savings in the form of financial assets, which then leads to capital creation and thus economic expansion. Romer's (1986) theoretical works contributed to the development of the endogenous growth theory by arguing that the financial sector can help boost growth by mobilising savings, allocating resources efficiently, monitoring costs, diversifying risks, and facilitating the exchange of goods and services. Based on Greenwood and Jovanovic's (1990) monotonic relationship, the non-monotonic relationship between financial development and growth proposes that endogenously emerging financial institutions generally have a positive effect on growth, though the magnitude varies with the level of economic development; that is, as financial development increases, economic growth may also increase before a certain level of financial development is reached.

### **Empirical literature**

As the study aims to incorporate these policies (macroprudential and unconventional policies) into the system, this section will provide a brief discussion on financial growth relationships as well as the impact of macroprudential and unconventional policies on economic growth.

### **Impact of financial development on economic growth**

There is diverse empirical literature on the relationship between these two variables. In regards to our case, it can be argued that some authors discovered nonlinearity, claiming that the relationship develops in the form of an inverted U-shape according to Greenwood and Jovanovic (1990) and others (Samargandi *et al.*, 2015; Oro and Alagidede, 2018; Swamy and Dharani, 2019; Abu-Lila *et al.*, 2021; Machado *et al.*, 2021), whereas different authors support the U-shape theory (Bahri *et al.*, 2018; Bandura and Dzingirai, 2019; Jinqi, 2020; Zungu, 2022). Others follow the Schumpeter hypothesis (Goldsmith, 1969; King and Levine, 1993; Arcand *et al.*, 2012; Puatwoe and Piabuo, 2017; Bist, 2018; Oro and Alagidede, 2018; Jobarteh and Kaya, 2019; Elijah and Hamza, 2019; Abeka *et al.*, 2021), while others found conclusive results (Erkisi, 2018).

Giving further background, Khan and Senhadji (2000) studied the impact of financial development on economic growth in a panel of 159 countries (both industrial and developing), covering the period from 1960 to 1999. Their findings revealed a positive relationship between the two variables. However, their results contradict the findings reported by Gouider and Trabelsi (2006) in a panel of 66 countries over the period 1960–1999 using a dynamic panel technique. Their findings confirmed a negative relationship in developed countries, while it was found insignificant in developing countries. The study by Arcand *et al.* (2012), which included 16 countries over the period 1960–1990, revealed that finance begins to have a negative effect on output growth when credit to the private sector reaches 100 percent of GDP. Three years later, this argument was taken further by Mohamed *et al.* (2015), in the case of Indonesia using autoregressive distributed lag model (ARDL) analysis, over the period 1980–2013. GDP per capita was used to capture economic growth, while domestic credit to the private sector was used to measure financial development as an independent variable. Their findings contradict those studies that documented a negative relationship in this subject matter such as Gouider and Trabelsi (2006) and

Arcand *et al.* (2012). They are, however, in line with the study by Khan and Senhadji (2000). The findings by Gouider and Trabelsi (2006), Arcand *et al.* (2012), and Mohamed *et al.* (2015) contradict the findings documented by Samargandi *et al.* (2015) in a panel of 52 middle-income countries over the period of 1980-2008 using pooled mean group estimations. Their empirical results confirmed the existence of the Inverted U-shaped relationship between finance and growth. The positive relationship between the two variables was further confirmed by Puatwoe and Paibuo (2017) in the case of Cameroon over the time span from 1980–2014 using the ARDL model.

The finding by Samargandi *et al.* (2015) of the non-monotonic effect was confirmed by Bahri *et al.* (2018) in a panel of 65 developing countries for the period from 2007-2015, using a generalized method of moment (GMM). However, apart from confirming the nonlinearity, these two studies present contradictions in finding the nature of the finance growth relationship, as Samargandi *et al.* (2015) documented the Inverted U-shape, while Bahri *et al.* (2018) documented the U-shaped relationship. The study by Bahri *et al.* (2018) utilizes GDP per capita to capture economic growth, while financial development was captured through the use of three indicators, namely domestic credit to the private sector, liquid liabilities, and private credit to deposit money. In the same year Faathih and Mansur (2018) examined the same subject matter in Bangladesh, using non-linear autoregressive distributed lag covering the period 1972–2016. Their findings supported the argument behind the positive relationship, contradicting those studies that documented nonlinearity (Samargandi *et al.*, 2015; Bahri *et al.*, 2018) as well as those studies that presented a negative relationship (Gouider and Trabelsi, 2006; Arcand *et al.*, 2012). A contradiction emerged from Ibrahim and Alagidede's (2018) study, which documented the existence of nonlinearity between the two variables in sub-Saharan Africa over the period 1980-2014, using a threshold estimation technique. In their model, private and domestic credits were used to capture financial development, while real GDP per capita was used for economic growth. Their findings confirmed the findings documented by Samargandi *et al.* (2015) while contradicting those documenting both a positive (Khan and Senhadji, 2000; Gouider and Trabelsi, 2006; Mohamed *et al.*, 2015) and negative relationship (Gouider and Trabelsi, 2006; Arcand *et al.*, 2012). These inconclusive results were documented by Eriksi (2018)

in a case of BRICS countries and Turkey using the PMG estimator and the Dumitrescu Hurlin Panel Causality Test covering the 1996–2016. In their study, they documented that it is not certain if financial growth is a determinant of economic growth for selected variables, which furthermore contradicts all studies finding a relationship between the two variables. The nonlinearity theory was taken further by Swamy and Dharaniv (2019), who attempted to analyse the dynamics of the finance-growth nexus in a panel of 24 advanced economies covering the period 1983-2013. Their findings contradict studies that follow negative (Arcand *et al.*, 2012), positive (Mohamed *et al.*, 2015), and inconclusive (Ibrahim and Alagidede, 2018) relationships, as well as those that believe in nonlinearity, but nonetheless claim that the relationship is characterized by a U-shape (Bahri *et al.*, 2018), supporting the argument behind the inverted U-shaped relationship.

Bandura and Dzingirai (2019) utilized the GMM method to examine the subject matter in 27 Sub-Saharan African countries over the period 1982–2016. Their findings supported the argument behind the U-shaped relationship between two variables, which is in line with the studies by Bandura and Dzingirai (2019), Jinqi (2020), and Zungu (2022), while contradicting studies such as Swamy and Dharani (2019), Abu-Lila *et al.* (2021), and Machado *et al.* (2021). The argument was taken further by Mahmoud *et al.* (2019) for Egypt, and by Jobarteh and Kaya (2019) for other African countries. These studies arrived at the same conclusion that supports the "more finance, more growth" hypothesis.

Recent literature on this subject still emerges with contradicting results, as in the study by Jinqi (2020), who explores the same subject matter in the case of China covering the period 1989-2017 using a dynamic threshold model, which confirmed the threshold effect between the two variables. However, their relationship was found to be insignificant in the high region of financial development, while the study by Abu-Lila *et al.* (2021), who investigated the nonlinearity between financial development and the shadow economy in the Jordanian situation during the period 1990–1999 using the cointegration test, found a long-term inverted U-shaped relationship between the shadow economy and financial development. Abeka *et al.* (2021) examined the financial development and economic growth nexus in a panel of 44 sub-Saharan African countries from 1996-2017 using the GMM technique. Their results show a telecommunication infrastructure enhances the effect of financial

development on the economic growth of Sub-Saharan African economies. Lastly, a recent study by Zungu (2022), who studied the nonlinear dynamics of the financial-growth nexus in African emerging economies, covered the time span of 1983–2020 using a panel smooth transition regression model. Their study shows evidence of a nonlinear effect between financial development and economic growth; finding that the variables are characterized by a U-shaped relationship with the minimum level of finance found to be 60.5% of GDP.

### **Effects of macroprudential policy on economic growth**

The existing literature on the effects of a macroprudential policy on economic growth shows evidence for both negative (Boar *et al.*, 2017; Kim and Mehrotra, 2017; Belkhir *et al.*, 2022) and positive (Andries and Melnic, 2019) effects.

Boar *et al.* (2017) investigated the effects of macroprudential policy on macroeconomic performance in a panel of 64 advanced and emerging economies using the GMM. Their findings show that non-systematic macroprudential interventions tend to be detrimental to growth. Their findings were in line with the study by Kim and Mehrotra (2017) in the case of the Asia-Pacific region, using the structural panel vector autoregressions. The results show that tighter macroprudential policies used to contain credit growth have also had a significant negative impact on macroeconomic aggregates such as real GDP and price levels. The studies by Boar *et al.* (2017) and Kim and Mehrotra (2017) were supported by Belkhir *et al.* (2022), who studied the impact of macroprudential policies on economic growth during the banking crises in a panel of 134 countries, covering the time span 2000–2017, using the Early Warning System model. The contradiction emerged from the study documented by Andries and Melnic (2019). In this case, they studied the same subject in a panel of 61 countries over the period 2000–2015 using the System-GMM. Their results support the argument that macroprudential policies have beneficial effects on economic growth. In a nutshell, their findings show that macroprudential policies, adopted to strengthen the resilience of the financial system and decrease the buildup of systemic risks, contribute to economic growth by assuring a stable financial system and therefore, a healthier financial-macroeconomic relationship.

## **Effects of unconventional monetary policy on economic growth**

For several decades, central banks in advanced economies used policy interest rates as a tool for conducting monetary policy. In response to the global financial crisis of 2007–2009 and the deep recession it caused in some parts of the world, central banks in many advanced economies cut policy interest rates to near-zero levels. As economic growth remained poor, interest rates remained near zero and some central banks used "unconventional" monetary policy to stimulate economic activity. The literature on this subject matter argues that unconventional monetary policies positively contributed to growth (Lombardi *et al.*, 2018; Inoue and Rossi, 2018), but there are also studies which argue that these policies are growth hindering (Tatiana, 2013). Lombardi *et al.* (2018) conducted a survey of the international evidence and lessons learned about unconventional monetary policy. The findings confirmed that UMP can prevent economic collapse, but is not designed to promote stronger long-term economic growth. Similar results were reported by Inoue and Rossi (2018). Their results show that an overall, unconventional monetary policy has similar effects to a conventional expansionary monetary policy, leading to an increase in both output growth and inflation; the response is hump-shaped, peaking around one year to one and a half years after the shock. The new procedure has the advantage of identifying monetary policy shocks in a unified manner during both conventional and unconventional monetary policy periods and can be applied more generally to other economic shocks, while on the other hand, Tatiana (2013) claims that these policies are growth-hindering in developing economies.

## **METHODOLOGY AND DATA**

This study adopted data covering the period from 1983-2021. However, as the study aimed to investigate the impact of financial development on economic growth in a prudential-policy regime in emerging markets, both a non-prudential policy regime (1983-1999) and a prudential policy regime (2000–2020) were adopted. In this study, domestic credit to the private sector as a share of GDP was used as a proxy for financial development (FD) and GDP per capita in constant prices (US\$) as a proxy for economic growth (ECNO). We then controlled for equity index (ICEIUN), government expenditure (GEF), inflation (INFL), Foreign Exchange (FX) and/or countercyclical reserve requirements (FCRRM), a macroprudential index (0–12) (MI-

12), capital-related (CRIM), borrower-related (BRIM), portfolio composition channels through house prices (PCHPUN), investments (INVE), trade openness (TRD), and Tourism Development (TOD). In our model, we adopted borrower-related and capital instruments, where the borrower-related instrument is calculated by summing the loan-to-value ratio with the debt-to-income ratio, while for capital instruments we used the general counter-cyclical capital buffer requirement (GCBRM). The aim was to capture the impact of these instruments on economic growth in African countries. Based on the argument of production, investment is included because increased capital investment requires some goods to be produced that are not immediately consumed, but instead are used to produce other goods, such as capital goods that lead to an increase in economic growth. Lastly, housing prices were adopted for two reasons: (1) the existing literature studied the impact of housing prices on income inequality, documenting that increasing housing prices resulted in a housing affordability crisis in various countries, and (2) housing prices increased homeowners' wealth at the same time.

For the robustness model, we adopted the claims on private sectors by financial intermediaries to capture financial development so as to measure financial development. The variables were extracted from WDI data (WDI, 2021) and Cerutti data (Cerutti *et al.*, 2017).

### **Spacial Lag Panel Smooth Transition Regression Model**

To evaluate the development-inequality relationship, the SPSTR model, which is an extension of the PSTR developed by González *et al.* (2017), was used. The SPSTR model developed in this paper was formulated as follows:

$$ECON_{it} = \rho(WK)_{it} + \beta_0 X'_{it} + \beta_1 X'_{it} g(q_{it}; \gamma, c) + \beta_2 A_{it} + \mu_i + \varepsilon_{it} \quad [2]$$

$$i = 1, \dots, N, \text{ and } t = 1, \dots, T$$

where subscript  $i, t$  indicates a  $i$  –  $th$  cross-section and  $i$  –  $th$  period respectively,  $Growth_{it}$  is a dependent variable,  $K = (k_{11}, k_{21}, \dots, k_{N1}, k_{12}, \dots, k_{NT})'$  is a  $NT \times 1$  vector of dependent variables and  $W$  is a  $NT \times NT$  spatial weight matrix,  $A_{it}$  is a  $k \times 1$  vector



of independent variables (FD, FCRRM, GCBRM, CRIM, BRIM, ICEIUN, PCHPUN, INFL, TRD, GEF, INVE, TOD), and  $\beta_0, \beta_1, \beta_2$  are  $k \times 1$  vectors of coefficients, whereas  $\mu_i$  represents the individual fixed effects, and the random errors term is denoted by  $\varepsilon_{it}$ . Following Granger and Teräsvirta (1993) and González *et al.* (2017):

$$\varepsilon_{it} \sim N(0, \sigma^2), g(q_{it}; \gamma, c) = \left( 1 + \exp \left( -\gamma \prod_{j=1}^m (q_{it} - c_j) \right) \right)^{-1} \quad [3]$$

is the transition function and, evidently, we have  $0 < g(q_{it}; \gamma, c) < 1$  where  $c_j = (c_1, \dots, c_m)'$ ,  $e = (1, 1, \dots, 1)'$  is the  $m \times 1$  vector of location parameters and  $\gamma > 0$  is the scale parameter. Without loss of generality, we set  $m = 1$  to simplify mathematical deduction. Given  $i$ , the SLPSTR model can also be written as:

$$Y_i = \rho(WK)_i + \beta_0 X'_i + \beta_1 G_i X'_i + \mu_i e + \varepsilon_i \quad [4]$$

where  $Y_i = (y_{i1}, y_{i2}, \dots, y_{iT})$ ,  $e = (1, 1, \dots, 1)'$  is a  $T \times 1$  vector with all elements valued at 1,  $X_i = (x_{i1}, x_{i2}, \dots, x_{iT})$ ,  $G_i = \text{diag}(g(q_{i1}; \gamma, c), \dots, g(q_{iT}; \gamma, c))$ , and  $\varepsilon_i = (\varepsilon_{i1}, \varepsilon_{i2}, \dots, \varepsilon_{iT})'$ . Assuming that  $Y = (Y'_1, Y'_2, \dots, Y'_N)'$ ,  $X = (X_1, X_2, \dots, X_N)'$ , and  $E = (E'_1, E'_2, \dots, E'_N)'$ , where  $E_i = (0, e, 0)$  is the  $T \times N$  matrix in which the elements of the  $i$ -th column are 1 and other elements are 0,  $G_i = \text{diag}(G_1, G_2, \dots, G_N)$ ,  $Z = (E : X : GX)$ ,  $\theta = (\mu_1, \mu_2, \dots, \mu_N, \beta'_0, \beta'_1)'$ , and  $\varepsilon = (\varepsilon'_1, \varepsilon'_2, \dots, \varepsilon'_N)'$ , then the two regimes SLPSTR model can be simplified as:

$$Y = \rho WK + Z\theta + \varepsilon, \varepsilon \sim N(0, \sigma^2 I) \quad [5]$$

Now we will discuss the Bayesian estimation method for model [5] in the following section.

## Building a Bayesian estimation for the PSTR model

We first build the Bayesian analysis framework of model [3] before giving a specific estimation step. Given  $(\gamma, c)$ , let  $A = (I - \rho W)$ , then the likelihood function of model [5] is

$$L(Y|\Theta, \gamma, c, \sigma^2) \propto \sigma^{-NT} |A| \exp \left\{ -\frac{1}{2\sigma^2} (AY - Z\Theta)' (AY - Z\Theta) \right\} \quad [6]$$

The prior distribution of parameter  $\rho$  is usually assumed to be a uniform distribution with probability density function  $\pi(\rho) = \frac{1}{\lambda_{max}^{-1} - \lambda_{min}^{-1}}$ , where  $\lambda_{max}, \lambda_{min}$  are the maximum and minimum eigenvalues of a spatial weight matrix  $W$ , respectively, which indicates the  $\rho \sim (\lambda_{min}^{-1}, \lambda_{max}^{-1})$ . Prior distribution of parameter  $\theta$  is set to be multiple normal distribution  $N(\mu_0, \Sigma_0)$ , where  $\mu_0$  and  $\Sigma_0$  are the prior expectation and covariance. We also assume the prior distribution of parameter  $\sigma^2$  as inverse gamma distribution  $IG(\mu_0, \Sigma_0)$ , and set prior  $\gamma$  and  $c$  as gamma distribution and normal distribution; that is  $\gamma \sim G(a, b), (c \sim N(\mu_c, \Sigma_c))$ . Combining all the priors with likelihood functions, we can obtain the joint distribution of all variables as follows:

$$P(Y, \rho, \Theta, \gamma, c, \sigma^2) = L(Y|\rho, \Theta, \gamma, c, \sigma^2) \cdot \pi(\rho) \cdot \pi(\Theta) \cdot \pi(\gamma) \cdot \pi(c) \cdot \pi(\sigma^2) \quad [7]$$

where  $\pi(\cdot)$  denotes the prior probability density function of each parameter. According to Bayesian theorem, the joint posterior distribution of all parameters is given by

$$P(\rho, \Theta, \gamma, c, \sigma^2) \triangleq P(\rho, \Theta, \gamma, c, \sigma^2 | Y) \quad [8]$$

On the basis of joint distribution and joint posterior distribution, we can get the conditional posterior distribution of each parameter as follows:

$$P(\Theta|\rho, \gamma, c, \sigma^2) \propto N(\mu, \Sigma) \quad [9]$$

where  $\mu = (Z'Z + \sigma^2 \Sigma_0^{-1})^{-1} \mu = (Z'AY + \sigma^2 \Sigma_0^{-1} \mu_0)$ . It can be seen from equation [9] that the conditional posterior distribution of  $\Theta$  is multiple normal distributions when given other parameters. Similarly, the conditional posterior distributions of other parameters are as follows

$$P(\sigma^2 | \rho, \Theta, \gamma, c) \propto IG\left(\frac{NT}{2}\right) \propto, \frac{(AY - Z\Theta)'(AY - Z\Theta)}{2} + \beta) \quad [10]$$

$$P(\Theta | \rho, \gamma, c, \sigma^2)$$

$$\propto |A(\rho)| \exp\left\{-\frac{1}{2\sigma^2} (A(\rho)Y - Z\Theta)'(A(\rho)(Y - Z\Theta)) \cdot \frac{1}{\lambda_{max}^{-1} - \lambda_{min}^{-1}}\right\} \quad [11]$$

$$P(\gamma, c | \Theta, \rho, \sigma^2) \propto \exp\left\{-\frac{1}{2\sigma^2} (AY - Z\Theta)'((AY - Z\Theta)) \cdot \pi(\gamma) \cdot \pi(c)\right\} \quad [12]$$

where  $A(\rho) = (I - \rho W)$ . From the conditional posterior distributions of all parameters, we can see that the probability density functions of  $\gamma$ ,  $c$ , and  $\rho$  are more complex, and these parameters cannot be directly sampled. Therefore, we use the Metropolis-Hastings algorithm to deal with this problem. Assuming that the current value of  $\rho$  is  $\rho_t$  that meets  $P(\rho_t | \Theta, \gamma, c, \sigma^2) > 0$ , and the candidate value  $\rho^*$  is generated from the proposed distribution  $F(\rho^* | \rho_t) = f(\rho^* - \rho)$ , where  $f(\cdot)$  is the probability density function, and the transfer process is  $\rho^* = \rho_t + \lambda z$  where  $z \sim N(0, I)$ , and  $\lambda$  is a transfer parameter. Then the reception ratio of  $\rho^*$  is  $A_1(\rho^* | \rho_t) = \min\{1, R_1\}$ , where

$$R_1 = \frac{P(\rho^* | \Theta, \gamma, c, \sigma^2) F(\rho_t | \rho^*)}{P(\rho_t | \Theta, \gamma, c, \sigma^2) F(\rho^* | \rho_t)} \quad [13]$$

Similarly, assuming that the current values of  $(\gamma, c)$  are  $(\gamma_t, c_t)$ , and the candidate values  $(\gamma^*, c^*)$  are generated from the proposed distribution  $\gamma^* \sim N(\gamma_t, \sigma^2_\gamma)$  and  $c^* \sim N(c_t, \sigma^2_c I)$  respectively. Then the reception ratio of  $(\gamma^*, c^*)$  is  $A_2((\gamma^*, c^*) | \gamma_t, c_t) = \min\{1, R_2\}$ , where

$$R_2 = \frac{P((\gamma^*, c^* | \rho, \Theta, \sigma^2) f_\gamma(\gamma_t | \gamma^*, \sigma_y^2)) (f_c(c_t | c^*, \sigma_c^2))}{P((\gamma_t^*, c_t^* | \rho, \Theta, \sigma^2) f_\gamma(\gamma^* | \gamma_t, \sigma_y^2)) (f_c(c^* | c_t, \sigma_c^2))} \quad [14]$$

$f_\gamma(\gamma_t | \gamma^*, \sigma_y^2)$  represents the normal distribution-probability density function of  $\gamma_t$  with mathematical expectation  $\gamma^*$  and variance  $\sigma_y^2$ .  $f_c(c_t | c^*, \sigma_c^2)$  denoting the normal distribution probability density function of  $c_t$  with mathematical expectation  $c^*$  and variances  $\sigma_c^2$ .  $\sigma_c^2$  and  $\sigma_y^2$  being adjustment parameters.  $Z^*$  and  $Z_t$  indicate the value of  $Z$  at the corresponding times when the value of  $(\gamma, c)$  are  $(\gamma^*, c^*)$  and  $\gamma_t, c_t$  respectively.

Firstly we employ the Gibbs sampling method to generate parameters  $\theta$  and  $\sigma^2$  based on their conditional posterior distributions. Then we sample parameters  $\rho, \gamma$ , and  $c$  by using the Metropolis-Hastings algorithm. Specifically, the Bayesian estimation procedure of SLPSTR model is as follows.

- 1) Set the initial values of parameters  $(\rho, \theta, \gamma, c, \sigma^2)$  as  $(\rho_0, \theta_0, \gamma_0, c_0, \sigma_0^2)$ , let  $(\rho_t, \theta_t, \gamma_t, c_t, \sigma_t^2)$  be the results of  $t$ —th sampling;
- 2) Sample  $\theta_{t+1}$  from the conditional distribution  $P(\theta | \rho_t, \gamma_t, c_t, \sigma_t^2)$ ;
- 3) Sample  $\sigma_{t+1}^2$  from the conditional distribution  $P(\sigma^2 | \rho_t, \gamma_t, c_t, \theta_{t+1})$ ;
- 4) First generate a random number  $r$  from uniform distribution  $U(0,1)$ , and then generate  $(\rho^*, \gamma^*, c^*)$  from the following random process:  $\rho^* = \rho_t + \lambda z$ , the normal distribution  $N(\gamma_t, \sigma_y^2)$ , and the normal distribution  $N(c_t, \sigma_{c,I}^2)$ , respectively, based on which we obtain  $(\rho_{t+1}, \gamma_{t+1}, c_{t+1})$  defined as:

$$\rho_{t+1} = \begin{cases} \rho^*, & \text{if } r < A_1 = \min\{1, R_1\} \\ \rho_t, & \text{others} \end{cases} \quad [15]$$

$$\begin{aligned} &(\gamma_{t+1}, c_{t+1}) = \\ &\begin{cases} (\gamma^*, c^*), & \text{if } r < A_2 = \min\{1, R_2\} \\ (\gamma_t, c_t), & \text{others} \end{cases} \end{aligned} \quad [16]$$

- 5) Let  $t = t + 1$  and repeat step (ii)—(iv) until convergence.

The convergence criterion

$$\frac{\|\rho_t, \gamma_t, c_t, \sigma_t^2\|}{\|\rho_{t-1}, \theta_{t+1}, \gamma_{t-1}, c_{t-1}, \sigma_{t-1}^2\|} < \alpha \quad [17]$$

is used in the process of estimation, where  $\|\cdot\|$  represents the Euclidean norm and  $\alpha$  is an accuracy requirement.

## ANALYSIS OF RESULTS AND DATA ANALYSIS

Table A1 shows the descriptive statistics for the various variables. Before estimating the BSPSTR model, we go through three stages: finding the appropriate transition variable among all the candidate variables, testing the linearity, and finding the sequence for selecting the order  $m$  of the transition function using the LM-type test, with the proposed WCB and WB serving as robustness checks. The outcomes of the three stages are presented in the following sections.

### The results of the testing procedure of the BSPSTR model

In this study we considered (FD, FCRRM, GCBRM, CRIM, BRIM, ICEIUN, PCHPUN, INFL, OPEN, GEF, INVE, and TOD) as candidates in determining the appropriate transition variable. Table 1 shows the results of all stages of the BSPSTR. The transition variable in a panel regression of financial development and economic growth is shown in the first section of Table 1. The  $LM_\chi$ -test (0.00054) and LMX-test (0.00009) p-values indicate that FD is the best choice of transition variable for this study, as the p-values are lower when compared to the other variables included as candidates.

**Table 1: Results of selecting the transition variable.**

		Transition Variable $FD_{it-1}$			Results of the $H_0$		Selecting Order $m$	
		$m = 1$	$m = 2$	$m = 3$	$m = 1$	$m=1; H_{01}^*$	$m=2; H_{02}^*$	$m=3; H_{03}^*$
$LM_F$	Fs	2.90	5.22	2.54	16.89	4.90	15.98	9.89
	pv	0.00054	0.00000	0.056	0.0000	0.60	10.209e-09	5.984e-10
$LM_\chi$	Fs	20.22	15.58	14.89	7.50	9.98	60.89	8.21
	pv	0.00009	0.00004	000000	0.0000	0.70	6.985e-02	0.00009
WB	pv	-	-	-	0.00	-	-	-
WC	pv	-	-	-	0.00	-	-	-
B								

The Growth is the dependent variable. Using the LM-type test, all variables, as mentioned in section 4.1, were considered as possibilities for determining the proper transition variable. The p-values are denoted by p-v, while the F-statistic is denoted by Fs.

**Source:** Author's calculation based on WDI (2022) data.

We generated the F-statistics and p-values of both  $LM_F(0.00)$  and  $LM_\chi(0.00)$  to test the null hypothesis of linearity, while the proposed WCB (0.00) and WB (0.00) are robustness checks. The p-values of all these test indicated the rejection of linearity null hypothesis, confirming that there is nonlinearity between two variables in African emerging markets. Finally, in the third section of Table 1, the results of the sequence for selecting order  $m$  are reported. When  $m = 1$ , the p-values of both  $LM_F(0.60)$  and

$LM_{\chi}(0.70)$  reject  $H_0$ , indicating that when  $FD_{i,t-1}$  was chosen as the best transition variable, the model had one regime that separated the low level from the high level of financial development.

### Model evaluation and the estimated threshold of the BSPSTR model

The results of the model evaluation and the estimated BSPSTR threshold are summarized in this section. Table 2 displays the results of the Parameter Constancy test (PC), No Remaining Nonlinearity (NRN), and estimated threshold. In the first section of Table 2 the results of the  $LM_F$  and  $LM_{\chi}$  indicate that the parameters are constant, while in the second section of Table 2 both WB and WCB indicate that the estimated model with one transition is adequate. Finally, the estimated threshold for the baseline and robustness model results is presented in the third section of Table 2.

**Table 2: Results of the evaluation test and the estimated threshold**

Parameter Constancy test		
$LM_F$	6.384 (5.958e-18)	
$LM_{\chi}$	98.89 (5.745e-78)	
No Remaining Nonlinearity		
$WB$	1(p-value)	
$WCB$	1(p-value)	
Results of the estimated threshold model		
	Model 1:Baseline	Model 2:Baseline
$c$	0.92***(0.02)	0.58*(0.05)
$\gamma$	18.11** (4.20)	13.99**(7.90)

The Growth is the dependent variable. (\*\*\*) representing the 1% level of significance.

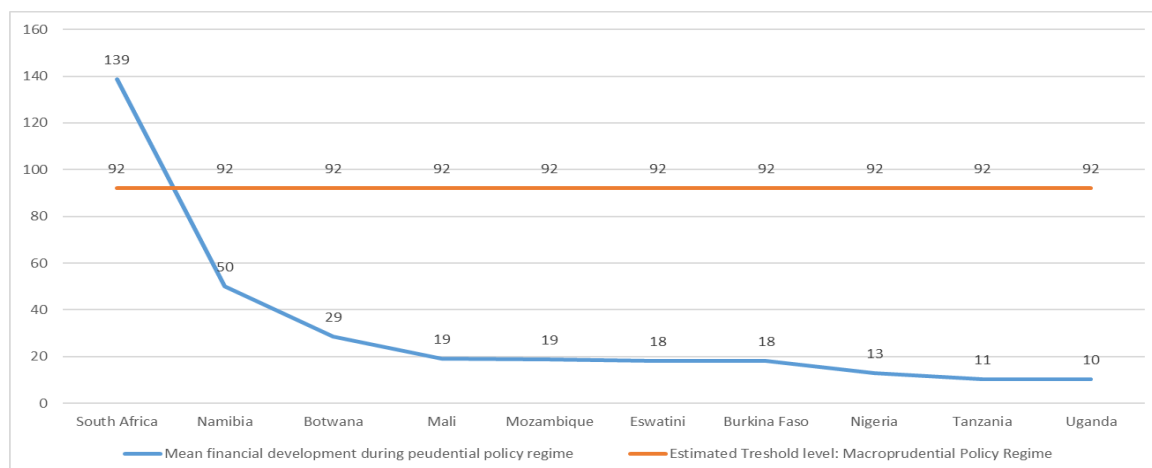
**Source:** Author's calculation based on WDI (2022) data

The results show that the estimated financial development threshold is 92 percent of GDP in African emerging economies during the macroprudential policy regime, while during the non-prudential policy regime it was 58 percent of GDP.

In the work documented by Zungu (2022), his study found a minimum level of financial development estimated to be 60.5 percent of GDP, above which finance increases growth in these countries using the PSTR model. The current study makes a significant contribution to the literature as it shows that, after controlling for spatial effects and data problems in the model using the BSPSTR, there is a switched relationship in this subject matter in these countries. This is due to the fact that, before the prudential policy regime, the relationship supported the U-shape relationship, which is in line with the finding documented by Zungu (2022). During the time of these policy involvements, however, it switched to an inverted U-shape. In a nutshell this shows that prudential policies indeed triggered the financial-inequality relationship.

As a result, the first regime in which financial development is less than 93 percent of GDP, reduces the level of growth. This is understandable given that, in a low-finance regime, financial development may reduce growth by increasing economic-fragility. Higher systemic risk implies more frequent and/or severe crises, which reduces growth rates. However, when levels of finance exceeds the threshold of 92 percent of GDP, it promotes growth by encouraging capital accumulation and technological advancement, by accumulation of savings, mobilising and pooling of savings, creating investment information, opening opportunities for entrepreneurship, enabling and encouraging foreign capital inflows, and optimising capital allocation.





**Figure 1** - The mean GDPs per capita and the estimated thresholds.

**Source:** Author's calculation based on WDI (2021) data

Figure 1 shows that African emerging countries, with the exception of South Africa, are at the lower end of financial development, with a mean of GDP (10000) (2020). There are several factors that could cause these countries to be at the lower end of the GJ curve, one factor being the high level of inequality in these countries. Another factor that could be considered is the implementation of policies that do not benefit people in terms of improving their standard of living. Per capita income has been shown to be a good predictor of an institution's overall development and complexity. As a result, rapid finance is linked to rapid growth. Some countries below the threshold have an average GDP per capita of less than USD2000 (2000-2021), supporting the argument that countries with low levels of development also have low levels of financial development.

### Empirical results of the BSPSTR for emerging markets

Table 3 presents the results of the BSPSTR model, which is a two-regime lag model. The BSPSTR findings give two important insights for this study and policy formulation, as they show that financial development improves growth, as measured by  $\beta_{0j}$ , in Model 1, the macroprudential policy regime, while it decreases growth in Model 2, the non-macroprudential policy regime. We set the number of years for macro-prudential policy (2000–2021) and non-macroprudential policy (1983–1999) (Zungu, 2022). As reported in Table 1, the results confirm the homogeneity test: the effects of financial development on growth is strongly non-linear. In fact, the coefficient of the non-linear component of the model,  $\beta_{1j}$ , is negative and highly

significant during the prudential policy regime, while during the non-prudential policy regime it is positive and highly significant. In a nutshell, our findings in model 2 support the results documented by Zungu (2022) as we reported the U-shape relationship before macroprudential policies were introduced in these countries, which contradicts his study as we reported an inverted U-curve in the period of the macroprudential policy regime.

**Table 3: Finance-growth relationship; BSPSTR, for African emerging markets**

Variables:	Model 1: Financial Growth: Macroprudential Policy Regime (2000-2021)		Model 2: Financial Growth: Non-macroprudential Policy Regime (1983-1999)	
	BSPSTR		BSPSTR	
	High Regime		High Regime	
	Low Regime	High Regime	Low Regime	High Regime
<i>Growth</i>	$\beta_{0j} \times 100$	$(\beta_{0j} + \beta_{0j}) \times 100$	$\beta_{0j} \times 100$	$(\beta_{0j} + \beta_{0j}) \times 100$
$FD_{i,t-1}$	8.23**(2.02)	-3.99**(0.21)	-1.98*** (0.09)	5.88(1.99) **
$FCRRM_{i,t-1}$	-2.34**(0.14)	-4.67**(1.00)		
$GCBRM_{i,t-1}$	- 0.76(0.17)	2.98**(0.50)		
$CRIM_{i,t-1}$	4.09**(1.23)	-5.90**(1.00)		
$BRIM_{i,t-1}$	-2.33*** (0.20)	1.60**(0.87)		
$ICEIUN_{i,t-1}$	1.40**(0.89)	-4.80**(0.90)		
$PCHPUN_{i,t-1}$	3.04(0.56)	2.94**(1.00)		
$INFL_{i,t-1}$	2.06**(0.91)	-0.76**(0.05)	2.99*** (0.02)	-3.90**(4.60)
$TRD_{i,t-1}$	3.56**(1.00)	2.78**(0.67)	3.80**(0.40)	0.3(0.10)
$GEF_{i,t-1}$	5.04**(2.08)	-2.45**(0.05)	4.00**(1.94)	-0.99**(0.02)
$INVE_{i,t-1}$	3.56*** (1.22)	4.90**(1.70)	2.99** (0.09)	4.30**(0.20)

TOD <sub><i>i,t-1</i></sub>	2.99**(1.00)	3.10**(0.04)	0.99**(0.03)	2.00**(0.20)
Dummy	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
Threshold (c)	0.92*** (0.02)		0.58* (0.05)	
Slope (γ)	15.09** (3.90)		13.99** (7.90)	
ESD	0.089		0.010	
# of obs.	220		170	
# of countries			<b>10</b>	

Note: The dependent variable is Growth. The numbers in brackets denote that the standard errors in brackets are obtained by using the cluster-robust and heteroskedasticity-consistent covariance estimator, allowing for error dependency within individual countries. The (\*\*\*), (\*\*), (\*) reflect the 1%, 5%, and 10% levels of significance, respectively. ESD denotes the estimated standard deviation (residuals), while p-v are the p-values.

**Source:** Author's calculation based on WDI (2022) data

The impact of financial development on growth is dependent on the level of development. This means that changes in economic growth due to financial development range from  $\beta_{0j}$  to  $\beta_{1j}$ , with financial development ranging from low to high. Comparing the macroprudential and non-macroprudential policy regime across the estimation tool, we find evidence that the adopted macroprudential policies in these countries triggered the financial growth relationship after controlling for spatial and data problems, using the BSPSTR. This is due to the fact that during the non-prudential policy, the financial-growth relationship is explained by the U-shape, while in the prudential policy regime it switched to the Inverted U-shape. Even if we extend the argument by comparing the magnitude coefficient of FD in these two policy regime, when the level of finance begins to develop, the macroprudential policy regime has a larger impact than the non-macroprudential policy regime. When financial development exceeds the threshold, the FD has a higher impact on the common man in model 1 than in model 2. According to our model, the magnitude in

the low regime is 8.23 for the macroprudential policy regime and 1.98 for the non-macroprudential policy regime, while in the high regime it is 3.99 and 5.88. The logic behind the inverted U-shape relationship in African countries follows Greenwood and Jovanovic's (1990) argument. Furthermore, the argument for financial development being anti-growth beyond the optimal level during this policy regime could be that the more the financial system expands, the more it promotes risk and ineffective resource allocation, which may reduce the rate of savings, resulting in lower economic growth. Higher systemic risk implies more frequent and/or severe crises, which would harm growth rates. The recent financial crisis of 2008 is an excellent example of this. This finding is consistent with previous empirical studies that demonstrated a substantial positive and negative effect of financial development on economic growth, such as (Samargandi et al., 2015; Oro and Alagidede, 2018; Swamy and Dharani, 2019; Abu-Lila et al., 2021; Machado et al., 2021); as well as those that found a negative and positive effect (Bahri et al., 2018; Bandura and Dzingirai, 2019; Jinqi, 2020; Zungu, 2022).

One of the primary goals of our study was to determine how macroprudential policy instruments influenced the financial growth relationship in selected countries, following Zungu (2022). Unlike the policy instruments adopted in his study, the current study extended their model by including FX and/or countercyclical reserve requirements (FCRRM) and a general counter-cyclical capital buffer requirement (GCBRM). The current study goes beyond this by empirically envisaging the impact of unconventional monetary policy programs that were initiated during the financial crisis. Those unconventional monetary policy channels were the income composition channel and the portfolio composition channel.

The FCBRM is designed for counter procyclicality in the financial system. When cyclical systemic risk is judged to be increasing, institutions should accumulate capital to create buffers that strengthen the resilience of the banking sector during periods of stress when losses materialize. FGBRM has a statistical negative effect on growth in both regimes. This finding is consistent with studies reporting that this policy is growth starving (Ductor and Grechyna, 2015). The explanation underlying this is that, when the value of a bank's assets (mostly loans) falls below the value of its debt (deposits and bonds), the value of the bank to its owners (capital) becomes negative, and the bank becomes insolvent. GCBRM has a negative and statistically

insignificant effect on growth in the low regime, while in the high regime it is positive and statistically significant. This finding is similar to the results documented by Ductor and Grechyna (2015). CRIM has a positive impact on growth in the low regime, while it has a negative impact on growth in the high regime of financial development. This is consistent with the finding documented by Al-Malkawi et al. (2012) and others. The explanation underlying this is that human capital accumulation is negatively affected by capital market imperfection. BRIM has a negative impact on growth in the low regime of financial development, while it is positive in the high regime.

By incorporating the unconventional monetary policy channels in our model, it helps to find out whether these policy formulations further triggered the financial growth relationship in these countries. The income-composition channel was captured through the equity index (ICEIUN), while the portfolio composition was proxied by the house-price index (PCHPUN) following Alves and Silva (2020). ICEIUN has a positive and statistically significant impact on growth in the low regime of financial development, while in the high regime it is negative and significant. This is consistent with previous empirical findings on the impact of unconventional monetary policy on economic growth, such as the study by Gillman and Harris (2004). The explanation underlying these findings is that negative equity occurs when the market value of a house is below the outstanding mortgage secured on it. As housing prices fall, the number of households with negative equity tends to rise. Portfolio composition through the PCHPUN has a statistically positive impact on economic growth in both regimes of financial development in African emerging markets. This finding is consistent with the empirical studies documented in the literature, such as the study by Mosesov and Sahawneh (2005) and others. The explanation underlying these findings, is that rising housing prices generally encourage consumer spending and lead to higher economic growth due to the wealth effect. A sharp drop in housing prices adversely affects consumer confidence and construction and leads to lower economic growth. Therefore, decreasing housing prices can contribute to economic recession.

In both models the macroprudential and non-macroprudential policy regime, Inflation (INFL) has a positive and statistically significant impact on economic growth in the low regime of financial development which is negative in the high regime. This finding

is consistent with the study documented by Vinayagathan (2013) and Chu *et al.*, (2022). The decrease in the productivity of production factors brings about the negative effect of the financial development on the economic growth. Thus, it is necessary for countries with a higher inflation-rate threshold to have access to an efficient financial system in order to achieve low inflation rates. Trade openness (TRD) was found to be a great source of growth, as we found it to have a positive and statistically significant impact on growth in both regimes of financial development, during a macroprudential policy regime and a non-macroprudential policy regime. This result is in line with findings documented by Keho and Wang (2017) and Malefa *et al.* (2018). After controlling for fiscal policy through government expenditure (GEF) in our model, we find it to have a positive impact on growth in the low regime of finance, while it is negative in the high regime in both models. This could be due to a number of factors, including an increase in government activity, which could stymie economic activities such as transfer payments and discourage people from seeking employment, lowering output. It may also appear when government expenditures are funded by tax revenues. This finding is in line with the previous studies such as Jain *et al.* (2021), Zungu and Greyling (2022).

Investment (INVE) has a positive and statistically significant impact on growth in both regimes. This finding supports the argument documented by Brenner (2014) and others. Due to the close correlation between investment and growth, an increase in uncertainty would probably also have a negative effect on economic growth. In addition to the effect of the degree of irreversibility on the investment-uncertainty relationship, the development of the financial market matters. Lastly, Tourism development (TOD) has a positive statistically significant effect on growth in both regimes of financial development. This finding supports the results documented by Khan (2020) and Samimi *et al.* (2011).

### **Sensitivity analysis and robustness checks**

The data indicates that the impact of financial development on economic growth is non-linear in the countries studied, regardless of the variable used to measure financial development. We use claims on the private sector by financial intermediaries to capture financial development, following the study by Zungu (2022). The variables are defined in the same way as in the baseline methodology.

For the sensitivity analysis, we added the macroprudential index (0–12) (MI–12) in Model 3 given the availability of the combination index of 12 macroprudential regulations. The results of the robustness and sensitivity analyses are reported in Table 4 for both macroprudential and non-macroprudential policy regimes. Again, all the testing procedures for these models were followed.

**Table 4: Financial Growth: Robustness Checks Model**

Model 3:	Growth = 5.56DCPS*** -
Macroprudential Policy Regime (2000-2021)	0.78FCRRM** + 2.65GCBRM*** + 2.40CRIM*** + 3.55MI-12** - 1.11BRIM* + 3.23ICEIUN-2.95PCHPUN** + 0.98INFL** + 2.01TRD** + 3.57PINVE** 3.080GEF** + 4.10TOD** - [13.34 <sub>y</sub> **, 90.04 <sub>c</sub> ***] - 2.67DCPS*** - 3.10FCRRM*** + 1.33GCBRM** - 3.20CRIM*** + 2.00MI-12*** - 2.09BRIM* + 1.10ICEIUN** + 3.05PCHPUN** + 0.67INFL + 1.08TRD** + 3.57PINVE*** 1.080GEF*** + 2.88TOD**
Model 4:	Growth = -3.70DCPS***
Non-macroprudential Policy Regime (1983-1999)	+1.56INFL** + 3.39TRD*** + 3.00GEF*** + 1.90PINVE** + 2.13TOD** [12.45 <sub>y</sub> **, 60.00 <sub>c</sub> ***] + 4.51DCPS*** - 3.35INFL* + 4.09TRD** - 2.30GEF** + 2.00PINV** + 0.87TOD**

The \*\*\*/\*\*/\* denote the levels of significance at 1%, 5%, and 10%, respectively.

**Source:** Author's calculation based on WDI (2022) data.

This was done to see if the baseline methodology's results were sensitive to the variables used as control variables. The estimated results showed that the variables used to capture financial development and the variables included in the model as control variables had no effect on the non-linear impact of financial development on economic growth in these countries. Indeed, the results were similar to those obtained with our initial model. When controlling for macroprudential policy

instruments, we find that the macroprudential index (0–12) (MI–12) increases growth in both regimes, as it shows that it has a positive and statistically significant impact on growth. This suggests that overall macroprudential policy has an increasingly negative effect on growth in these countries.

## **CONCLUSIONS AND POLICY RECOMMENDATIONS**

The financial-growth relationship is marked by controversy surrounding the nature of the relationship between variables in both emerging and advanced economies. Even the theoretical and empirical literature are controversial and have produced contradictory results. Taking the argument further from the study documented by Zungu (2022), who uses the PSTR model in this subject matter covering the period from 1983–2020 in 10 African emerging countries, his study was the first to empirically examine the current subject matter by looking at the non-prudential policy regime from the prudential period. In his study, he documented that the financial-growth relationship is characterised by a U-shape, with the minimum level of financial development found to be 60.5% of GDP, above which financial development increases growth in African emerging countries, which then leaves room for concern for both policymakers and politicians on how high the optimal point of finance required is for these countries to achieve high growth. One of the major weaknesses in the existing literature investigating the same subject in a panel framework is the introduction of time and cross-sectional effects to represent individual heterogeneity, which then satisfy the assumption that the coefficients of explanatory variables are assumed to be constant for all section units and periods. However in practice this assumption is sometimes unreasonable.

For instance, the model adopted by Zungu (2022) actually allows coefficients to change with cross sections and times, which is a sufficient relaxation of the heterogeneity assumption in panel-data models. Consider a scenario in which the local equilibrium prices of all local markets are correlated in the general equilibrium model; individuals in the network model are interconnected; and in a competitive market, one participant's decision is influenced by the decisions of other participants, and so on. The classic econometric model will no longer be applicable when dealing with the aforementioned study areas. The spatial method then plays a significant role in such a problem. Furthermore, his study focuses on only a few macroprudential



policy instruments, leaving other instruments that are nonetheless believed to trigger the financial-growth relationship.

Is the current study then seeking to go the extra mile by accounting for several weaknesses that were spotted in his study in order to find the optimal level of finance required in these countries to achieve high growth? The current study adopted the same data that was utilized in his study and further extended his argument by incorporating more macroprudential instruments that were omitted in his study. In order to determine how these policies triggered the relationship between financial development and economic growth, we further control monetary policy using unconventional monetary instruments.

Considering the nature of the relationship between financial development and economic growth revealed in this study, we find that the optimal level of financial development is found to be 92% of GDP, above which the financial system promotes risk and ineffective resource allocation, which may reduce the rate of savings and risk resulting in lower economic growth. In almost all countries included in this study, the estimated threshold is still far below the calculated means, except for in South Africa where the mean is estimated at 139% of GDP. In this case, more policies aimed at ensuring improvement, financial inclusion, and increasing social mobility and investment are significant. Having more financial institutions/systems will ease the exchange of goods and services through the provision of payment services and the mobilising and pooling of savings from a large number of investors, which then creates job opportunities, ultimately stimulating growth. The results seemed to be resistant to the control variables applied, since the author achieved the same results after including the macroprudential index (0–12) (MI-12) in the system. Adopting macroprudential policies, such as financial institution-targeted instruments aimed at the balance sheets of banks which influence the provision of credit to the economy, was found to reduce growth in the lower regime, while improving it in the higher regime. What is interesting in this study is that, when comparing the macroprudential policy regime with the non-macroprudential policy regime, the magnitude of financial development was found to have a profound impact on growth during the macroprudential policy. As the study found, in the lower regime the magnitude was 4.64% in the policy regime and 0.88% in the non-policy regime. Furthermore, at a high level of finance, the magnitude was found to be 3.63 and 1.03%. The impact on

the non-prudential policy regime was found to be insignificant. It is evident that the macroprudential policy adopted triggered the financial-growth relationship in the African emerging countries.

The study also shows that an increase in trade openness, investment, and tourism development boosts economic growth in both macroprudential and non-macroprudential policy regimes. Inflation and government spending are found to improve the level of growth up to a certain point, but after that point they are found to have a negative effect on economic growth.

In terms of policy, the study's findings could have a number of implications. Firstly, the optimal point of financial development found in this study is the challenge to policymakers to attract technological innovation and investment in African emerging countries, thus enhancing policies aimed at improving the financial system and its effectiveness. Secondly, countries that are just below the threshold level are encouraged to give the financial sector adequate consideration and proper recognition, such as in the provision of appropriate financial reform, as well as to work toward developing policies that aim to develop a suitable investment portfolio and increase spending on technological investment in these countries. Improving these activities will result in more job opportunities which will boost citizens' well-being and thus increase economic growth.

Finally, the findings may encourage policymakers in African emerging economies to exercise caution when implementing macroprudential policies. In a nutshell, these policies promote growth when the level of the financial system exceeds the 0.92% minimum of domestic credit to the private sector as a share of GDP. The authors suggest that future research should focus on a comparative study where African emerging countries are compared to European or other countries.

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# **Examination of the determinants audit fees on JSE listed companies in South Africa**

Mishelle Doorasamy, Memory Yeukai Chivairo, and Mathew Rotimi

Dr Mishelle Doorasamy, University of KwaZulu-Natal, South Africa.

Ms Memory Yeukai Chivairo, University of Kwa-Zulu Natal, South

Africa. Dr Mathew Rotimi, Federal University Lokoja, Nigeria

## **ABSTRACT**

There is an absence of conclusive information and results on the factors that determine audit fees, making decisions and negotiations relating to audit fees difficult between the auditors and auditees. While a few studies on the subject matter have been carried out with focus on developed countries, literature reveals that the most recent study in this context carried out in 2015 prior the Covid-19 pandemic might have been outdated due to various changes that have taken place in the audit market. Consequently, this study examined the determinants of audit fees on Johannesburg Stock Exchange (JSE) listed companies in South Africa. The study used audit firm size (big4), auditee size, and auditee profitability as independent variables, and audit fees as a dependent variable. Data covering the period 2016 to 2020 was obtained from IRESS research domain. The study employed a quantitative technique of analysis using SPSS 27.0 version. Three regression models were used in the study, and they revealed that auditee and auditor sizes were statistically significant variables to determine audit fees. On the other hand, profitability was not statistically significant to determine audit fees. The study concludes that audit fees determinants have the same impact in both financial and non-financial companies irrespective of differences in their asset structures. This study recommends the sizes of auditor and auditee as necessary factors to be considered when negotiating for audit fees.

**Keywords:** Asset Size, Invrec, Client profitability, Big4, Audit fee premiums

**JEL Code:** H54, R53.

## INTRODUCTION

Audit fees refer to the payment made by a company to auditors for accomplishing audit service (El-Gammal, 2012). Generally, the fee is stated at the commencement of the auditing process, grounded on the agreement of audit firms and auditees. Costs incurred during audit service and the profits concerned are covered as part of the audit fees (El-Gammal, 2012). Kikhia (2015) explained the challenges auditors and auditees face in determining the audit fee that is equally agreeable for both parties. The auditors will perceive the audit fees as inadequate for their services, while auditees will perceive the audit fees as too expensive, leading to the rise of misunderstanding among them (Kikhia, 2015). However, efforts to reconcile the push and pull, and misunderstanding remains inconclusive.

How auditors determine audit fees is an important question that needs to be answered through empirical evidence and the development of audit fees determination models (Shan, Troshani, & Tarca, 2019). Several studies on the examination of the determinants of audit fees were conducted (Van Caneghem, 2010). Many of these previous studies, which were conducted globally, were activated by alarms about the presence of rivalry amid auditors and the accusations that the big4 audit firms were manipulating the market with selfish pricing systems. The observations were about biased audit pricing where abnormal profits were being realized by charging high audit fees, which caused deterioration of the audit quality (Joubert, 2006). Asthana, Khurana, and Raman (2019) clarified that the big4 audit firms use their power of domination to charge exorbitant prices while providing poor quality audit services.

There are several studies covering the topic of audit pricing and its determinants, but the most significant number of these investigations tend to focus on developed countries. Emerging countries have a limited number of such studies (Kim, Simunic, Stein, & Yi, 2011). Nonetheless, believing that the conclusions in the developed countries in respect of audit fee determinants can be taken as being accurately similar in emerging economies will be deceiving. This is because the audit atmosphere varies substantially in these economies (Kim et al., 2011).

There have been sequences of corporate financial scandals, including the downfall of prominent organisations like Enron and WorldCom, in 2001 and 2002 (Petra & Spieler, 2020), the failure of Carillion Construction Company, the UK's second-largest company, which buckled under the weight of a whopping £1.5 billion debt (Hajikazemi, Aaltonen, Ahola, Aarseth, & Andersen, 2020), and the Royal Ahold scandal where the company was accused of \$700m fraud (Langendijk, 2012). In England, Tesco inflated its profits by more than £250 million when income acknowledgment anomalies were identified in its semi-annual outcomes (Tse, Zhang, Doherty, Chappell, & Garnett, 2016). These are some of the events that have caused so many allegations and lawsuits in the auditing industry. Auditors failed to meet society's expectations, which led to a decline in confidence in the audit function (Ratzinger-Sakel, Audousset-Coulier, Kettunen, & Lesage, 2013). An anticipation gap has been determined in the audit function. Those who use the audit report are deeply anxious about this issue and have excellent prospects concerning the auditor function for fraud exposure (Akther & Xu, 2020).

According to Sewpersadh (2019), despite high audit prices being charged by the big4 auditing firms in South Africa, there have been several audit failures where there was a failure to perceive the loopholes. Some of these scandals include the Deloitte scandal, which has been interrogated in regards to its relationship with Steinhoff international which collapsed due to unethical behaviour of the top executive where the assets and the profits of the company were inflated by R250 billion (Maroun & Cerbone, 2020). KPMG was also questioned after being suspected of helping the Gupta family in tax evasion and corruption. There was also severe misconduct by certain KPMG partners and employees of VBS mutual bank which were later uncovered. These scandals have led to the exodus of KPMG's most significant clients such as Absa, Sasfin, and DRDGold (Maroun & Cerbone, 2020). Maroun and Cerbone (2020) mentioned that other South African corporate governance issues comprise Leisure Net, Saambou, Regal Treasury Private Bank, Masterbond, and MacMed.

Despite all these South African corporate governance scandals, there are only a few local studies about audit fees determinants that were done in South Africa (Davidson, 2015; Firer & Swartz, 2007; Simon, 1995). For this reason, this study will mainly focus on the determinant factors of audit fees on South African companies listed on

JSE. This study looks at the crucial factors that affect audit pricing strategies and discloses their positive and negative effects. The study will help to broaden this area of research since it is not the first study done both locally and internationally. The author used a samples size of financial companies and non-financial companies to observe if the chosen independent variables have the same impact in determining audit fees on both financial companies and non-financial companies listed on JSE since they have different fee structures.

## **LITERATURE REVIEW**

This section reviews various literature related to the study. Specifically, it reviews empirical and theoretical issues on audit fees.

### **Theoretical review**

Two related audit theories are discussed in this study. They are agency and monopoly theories.

#### *Agency Theory*

One of the accounting theories which has remained extensively researched is the Agency theory which encompasses agreements between agents (directors/managers) and Principals (shareholder/owners) (Jensen & Meckling, 1976). The contract between the principals to engage in day-to-day administrative activities in the organisation and make some organisational decisions is defined as the agency relationship (Jensen & Meckling, 1976). Owners of the organisation suffer the monitoring costs to reduce the agents' conflicting actions and in turn maximize their interests (Jensen & Meckling, 1976). Vitolla, Raimo, & Rubino, 2020 explain how audit fees remain a vital portion of these monitoring costs because the duties of auditors are to guarantee that agents are performing in line with the interest of the organisation owners (principals), while they likewise should conduct an audit in agreement with legislative requirements.

According to Bosse & Phillips (2016), there are three elements or components of the agency theory: agency costs, bonding costs, and residual costs. Among the agency costs component is monitoring costs, which are the costs incurred by the company's shareholders to monitor or track the management's action. The expectation is that the agency costs are high when the auditors need more time and when there is a

need for regular examination of financial accounts to see the activities of the managers (Agoglia, Hatfield, & Lambert, 2015). When the organisation is mainly owned by its management, the agency costs become lower because their interest will tend to match the interests of the shareholders (Nelson & Mohamed-Rusdi, 2015). Jensen (1986) also supported this point and explained that when the shareholders mainly own the organisation, the agency costs are lower. Subsequently, the assumption is that when an organisation has lower manager ownership, the agency cost, including audit fees, is higher than for the organisation that has high ownership of management (Bosse & Phillips, 2016).

Paniagua, Rivelles, & Sapena (2018) found that companies with low conflicts between the agents and the principals are likely to have audits that are not expensive.

### *Monopoly Theory*

It is expected that lower audit quality and higher audit pricing relate to lower competition in the audit market. This perception might not always be accurate because some of the big audit firms can produce economies of scale, and therefore audit costs and audit fees will tend to be reduced (Huang, Chang, & Chiou, 2016). Gerakos & Syverson (2015) buttressed the claim that high audit fees and lower audit quality relate to lower market competition. In a monopolistic audit market, entry barriers are considerably higher for the auditors who want to enter the market. Although small auditors try to compete with the big4 audit firms, they can be outpowered within a short period through the price competition of the big4 audit firms (Van Linden & Hardies, 2018).

Following earlier studies (Bosse & Phillips, 2016; Nelson & Mohamed-Rusdi, 2015), an agency theory is considered more appropriate for this study, and has therefore been adopted.

## **Empirical review – factors determining audit fees**

### *Audit firm size*

Auditor size is a vital factor to determine audit fees, among other elements. Factors such as auditor's market share, its assets, and the number of employees employed are usually used as measuring tools of the size of an audit (Naser & Hassan, 2016).

Eilifsen & Knivsfla (2016) emphasised that audit services of high quality are linked to the big international audit firms, which in turn will charge high audit fees for their services. Likewise, a positive correlation between audit fees and audit firm size was found by El-Gammal (2012) and Hossain & Sobhan (2019). They mentioned that the big4 audit firms obtain audit fee premiums in several countries due to their financial strength, expertise, reputation, and investment in the marketing of their audit services.

According to Cahan and Sun (2015), big4 auditors charge high audit fees because they fill their teams with higher qualifications. These experienced and more focused experts offer high quality of audit service compared with less experienced small audit firms which are not part of the big4 auditing companies. Due to the prestige, reputation, and market power carried by the big4, organisations are eager to pay high audit fees or premiums for their services, not considering how excellent their works really are (Pratoomsuwan, 2017).

Kanakriyah (2020) stated that investment in reputation and marketing calls for a greater audit fees to auditees. Ittonen, Sormunen, and Tronnes (2019) also argued that the monopolistic power of the big4 is the major cause of the high audit fees being charged by the big4 in the audit market. Further studies provide evidence on the audit fee premium which is being imposed by big4 audit firms in the United States of America (Seetharaman, Gul, & Lynn, 2002), in Hong Kong (Sandra & Patrick, 1996), in Bangladesh (Karim & Moizer, 1996), in Lebanon (El-Gammal, 2012), and in France (Choi, Kim, Liu, & Simunic, 2008). In contrast, Langendijk (2012) did not find any large firm audit fee premium in Malaysia or the Netherlands.

Giroux and Jones (2007) found out that the big4 were not charging audit fee premiums in Wales, but auditors were charging audit fees lower than the standard audit prices which other firms were charging within the market. In the United States Simunic (1980) found no evidence of an audit fee premium. Carson, Carson, Gil, and Baucom (2007), also found that the Big4 audit firms were offering high-quality audit services and charging lower audit fees due to competition amongst big4 audit firms and usage of refined methodologies.

Griffin, Lont, and Sun (2008) further discovered that larger audit firms charged high audit prices that were justified by audit quality in the New Zealand market. Additional

evidence from Australian research found that the big audit firms were charging audit fees 30% higher than comparatively smaller firms (Boon, Crowe, McKinnon, & Ross, 2005).

There is empirical evidence holding that with other factors held constant, big audit firms are also expected to charge higher audit fees compared with their small audit firm competitors (Jha & Chen, 2015). Buttressing this, Cohn, Engelmann, Fehr, and Maréchal (2015) found evidence of audit quality perception in the USA, and it was significant. In addition, Jha and Chen (2015) explained that it is anticipated for audit price and auditor size to be associated when there is the existence of differentiated demand and the absence of economies of scale. The big audit firm's indeed have the ability to audit with expertise and good implementation of standard audit methodology, use more advanced technologies, and present good infrastructure results even with their high pricing of audit services (Jha & Chen, 2015).

Van Caneghem (2010) explained that large auditees usually prefer to be audited by more prominent auditors. This pairing can cause small auditees not to charge more competitive amounts in their audit fees to clients for audit services done as compared to larger audit firms.

#### *Auditee size*

From previous studies, the size of an auditee was reported to be a significant and essential factor in determining audit fees because it affects audit plans on both the auditee and the auditor (Kikhia, 2015). Though size of the client can be used as a measurement of complexity, it is not the only measure of complexity (Cameran, 2005). Related factors used when measuring the size of an auditee further include the number of employees, profitability, sales turnover, and total assets (Kikhia, 2015). The variables which were used most extensively to measure auditee size were total sales (Gunn et al., 2019; Joshi et al., 2014; Kikhia, 2015), total assets (Joshi et al., 2014), and market capitalization (Naser & Hassan, 2016). Kanakriyah (2020) explained that shareholders' equity, net profit, total assets, turnover, and gross income are the major elements from financial statements that can measure the size of an auditee.

Auditee total assets, used in measuring the auditee size, were significant in a study in Britain (Chan, Ezzamel, and Gwilliam, 1993). In Swanson (2008), research done

in the United States of America showed total assets were used most often to represent the size of an auditee. This study used asset size and Invrec. Invrec is the proportion of audit size fractioned by inventory and receivables. The auditing process is far more time consuming when the auditee is big than when the auditee is small. Big clients attract high audit fees compared to small clients because of the time spent by auditors doing the audit services (Hossain & Sobhan, 2019). Therefore, there is a positive correlation that exists between auditee size and audit fees (Kikhia, 2015; Naser & Hassan, 2016; Simunic, 1980).

Amongst the agency cost components is the factor of monitoring costs, which are the expenses experienced by the company's stockholders to track the management's actions (Jensen & Meckling, 1976). Monitoring costs include auditing costs because auditors play a vital role in the inspection of the organisational financial statements and in ensuring that the behaviour of the managers is according to the expectation of the shareholders as the firm size increases. The expectation is that when an organisation is large, it becomes more time-consuming to review its financial statements. There is a need for regular inspection of financial accounts to scrutinize the activities of the managers, which in turn increases audit fees (Agoglia et al., 2015). This leads to the conclusion that when the organisation's size is big, quality auditors are inclined to charge premiums and increase audit costs (Agoglia et al., 2015).

Using the client's assets to measure size is nonetheless problematic, because of variances in the presence of off-balance-sheet assets, depreciation, and accounting policies which causes the measurements of assets to be quantified differently even if companies are alike (Cameran & Perotti, 2014). Aikala (2018) explained that some things cannot be recognized as part of total assets, such as operational leases. Buttressing this claim, De George, Ferguson, and Spear (2013) noted that associated account balances and transactions might form difficult segments on the audit due to the complex disclosure requirements surrounding these transactions. Moreover, Zhang, Amin, and Deis (2021) explained that Property, Plant, and Equipment could overstate the asset base if they are to be revalued, and this will increase the complexity of the audit client. Therefore, high audit fees will result because the audit will need more expertise. The asset structure of the auditee creates additional difficulties. Suppose the company has a compromised asset base.



In that case, this will lead to more audit work due to different audit complex evaluation approaches being required, and high audit fees will be needed for hiring experts for such a complex audit service (Zhang et al., 2021).

According to Zhang et al. (2021), overvaluing receivables and inventories may increase inherent risk, so these valuation issues of inventory and receivables do require greater effort by the auditor so as to verify if they have been correctly valued. The more specialized the inventory is, the more complex it becomes in determining the net realizable value due to expenses, labor, and raw materials needed to produce finished goods from the raw materials (Zhang et al., 2021).

This study used asset size and invrec (Inventory and receivables) as the measure of auditee size. The expectation of this research is for the auditee size variable to be statistically significant. Another expectation is that audit size should be very important in determining audit fees. This means that as audit size increases, there should also be an increase in audit fees charged by the auditors due to the high amount of time and effort needed to do professional audit services. The hypothesis is that auditee size is positively correlated with audit fees.

#### *Auditee profitability*

Management performance, efficient use of assets, and the ability to allocate resources efficiently in the going operations are measured by a company's profitability (El-Gammal, 2012). The profitability of a company can be expressed using various profitability ratios, including Return on Equity, Return on Investment, Return on Capital Employed, and Return on Assets (Firer & Swartz, 2007; Naser & Hassan, 2016). Joshi et al. (2014) explained that high return on assets is generally produced by efficient use of resources. They then illustrated that when profits are high, there is a tendency for stakeholders to minimize agency costs since profit will be a sign of accomplishment. On the other hand, auditors have a tendency to execute serious audits so as to validate the managements proclamations of their profitability, thereby requiring more time and a higher audit pricing (Gunn et al., 2019).

Low profitability can be also related to high audit work due to financial pressure in authenticating the value of client assets and confirming business stability and life span (Swanson, 2008). The results and evidence in regard to this are inconclusive,

while El-Gammal (2012) and Joshi et al. (2014) did reveal a positive connection between audit fees and the organisation's profitability.

The financial position of an organisation or the profitability of the auditee can be connected to business risk through the going concern difficulties (Gianfelici, Benyoussef, & Savioli, 2021). Some of the indicators or forecasters of going concern challenges that the client might face include profitability, liquidity, and gearing ratios (Gianfelici et al., 2021). An organisation with lower profitability has a higher chance of having going concern difficulties, thereby increasing audit risk. Due to this reason, auditors will require more time in finding additional indications concerning the recoverability of assets and in assessing the auditee's going concern (Gianfelici et al., 2021). Kraub, Pronobis, and Zülch (2015) explained that low audit fees are associated with loss-making companies even though they pose a high risk to the auditor due to unpredictability over the collection of fees for the audit service performed. High-risk auditees might choose lower quality auditors that charge lower audit fees per hour because of the company's increase in uncertainty. The price of audit services from high-quality audit firms also increase as the risk of the auditee increases to cover for audit risk (Kraub, 2015). Jha and Chen (2015) also found that loss is an essential variable in determining the audit fee.

### *Financial companies*

Financial companies, also referred to as financial services, consist of insurance companies, investment companies, and banks. Financial companies present further audit difficulties and have more complex asset structures than non-financial companies (Firer & Swartz, 2007). Consequently, the complexity of the asset structure in financial companies results in the need for high-quality audit work, resulting in high audit fees for audit services (Karim & Moizer, 1996). It is interesting to note that in the research done by Simon and Taylor (2002), it was discovered that higher audit fees were being charged to non-financial companies as compared with financial companies.

Karim and Moizer (1996) argued that audits of financial companies are very easy compared to non-financial companies. This is because financial companies typically have simpler asset structures than non-financial companies. Financial companies keep little or no stock as compared to non-financial companies. Non-financial

companies such as manufacturing usually have a lot of plants and equipment's as compared to financial companies. They explained that for this reason, audits of financial companies are cheaper as compared to non-financial companies.

In disagreement, Hossain and Sobhan (2019) explained that financial companies tend to have many offices, which therefore have more elements involved in an audit service. Given these above contradicting estimates, it is difficult to estimate whether financial companies have higher or lower audit fees.

## RESEARCH METHODOLOGY

This section presents the methodology of the study. The hypothetical base of this research are in the existence of a positive correlation of audit fees (dependent variable) and the selected independent variables (audit firm size, auditee profitability, and auditee size). This research follows the example of Simon (1995), Firer and Swartz (2007), and Davidson (2015) in establishing a research approach, given that they are the most recent, pioneering studies done in South Africa.

### Defining the target population

An entire group of items having the same characteristics is defined as targeted population. The sample size of the study is calculated from the entire population following Creswell & Creswell (2003). The targeted population used was all South African JSE listed companies from 1 January 2016 to 31 December 2020. The choice of data points is dictated by data availability.

### *Determining the sample size*

Following Taherdoost (2017), sample size is obtained using the following formula:

$$n = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left( \frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

$$n = \frac{\frac{1.96^2 \times 0.5(1-0.5)}{0.04^2}}{1 + \left( \frac{1.96^2 \times 0.5(1-0.5)}{0.04^2 (403)} \right)}$$

$$= 241$$

Where:

$n$  = Sample size

$N$  = Population size

$P$  = Percentage/ proportion picking a choice

$e$  = Sampling error / margin of error

$Z$  = Z-Score associated with the confidence level

A sample of 241 observations or companies was obtained. The formula included a total population of 403, a sampling error of 4%, and a confidence level of 95%. Initially, the sample size for this research was 1205 observations (companies) (241 per year multiplied by five years from 2016 to 2020). This sample size of 1205 included both financial companies and non-financial companies. The study formed a final sample size from the initial sample size of 241 observations/companies per year and 1205 observations for 5 years (241 multiplied by 5 years). The final sample size is 189 observations per year and 945 observations for 5 years (189 multiplied by 5 years). This final sample size was obtained after the subtraction of companies belonging to the sample which had issues related to not displaying inventory, not displaying significant variables, not displaying ROA, not displaying audit fees, and not displaying receivables. The study removed these companies from the calculated sample and only included companies with the complete required data for the research.

### **Types and sources of data**

JSE listed companies' financial statements were used to collect quantitative data for the financial years 2016 to 2020. The study relies on quantitative data because data obtained from JSE are expressed in quantitative forms. The study used the secondary data from the IRESS research domain, which offers financial information of JSE listed companies. This database was chosen for data collection because it was easy to access and the data was readily available. Another reason why this database was chosen is because it is free to access since it is a university-subscribed database. Collecting data from the IRESS research domain was time-saving in this study and has helped the researchers to remain anonymous during the duration of the study. Due to the readily available data, a large amount of data over the period of five years from 2016 to 2020 was collected, resulting in more in a depth

study. This also proved the results of this research to be statistically significant as specified in the study done by Firer and Swartz (2007). This data source is also found to be reliable and credible as shown in earlier studies (Hair, Anderson, Babin, & Black, 2010).

### **Data analysis techniques**

Data analysis involved evaluating, summarising, applying statistical analysis, and reducing the collected data into a manageable size (Hair, Anderson, Babin, & Black, 2010). The research questions were answered by classifying, well-ordering, manipulating, and summarising the data to answer the research questions.

The correlation amongst variables was determined using linear regression techniques. The study found it suitable to use multiple regression models because of the numerous variables which were tested. This is because the multiple regression models allow multiple variables to be part of the models. Multiple regression models help to predict the extent of variances of independent variables on dependent variables. Therefore, these basic regression models serve as a valuable standard for evaluating similarities and variances in the effect of independent variables on dependent variables in the South African audit market and the international audit market.

### **Reliability and validity**

According to Creswell & Creswell (2003), it is very important for a study to use a research instrument that can show the validity and the reliability of results from the model used in the study. Aside from the R-squared, this study considers the F test and level of significance usually found in ANOVA  $R^2$  to determine the validity and reliability of the model. The values of  $R^2$  fall between 0 and 1. The greater the  $R^2$ , the greater the internal validity of the model. The F test or F statistic explains the explanatory power of the regression model. When the F test of the model is below ( $\text{sig}=0.05$ ), the variables are statistically significant, which means that there is very strong evidence that the model has explanatory power.

### **Descriptive statistics**

Different descriptive statistics used in this study to explain the data set and understand the details of the sample. These included the mean, which is used to

measure the central tendency; standard deviation, which measures variability or dispersion; maximum and minimum values; and the number of observations.

### **Regression method**

The study uses multiple regression as specified in (1). For the individuality of every year, the study included a dummy variable in the equation. The dummy variable used was of the big4 variable where a value of zero (0) is given when the audit was not done by big4, and a value of one (1) where the audit was done by the big4. Equation 1 presents the regression:

$$\text{Audit fee} = b_0 + b_1 \text{assets} + b_2 \text{invrec} + b_3 \text{ROA} + b_4 \text{big4} + \varepsilon$$

(1)

Where: Audit fee is the dependent variable;  $b_0, b_1, b_2, b_3$ , and  $b_4$  are parameters; asset is the asset size 'auditee total assets'; Invrec is the proportion of total assets made up of inventories / receivables; ROA is the auditee profitability measurement; big4 is the dummy variable representing the existence of the big4; and  $\varepsilon$  is the error term.

### **Measurement of variables**

#### *Auditee size*

The size of the audit client was represented by the asset size and Invrec, which is the proportion of total assets made up of inventories and receivables. Both the asset size and Invrec are considered on a continuous interval scale because of order and equal intervals. The asset size hypothesizes that large auditees result in more complex audit services, which requires more audit efforts and thus resulting in high audit fees. The Invrec (inventory and receivables) shows how complex the auditee is (Kikhia, 2015). The hypothesis of Invrec is that, the higher the number of Inventories and receivables, the higher the audit price due to more effort needed to complete the audit service.

#### *Big4*

The big4 variable was used as a measure of the size of an auditor. The big4 variable is a nominal or categorical variable. It is a dummy variable and has a value of "1" if the auditee is audited by one of the big4 and a value of "0" if not audited by the big4.

The value of 1 or 0 does not show any intrinsic order. Prior studies which were done in the South African market found inconclusive results about the audit fee premium. This research is expecting a positive correlation between audit fees and the big4 variable.

### *Profitability*

Return on Assets was used in this research to measure the profitability of an auditee which is a continuous variable because of the existence of order and equal intervals. The efficient use of resources generally produces Return on Assets (ROA). When the profit is high, there is a tendency by the stakeholders to minimize the agency costs since profit will be a sign of accomplishment. On the other hand, auditors tend to execute serious audits to validate the management's proclamations on their profitability, which therefore requires more time and leads to higher audit pricing (Kanakriyah, 2020; Kikhia, 2015). On the other hand, low profitability can be related to high audit work due to financial pressure in authenticating the value of the client assets and checking the business's stability and life span (Choi et al., 2008). This study expects a positive correlation between audit profitability and audit fees (ROA).

## **PRESENTATION AND ANALYSIS OF RESULTS**

### *Descriptive statistics and inferential statistics*

**Table 1: Descriptive statistics-combined sample, non-financial sample, and financial sample**

	ZAR	Minimum	Maximum	Mean	Std. Deviation
<b>Non-financial</b>					
Audit fees	825	32	588000	40247.74	79631.92
Asset Size	825	39127	6726539000	95531499.41	306057508.83
Invrec	825	0	649796000	5890319.44	21353876.863
ROA	825	-12	16	-0.03	4.433

Big4 dummy variable	825	0	1	0.58	0.494
<b>Financial</b>					
Audit fees	120	30	460000	31769.23	78967.97
Asset Size	120	14186	5690620000	86580527.57	254633015.32
Invrec	120	0	420796000	15141637.83	36372301.22
ROA	120	-9	10	-0.21	3.43
Big4 dummy variable	120	0	1	0.56	0.49
<b>Combined</b>					
Audit fees	945	0	558000	26948.88	79527.57
Asset Size	945	14186	6726539000	104982176.22	305762644.34
Invrec	945	0	649796000	8778083.74	21337107.24
ROA	945	-12	16	-0.06	4.318
Big4 dummy variable	945	0	1	0.57	0.495

**Source:** Authors' computation (2022) from the data obtained from IRESS research domain

The descriptive summary statistics of the variables used in this research for the three different models (financial companies, non-financial companies, and combined companies) are presented in Table 1. The average indicators of the variables are calculated, summarised, and described, which helps us to find some of the variances in the dataset used before the regression analysis is conducted. As reflected in Table 1, the summary statistics include the number of observations, the maximum values, the minimum values, the mean values, and the standard deviations of all the variables used in this research.

For both models, the big4 variable minimum value is zero, and the maximum value is 1. The mean value of big4 for non-financial is 0.58 with a standard deviation of 0.494. The big4 mean value for financial companies is 0.56 with a standard deviation of 0.499. The number of observations that were used in this research is 945



observations which is the total of both the financial and non-financial companies. The financial companies have 120 observations, and the non-financial companies have 825 observations. Non-financial companies have the maximum value of audit fees of 588 000, the minimum value of 32, the mean value of 40 247.74, and the standard deviation of 79 631.923. The financial companies have the maximum value of audit fees of 460000, the minimum audit fee value of 30, the mean value of 31 769.23, and the standard deviation of 78967.972. The maximum value of assets size for non-financial companies is 6 726 539 000 and for financial companies is 5 690 620 000. The minimum asset size value for non-financial companies is 39 127 and for financial companies is 14 186. The asset size mean value of non-financial companies is 95 531 499.41 with a standard deviation of 306 057 508.837. The asset size mean value of the financial companies is 86 580 527.57 with a standard deviation of 254 633 015.328.

Invrec indicates a maximum value of 649 796 000 for non-financial companies and 420 796 000 for financial companies. The minimum Invrec value is 0, the mean value is 5890 319.44, and the standard deviation is 21 353 876.863 for non-financial companies. For financial companies, the minimum Invrec value is 0, the mean value is 15 141 637.83, and the standard deviation is 36 372 301.220. The mean value of profitability (ROA) is -0.03, the standard deviation is 4.433, the minimum value is -12, and the maximum value is 16 for non-financial companies. For the financial companies, the maximum profitability value is 10, the minimum value is -9, the mean is -0.21, and the standard deviation is 3.430. Return on Assets (ROA) represents the profitability variable. The combined model shows the results of both financial companies and non-financial companies when combined.

The maximum and minimum values of the big4 dummy variable are as anticipated on both financial and non-financial companies. The mean audit fee values of both non-financial and financial companies are less than their standard deviations. Nevertheless, the mean audit fee value of non-financial companies is higher than that of financial companies, which shows that the average audit fees paid by non-financial companies are higher than that of financial companies. This may be due to differences in asset structure, since non-financial companies usually have a larger amount of assets with more plants and equipment. Financial companies are most likely to have lower inventories, plants, and equipment than non-financial

companies. Invrec indicates a maximum value for non-financial companies which is higher than that of financial companies. This might also be why non-financial companies pay higher audit fees than financial companies on average. Generally, when the asset size or inventory and receivables increase, the complexity of an organisation will also increase, resulting in higher audit fees due to long hours and more experienced auditors needed to perform an audit service. The differences in the results for financial and non-financial companies used in this research are in line with the research done by Simunic (1980), where he explained that the fee structures of financial and non-financial companies are different.

### **Linear regression model**

Three multiple linear regression models were used in this research to analyse and predict the relationships between the dependent and independent variables used in this study. The first model is for non-financial companies, the second is for financial companies, and the third is a combined model which includes both non-financial and financial companies. These three different models were used to see if the selected independent variables have the same impact on financial and non-financial companies since they have different asset structures.

The explanatory powers of all the three regression models used in this research are shown by the F-statistic which are presented on the ANOVA Table 2. The F-statistic of all three models is statistically significant (Sig= 0.000). The null hypothesis for the F-statistic is always that the model has no explanatory power. This means that none of the independent variables help to predict the dependent variables, which means that the model is spurious. From the results of the three models used in this research looking at the level of significance (Sig=0.000), this shows very strong evidence to reject the null hypothesis that the model has no explanatory power. The results show that the models can predict audit fees because they are statistically significant. Therefore, we accept that all three models have explanatory power.

**Table 2: ANOVA**

Model		Sum of Squares	df	Mean Square	F-Stat	Sig.
	<b>Non-financial</b>					
1	Regression	2357168.20	4	589292.55	382.37	0.00
	Residual	1263764.089	820	1541.34		
	Total	3620931.29	824			
	<b>Financial</b>					
2	Regression	370795.70	4	92699.93	67.20	0.00
	Residual	158.635.07	115	1379.04		
	Total	529430.78	119			
3	<b>Combined</b>					
	Regression	2712656.56	4	678164.46	436.24	0.00
	Residual	1461285.24	940	1555.21		
	Total	4173940.80	944			

- a. Dependent Variable: audit fees in the amount
- b. Predictors: (Constant), ROA in percentage, Asset size in amount, big4, Invrec in amount

**Source:** Authors' computation (2022) from the data obtained from IRESS research domain

## LINEAR REGRESSION WITH ROBUST STANDARD ERRORS

**Table 3: Parameter estimates with robust standard errors- non-financial companies**

Parameter	B	Robust Std. Error	T	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	37.25	0.49	74.58	0.00	36.27	38.24
Assetsize	0.03	0.01	3.14	0.00	0.05	0.01
Invrec	0.05	0.01	4.39	0.00	0.03	0.08
ROA	0.03	0.01	1.76	0.08	-0.00	0.05
Big4	3.16	0.09	36.28	0.00	2.99	3.33
N	825					
R-squared	0.65					
Adjusted R-squared	0.65					
F-static	382.37					
Prob(F-statistic)	0.00					

a. HC3 method

b. Dependent Variable: audit fees in the amount

**Source:** Authors' computation (2022) from the data obtained from IRESS research domain

Table 3 summarises the regression analysis results for the non-financial model. An adjusted R-squared of 0.649 is shown, which gives information about the fitness of the model. This means that 0.65 or 65% of the total variability in the dependent variable (audit fees) is explained by the independent variables used in the model. This result shows that the non-financial regression model is a slightly stronger as an explanatory and predictive model. The study used Adjusted R-squared to interpret

the fitness of the model instead of R-squared because of the high number of cases used in this research which tend to result in inflated results of R-squared. Adjusted R-squared considers these things and gives more accurate results for the explanatory power of the model. These results are showing that this model has a strong predictive and explanatory power. The explanatory power of the non-financial model is lower than the 80% and 72% that Davidson (2015) and Firer & Swartz (2007) found respectively.

Asset size, Invrec, and the big4 variable, are all individually positive and statistically significant in the prediction of audit fees. ROA is statistically insignificant (see Table 3). The constant for the audit fee model is statistically significant. The p-value measures the individual relationship between the independent variable and the dependent variable. The coefficient of asset size is 0.03, which shows that for every one-unit increase in asset size or every one rand increase in assets size, the audit fees increase by 0.03, holding other variables constant. This is in line with the prediction of this research, stating that there is a positive relationship between asset size and audit fees. This is also in line with the general rule of coefficients of the regression model, which states that every one-unit increase in the independent variable predicts an increase or a decrease in the dependent variable depending on the sign of the coefficient, that is whether it is positive or negative (Simon,1995).

The coefficient of Invrec, which is the proportion of total assets made up of inventories and receivables, is 0.05 (see Table 3). This shows that for every one-unit increase in inventories and receivables or for every one rand increase in invrec, the audit fees will increase by 0.05 holding other variables constant. This is in line with the prediction of the research that as the assets of the auditee (Invrec) increase, the audit fees also increase. ROA variable is not statistically significant, meaning that the auditee profitability did not have any positive or negative effect on audit fees determination from 2016 to 2020. The coefficient of the Big4 variable is 3.16, which explains that for every one-unit increase in big4 or for every addition of one big4 audit firm in the audit market holding other variables constant, the audit fees increase by 3.16. The results are in line with the prediction of this research, which expected the big4 variable to be an important determinant of audit fees by being statistically significant.

The results for the auditee size are similar to those found by the research done internationally by Kikhia (2015) and Naser & Hassan (2016), and research done in South Africa by Davidson (2015) and Firer & Swartz (2007). They all found that the auditee size carries a significant impact in determining audit fees. The results for the big4 variables of this research are statistically significant like that of Firer & Swartz (2007), who found the same results. The results found by Davidson (2015) were not similar because the big4 variable was not statistically significant, which further showed no evidence for the existence of an audit fee premium during the study. The results of this research and that of Firer & Swartz (2007) indicates the presence of audit fee premiums in the South African audit market.

**Table 4: Parameter estimates with robust standard errors- financial companies**

Parameter	B	Robust Std. Error	T-Stat	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	30.95	1.49	20.80	0.00	28.00	33.89
Assetsize	0.03	0.01	2.57	0.01	0.01	0.05
Invrec	0.11	0.03	4.49	0.00	0.06	0.16
ROA	-0.01	0.03	-0.32	0.75	-0.07	0.05
Big4	3.05	0.22	13.98	0.00	2.62	3.48
N	120					
R-squared	0.70					
Adjusted R-squared	0.69					
F-static	67.20					
Prob(F-statistic)	0.00					

a. HC3 method

b. Dependent Variable: audit fees in amount

**Source:** Authors' computation (2022) from the data obtained from IRESS research domain

Table 4 summarises the regression analysis results for the financial model. Adjusted R-squared of 0.69, which gives information about the fitness of the model, is shown. This means that 0.69 or 69% of the total variability in the dependent variable (audit fees) is explained by the independent variables used in the model. This result shows that the financial regression model has strong explanatory and predictive model. The explanatory power of the financial model is lower than that found by Davidson (2015) of 80% and found by Firer & Swartz (2007) of 72%.

Asset size, Invrec, and the big4 variables are individually statistically significant in predicting audit fees. ROA results are statistically insignificant. The constant for the audit fee model is statistically significant. The coefficient of asset size is 0.03, which shows that for every one-unit increase in asset size or for every one rand increase in asset size, the audit fees increase by 0.03, holding other variables constant. This is in line with the prediction of this research, which stated that a positive relationship exists between asset size and audit fees. This is also in line with the general rule of the coefficients of the regression model, which states that every one-unit increase in the independent variable predicts an increase or a decrease in the dependent variable depending on the sign of the coefficient, that is whether it is negative or positive (Simon, 1995).

The coefficient of Invrec, which is the proportion of total assets made up of inventories and receivables is 0.110. This shows that for a one-unit increase or one rand increase in Invrec, audit fees increase by 0.110. This is in line with the prediction of this research that as the assets of the auditee (Invrec) increase, the audit fees also increase. ROA variable was again not statistically significant, meaning that the auditee profitability did not have any positive or negative effect on audit fees determination. The coefficient of the Big4 variable is 3.050, which explains that for every one-unit increase in big4 or for every addition of one big4 audit firm in the audit market, the audit fees increase by 3.050. The results were in line with the prediction of this research, which was expecting the big4 variable to be an essential determinant of audit fees.

The results outcome for auditee size are similar to those found by the research done internationally by Kikhia (2015) and Naser & Hassan (2016), and that done in South Africa by Davidson (2015) and Firer & Swartz (2007). They all found that the audit size carries a significant impact in determining audit fees. The results for the big4 variables of this research were statistically significant, just like that of Firer & Swartz (2007), who found the same results. The results found by Davidson (2015) and Simon (1995) were not similar because the big4 variable was not statistically significant, which shows that there was no audit fee premium during the time of this study. The outcome of this research and that of Firer & Swartz (2008) shows the existence of audit fee premiums in the South African audit market.

**Table 5: Parameter estimates with robust standard errors - combined financial and non-financial companies**

Parameter	B	Robust Error	Std. T	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	36.64	0.47	78.10	0.00	35.72	37.56
Asset size	0.02	0.01	2.30	0.02	0.04	0.00
Invrec	0.06	0.01	5.15	0.00	0.03	0.08
ROA	0.02	0.01	1.69	0.09	-0.00	0.05
Big4	3.19	0.08	39.19	0.00	3.04	3.36
N	945					
R-squared	0.65					
Adjusted R-squared	0.65					
F-statistic	436.24					
Prob(F-statistic)	0.00					

c. HC3 method

d. Dependent Variable: audit fees in amount



**Source:** Authors' computation (2022) from the data obtained from IRESS research domain

Table 5 summarises the regression analysis results for the combined model. The model has an explanatory power of 0.65 (= Adjusted R-squared), which explains the proportion of the variance explained by the regression model. These results can be explained by saying that 0.65 or 65 % of the total variability in the dependent variable (audit fees) is defined by the independent variables used in the model. The study used Adjusted R-squared instead of R-squared because of the high number of cases used in this research which tend to result in inflated results for R-squared. Adjusted R-squared considers these things and gives more accurate results of the explanatory power of the model. This result shows that the combined regression model is a very strong explanatory and predictive model. The explanatory power of this model is lower than the one found by Davidson (2015), which was 80%, and Firer & Swartz (2007), which was 72%.

Asset size, Invrec, and the big4 variables are individually statistically significant in predicting audit fees. ROA results are statistically insignificant. The constant for the audit fee model is statistically significant. The coefficient of asset size is 0.02, which shows that for every one-unit increase in asset size or every one rand increase in asset size, the audit fees increase by 0.02, holding other variables constant. This is in line with the prediction of this research, which predicted a positive relationship between asset size and audit fees. This is also in line with the general rule of the coefficients of the regression model, which states that one unit increase in the independent variable predicts an increase or a decrease in the dependent variable depending on the sign of the coefficient, that is whether it is positive or negative (Simon, 2015).

The coefficient of Invrec, which is the proportion of total assets made up of inventories and receivables, is 0.06. This shows that for a one-unit increase or one rand increase in Invrec, the audit fees increase by 0.055. This is in line with the prediction of this research that as the inventories and receivables increase (Invrec), the audit fees also increase. The ROA variable is not statistically significant, meaning that the auditee profitability did not have any positive or negative effect on audit fees

determination. The coefficient of the Big4 variable is 3.20, which explains that for every one-unit increase in big4 or for every addition of one big4 audit firm in the audit market, the audit fees increase by 3.20. The results were in line with the prediction of this research, which was expecting the big4 variable to be an essential determinant of audit fees.

The results outcome for the auditee size is similar to that found by the research done internationally by Kikhia (2015) and Naser & Hassan (2016) and that done in South Africa by Davidson (2015) and Firer & Swartz (2007). They all found that audit size carries a significant impact in determining audit fees. The results for the big4 variables of this research were statistically significant, just like that of Firer & Swartz (2007), who found the same results. The results found by Davidson (2015) and Simon (1995) were not similar because the big4 variable was not statistically significant, which shows that there was no existence of an audit fee premium during the time of the study. The outcome of this research and that of Firer & Swartz (2008) shows the existence of audit fees premiums in the South African audit market.

### **Robust testing**

The following critical assumptions for linear regression validity were calculated and explained: multicollinearity, homoscedasticity, and the presence of outliers.

### **Multicollinearity**

In Table 6, the VIF values are greater than 10 and tolerance factor values are close to zero showing that a multicollinearity problem does not exist amongst the independent variables of all three models. Similarly, there is no evidence of collinearity found in the models as revealed in Table 6. This study corrected for heteroscedasticity by performing a re-run of multiple linear regressions with the robust standard errors in the SPSS to adjust for the presence of heteroscedasticity on the residuals.

**Table 6: Collinearity statistics**

<b>Collinearity Statistics</b>	<b>Non-Financial</b>		<b>Financial</b>		<b>Combined</b>	
	<b>Tolerance</b>	<b>VIF</b>	<b>Tolerance</b>	<b>VIF</b>	<b>Tolerance</b>	<b>VIF</b>

ASSETSIZE	0.68	1.47	0.98	1.02	0.76	1.32
INVREC	0.47	2.11	0.89	1.12	0.58	1.72
ROA	0.59	1.68	0.91	1.10	0.71	1.41
BIG4	0.92	1.09	0.91	1.10	0.93	1.08

a. Dependent Variable: audit fees in amount

**Source:** Authors' computation (2022) from the data obtained from IRESS research domain

### Test for outliers

The outlier<sup>1</sup> test for all three models was done to see if there were data points that highly deviated from other data points that were analysed. The study used Cook's Distance amongst several other methods to identify outliers. Cook's distance measures how much influence a predictable variable has on the predicted value of the outcome variable. Precisely it refers to how far an average predicted Y value would change if the record were dropped from the data set. When the maximum value is greater than one, it indicates a case of a potential outlier. From Table 7 below, the maximum values of Cook's distance of 0.050 for the non-financial model, 0.065 for the financial model, and 0.068 for the combined model were found, which are below the standard. This means that of all the 945 observations, no outlier was found since Cook's distance is lower than the benchmark value of 1.0.

**Table 7:1 Cook's distance**

Cook's distance	Minimum	Maximum	Mean	St. Deviation	N
Non-financial	0.00	0.05	0.00	0.00	825
Financial	0.00	0.07	0.01	0.01	120
Combined	0.00	0.07	0.00	0.00	945

**Source:** Authors' computation (2022) from the data obtained from IRESS research domain

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<sup>1</sup> An outlier is a data point that is different from the rest of the data.

## DISCUSSION OF THE RESULTS

The results of this research show that auditor size is statistically significant in determining audit pricing. This proves that audit firm size was a very significant audit fee determination factor in the South Africa audit market from 2016 to 2020. The results also show the presence of big4 audit fee premiums within the South African audit market. The result of this study is similar to Firer & Swartz (2007), who found the presence of big4 audit fee premiums as an audit fees determinant. In the research done by Davidson (2015), no presence of an audit fees premium in South Africa was discovered. The difference in these results shows that from the time of Davidson's (2015) research to the time of this research, many changes have taken place in the audit market of South Africa. Big4 audit firms' market concentration in South African might be a separate reason for the audit fees premium shown in this study. This is because, from the information found from the IRESS database, from 2016 to 2020, the market share of big4 was 91%. This point is supported by Wang, Sewon, and Chu (2014), who explained that when the audit market is concentrated with the big4 international audit firms, the result will be stiff competition which will promote the pricing of high audit fees. Ittonen, Sormunen, and Tronnes (2019) also highlighted that the monopolistic power of the big4 caused by market concentration is a cause for high audit fees which the big4 charge in the audit market for their services. This study supports the hypothesis that audit fees charged by the big4 are higher than those charged by small auditees (non-big4). As explained by Simon (1995), the results of this research might be caused by industry specialization, product differentiation, and name development which causes the big4 to charge higher audit fees. The results of this study are similar to Naser & Hassan (2016), Boon et al. (2005), and Gontheir-Besacier & Schatt (2007), that found the big4 variable to be an essential determinant of audit fees.

From all the three models, auditee size as measured by asset size and Invrec (inventory and receivables) were statistically significant. This shows that the size of an auditee is significant in audit fee determination. This aligns with the hypothesis that the bigger the asset size and portion of inventory, the higher the audit fees. These results are similar to earlier studies on audit fee determinants in South Africa (Simon, 1995, Firer & Swartz, 2007, and Davidson, 2015). Similarly, Kikhia (2015), Naser & Hassan (2016), and Simunic (1980) also found audit size to be a statistically

significant determinant of audit fees. The proportion of inventory and receivables was statistically significant because as Invrec increases, client complexity also increases, leading to high audit fees. The results of this research support the hypothesis that auditee size is positively associated with audit fees.

The profitability variable (ROA) results did not come out as predicted by this study's hypothesis that profitability would be statistically significant. Findings from the study revealed otherwise, implying that profitability is not statistically significant. Perhaps, this could be due to the fact that auditors do not consider profitability as a significant factor in determining audit fees. The results of this research are similar to the research done internationally by Chan et al. (1993) and Ezzamel et al. (2002), which did not find any connection between audit fees and auditee profitability.

This research aimed to observe if the audit fees determinant factors have the same impact on both financial and non-financial companies. The research has shown that even though the asset structures of financial companies and non-financial companies are different, the determinants of audit fees had the same impact on both between 2016 to 2020. This means that the same factors can be used in both non-financial and financial companies to determine the audit fees.

## **CONCLUSIONS AND RECOMMENDATIONS**

This research shows that auditee size and auditor size are essential determinants of auditee fees. Profitability is not crucial in determining audit fees. The conclusions from this study could be used as a tool to both parties, the auditors and the auditees, in the negotiations of audit fees. This will help both parties in avoiding unfair audit fees.

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# **Measuring service quality delivered to undergraduate students at a public university in South Africa**

Blessing Enakrire, Sam Lubbe and Bibin Mohan George

Blessing Enakrire, Faculty of Management and Law, University of Zululand, South Africa

Prof. Sam Lubbe, retired research professor, Management Sciences, MUT, South Africa

Bibin Mohan George, Teaching and Learning Development Centre, MUT, South Africa

## **ABSTRACT**

The paper conceptualises and critically examines the thinking behind the quality of services rendered to undergraduate students at a state-owned institution in South Africa. The population was 106 and out of 106 questionnaires administered, 87 were returned. The approach used for this study was a quantitative method for collecting information by asking survey questions to elicit information from the third-year undergraduate students of the Business Management Department at the University was followed. Findings from the study revealed that the modern facilities were used to deliver quality services of teaching, research, and supervision of students. The majority of respondents attested to study guide materials at the Department of Business Management. Some of the students have issues with languages such as isiZulu, isiXhosa and isiNdebele. Several recommendations were made which include: the need to have efficient, effective and quality services delivered on a regular basis. The need to have more recent and diverse materials that could meet the broad needs of the students. The study gives credence to effective and efficient services rendered by lecturers at different intervals in teaching, learning and supervisory roles. Improved consultation hours of lecturers and tutors could assist students with study weaknesses and with materials required. The study makes further recommendations that training programmes to improve educational and administrative processes be implemented at an institutional level to uphold the high quality of academic qualifications.

**Keywords:** Measuring service quality, undergraduate students, business management, Public University

## **INTRODUCTION**

There has been an increased level of competition in contemporary society among private and public organisations (Cardona and Bravo, 2012). This is due to the value placed on improving the quality of services in present-day organisations (Cardona and Bravo, 2012). At present, the level of discourse in higher education systems in relation to the service delivery offered to students has been on the increase. Cardona and Bravo (2012) and Ladhari (2008) argue that an increased demand for quality services requires education practitioners to be responsive to the evaluation of the curriculum that guides the growth and development of their products and services.

Institutions are mandated to educate students on the significance of quality access to education through teaching and learning offered as service delivery on a yearly basis (Cardona and Bravo, 2012). This is the ultimate goal of establishing higher institutions in the present-day information economy. On a similar note, Cardona and Bravo (2012) emphasise that students' ratings of teaching and learning in higher education have become the norm in the present-day education system, since overall satisfaction is important.

However, Sharabi and Israel (2013) dismiss the competition for potential students as a challenge, as there is less supply than demand. Higher education institutions continue to operate under the pressure to create results, even while the informational needs of students have lessened. The provision of support would foster lecturer and research fellowships in a multidimensional environment. This could be achieved through an enhanced culture of quality service delivery to customers (Ravert and Merrill, 2008). A multidimensional environment calls for alternatives where academics require adequate training in evidence-based areas of specialisation where practices are more practically oriented. Ravert and Merrill (2008) conclude that there is a need to enhance and promote academic training through the development of posters, symposiums and semi-evidence-based lectures and research that would increase the zeal to deliver quality services.

## LITERATURE REVIEW

Service quality is not a new term in the present-day knowledge economy. There are three different aspects to service quality. It determines the concept of services, the quality of services being rendered and the relationship that exists between the services rendered and the quality of such services. When considering or addressing the issue of services, what comes to mind for every individual is the satisfaction derived from such services (Zarei et al., 2012). The satisfaction derived from the services rendered helps to quantify the value of the services to customers. Studies by Naido and Nundlall (2010), Parasuraman et al. (1998), Al-Alak and Alnaser (2012), Khodayari and Khodayari (2011), and Zarei et al. (2012) established that 'service' is the assistance rendered to someone based on their needs.

Students who enrol at an institution of higher learning do so based on their information needs (Harvey and Knight, 1996). The transfer of knowledge and skills received/acquired by undergraduate students is usually done through experts in their field of study. The feature of service delivery comprises intangibility, inseparability and heterogeneity (Harvey & Knight, 1996). Reflections of services rendered to undergraduate students in institutions of higher learning are anchored in the consistency of transformation and the value of research and development (Zarei et al., 2012; Al-Alak and Alnaser, 2012; Okon and Akpoiroro, 2015). The quality of service delivery as a focus of study has gained popularity since the early 1980s (Parasuraman et al., 1998).

A view of the quality of any services rendered places expectations on performance. Parasuraman et al. (1998), and Okon and Akpoiroro (2015) argue that service quality is the measurement of how well services delivered match customer expectations. The measurement is dependent on the following five factors: reliability, responsiveness, assurance, empathy and tangibility (Parasuraman et al., 1998; Okon and Akpoiroro, 2015). The reliability of the service is an attempt to unpack the ability to produce services in a way that is accurate and dependable (Parasuraman et al., 1998; Okon and Akpoiroro, 2015). Responsiveness is the willingness of an organisation or the owner of the business to help customers in the timely/prompt provision of services (Parasuraman et al., 1998; Okon and Akpoiroro, 2015).

Service delivery is perceived as being satisfactory when there is a positive response (Khodayari Khodayari, 2011; Parasuraman et al., 1985). When negative signs occur, the perception is that services are unsatisfactory. However, the individual analyses must be an aggregate the overall performance of the services in terms of satisfying the customers' needs. The concept of quality in this study reflects true and actual products delivered to the customer. Quality is a concept that has evolved from time immemorial, although it is still new to some people in service delivery (Shauchenka and Buslowska, 2010). Lovelock and Wirtz (2007) emphasise that quality can be viewed from five perspectives, namely: a transaction view, a product-based approach, a user-based approach, a discussion approach, and a value-based approached (Lovelock and Wirtz, 2007). The interpretation of the perspectives is provided below.

The transaction view sees an high quality as synonymous with innate excellence. Top marks promise high standards of achievement. The view here is that it could often be applied to the performance of the visual arts. Most of the time, people learn to recognise high quality not only through experience gained from repeated exposure, but also through managers or customers. These help them achieve the results they want. The product-based approach sees quality as a precise and measurable variable. Differences in quality reflect differences in the amount of ingredients or attributes possessed by the product or service. However, this view fails to take account of differences in the tests, needs and preferences of individual customers or even entire market segments (Lovelock and Wirtz, 2007).

Okon and Akpoiroro (2015) emphasise that the measurement of quality services is a difficult task when proper measurement is carried out. Determining a quality product is also a difficult task considering the number of products out there. However, the quality being assessed relates to the satisfaction derived from a particular service rendered to customers. Numerous services exist, including medical services, transport services, humanitarian services, information services, to mention just a few. The outcome of services rendered varies from one person to another, irrespective of context (Okon and Akpoiroro, 2015).

The quality of any service may depend on several factors, although dependent on the customer concerned. The quality of service is seen from the angle of simple

structure, capability, and ease of use of products or facilities (Mahapatra and Khan, 2007). Brookes and Becket (2007) and Okon and Akpoiroro (2015) emphasise that during assessment of the quality of services rendered to customers, internal and external views of customers and their environment are significant. These help in assessing the knowledge gap. The five-dimensional SERVQUAL scales as mentioned by Parasuraman et al. (1998), Harvey and Knight (1996), and Okon and Akpoiroro (2015) are better instruments when dealing with the quality assessment of service delivery to customers.

Wang et al. (2004) argue that customer-perceive service quality as one of the primary success factors in gaining a suitable and sustained competitive advantage for both manufacturers and service providers. However, the benefit of such service quality can be attributed to a number of causal relationships. A study by Coetzee, Van Zyl and Tait (2013) reported that service quality offered in the banking sector has revealed causal relationships between service quality, client satisfaction and client loyalty. These make the benefits associated with service quality vague if not well addressed, managed and measured (Coetzee et al., 2013).

A study by Jain, Sinha and Sahney et al. (2011) suggested that, when dealing with service quality, multi-dimensional and hierarchical constructs are involved. This can be narrowed down to the programme quality (input quality and academic facilities, university–industry interaction and curriculum) and quality of life (support facilities, non-academic processes, and campus and interaction quality) (Jain et al., 2011). Based on studies by Jain et al. (2011), the author of this study distinguishes between service quality in institutions of higher learning based on students' expectations.

Studies by Oliver (1993) and Coetzee et al. (2013) emphasised that the importance placed on service quality and service satisfaction continues to be on the increase. Quality and satisfaction are indicators of competitiveness in exploring the benefits associated with the marketing strategies used by academics and practitioners. The relationship and nature of the two sides of the coin (customer evaluations and satisfaction with service quality) are now research paradigms explored in studies of the present-day.

The service producer tries all it can to please the consumer in order to have direct and continuous contact. Many factors affect the level of satisfaction according to



Grönroos (1983). This includes service production, the extensive involvement of people, security measures and the creation of standards. For example, it could be difficult to handle security brokerage and, at the same time, keep the service quality level when thousands of entrepreneurs are involved.

To avoid communication gaps and other service failures, Gonzalez and Garzia (2008) argue that it is important for the organisation to know what the customers are thinking about their services so that failures can be avoided and improvements can be made. They need to know which attributes to measure and which factors can be taken from different tools to determine customer satisfaction. Time and cost also affect customer satisfaction, and a quick response can be crucial to satisfying the customer. Maxham (2001) states that if problems in service delivery occur, the result can be that customers have to wait.

Gonzales and Garzia (2008) raise questions that address the organisational problem while quality services are rendered to customers. This concerns what organisations should do to address the expectations of customers. Meeting these expectations requires that organisations provide such services while implementing system recovery. It is also important to combine different techniques to obtain the best results in identifying customer satisfaction. When techniques are combined, service quality is improved. Gonzales and Garzia (2008) reiterate that, when there are proper mechanisms in place, meeting user information needs and service quality requirements could lead to results.

The effectiveness of service delivery by employees involves a process of redesigning the final product and commitment to organisational growth in the production and delivery process. Schneider and Bowen (1985) and Tornow and Wiley (1991) established a correlation between the attitudes of employees, customers and employers when dealing with perceptions of service quality. They found that when customers are satisfied with services rendered, there is a direct effect on the perceptions of employees, employer or organisation and management practices. Schneider and Bowen (1985) and Tornow and Wiley (1991) further noted that the values and attitudes of employees not only affect customer satisfaction, but also the overall effectiveness of the organisation as employees have a direct impact on the values and attitudes of the organisation.

Student information needs in terms of the acquisition of knowledge should correlate with the perception of the actual products offered by the organisation (O'Neill & Palmer, 2004). This attestation also supports what Guolla (1999) states about the perceived satisfaction of students towards service quality delivery and is quite different from customers who just go to the shop and buy goods. The anticipation of student information needs could motivate the students to further their studies or take more courses at the university (Marzo-Navarro, Pedraja-Iglesias and Rivera-Torres, 2005; Wiers-Jenssen, Stensaker and Groggaard, 2002; Mavondo et al., 2004; Schertzer and Schertzer, 2004).

### **Factors that could promote quality service delivery to undergraduate students**

The promotion of quality service delivery implies diverse avenues through which service delivery is offered to students in any institution of higher learning. This would ensure that the service quality in higher education continue to improve. The factors involved, according to Becket and Brookes (2006), are the methodological approach, education quality (Cheng and Tam, 1997), conducive environment (Shank and Walker, 1995) and perceptions of performance (Cronin and Taylor, 1992). There is considerable debate (by Becket and Brookes, 2006) emphasising the diverse ways through which service quality can be promoted in higher institutions. Education quality is a vague and controversial issue in contemporary times (Cheng and Tam, 1997).

A survey of the service marketing literature, as stipulated by Parasuraman et al. (1988) and Cronin and Taylor (1992), emphasised that there are two approaches to measuring service quality. One, SERVQUAL (Parasuraman et al., 1988) and two, SERVPERF (Cronin and Taylor, 1992). One of the popular and significant strategies used to promote quality service delivery is SERVQUAL. SERVQUAL shows that theoretical foundations serve as a gap model for the distinctive difference between customer expectations and performance perceptions (Parasuraman et al., 1988; Cronin and Taylor, 1992). The customer believes that expectations about service delivery serve as standards or reference points against which performance is judged. Therefore, customer perception is subject to assessments of the actual service offered by the providers (Zeithaml et al., 2006). They identify some factors that can

influence expectations as word of mouth communications, personal needs, past experience of the service and external communications from the service provider.

There are several empirical applications of the SERVQUAL paradigm that measure service quality in institutions of higher learning (Hill, 1995; Anderson, 1995; Cuthbert, 1996; Kwan and Ng, 1999; Sohail and Shaikh, 2004; Sahney et al., 2004; Tan and Kek, 2004). The SERVPERF paradigm is less popular than SERVQUAL in the context of institutions of higher learning (Oldfield and Baron, 2000). More recently, a new industry scale called HEdPERF developed comprising a set of 41 items (Firdaus, 2006). This instrument can be used as a means of considering not only academic components, but also aspects of the total service environment as experienced by the student space.

The SERVPERF and HEdPERF scales were compared in terms of reliability and validity and the superiority of the newly purposed measurement instrument was confirmed (Firdaus, 2006). An alternative model based on the importance-performance paradigm (Martilla and James, 1977; Hermmasi et al., 1994; Hawes and Rao, 1985) assumes that students will use different criteria to make their evaluation, which are likely to vary in importance. The importance can be defined as “a reflection by consumers of the relative value of the various qualities attributes” (O’Neil & Palmer, 2004). This requires data gathering based on students’ assignments in order to obtain customer perceptions of actual performance (O’Neil and Palmer, 2004; Joseph, Sekhon, Stone and Tinson, 2005; Angell, Hefferman and Megicks, 2008). SERVQUAL and SERVPERF scales do not take into account the relative importance that students attach to the five dimensions.

The SERVQUAL instrument seems to have the most support in the service quality research field (Seth et al., 2005). Criticism in the literature of this study indicated that SERVQUAL is still the most widely applied instrument in service quality research (Gryna, et. al., 2007; Kotler, 2000; Palmer, 2008; Wilson et al., 2008; Baki et al., 2009; Bayraktaroglu and Atrek, 2010; Chau and Kao, 2009; Etgar and Fuchs, 2009; Gilmore and McMullan, 2009; Kumar et al., 2009; Lai et al., 2007; Ruiqi and Adrian, 2009; Wong et al, 2008). A universally accepted service quality model indicates that measures are also strategies used to promote service quality (Wisniewski, 2001).

When there is value consensus of the basic values and application possibilities between the SERVQUAL instruments it is seen as a means of improvement. No other instrument appears to be superior to SERVQUAL. It has been rigorously tested in different research projects. The researchers believe that there is no limitation in the application of its methodology in different service contexts (Wisniewski, 2001). This has unquantifiable measures that promote substantive attention.

Zenger (2013) asserts that service quality, competitive advantage and growth would help create value for both the customer and the organisation. Zenger (2013) further states that value creation takes the form of actions that use strategies to configure valuable capabilities, activities and resources in the organisation. The promotion of service quality to students brings about strategic insight and foresight to both customers and the business owner. The transformation of services into many products is also a strategy that could promote the business of the providers (Hefley and Murphy, 2008). At present, the service delivery in the economy has grown to where developing countries continue to flourish in the areas of education, health services, financial services, hospitality (tourism), human services, telecommunications and information technology (Hefley and Murphy, 2008).

As new trends in curricula and teaching methodologies have evolved, support for students' knowledge and skills has also changed. The widespread recognition that universities now have of virtual products and knowledge is an important factor in economic and social change today. This growth calls for reasoned action for increased competitiveness of the higher education market all over the world.

Therefore, for implementation of university curricula in this environmental change, customers' (students) perceptions of service quality need to be re-addressed (O'Neill and Palmer, 2004). This could bring about a better understanding of services rendered by both academic and non-academic staff. This key influence on students' decisions would help them to choose the most suitable institution and courses.

## **RESEARCH METHODOLOGY**

The research approach used for this study was a quantitative approach and a survey research method using a questionnaire to elicit information from the third-year undergraduate students of the Business Management Department at the University. The sampling method adopted for this study was a census and consisted of the entire

population of third year students in a particular year. The study employed a descriptive survey design and the target population was all third-year undergraduate students of the Business Management Department (106 undergraduate students). The process of collecting the data from the respondents took three weeks.

The characteristics of the population are generalised based on the sample adopted for this study. Therefore, for the purpose of this study, the census sampling was applied. This comprises of the entire population of year three business management undergraduate students and the population earlier mentioned consisted of 87 third-year undergraduate students sampled. However, for the purposes of this study, the researcher used a quantitative method (questionnaires) to elicit data and information from the third-year undergraduate students of the Business Management Department. The questionnaire was made up of closed-ended questions to draw from the knowledge, experience and insight of the respondents. The researcher formulated several themes, as indicated in the objectives of the study. This helped to develop subtitles such as: delivery of service quality, student population and service delivery systems, accessibility to teaching resources, and the environmental influence on the development of students, among others.

This study applied some of the SERVQUAL instrument questions. This was done to reflect some of the items that were originally used in the adapted SERVQUAL questionnaire. The research instrument was tested as reliable by administering it to ten students from the Richards Bay campus. The significance of the data analysis is that it helps the researchers to arrange and give meaning to a large amount of data collected during research the investigation (Babbie and Mouton, 2006). For this study, the descriptive and inferential statistics tools were used to analyse the quantitative data collected from respondents.

## **RESULTS FROM DATA**

The presentation of results considered diverse questions that could enhance answering the research objectives. In line with this, the questions below were raised regarding the variety of services rendered, access to quality services, teaching approaches and materials used by lecturers, and challenges experienced by undergraduate students based on the quality of services rendered at the Department of Business Management of the University under study.

## **Analysis and interpretation of demographic data**

Descriptive, ANOVA and independent sample T-tests were conducted on IBM SPSS version 25. The descriptive test was conducted to give a summary of results. A one-way test between ANOVA groups was conducted to compare means across service quality, teaching approach and teaching material. The T-test was conducted to compare the means of service quality, teaching approach and teaching material across gender. Before the results are presented, the demographic background of the respondents was presented below, as indicated. The majority of the respondents who participated in the study are female (65.5%). The results presented also indicate that the majority of respondents who participated in the study are between the age range of 22 and 26 years (64.4%). As observed, most of the students are mature before entering university for their studies. This could be as a result of several factors, such as: family responsibilities, financial stress, inability to complete entry requirements, and delays in obtaining admission, among others. The findings suggest that embarking on further studies at a younger age is very important.

The highest number of respondents who participated in the study are in their third year at the university (46%). The reason for this was that the study was census based. Findings indicate that in year three of the Business Management Department, students are required to study and pass several modules before graduating. The findings suggest that, at level three at the Business Management department, in-depth knowledge is required of students in order to advance their practice in the profession when they graduate.

## **Analysis and interpretation of research questions**

The analysis considered the following sub-areas based on the research questions raised in this study.

- Service quality
- Teaching approach
- Teaching material

***What do undergraduate students think about service quality at the Business Management department of the University?***

The results reveal that the overall mean (3.54) and standard deviation (0.63) of the construct service quality presented in Table 2 suggest that most respondents tend to agree with the question of service quality. The overall mean (3.81) and standard deviation (0.992) are similar to the above results for a similar study by Mohan George and Lubbe (2022) at a university of technology in South Africa. This means that students have a positive perception about the quality of service provided in the department of Business Management at the University. The results also indicate that, of all the statements made on service quality rendered, 58.6% of the respondents tend to agree with the statement that: "The Department of Business Management has modern facilities for quality services of teaching, learning, research and supervision". 66.7% of the respondents tended to agree with the question that "physical facilities" used by lecturers at the Department of Business Management are visually appealing to the undergraduate students". 54% of the respondents tended to agree with the statement that "The Department of Business Management has adequate and qualified teaching staff that should render quality services to the undergraduate students at intervals". In a similar study conducted by Mohan George and Lubbe (2022) at a university of technology in South Africa, students' expectations on modernisation of infrastructure, availability of the equipment for the utilization of information-communication technologies and availability of teaching materials were not met. Student's expectations regarding physical resources and the quality of service of the academic and non-academic staff (their knowledge and competencies in administration) were not met either. Students perceived the quality of human resources at the faculty as the best with respect to what they had experienced, which is important for a higher education institution in both the studies being compared. It was evident throughout the study that students' expectations of the services at the faculty are high.

The authors envisaged that the provision of modern facilities for quality services of teaching, learning, research and supervision can be attributed to the management of the university and the South African government making adequate budgetary allocations for the institution. This serves as a support system that strengthens the institution on a regular basis. This impression of the provision of facilities led Cardona and Bravo (2012) and Ladhari (2008) to emphasise that increased demands by students for quality services force the education system to improve responsiveness

to the evaluation of curricula that guide the growth and development of their products and services. Cardona and Bravo (2012) and Ladhari (2008) reiterate that there is a need to develop the efficiency and effectiveness of services rendered to students. The reason is that service quality is of the utmost priority in the present-day economy. Service quality could be further advanced with the aid of up-to-date IT. This could facilitate the growth of the organisation and could motivate staff.

Lodesso, Van Niekerk, Jansen and Müller (2018) affirm that the quality of services rendered to students differs from one institution to another. The services rendered are anchored on availability and accessibility to material resources, which can be used and applied in delivery of the services. Malik, Danish and Usman (2010) remark that the quality of services in education is fundamental in the present-day knowledge economy. What distinguishes universities and corporate organisations from each other is the nature of quality services rendered (Järvinen and Suomi, 2011). Therefore, the extent to which undergraduate students think about service quality rendered cannot be over-emphasised or undervalued.

The provision of adequate support in terms of bursaries and materials in the library could transform students' vigour in their studies. Based on the findings, the author suggests that the government of South Africa should make provision for budgetary allocations to tertiary institutions across the country. This would promote the transformation, development and growth of the institutions.

Musiige and Maassen (n.d.) make mention of different factors that could promote quality service delivery to undergraduate students. This comprises individual factors (lecturers and other supporting staff), organisational factors (institutions/universities), funding factors (adequate budgetary allocation) and research culture (activities that could enhance research, teaching, learning, and other activities). When appropriated, these advance the rate at which staff members work to achieve their aims and those of the organisation. No organisation in the present knowledge economy can function better and thrive without the factors mentioned above (Lechuga and Lechuga, 2012). They contribute to the organisation's self-determination, self-efficacy and self-sufficiency in terms of autonomy, proficiency and empathy (Lechuga and Lechuga, 2012; Hardré et al.,



2011). These factors are material to research activities, which result in the unpacking of strategies that could promote quality service delivery to undergraduate students.

**Table 2: Service quality rendered to undergraduate students**

Service quality rendered	Mean	Std Dev	Strongly Disagree	Disagree	Undecided	Agree	Strongly agree
	3.54	0.63					
The Department of Business Management has modern facilities for quality services of teaching, learning, research and supervision	4.06	0.85		9	2	51	25
				10.3%	2.3%	58.6%	28.7%
The physical facilities used by lecturers at the Department of Business Management are visually appealing to the undergraduate students	4.00	0.72		5	7	58	17
				5.7%	8.0%	66.7%	19.5%
The Department of Business Management has adequate and qualified teaching staff that should render quality services to the undergraduate students at intervals	4.10	0.81	1	3	9	47	27
			1.1%	3.4%	10.3%	54.0%	31.0%
Do you think the office space required of lecturers at the Business Management Department is big enough to	2.80	1.25	14	30	7	31	5
			16.1%	34.5%	8.0%	35.6%	5.7%

facilitate discussion classes and group presentation should such a need arise?							
The institution provides students with adequate support in terms of bursary and materials in the library, as such I like the services rendered to us as students	3.15	1.39	15	17	11	28	16
			17.2%	19.5%	12.6%	32.2%	18.4%
Are there any counselling/guidance that could be of assistance to you if your lecturer, tutor and colleagues could not help you in your academic performance?	2.90	1.13	8	30	18	25	6
			9.2%	34.5%	20.7%	28.7%	6.9%
Have you enjoyed the services rendered to you at the Department of Business Management since you registered in this institution?	3.78	1.20	7	8	7	40	25
			8.0%	9.2%	8.0%	46.0%	28.7%

Data from field 2016

***What do undergraduate students think about the teaching approach offered at the Business***

Respondents indicated that the teaching approach offered at the Business Management Department is proportionate, as shown in the descriptive results (mean = 3.50; SD = 0.56), while the study at the university of technology indicates that the mean is 3.575 and the SD is 0.865, closer to the values obtained. The construct 'teaching approach' presented indicates that most of the respondents tend to be undecided insofar as to the statements regarding teaching approach are concerned. This means that students might have a positive or negative perception about the quality of the teaching approach offered in the Business Management Department, University.

However, the results highlight some of the questions asked about the teaching approach. Of all the questions asked, the results indicate that most of the respondents tend to agree with the following statement: "Are the teaching, learning and supervision given to students by lecturers done with passion for the job or with attitude and frustration" (50.6%). This means that these students believe that the lessons are taught with passion for the job or an attitude and frustration. A similar response, as stated above, was recorded in the study conducted by Mohan George and Lubbe (2022), where respondents were not satisfied with the quality of the academic services provided at the university of technology. The Department of Business Management has every reason to comply with this standard of service quality: the willingness, sympathy and ability to assist students in whatever way possible, depending on the obligations of the lecturer.

Therefore, the ability of qualified lecturers to support the teaching approach offered extends to the quality service offered to undergraduate students. Meanwhile, organisational growth and staff productivity are assisted by the combined effort of reassuring and enthusiastically assisting clients whenever the need arises. For organisations to remain viable, the continuing recruitment of qualified and adequate staff becomes necessary. To reconcile the educational readiness of students in South Africa and the international community, the issues with the availability of resources needed for their research projects needs to be resolved (Manea, 2014).

However, even if the materials are available, without adequate and qualified lecturers it becomes difficult to achieve this goal.

***What do undergraduate students think about teaching materials at the Business Management Department of the University?***

In this section, respondents indicated what they thought about the teaching materials at the Business Management Department. The results reveal that the overall mean of 3.24 and the standard deviation (0.71) of the construct teaching material indicate that majority of the respondents tend to be undecided about the statements used to measure teaching material. A similar pattern was apparent in the study conducted at the university of technology by Mohan George and Lubbe (2022), with a mean of 3.33 and standard deviation of 1.264. The results could mean that students are not sure if the teaching material provided is helpful or not, which means that they have a positive or negative perception about the teaching material provided by the university and the same goes for the study mentioned above by Mohan George and Lubbe (2022). A similar study revealed students perception that the teaching materials available were not up-to-date. The results further demonstrated that the majority of the respondents tended to agree mostly with the following statement “Do you feel secure in your local language (e.g. isiZulu, isiXhosa, isiNdebele, etc.) while studying in group work with other fellow students?” (59.8%). In another similar study conducted by Mohan George and Lubbe (2022) at a university in South Africa, the students perceptions scored the following item as one of the lowest “Teaching materials are available and up-to-date (study guides, lecture notes, course guides, lab manual etc.”. In that study, the item had an average of 3.33 and a standard deviation of 0.71.

The implication of this result is that certain indices are crucial in rendering quality services to students at the Department of Business Management. For quality assurance purposes, the provision of and access to teaching materials, enabling lecturers to carry out their obligations, are important. The conclusion drawn from Table 4 is that the mean and standard deviation varies, indicating that teaching materials could foster quality services rendered. The teaching, learning, research

and supervision of students cannot be feasible if there are no adequate teaching materials, which lecturers need to work with. Therefore, for the Business Management Department to develop their support system in providing quality services to students, they need to be strategic in their plans to acquire teaching materials, both physical and virtual.

It can be noticed that local languages such as isiZulu, isiXhosa, and isiNdebele, among others, do influence the standard of English, especially during the course of interaction, study, discussion and learning by the undergraduate students. The local languages have weakened learners and even made it slower for them to and or even preventing them from advancing in their studies. The respondents attest that they feel more secure while studying in groups and with fellow students using local languages. This implies that undergraduate students love and cherish their local languages. It gives them a sense of belonging and security. It helps them to not be shy when discussing and sharing knowledge and ideas with one another.

The findings suggest that the use of Standard English is very prevalent in the diverse areas of specialisation and knowledge economy. However, the local language is equally important, and there is a need for support in this regard. The provision of a tutor who could make learning more interesting for undergraduate students becomes crucial. The rationale behind this was for certain ideas or concepts, taught by the lecturers and which the students could not understand very well to be translated by tutors into their local language/s. Importantly, the author of this study suggests that a lack of exposure to local languages could result in intimidation from fellow students and friends, family background and upbringing. However, even though the results affirm that the students feel comfortable with the use of their local language/s, they are also encouraged to make good use of Standard English. It is envisaged that the students would be better able to adapt to unpredictable futures and possibilities. Parasuraman et al. (1985) refers to the Gaps Model, which has always been a major standard for the analysis of service quality determinants.

The analysis by Parasuraman et al. (1985) was based on four factors, namely: expectations gap, standards gap, performance gap and communication gap. These are fundamental in assessing the services rendered in any context and content. The responsibilities placed on the individual depends on what roles they have to play. The variables of adaptation among many people, shyness, languages (written and

spoken), either for class, work or other activities of students, are part of the expectation gap. Sharabi and Davidow (2010) list certain factors which could affect services rendered to students or customers. These factors include cost/benefit problems, measurement issues in terms of satisfaction derived, efficiency and effectiveness of the operation/service rendered, misplacement of trust by employees and managers, indiscipline, logistics and information technologies for service delivery which could militate against the achievement of quality service delivery to students (Sharabi and Davidow, 2010).

**Table 3: Teaching materials at the Business Management Department**

Teaching material	Me an	Std dev	Strongly Disagree	Disagree	Undecided	Agree	Strongly agree
	3.2 4	0.7 1					
Are there adequate study guides with information to supplement material for students at the Department of Business Management?	3.4 0	1.2 3	7	19	8	38	15
			8.0%	21.8%	9.2%	43.7%	17.2%
Frequent communication only in written and spoken English is a challenge for students.	2.6 7	1.3 2	17	33	9	18	10
			19.5%	37.9%	10.3%	20.7%	11.5%
Do you think your local language (e.g. isiZulu, isiXhosa, isiNdebele, etc.) has an effect on the standard English study?	3.1 4	1.3 8	11	27	5	27	17
			12.6%	31.0%	5.7%	31.0%	19.5%
Do you feel secure in your local language (e.g. isiZulu, isiXhosa, isiNdebele, etc.) while studying in-group work with other fellow students?	3.7 5	1.1 1	7	7	4	52	17
			8.0%	8.0%	4.6%	59.8%	19.5%

## DISCUSSION OF FINDINGS

It can be established from the results that the majority of participants were female and the age range of participants varied, but those with a high percentage are those between 22 and 26 years (64.4%). The study was a census study, hence it concentrated on third-year, undergraduate students at the Business Management Department at the university. Major findings from the study indicate that undergraduate students at the Business Management Department of the university have a positive perception of the service quality provided as compared to a similar study conducted by Mohan George and Lubbe, 2022 in which respondents were not satisfied with the current quality of the academic services provided at that institution.

The Department of Business Management has modern facilities for quality services of teaching, learning, research and supervision as per the perceptions of students, which is contrary to a similar study conducted at a university of technology in South Africa by Mohan George and Lubbe (2022). In that study, the students responded that the modernisation of infrastructure and availability of the equipment for information-communication technologies are to be improved. The physical facilities used by lecturers at the Department of Business Management are visually appealing to the undergraduate students and there are adequate and qualified teaching staff who could render quality services to the undergraduate students.

The construct 'teaching approach' shows that the undergraduate students believe that the lessons they receive were given with passion for the job or an attitude of frustration. A similar response as stated above was recorded on the study conducted by Mohan George and Lubbe (2022), where respondents were not satisfied with the current state of the quality of the academic services provided at the university of technology. The Department of Business Management has every reason to comply with this service quality. The willingness, sympathy and ability to assist students in any way depends on the obligations of the lecturer. The results indicate that undergraduate students are not sure if the teaching material provided is helpful or not. In the study by Mohan George and Lubbe (2022), the students' perception was that the available teaching materials are not up to date. The results further demonstrate that the majority of respondents tend to agree mostly that they feel more secure in their local language (e.g. isiZulu, isiXhosa, isiNdebele, etc.) while studying in groups with fellow students.



The study established that, there were variances in the results obtained in the service quality, teaching approach, and teaching material used for undergraduate students at the Department of Business Management and the university as a whole. The same observation was recorded in a similar study by Mohan George and Lubbe (2022), at a university of technology where students suggested that academic support services be provided and more attention paid in handling and resolving students' problems timeously. Based on the provision of adequate support in terms of bursaries and materials in the library, the students were satisfied with the service quality rendered. The provision of bursaries and materials in the library contributed by the government of South Africa making adequate budgetary allocations to tertiary and research institutions across the country. It can be noticed from the findings that there are adequate and qualified teaching staff at the Business Management Department. The provision of consultation hours given by lecturers and tutors, counselling and guidance was consistent with the availability of lecturers.

The issue of the use of local language among some students in the university results in a lack of exposure, intimidation by fellow students and friends, family background and upbringing in rural areas. This does not stand in the way of the goal of quality service provision to undergraduate students. There was a correlation between the variables of age, level of education and number of years spent in the university, which triggered the kind of service quality rendered. Amidst these findings, the study recommends consideration of a prospect theory, embedded in literature reviewed by Parasuraman et al. (1985); postulation, which consists of expected performance (EP) (tangibles, reliability, responsiveness, assurance and empathy); and perceived performance (PP) (tangibles, reliability, responsiveness, assurance and empathy). This was consistent with the results obtained on knowledge gaps in service quality delivered to undergraduate students at the Department of Business Management and the university as a whole.

## **CONCLUSION**

The conclusion of this study is based on the research question raised at the beginning, where service quality is developmental in nature. This takes on the form of deeds, routines or work exerted to meet the customers' needs, which comprise reliability, responsiveness, assurance, empathy and tangibility in relation to service delivery.

Taking into consideration the findings of this research and literature reviewed, these recommendations were directed to service quality delivered to undergraduate students based on their information needs. The institution needs to invest more efforts in both academic and non-academic staff education and training, and to implement educational programmes with a clear aim to improve educational and administrative processes to maintain the high quality of academic qualifications.

The recommendations were identified by the researcher, as knowledge gaps in service quality delivered to undergraduate students at the Department of Business Management and the university as a whole.

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# **Factors constraining the planning and design process for public health construction projects in KwaZulu-Natal, South Africa**

M.G. Gcaba and B. Yalezo

Mr M.G. Gcaba and Dr B. Yalezo, Graduate School of Business and Leadership, University of KwaZulu-Natal, South Africa.

## **ABSTRACT**

This study investigated the factors that constrain the planning and design process of Public Health construction projects in KwaZulu-Natal, South Africa. A preliminary study showed that in the KwaZulu-Natal Department of Health, 63% of capital projects overran their time allocation for the planning and design stages. This resulted in several delays in the construction of public health projects. The planning and design stages consist of the project scope definition, concept and design development and documentation of the design. The structure of the construction project team consists of three groups of experienced Built-Environment Professionals: Department of Health, Department of Public Works and consultants.

A qualitative research methodology was applied in this study. A purposive sampling technique was used to select respondents where semi-structured interviews were undertaken to collect data. Fifteen experienced professionals who have undertaken public health construction projects in KwaZulu-Natal and had experience with the planning and design process were interviewed. Thematic data analysis techniques were used to analyse the data collected. The analysis identified six themes from which findings were discussed. The themes were as follows:

1. Project appraisal system;
2. Definition of project scope;
3. Construction procurement;
4. Training and development;

5. Project leadership; and
6. Technical policies and standards.

The study found deficiencies in the definition of project scope, delays in the appraisal of project planning and design deliverables, poor construction procurement practices, ineffective stakeholder collaboration and communication. The study recommends the review of the project appraisal committees with a view to eliminate duplicated process steps. It further recommends improvements to construction procurement practices to improve the quality and schedule in the appointment of consultants. Training and development are essential in improving skills in the scope definition, procurement and project management practices. Improved collaboration and communication amongst stakeholders are necessary for enhanced information flow and effective teamwork.

**Key words:** health infrastructure, project management, project planning and design, project appraisal, project delays

## INTRODUCTION

Despite numerous interventions, project delays continue to be a prominent feature in construction projects worldwide due to various factors (Agyekum-Mensah, and Knight, 2017). Most construction projects in South Africa do not finish on time due to numerous delays (Mukuka, Aigbavboa and Thwala 2015). Whilst most studies have concentrated on finding the causes or overcoming delays in the construction stage, limited studies have focused on delay challenges in the planning and design phases particularly in the public sector (Agyekum-Mensah and Knight, 2017).

The Department of Health in KwaZulu-Natal has a responsibility to finance, construct, upgrade, renovate and maintain public health infrastructure. Public health infrastructure involves construction of facilities such as hospitals, clinics, nursing colleges, etc. In order to create, improve and sustain a quality Public Health, the public health infrastructure acts as a nerve centre for the realisation of this critical public service (Turnock, 2001). The benefits of construction projects go beyond the healthcare service. The construction projects play a vital role in the social and economic upliftment of a country's society. Such projects increase the country's Gross Domestic Product (GDP), create jobs, develop skills and sustain local business.

According to Gunduz and Yahya (2015) corporate organisations and governments use construction projects to pursue and sustain specific development goals. Liu, Gao and Cheah (2016) suggest that countries with increased investments in public infrastructure are likely to realise positive economic returns. However, timeous delivery of construction projects is by far a worldwide challenge (Mpofu, Ochieng, Moobela, and Pretorius, 2017). Failure to manage the risks that are likely to constrain project success compromises the project's desired outcomes such as timely delivery and a project's budgeted cost (Khan and Gul, 2017).

The Department of Health implements construction projects in accordance with the Framework for Infrastructure Delivery and Procurement Management (FIDPM), effective 01 October 2019. The Framework seeks to provide a standardised implementation process for the government's Infrastructure Delivery Management System (IDMS). The IDMS is South Africa's blueprint for the management of infrastructure assets through operations and maintenance, programmes and projects. Both the IDMS and the FIDPM aim to provide a standard control framework for effective Lifecycle Project Management. The project lifecycle's End-of-Stage-deliverables are shown in Table 1, below.

**Table 1: Project Lifecycle End-of-Stage Deliverables**

#	Stage	End-of-stage deliverable
1	Initiation	<b>Initiation Report:</b> Defines the project objectives, needs, acceptance criteria, organisation's priorities and aspirations, procurement strategies.
2	Concept	<b>Concept Report:</b> Presents through testing of alternative approaches, an opportunity to select a particular conceptual approach. The ultimate objective is to determine whether the project is viable to proceed to Design Development.
3	Design Development	<b>Design Development Report:</b> Develops in detail the approved concept to finalise the design and definition criteria, sets out the integrated developed design, and contains the cost plan and schedule for one or more packages
4	Design Documentation	<b>Design Documentation Report:</b> Provides production information that details; performance definition, specification, sizing and positioning of all systems and components that would enable construction (prior to tender).

#	Stage	End-of-stage deliverable
5	Works	<b>Works Completion Report:</b> Completed works, which are capable of being occupied or used.
6	Handover	<b>Handover Report:</b> Provides for the handover of the completed works to the user, training and the record of information relating to the completed works.
7	Close-out	<b>Close-out Report:</b> Provides a record that both parties have fulfilled all obligations of the contract and close-out report issued.

**Framework for Infrastructure Delivery and Procurement Management.** (Adapted from Republic of South Africa National Treasury, 2019, p. 12-16).

The processes of the IDMS, like any other system are prone to operational ineffectiveness due to several constraints present in a system environment. According to Goldratt (2017), the father of the Theory of Constraints (TOC), the constraint in a project process determines the project duration. This constraint is referred to as a critical path or simply the longest path. According to Goldratt (2017) it is only after the constraint has been identified, that it can be explored or elevated to reduce the operational process time or project duration. The IDMS Project Management process comprises of seven stages. Each stage requires that a deliverable is accepted formally through a gate prior to proceeding to the next stage. This dependency relationship determines the duration of the project.

The Department of Public Works was appointed by the Department of Health as the Implementer of health capital projects in KwaZulu-Natal. The roles and responsibilities between the two parties were managed through a signed Service Delivery Agreement (SDA). The Department of Public Works used the Design by Employer as a preferred contracting strategy. The use of this strategy was mainly due to the department's limited capacity to design and execute works in-house. During the project planning and design phase, there were several interactive approval processes requiring collaborative effort between the two departments and the appointed Professional Service Providers. This resulted in numerous delays and frustrations during the planning and design project process. These delays placed undue pressure on the later project stages, mainly Procurement and Works stages.

The research focused on the planning and design process of the KwaZulu-Natal Department of Health infrastructure projects implemented by the Department of Public Works in South Africa. The research also focused on the policies and procedures governing the planning and design of public health construction process. Furthermore, the study further investigated the role of procurement selection strategies and the appointment of professional service providers in construction projects. The study further focused on the training and development aspects of the project team members.

The objectives of the study were:

- i. To identify the constraining factors in the policies and procedures governing the planning and design for public health construction projects in KwaZulu-Natal, South Africa.
- ii. To ascertain the training and development level of officials and consultants in the planning and design of public health construction projects in KwaZulu-Natal, South Africa.
- iii. To identify construction procurement issues that hinder the project planning and design of public health construction projects in KwaZulu-Natal, South Africa.

The study provides a South African perspective on the factors constraining the planning and design of public health construction projects. This study provides officials in the departments of Health and Public Works in KwaZulu-Natal, South Africa, with scientifically determined factors constraining the planning and design of construction projects. If the recommendations of this study are adopted by the two departments, the performance of projects during the planning and design stages will improve.

## **LITERATURE REVIEW**

### **Project management methodologies, theories and practices**

The Project Management Institute (PMI) through its Guide to Project Management Body of Knowledge (PMBok Guide) provides the project management processes necessary for effective project management. The PMI provides guidance on predictive, agile and hybrid project lifecycles. This study focused on a traditional predictive methodology. The projects identified in this study were implemented using a predictive method. Furthermore, the policies and procedures used to implement the projects were also based on a predictive project life cycle. In this study, the PMBoK

Guide is a foundation for the literature review mainly because of its international popularity and its adoption in the South African public sector.

Below is a discussion of the Theory of Constraints and some of the critical project management practices.

### **Theory of Constraints (TOC)**

The Theory of Constraints (TOC) was propounded by Eli Goldratt in the late 1970s and formally published in 1984 in his renowned management-oriented novel, *The Goal*. TOC is a Thinking Process (TP) for a system process improvement. The TOC method reduces process time through the identification and management of system constraints (Ikeziri, Souza, Gupta and de Camargo Fiorini, 2019). This theory suggests that each system, organisation or project has at least one constraint. The constraint determines the performance of the system or the time it will take to complete the task or a process. In a project environment, completing the project faster helps investors achieve the return on investment sooner than later (Izmailov, Korneva and Kozhemiakin, 2016). To realise project benefits within the shortest reasonable time, the TOC provides for the following 5 process steps to eliminate or mitigate the constraint:

- i. Identify the constraint (know the limitation in achieving the desired result)
- ii. Explore the constraint (optimise the system at the constraint)
- iii. Subordinate everything to the constraint (all other processes must align to the constraint)
- iv. Elevate the constraint (add resources or change approach)
- v. Avoid inertia (if no improvement, then go back to step i)

The knowledge of the project constraints and constraint management tools by Project Leaders improves the ability for the realisation of optimised results in an organisation or project (Šukalová and Ceniga, 2015).

### **Project management practices**

#### **Critical Chain Project Management (CCPM)**

Time wastage in a process or project occurs through several ways. The Critical Chain Project Management (CCPM) is a method for reducing project duration using



contingency reserves or buffers by scheduling, executing and controlling a project. The Critical Chain is the longest path in the project but with a contingency reserve. The purpose of the contingency reserve is to protect the critical chain from variations and assist the project to finish on time. However, contingency reserves may also be wasted and projects may still finish late. Below are the examples of time wastage behaviours which require attention to prevent wastage of contingency reserves.

#### **i. Bad multi-tasking**

The involvement of a resource in multiple concurrent projects is one of the major causes of project delays. The delays result in a knock-on-effect and the contingency reserves are wasted, resulting in projects finishing late. According to Goldratt (2017), a resource allocated to multiple tasks or projects, tends to start certain tasks late because of demands or delays in other concurrent tasks. When delays in one project or task negatively affect the other project or task, such occurrence is referred to as bad multi-tasking. The Department of Health's Project Management Information System (PMIS) shows that a Project Leader manages several projects at the same time and thereby is prone to bad multi-tasking (KwaZulu-Natal Department of Health, 2020).

#### **ii. Student syndrome**

Contingency reserves are also wasted through a "Student Syndrome" behaviour. The student syndrome is associated with the behaviour of students who, when allocated homework or assignments against a specific deadline, procrastinate to avoid working on them. It is normal that students will not attend to their schoolwork until the last minute. Students have a reputation of wasting whatever extra time they have at their disposal (Nicholas and Steyn, 2017). Project Leaders also fall into this trap. They waste the contingency reserve on the non-critical tasks until those tasks become critical and the project completion is delayed.

#### **iii. Parkinson's Law**

Parkinson's Law refers to a notion that no matter how much time is allocated to a task; the task will generally increase to use up the allocated time. To mitigate the effect of Parkinson's Law on the project schedule, effective and continuous monitoring and

control strategies are necessary. Such strategies may be in the form of weekly or monthly progress reports and performance appraisal sessions. Knowledge of a variety of time management practices will assist the team to select the most relevant tool or technique for a specific project type or scenario.

#### **iv. Task dependency**

Elder (2017) suggests that contingency reserves are also wasted through task dependency. In task dependency, the wastage occurs when a predecessor task is finished earlier but the successor task is not ready to start. Alternatively, the task on the critical path is delayed due to knock-on delays resulting from non-critical tasks and in some instances; two or more paths may merge at a point resulting in a phenomenon called the merge-point bias. The merge-point bias increases the probability of delays in the start time of the successor task or milestone (Nicholas and Steyn, 2017).

#### **v. Roadrunner effect**

The contingency reserve is also wasted through a “roadrunner” effect. This concept is represented by a mathematical expression, “ $2 + 2 = 5$ ”. The roadrunner effect happens in two ways. Firstly, it occurs if one resource finishes its task but does not alert the next resource that the task is complete so that the following task can start. Secondly, it occurs when one resource finishes its task, approaches the next resource, but the next resource is not ready to start on the task immediately as it may be busy with something else. Subsequently the next task cannot start straight away resulting in a contingency reserve wasted (Elder, 2017). To mitigate a roadrunner effect, regular project progress meetings are recommended to improve communication and collaboration amongst project stakeholders.

### **Work Breakdown Structure (WBS)**

In project management, prior to project scheduling, the work is broken down into small portions known as work packages using a Work Breakdown Structure (WBS). The WBS is not a scheduling method but provides a structured way of coordinating the resource allocation to various elements of the WBS and to create cost centres for work packages and assist in the developing activities for the Gantt Chart.

### **Network diagrams**

The network diagram is a presentation of the relationships among various tasks in a phase or project. Each task has a time duration that contributes to the overall completion duration of the phase or project. A network diagram is used to sequence the project tasks and visually show the dependencies amongst the tasks.

### **Critical Path Method (CPM)**

The CPM is one type of a network diagram. The longest path in a project network diagram is referred to as a critical path. It is the only path without a float or time reserve. Goldratt (2017) argues that the CPM does not help in controlling the project schedule since the critical path can be further delayed by several factors. However, the CPM serves as an indicator whether the project is time based on the approved schedule baseline.

### **Project Evaluation and Review Technique (PERT)**

The PERT is another form of the network diagram. It uses three-time estimates to provide for uncertainty in a phase or project duration. It uses the probability approach to calculate the expected time for the completion of the task using the values for the most likely time to finish a task (M), optimistic time to finish a task (O) and pessimistic time to finish a task (P) (Karabulut, 2017; Akpan and Agadaga, 2020).

### **Gantt chart**

The Gantt chart method was invented by Henry Gantt in the early 1900s. It is a form of bar chart which consists of horizontal lines representing various activities and their duration. It is the most popular and user-friendly method to date. It also integrates with other project scheduling methods with ease (Sharon and Dori, 2017). The advantage of using the Gantt chart is that it is user-friendly and non-technical project stakeholders can easily understand it.

### **Earned Value Management (EVM) Model**

The EVM model is a popular method of analysing the project performance using the scope, schedule and cost metrics (PMI, 2017; Bryde, Unterhitzenberger, and Joby, 2018). The EVM provides the project team and stakeholders with a graphic representation of the health of the project. It provides a scientific way of estimating the project's estimated cost at completion and the estimated end date based on the accuracy of the latest available information.

## **Risk register and issue log**

Risk management is a critical knowledge management area in project management. ISO 31000 (2018) defines risk management as “coordinated activities to direct and control an organisation with regard to risk”. The Risk Register is developed very early in the project and updated throughout the life of the project (Xuan, Moslehpour and Tien, 2019). The Risk Register normally provides the description of a risk, the owner of the risk, the date the risk was identified and the risk response.

Issues are project risks that materialise during the project planning, design or execution. Other issues come outside the Risk Register. To manage these issues in a coordinated manner, the issues are recorded and updated in an Issue Log document. According to Mossalam (2020), the Issue Log is a beneficial tool to update stakeholders with progress made in addressing the identified issues.

The project management practices discussed above are not exhaustive. The PMBoK Guide provides a comprehensive list of the generally accepted project management practices. It therefore becomes critical that Project Leaders are familiar with all tools applicable to each knowledge area of project management.

In South Africa, the IDMS is the country's methodology for the delivery of infrastructure. It provides guidelines and processes for the public infrastructure portfolio, programme and project delivery management. It clarifies roles of client departments and those of implementers. However, the IDMS adopted PMBoK Guide as best practice methodology for delivering projects. The tools and techniques contained in the PMBoK Guide apply to the IDMS.

## **Policies and procedures**

The performance of construction projects relies heavily on the quality of coordination or integration amongst project activities through consideration of processes, people and business environments (PMI, 2020). According to Papke-Shields and Boyer-Wright (2017), policies and procedures provide a structure to the project planning process and ultimately have a major influence on processes for project planning. PMI (2020) suggests that policies and procedures form part of the Organisational Process Assets (OPAs) and require review through lessons-learnt feedback on an ongoing basis. According to Guarino (2020), policies are a rulebook of an organisation whilst procedures provide a systematic instruction aimed at achieving a desired result.

However, Brinkerhoff, Frazer and McGregor (2018) suggest that a rigid policy and procedure environment is likely to harm an organisation. They suggest that a learning organisation must adapt to environmental changes through procedures that have flexibility and promote innovation.

Procedures relating to public infrastructure in South Africa are contained in the Framework for Infrastructure Delivery and Procurement Management (FIDPM). The FIDPM provides a framework for the procurement of infrastructure projects in South Africa with an aim to create procurement and delivery efficiencies (Phillips, 2018).

The FIDPM requires that each project stage be formally approved prior to proceeding to the next stage. The project cost estimates undergo a process of progressive elaboration, updated, and approved with their corresponding stage deliverables. Progressive elaboration refers to a process of improving the accuracy of the project cost estimate as the project progresses and more information about the project is established.

### **Training and development**

Training and development refers to organisational activities that provide the workforce with continuous education and learning with an aim to improve their competencies (Sartori, Costantini, Ceschi. and Tommasi, 2018). Skills, knowledge and motivation amongst employees are critical for the organisation's competitiveness in the market. According to Janev, Hadzi-Vasileva and Sofijanova, 2018, training and development of individuals in organisations leads to improved effectiveness in an individual, team and organisation. According to Rodriguez and Walters (2017), training and developing individuals within an organisation leads to job satisfaction and reduces employee frustration. Consequently, a developed employee is likely to stay in an organisation.

The development and training must include both hard and soft skills. According to Ibrahim, Boerhannoeddin and Bakare (2017), companies are reluctant to invest in the soft skills training programmes due to challenges of accounting for the benefits attained. However, soft skills provide an individual with improved emotional intelligence, communication and collaboration skills necessary for improved team performance.

A successful and sustainable organisation manages its existing knowledge whilst creating and processing new knowledge. Trained and developed individuals have an

ability to create new knowledge and to innovate. According to Nonaka (1994), knowledge is created through a continuous interaction of explicit and tacit knowledge. Knowledge is continuously created through the lessons-learnt process. Each project is different and lessons learned differ according to experiences of each project. McClory, Read and Labib (2017) suggest that a repository of lessons-learnt provides information across projects on the successes and failures of projects. This prevents reinvention of the wheel and repeating past mistakes.

### **Construction procurement**

Procurement of goods and services within the construction industry is referred to as Construction Procurement. Such procurement is carried out on a competitive basis, especially the procurement of public goods and services. Petterson (2018) suggests that the appointment of professional service providers through selection of the lowest bidder normally overlooks appropriately experienced firms. With respect to public procurement, other legal, social and economic objectives require consideration other than the cost efficiency. Such objectives may include environmental protection, job creation, and advancement of certain groups (Patrucco, Luzzini, Ronchi, Essig, Amann and Glas, 2017).

According to Muhammad, Adamu and Ladi (2015), knowledge of procurement strategies available to the public construction sector is limited amongst built environment professionals. Eriksson (2017) suggests that the procurement strategy selection coupled with a delivery system must suit the project type, scope and objectives. According to Eriksson (2017), construction procurement strategies are either Design-Build (DB) or Design-Bid-Build (DBB). The DB procurement strategy brings in the contractor early in the design phase and resulting in consultants and a contractor collaborating in the development a most effective way of delivering a project. The DBB procurement strategy provides for an appointment of the consultants to design and document the design for tendering by contractors. Only when construction estimates against approved details are finalised that a tender for the appointment of the contractor is advertised. The latter has a two-stage procurement process whereas the former only has a one-stage procurement process. However, there are several advantages and disadvantages of each procurement strategy.

The main criticism of the DB procurement strategy is that the client is likely to lose control of the project unless the appointed team under the DB procurement strategy is ethical and honest (Saaidin, Endut, Samah and Ridzuan, 2016). To mitigate and control risk, most public clients decide to limit their procurement practices to a DBB procurement strategy. The DBB strategy gives the client control since consultants take instructions directly from the client, however, it takes longer to deliver a project compared to the DB procurement strategy.

According to Laryea and Watermeyer (2016), limitations associated with DB and DBB procurement strategies can be mitigated by appointing both the consulting team and contractor through separate contracts upfront. In this DBB procurement strategy known as Early Contractor Involvement (ECI), a contractor is appointed through a framework contract. A framework contract allows for the appointment of one or more contractors to undertake construction work of a specified value over a specified timeframe in line with the agreed terms with the client. According to Laryea and Watermeyer (2016), the benefits of the ECI approach are like those of the design-build or EPC or turnkey except that the client appoints consultants and contractor separately. However, this approach has its own drawbacks. The use of the ECI in public procurement is limited because of its contractor selection procedure (Wondimu, Hailemichael, Hosseini, Lohne, Torp and Laedre, 2016). The projects identified in this study were procured using the DBB procurement strategy due to its popularity in government departments.

## **RESEARCH DESIGN AND METHOD**

This study used a qualitative research method. The researcher chose non-probability sampling over probability sampling. A suitable non-probability sample for this study was a purposive sample. Purposive sampling was ideal for this exploratory study since it allowed for the selection of the most experienced professionals in each built environment professional discipline. All selected professionals had participated in the planning and design of public health construction projects in KwaZulu-Natal, South Africa. This study sought to understand process-specific issues in the planning and design of KZN public health construction projects. The purposive sample targeted fifteen (15) experienced built environment professionals consisting of architects, engineers, quantity surveyors and project managers. Five respondents were selected

from each of the three respondents' groups, i.e., Department of Health, Department of Public Works and private consultants.

A data collection tool utilised in this study was a semi-structured questionnaire. The questionnaire guided the researcher on areas needing exploring during the interviews with respondents. Each interview took approximately one hour through Zoom or Microsoft Teams.

The interviews were audio-recorded (through prior consent) including note taking. Attention was paid to non-verbal communication e.g., tone. Interviews complied with the government regulations regarding the COVID-19 pandemic.

## **DATA ANALYSIS**

This study used a Thematic Analysis method. The research objectives and the semi-structured interviews informed the data collection process. This process involved the keeping of transcripts and progress summaries. Data that was found useful to answer the research questions was used to develop key patterns. These patterns were organised into themes. These themes represented building blocks of the project planning and design environment and provided a systemic approach to analysing and identifying the constraining factors.

The following six themes were identified.

- i. Project appraisal system
- ii. Definition of project scope
- iii. Construction procurement
- iv. Training and development
- v. Project leadership
- vi. Technical policies and standards

The findings are presented and discussed under each theme concurrently.

## **RELIABILITY AND VALIDITY OF THE STUDY**

This study involved senior and highly experienced professionals in government departments and consulting firms. These professionals, with many years of experience, had an appreciation of the objectives of the study. The tone of confidence or lack thereof and the facial expression were analysed to rate the confidence in the



responses. Probing questions were posed to respondents to ensure that provided responses did not have ambiguity. As respondents were being interviewed, common issues became clear and collaborated during the analysis of data.

The researcher adopted the following measures towards ensuring reliability and validity of the study:

- i. Supported data analysis and interpretations with a clear thought process
- ii. Bounced ideas with other researchers to mitigate bias
- iii. Invited all respondents to provide feedback on the interview transcript
- iv. Used data triangulation, analysing responses from three respondents' groups to produce a comprehensive set of findings

The researcher was mindful of the pitfalls of such research methods and conducted interviews and data analysis with objectivity.

## RESULTS AND DISCUSSION

Table 2 below, shows interview questions, research objectives and the corresponding themes.

**Table 2: Questionnaire, research objectives and themes**

#	Interview questions	Research Objective	Themes
1	In your experience, how would you describe the duration of planning and design of public health projects in KwaZulu-Natal?	i	Project Appraisal System
2	In your opinion, do you believe projects presented at the design committees are sometimes rejected unduly?	i	Project Appraisal System
3	How can the planning and design appraisal process be improved?	i	Project Appraisal System
4	In your opinion, are there any duplications amongst design appraisal committees?	i	Project Appraisal System
5	Are you informed on process steps for the planning and design of public health projects in KwaZulu-Natal?	ii	Training and development
6	What time management technique/s do you use to control project planning and design milestones?	ii	Training and development

#	Interview questions	Research Objective	Themes
7	Do you believe you need more training in the planning and design of health projects?	ii	Training and development
8	Do you think you need training on the Framework for Infrastructure Delivery and Procurement Management (FIDPM)?	ii	Training and development
9	How can the procurement of professional service providers be improved?	iii	Construction procurement
10	Are you aware of various contracting strategies approved for public sector projects?	iii	Construction procurement
11	What in your experience, are the contributing factors to delays in the planning and design of public health projects in KwaZulu-Natal?	i, ii, iii	Definition of project scope Project leadership Technical policies and standards
12	Do you have any other ideas on how to reduce the planning and design time for public health projects in KwaZulu-Natal?	i, ii, iii	Definition of project scope Project leadership Technical policies and standards

The results and discussion are presented under each theme.

### **Project appraisal system**

The project appraisal system consists of all steps that the project undergoes from the Project Initiation stage until the end of the Project Design Documentation stage. The majority of the respondents described the current system as quite low in efficiency, ineffective, frustrating, bureaucratic, terrible, unnecessarily, extremely, and ridiculously long. The respondents identified the following constraining factors in the system:

- i. Lack of administrative capacity resulting in the backlog of HIAC approvals and delays in the process,
- ii. New officials lacking background of the previous discussions and decisions delaying the next stage approval process,
- iii. Unnecessary rejection of a submitted report due to only one discipline is lacking,

- iv. Duplication of the activities and lack of standardisation between the HIAC and DRC committees,
- v. Inadequate delegations at committee level or appropriate officials,

The above five factors were collaborated by all three respondents' groups. The duplication of processes and the rigidity of the system were the overarching factors.

Respondent 11 stated that,

*“Parallel processes for HIAC and DRC. DRC has a different format as minimum requirements, which vary from HIAC. You have to change formats to suite each committee. Often DRC disagrees with a design that HIAC approved. Consultants vent frustration and some motivate for extra fees for duplicated work and resubmissions. It would be better to go back to a Joint Plans Approval Committee structure (JOPAC) to avoid one-step forward and two steps back.”*

Respondent 14 said,

*“The duplication creates an unnecessary obstacle on the project. Every professional has his/her own professional judgement; if two professionals review the same issue, you inevitably have differing views. Simplify the process and give a decision-making responsibility to a board or person.”*

Emphasising the inconsistency in the membership of the appraisal committees, Respondent 14 said,

*“Projects are dynamic and evolve through stages and certain officials who sit on appraisal committees do not have a background of how the project has evolved. They come in cold and at times have not read the reports tabled by the Consultant or Project Team; hence the Committee loses its efficiency.”*

## Definition of project scope

The management of the project scope is critical to the success of any construction project. Clearly defined project scope increases the probability of success in any project. Respondents unanimously agreed that scope of most projects was incomplete, unclear and undefined. This resulted in major disruptions in the latter stages of the planning and design of public health construction projects. These disruptions proceeded to the construction stage, causing major scope creep problems. The respondents identified the following problems associated with project scope in the planning and design of public health construction projects:

- i. Unclear Problem Statement in the Project Brief
- ii. Inadequate stakeholder engagement in the definition of project scope
- iii. Lack of knowledge of type of work by Project Leader
- iv. Lack of scope confirmation by the appointed consultants prior to developing a Project Concept
- v. Inadequate project investigations

The respondents acknowledged the uniqueness and complexity of Public Health infrastructure projects owing to the varying end-user needs. Managing complex stakeholder groups created a challenge for the project planning and design process as several scope changes kept disrupting the achievement of the project milestones.

The missing process step between the Project Initiation and Project Concept deliverables was identified as a major concern. The respondents suggested that an Inception Report is prepared by the appointed consultants and approved or accepted by the client prior to the development of the Concept Report. An Inception Report provides an opportunity for the consultants to undertake initial project investigations and confirm the project scope. It eliminates any misunderstandings between the client and consultants.

Respondent 03 said,

*“Public Health infrastructure is more complex because it involves too many stakeholders. Other departments like Education are not so complex. Apart from multiple stakeholders, there is also special and*

*hierarchical complexity where some stakeholders are not in the same location, hierarchical complexity emanates from different units and their hierarchies.”*

In emphasising the above contributing factors to the project delay, Respondent 06 said,

*“There is lack of communication and lack of detail in the Project Brief. The Brief must address failures that have occurred in the building or system before and why they occurred and how such failures were addressed. If the Brief is weak, this becomes a problem with approvals to include additional scope and this delays the approval process.”*

Respondent 08 stated that:

*“Initiation and concept stage gaps can hamper the progress, resulting in additional work identified for inclusion in the scope of work. Getting approval from the client to execute additional work results in delays. Sometimes the project scope requires PSP appointment on Electrical Engineering, but suddenly the project scope expands to Civil Engineering”.*

Respondent 10 amplified the above opinion by adding,

*“Complexity of some of the health projects is high. Other sectors you do not need specialists like Medical gas, Electrical and Mechanical requirements, and Infection Prevention and Control requirements.”*

## **Construction procurement**

Challenges associated with construction procurement continue to haunt service delivery across departments and municipalities in the country. A majority of respondents mentioned that members of the project consulting team were not appointed simultaneously. This lack of coordination in the appointment of consultants delayed the design activities of the project. A majority of respondents said that the inefficient procurement of consultants resulted from the appointment of inappropriately skilled officials in the procurement committees.

A majority of respondents said that the current tendering system of awarding the lowest bidder is not effective. Literature also supports this finding. According to Petterson (2018), the appointment of professional service providers through selection of the lowest bidder normally overlooks appropriately experienced firms. The importance of compensating the design consultants fairly for the work done was also emphasised since; most consultants offered high discounts to secure KZN Department of Health contracts during tender stage and failed to deliver.

Respondents suggested the establishment of a database of prequalified consultants. This database would allow new entrants to join whilst in place. They recommended the updating of the database on a regular basis e.g. staff exited, staff joined and performance on completed projects.

The construction procurement strategies were discussed with the respondents. Most respondents were aware of various contracting strategies. They indicated that they normally use Design by Employer, a form of Design-Bid-Build (DBB) construction procurement strategy but only used the Design and Construct, a Design-Build (DB) construction procurement strategy on the COVID-19 intervention projects for the first time. The lack of in-depth knowledge of various forms of procurement strategies amongst officials and consultants is consistent with the suggestion by Muhammad *et al.* (2015) that the use of all procurement strategies is prevented by the limitation in knowledge of procurement strategies available to public sector by built environment professionals.

Most respondents used a DBB procurement strategy and held the view that the DBB procurement strategy works and there was no need to consider other strategies. Respondents suggested that the DB construction strategy came with higher risks for the Department of Public Works. Below are some of the risks highlighted by the respondents:

- i. Accountability is weak and the Department is immensely exposed
- ii. The Department does not have a representative in a project
- iii. More opportunity for collusion between contractor and consultants
- iv. Consultants may leave the project prior to completion and leave the Department exposed

- v. Temptation to alter things especially if Department needs are not clear
- vi. Accounting for quality is compromised since consultants appointed by contractor
- vii. Exposed to too many variations, especially to non-standard design like renovations
- viii. The contractor rushes to start building even if the design is not completely ready

Officials suggested that alternative procurement strategies need to be considered on specific type of projects. They mentioned that during Covid-19 they used the DB procurement strategy for the first time since early project delivery was the essential requirement. All respondents were unaware of the Early Contractor Involvement (ECI) procurement strategy and had not used it before.

Respondent 04 said,

*“The Project Leader must be committed to try something new and solve problems in a different way. It requires an ownership culture and a paradigm shift. Design by Employer is a default way of minimising risk. If we want to implement projects faster, we need to be comfortable with risk. However, you need to create an iceberg (body of knowledge) behind you that supports you.”*

Respondent 08 said,

*“Contract forms are like a toolbox in your garage. Each tool has its own application. Design by Employer works. End of design stage you have a project that addresses a project brief. However, this should not be the default option. Analyse the type of project to see if an alternative contract form is not more appropriate then select the appropriate contract form. Each contract form has its pros and cons. You need to understand each contract form and understand their strengths and limitations and adopt the best suited accordingly.”*

## Training and development

As suggested by Sartori *et al.* (2018), training and development refers to organisational activities that provide the workforce with continuous education and learning with an aim to improve their competencies. There was evidence that such organisational activities are minimal resulting in poor management of construction projects.

Project management consists of various useful tools and techniques as outlined in literature. The aim of the tools is to assist Project Leaders to manage projects successfully. A majority of respondents did not use any formal project management techniques or tools in the monitoring and controlling of the planning and design process. A majority of respondents lacked knowledge of time management tools and techniques like Network Diagrams, TOC, CCPM, PERT and EVA. Knowledge was only limited to Gantt charts. Failure to use project management tools and techniques by consultants and officials is evident by the extent of delays experienced in most projects. The weakness in the management of the project schedule affects the annual budget allocations and results in disruptions in the outer year project implementation plans.

Respondent 01 said,

*“There are instances where I need better understanding of concepts and reasoning behind certain logic in the FIDPM e.g. procurement stages, maintenance and equipping aspects of projects.”*

Respondent 07 said,

*“Assumptions are made about skills and competencies of officials. It is assumed that disciplines like quantity surveying, engineering and architecture come armed with project management knowledge. Not much training is provided for these disciplines. Identify skills gaps in the Project Leader and provide support through a mentoring person who will impart their experience and knowledge.”*

## Project leadership

Respondents suggested that the high workload prevented Project Leaders from focusing on projects allocated to them. It was reported that officials in the two departments did not even have sufficient time to read and provide necessary input in



the design reports prior to tabling them at project appraisal committees. A majority of the officials said that high vacancy rates resulted in Bad multi-tasking as officials failed to cope with the workload. Goldratt (2017) suggests that a resource allocated to multiple tasks or projects, tends to start certain tasks late because of demands or delays in other parallel tasks. According to Goldratt (2017), delays emanating from Bad multi-tasking result in a knock-on-effect and the contingency reserves are wasted, resulting in projects finishing late.

Respondent 08 said,

*There are too many projects for the number of people managing projects. At one time, I was running with 13 projects. The biggest frustration is not having time for all these projects. As a result, smaller projects are neglected.*

Respondent 09 said,

*DPW regions are not fully capacitated; there are too many unfilled posts. The head office cannot support the regions as they have their own projects to focus on.*

This study recommends that a guideline for workload calculation be developed and used in the allocation of work to Project Leaders.

### **Technical policies and standards**

The Department of Health in KwaZulu-Natal has design policies and standards that guide the consultants in the design of health facilities. These documents guide design of engineering and building installations. Respondents mentioned that the last update was in 2011 and most people who used to update these documents in the Department of Health have since retired. The lack of updated documents resulted in the delays in the design process. The standard layout drawings of the clinics and community centres also required review. PMI (2017) suggests prototyping as a mitigation for scope creep. Prototyping involves amongst others, creation of standard layouts and specifications to speed up the concept and design process.

Respondents emphasised a need to standardise certain aspects of the planning and design requirements to provide simplicity and uniformity. This will save both time and cost and create certainty in quality parameters.

Emphasising on the standardisation, Respondent 12 said,

*“Mechanical and Electrical are exposed to lots of issues than other people. The Department of Health policy documents were last updated in 2011. Those policies are an important tool. Standards and specification assist everybody as they set uniform standard requirements. New people need a guide.”*

Respondent 05 said,

*“Infrastructure design policies are outdated. Stakeholders are not involved in the identification of uncompliant materials, finishes, etc. resulting in gaps in the planning documents.”*

The As-Built drawings are vital in an organisation since they provide the layout and the design of the building showing all latest improvements. As-Built drawings play a pivotal role in the development of the Concept Report for the project. However, most of the As-Built drawings are not easily accessible or not available at all. This causes delays in the design of required improvements to the existing infrastructure since consultants require to produce As-Built drawings from scratch. As-Built Drawings form part of the initial site information necessary to undertake design on existing buildings. The lack of a well-functioning library for this critical resource causes problems in the planning and design of projects. There are innovative ways of scanning buildings and reproducing drawings in a short space of time. This comes at a cost; however, As-Built drawings are necessary not just at project management level but for asset management activities daily.

Respondent 15 said,

*“Private sector is far too quickly. The process takes weeks and is succinct whilst public sector takes about a year. Private sector always on point. They normally have as-built drawings which public sector do not always have.”*

## **CONCLUSION AND RECOMMENDATIONS**

### **Conclusion**

Preliminary investigations showed that in the KwaZulu-Natal Department of Health, 63% of capital projects were delayed between the Project Initiation Stage and Design Documentation Stage (KwaZulu-Natal Department of Health, 2020). This study sought to identify constraints in the planning and design process of these projects with an aim to propose improvements. The study consisted of five project objectives. The following major constraints were identified by the study:

- i. Duplicated processes prolonged end-of-stage approvals
- ii. Poor or inadequate project preparation
- iii. Inability to exploit alternative procurement strategies
- iv. Ineffective project procurement processes
- v. Limited knowledge and use of project management tools, techniques and practices
- vi. Limited standardisation of project requirements or specifications
- vii. Unavailability of as-built drawings
- viii. Lack of scope confirmation by consultants
- ix. Insufficient training skills transfer programmes
- x. Project Leader work overload
- xi. Insufficient approval delegations

### **Recommendations**

The recommendations to address the constraints above, are summarised hereunder:

- i. Explore creation of a joint project appraisal committee comprising of appropriately skilled officials from both departments.
- ii. Train officials on project preparation.
- iii. Update the HIAC policy to include an Inception Report deliverable as part of the consultants' terms of reference.

- iv. Update the engineering and building policies, specifications and standard layouts. Identify other opportunities for standardisation.
- v. Train officials on project preparation, applicable policies, standard operating procedures, alternative construction procurement strategies, project management best practices and soft skills.
- vi. Establish mentorship programmes and community of practice forums to facilitate sharing of knowledge.
- vii. Identify areas for standardisation of requirements or specifications.
- viii. Appoint appropriately skilled officials on procurement committees.
- ix. Improve procurement of consultants through innovative ways of working.
- x. Review the existing delegations by giving more responsibility to the project appraisal committees.
- xi. Develop a workload calculator to manage the allocation of projects to Project Leaders.

The above recommendations require support from senior management from both departments. Implementation of appropriate change management strategies together with the above recommendations are likely to lead to desired project performance outcomes. Regular monitoring of the implementation of the recommendations will assist identify areas requiring further attention.

### **Study limitation for future studies**

This qualitative study only involved the senior professionals within the Department of Health and Public Works and consultants. Most respondents were familiar with the environment because of the seniority in the organisations. Having identified the factors that constrain the planning and design process, there was not enough time to undertake quantitative research based on those factors and undertake a much more inclusive sample, which would include junior and new personnel in the organisations. Testing of these factors within a representative sample would provide a more reliable prioritisation of these factors by respondents. Such a study is highly recommended.

Other areas of focus recommended for future studies are:

- i. The effect of Knowledge Management in project planning and design.
- ii. The impact of the FIDPM in the project planning and design process.
- iii. The benefits of technology in the appraisal of projects.

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# **RRR is driving the organisations beyond the pandemic**

Vijay D. Joshi, Sukanta Kumar Baral and  
Manish Pitke

Dr Vijay D. Joshi<sup>1\*</sup>, Assistant Professor, Dr Ambedkar Institute of Management Studies & Research (DAIMSR) DeekshaBhoomi, Nagpur, Maharashtra State, India

Dr Sukanta Kumar Baral<sup>2</sup>, Professor, Department of Commerce, Faculty of Commerce & Management, Indira Gandhi National Tribal University (A Central University), Amarkantak, Madhya Pradesh, India

Manish Pitke<sup>3</sup>, Freelancer Faculty, Prin. L. N. Welingkar Institute of Management Development & Research (WeSchool), Matunga, Mumbai.

\* Corresponding Author: vijayjoshi62@gmail.com

## **ABSTRACT**

Organisations have taken note of past mistakes. They evaluate the relevant trends to determine their business strategy. In the post-pandemic phase, these steps will support their development. Organisations are being led by RRR outside of the pandemic. The three factors that organisations are focusing on these days are the three Rs (Renewal, Recovery, and Regeneration). The first aspect is that they are renewing themselves by answering the questions (that were raised by the previous circumstance) and holding themselves accountable. The second aspect is that they are recovering as they move from the recovery phase into the growth phase. The final step, regeneration, involves assuring company sustainability and continuity by adjusting to post-pandemic conditions. This research paper would like to present some of the ways, or approaches organisations use as they progress their journey beyond the pandemic.

Organisations have improved their competence despite the pandemic by following the lessons from earlier mistakes. As a result, they are using a variety of strategies to

maintain their firmness, competitiveness, and profitability in this fast-paced commercial environment. These strategies could involve organisational change and more careful planning to deal with the new "BANI" (brittle, anxious, non-linear, and incomprehensible) reality.

The fact that Covid-19 has changed business as we know it is evident. As a result, firms are prepared to adopt the "New Normal" with their more creative methods and strategies. In conclusion, today's buzzwords include adapting to the environment and "organisational change." To deal with the problem, organisations have begun reacting to specific changes. These are pertinent to them, their team members, and the nature of the job.

**Keywords:** Organisation transformation in a post-Covid world, digital transformation, tackling the new world of "BANI," embracing new skills and technology, employee well-being, responsive organisations.

## **OBJECTIVE**

This research paper would like to present the approaches organisations follow to stay there (in the market) beyond the pandemic. Also, this research paper provides an idea about some of the approaches that organisations use as they progress on their journey beyond pandemics.

## **METHODOLOGY**

This paper is based on data collected from secondary sources by the authors. The news articles related to the changes brought by the organisations to stay afloat, grow, and prosper in the aftermath of Covid-19, in general, have been reviewed for this research paper.

## **INTRODUCTION**

Beyond the pandemic, the road to recovery for the organisations is based on the following:

- Identifying the (indicative) risks for business in the post-Covid era. (Klint, 2021).
- Enlisting the future work trends after the pandemic.
- Assessment of the future of work after the pandemic.

According to the World Economic Forum, the business environment will experience more uncertainty in the post-Covid period. This uncertainty is due to geopolitical, technological, and societal types of risks associated therein. These risks (as identified by their likelihood to occur and by their impact) are shown herewith.

Top Global Risk by Likelihood		
Rank	Risk	Type of the Risk
1 <sup>st</sup>	Extreme Weather	Environmental
2 <sup>nd</sup>	Climate Action Failure	Environmental
3 <sup>rd</sup>	Human Environmental Damage	Environmental
4 <sup>th</sup>	Infectious Diseases	Societal
5 <sup>th</sup>	Biodiversity Loss	Environmental
6 <sup>th</sup>	Digital Power Concentration	Technological
7 <sup>th</sup>	Digital Inequality	Technological
8 <sup>th</sup>	Lack of trust and coordination between Interstate/Intercountry relations	Geopolitical
9 <sup>th</sup>	Breaches in Cybersecurity	Technological
10 <sup>th</sup>	Livelihood Crises	Societal

Source: World Economic Forum, Global Risk Report 2021

Top Global Risk by Impact		
Rank	Risk	Type of the Risk
1 <sup>st</sup>	Infectious Diseases	Societal
2 <sup>nd</sup>	Climate Action Failure	Environmental
3 <sup>rd</sup>	Weapons of Mass Destruction	Geopolitical

4 <sup>th</sup>	Biodiversity Loss	Environmental
5 <sup>th</sup>	Natural Resource Crises	Environmental
6 <sup>th</sup>	Human Environmental Damage	Environmental
7 <sup>th</sup>	Livelihood Crises	Societal
8 <sup>th</sup>	Extreme Weather	Environmental
9 <sup>th</sup>	Financial Problems and Debt Crisis	Economic
10 <sup>th</sup>	IT infrastructure Breakdown	Technological

Source: World Economic Forum, Global Risk Report 2021

Based on these risks, nowadays, organisations are making plans to stay afloat and succeed, (Turner and Baker, 2022).

How will future work and the related scenario be? In this context, as stated by the analysts from Gartner, the following trends were observed (in the post-Covid period) (Volini et al., 2021):

- All are okay with the “Hybrid” model of working.
- Organisations may face the challenge of the non-availability of qualified talent for specific or niche work areas. This is especially true for the “technical” type of work requiring human resources with extensive experience.
- Emphasis on individual health. Nowadays, employee assessment also keeps a tab on health parameters.
- The DEI-Diversity, Equity, and Inclusion targets/outcomes may not be fulfilled. With the “Hybrid” work model accepted, on-site employees will likely get more importance (and recognition) than the people who are working off-site (at home).
- With more work, organisations may see a rise in their revenues. Thanks to the “Hybrid” model (of working).
- There is a change in managerial roles. As one-to-one interaction may not always be possible (due to social distancing), managers will have to find out any reason (or be opportunistic) to establish interaction with their team.
- Younger generation people may be bored with working remotely.  
Organisations may provide suitable opportunities for working from the office

for them. This calls for redesigned office places, in-office conversations, and support (as required).

- Reduced working hours as increasing inflation and competitive labour force markets will burden the organisation's expenses on compensation. This will call for shifting to a “contract” type of employment, not the regular one.
- Increased use of technologies by organisations will lead to significant data that needs to be gathered and analyzed systematically.

This assessment - as mentioned by Volini et al. (2021), noted the following three steps:

- Answer: How an association manages what is going on and oversees congruity.
- Recuperate: How an association learns and becomes more grounded.
- Flourish: How an association prepares for and shapes the "new normal."

Most organisations' utmost priority is to answer to the situation (i.e., respond): Making critical decisions and changes focused on health, safety, essential services, and the virtualization of work.

Recovery begins as organisations emerge from the answer/responding phase and transition into healing (recuperation). The organisational leaders began assessing their current situation and taking (the necessary and required) essential steps to plan for the future. This includes adjusting their perspective based on this evolving new normal in a world of perpetual disruption. In this phase of recuperation/recovery, leaders are encouraged to take some of these five key actions. They are viz., retrospect and reflect, commit once again, reconnect, reevaluate, and reboot—to start arranging and fortifying their situation on the lookout.

The answer and recuperation phases delivered mixed outcomes. However, this uplifts workforce productivity and engagement against a backdrop of well-being challenges and increased anxiety—all accompanied by a near-constant stream of shifting social and cultural currents.

As we've entered 2022, it's time to look forward. While leaders continue to respond to and recover from new challenges, they must proactively define what the “new normal” could mean for work, the workforce, and the workplace. Therefore, now is the time for

organisations and leaders to navigate to flourish (to remain in the business – prosper and succeed).

Flourishing in the future will not mean the absence of challenges and disruptions. Instead, it means adapting, adjusting, prioritising, and creating resilience to manage through instability. Moreover, thriving means not only planning for the return to work in the future of work but embracing the new insights and capabilities that Covid-19 has accelerated to reimagine the future altogether.

## **LITERATURE REVIEW**

According to the PWC survey, organisations (of today) need to be more resilient. PWC thinks that now is the time for them (the businesses) to seek out and seize the opportunities emerging in the recovery (stage). This is building strategic resilience within the organisation. A systematic and planned collection of data and its analysis may provide more insights into lessons learned from the pandemic. These can be used later (in the future) to prioritize actions to enhance business value today and build strategic resilience for tomorrow (PWC, 2021) [4].

According to MGI- McKinsey Global Institute survey report, in the post-Covid era, the work profiles associated with more physical nearness will significantly change (owing to the importance of individual health). Now, organisations will take more care of the people working in these domains) (MGI, 2021). Other changes to mention are changes in work nature and profile, increased use of technology (by organisations), and so on.

Similar views have been echoed by UNESCAP in their document titled “Beyond the pandemic – Building back better from crises in Asia and the Pacific (UNESCAP, 2021). The said document mentions the following five points (as a plan beyond the pandemic):

- Encouraging regional cooperation.
- Establish a secure social protection mechanism along the life course.
- Financial commitments toward ongoing or sustainable recovery.
- Encourage digitalisation, promote trade facilitation, and imbibe social and environmental thoughts in the global value chains.
- Preservation of the environment is the utmost priority (at any cost).

## EMPIRICAL DATA

The authors would like to present empirical data in the form of news articles or as results from selected studies showing what measures organisations have taken to stay firm in the post-Covid circumstances.

Organisations follow different approaches to stay afloat, survive, grow, and prosper. Some of them include the following:

- Organisation Transformation.
- Addressing the new world of “BANI” by more thoughtful planning.
- Different (and innovative) ways to search and recruit talents (especially hiring top executives).
- Organisations emphasize “Digital Transformation.”
- The government took a stance to protect domestic industry in the post-Covid period.
- Planning for disaster/calamity.
- They are leveraging (their) ‘Management Skills and Experiences’ to manage the present risks.

### **Organisation transformation** (WEF1, 2020), (Volini et al., 2021)

According to WEF (World Economic Forum), Covid-19 has caused changes in organisations regarding their working, working methods, worker-employer relationship, and work environment (within the organisation itself). This is called organisational transformation. In this context, organisations have started to respond to specific changes to cope with the situation. These relate to themselves, their employees, and the type of work. It is as follows:

- The self-advocacy organisation adopts a people-centered environment so open interactions can occur. In addition to work-related issues, companies today strive to develop and support their employees. Therefore, they come with specific activities aimed at people's physical, social, economic, and mental well-being.

- Employees make adjustments in terms of willingness to learn new skills. They use new technologies and approaches in their work to make themselves and their work locations (or the locale) more accountable and responsive.
- The nature of the organisation and its work style has changed. Organisations are getting simpler and moving away from hierarchical structures. This makes them more interactive, accessible, and agile.

The same views are echoed by Volini et al. (2021), who mention the following aspects associated with the three main elements here, viz. the organisation (workplace), employees (workforce), and nature or style of the work (work profile):

- Organisation: Geographic location, technology, culture, physical design, and digital partnerships.
- Employees: Skills (required), human capabilities, job profiles, and talent recognition.
- The organisation's working style: Activities, work values, and work outcomes.

**Addressing the new world of “BANI” by more thoughtful planning** (Singh1, 2022)

Ongoing and frequent modifications required in (business) planning are mainly due to the new world of “BANI (brittle, anxious, non-linear, and incomprehensible).”

**‘BANI’ IS THE NEW BUZZWORD**

<ul style="list-style-type: none"> <li>➤ Cos are updating biz plans to tackle the <b>new world of ‘Bani’</b> – brittle, anxious, non-linear, incomprehensible</li> </ul>	<ul style="list-style-type: none"> <li>➤ Godrej &amp; Boyce is sticking to its goals but has taken into account the <b>uncertainty linked with events like inflation &amp; war</b></li> </ul>
<ul style="list-style-type: none"> <li>➤ Performance &amp; risk -management <b>systems have become flexible</b> as black swan events are no longer seen as rare</li> </ul>	<ul style="list-style-type: none"> <li>➤ For Marico, agility is now the key with the <b>need for not just plan B but even C or D</b></li> </ul>
<ul style="list-style-type: none"> <li>➤ At HUL, <b>monthly meets are now weekly</b>, even daily if needed</li> <li>➤ The FMCG giant has ensured <b>long-term planning can be tweaked</b> as and when needed</li> </ul>	<ul style="list-style-type: none"> <li>➤ It will stick with its digital &amp; diversification strategy, and <b>keep ad spends going</b></li> <li>➤ Kellogg has also kept its sights firmly on the horizon as it believes <b>a co planning only for short-term will not have a future</b></li> </ul>

Source: (Singh1, 2022)



With short planning cycles, the captains of India Inc. are doing more thoughtful planning. However, they keep their long-term goals intact as they learn about the uncertainty during Covid-19. In the present circumstances, it is challenging to predict the duration of the crisis (rising inflation, commodity process, war, etc.). Thus, organisations are not altering their long-term vision. Instead, they are trying to manage the present situation as best as possible.

### Different ways of recruiting (Singh2, 2022)

The organisation is trying different ways of recruiting human resources. This is especially true for senior executives for whom new roles have been created. Romesh Puri, MD of headhunting firm Executive Access, quips, “What used to be 90% of replacement hiring and 10% growth hiring is changed now. It is 70% of replacement hiring, and 30% is growth hiring. A significant increase in growth in hiring is a positive sign and is also an indication of the creation of new responsibilities (within the organisations).

<b>REPLACE POOR PERFORMERS TOO</b>	
<ul style="list-style-type: none"> <li>➤ Leading CXO search firms have seen a surge in demand for filling top posts in <b>tech &amp; sustainability ops</b></li> <li>➤ Similar is the case in startups operating in <b>VR, metaverse, education &amp; health</b> sectors</li> <li>➤ <b>Lack of senior crypto blockchain talent in logistics</b> has triggered a scramble to fill the corner office in these cos</li> <li>➤ But some of the demand is due to the <b>previous CXO being</b></li> </ul>	<ul style="list-style-type: none"> <li><b>asked to leave</b> over performance issues</li> <li>➤ This is because cos have been alert to shielding bottom lines while facing cost pressures due to <b>rising prices, supply chain woes &amp; geopolitical challenges</b></li> <li>➤ As a result, some headhunters have found that up to <b>40% of currently vacant CXO posts are because of performance issues</b></li> <li>➤ Still, top execs can expect to get an <b>average 20% hike</b>, if hired</li> </ul>

Source: (Singh2, 2022)

### Digital transformation (Singh3, 2022)

Another aspect that the organisations are focused on after the pandemic is “Digital Transformation.” Alan Jope, Global CEO of Unilever, highlighted this aspect in his current visit to India. He said, “Our business in India is reinventing itself as a digital

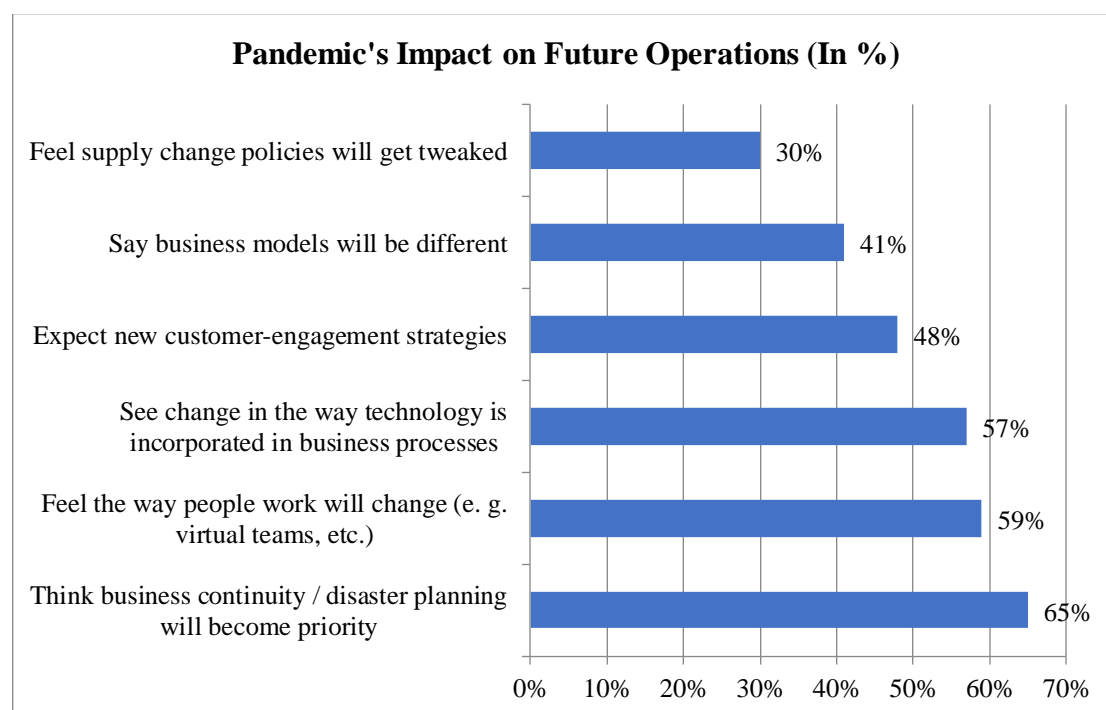
company in different ways. The star product from India is talent, and we continue to enjoy the benefit of Indian leaders coming into the reset of Unilever.”

### **Government taking a stance to protect the domestic industry (Siddartha, 2022)**

It is a well-known fact that during Covid-19, India has become a leading supplier of Covid vaccines to other countries. In the recently held WTO (World Trade Organisation) meeting, India proposed a waiver of patents and other IPRs – intellectual property rights for the domestic industry. These are for the Covid vaccines, medicines, and other devices in the areas such as therapeutics and diagnostics.

### **Planning for disaster/calamity – Disaster planning on the to-do list (EA, 2020)**

According to the review by Executive Access India, “disaster planning” is currently on the agenda of Indian organisations. As per their investigation, which has a sample size of about 200 respondents, there are 7 CEOs for each of the 20 people. According to this, about 35% of people, ‘getting the organisation ready to handle disaster’ has become one of the main priorities of today for organisations.



Source: (EA, 2020)

Organisations are changing, believing that the virus (pandemic) has changed the workplace.

It is observed that the organisations will have to consider the following aspects (in their future business operations):

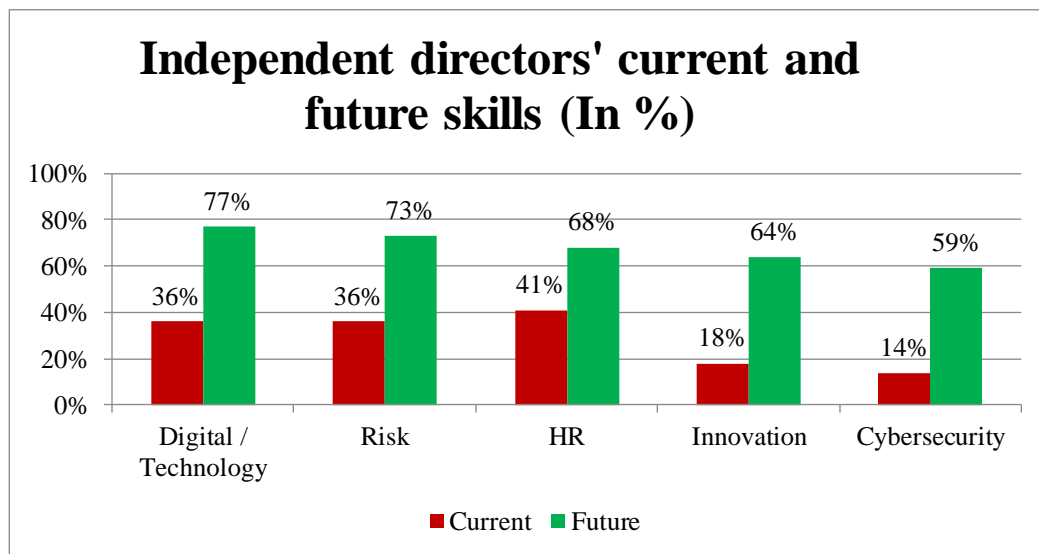
- Viruses will transform the workplace.
- Prioritise business continuity/disaster planning.
- Feeling that there will be changes in people's work.
- See a change in the way technology is integrated into business processes
- Anticipating the new customer loyalty strategies.
- The appearance and consideration of new business models.
- Changes in the structure of the supply chain and related guidelines.

Most respondents indicated that the crisis would impact their business operations long-term, from the isolation of the supply chain (from the risks) to a renewed focus on the online presence of business activity, e-commerce, and more automated production. There will undoubtedly be a “new normal” in various aspects of business operations in the Post-Covid world. The pandemic has brought some changes in the business operations (of the organisations); therefore, they are exploring newer ways to pass through these difficult times.

### **Leveraging on their management and board members with varying skills and experiences** (Singh4, 2020)

The current pandemic has become the most formidable challenge for businesses. Covid has forced companies to reconsider the composition of their board of directors. It has also made them think about how board members can lead the organisation through tough times. Organisations now evaluate the contribution of independent directors to value creation.

As mentioned above, the workforce is an asset to any organisation. However, to keep the organisation sustainable and competitive in the market, the role of directors in using this asset (HR - human resources) is crucial. According to Hunt Partners' India Board of Directors Report, companies are looking for board members with different "skills" (or abilities).



Source: (Singh4, 2020)

Faced with unwanted situations as they currently prevail (Covid-19), companies look for people who have skills such as risk-taking ability, understanding of digital domains/technologies, skills to evaluate and monitor the risks, and so on. These are additional skills on-demand required now, in addition to the traditional skills needed in the HR domain. In addition, organisations need experienced professionals to help maintain “growth” in turbulent times.

A decade ago, a “board of directors” was a process to meet the required mandatory compliances for many organisations. Over the years, this perception is now changing. Organisations need additional support in difficult situations, so they are currently looking for a “board” with different experiences and skills.

### **CONCLUSION** (WEF1, 2020), (KPMG, 2020)

In summary, this crisis opened a story with an uncertain ending. Nevertheless, Covid-19 has brought new things to the business world. Therefore, organisations must look beyond Covid-19 and try to embrace the “New Normal.”

Given the current situation, the ways of doing business will change in some aspects, not only in India but worldwide. They are:

### **Importance to localisation**

There is an emphasis on using local resources. Whether it is equipment or manpower or others, a shift is observed towards localization.

### **Digital transformation**

Organisations are transforming themselves, and are becoming more 'Digital'.

### **Monitoring financial health**

It is important not to become financially ill, hence businesses are paying (more) attention to their cash flows and ensuring that they remain steady and positive.

### **Changing fixed-cost models**

There is a shift (from traditional business models) to variable cost models.

### **Evaluation and control have become the buzzwords of today**

Monitoring and control activities are part of normal business activities now. Organisations are making efforts to set up or establish detection, monitoring, and control functions.

### **Keeping supply chains in working condition**

Reviewing the supply chains periodically and maintaining and restoring them (as required).

### **Technologically enabled to become more responsive**

Now, organisations are becoming agile, quickly responsive, and technology-savvy.

Organisations are responding to offset the effects of the pandemic by making organisational changes. Some of these are:

- Simplifying organisations and instilling responsible job profiles that strengthen the workforce.
- Making adjustments with new skills and using technology that makes the business agile and responsive.
- Giving due weight to the health concerns of the workforce.
- Improving the organisation by improving interactions between management and staff.

- Giving importance to the safety of workers by protecting them from occupational or health risks.

Utilising these avenues and measures will be both a challenge and an opportunity for organisations.

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# **The impact of spreadsheets on the management of SMEs in the uMhlathuze District, KZN, RSA**

Isa Osemu Ijebor, Sam Lubbe and MF Vezi-Magigaba

I.O. Ijebor, University of Zululand

S. Lubbe, Faculty of Management Science, Mangosuthu University of Technology

Prof MF Vezi-Magigaba, Business Management Department, University of Zululand

## **ABSTRACT**

This research focuses on the impact of spreadsheets on the management of SMEs in uMhlathuze district, Zululand, in South Africa, a developing country. SMEs are the foundation of the South African economy because they create jobs, contribute to tax revenue, and nurture ideas until they blossom into innovations. In the uMhlathuze district, the impact of spreadsheets on the management of SMEs performances has not been explored to the fullest. Files and folders are still in use for data storage and record keeping and calculations are done manually. The researchers conducted a quantitative empirical investigation using registered SMEs in the uMhlathuze municipality to carry out the research. It was revealed that lack of knowledge of the basic spreadsheet design, organisation and the tendency to continue bad habits of not following instructions, warrant the need for a spreadsheet design checklist. The researchers recommended that SMEs need to train their staff on the functions and importance of spreadsheets and how to use them efficiently. SMEs should also embrace and implement the use of information technology in their business process to enhance productivity.

**Keywords:** Information Technology, spreadsheet errors, managerial challenges, dot-com business, spreadsheet software, SME, enterprises' success or failure, spreadsheet skills.

## **INTRODUCTION**



An electronic spreadsheet organises information into software defined columns and rows. The data can be "added up" by a formula to give a total or sum. The spreadsheet program can summarise information from paper sources and present the information in a format to help a decision maker see the financial "big picture" for the company (Castillo, 2018).

The recognition of the importance of SMEs by the South African government forced it to establish a Ministry of Small Business Development in early 2014. The aim of the Ministry is to facilitate the promotion and development of small businesses. These enterprises contribute to national GDP and have proved to be contributors to job creation (The DTI, 2008). This article addresses the impact of spreadsheets on the management of SMEs in uMhlathuze district, Zululand, in South Africa, a developing country.

Since the introduction of electronic spreadsheets in 1979, spreadsheets have become important for organisations (Bradbard et al., 2014). According to Lenotti (2014), spreadsheet applications were used by most of a sample of end-users (91%), thereby making it a common computer application in business.

The first electronic spreadsheet, developed by professor Mattessich, allowed users to carry-out "what-if" calculations, in order to ease problem solving for companies (Raković, 2014). The non-availability of mainframe computers at the time, as well as the fact that the program required substantial technical skills is why he is often overlooked as the inventor of spreadsheet programs.

Instead of him, literature has granted the pioneers' title to Bricklin and Frankston and their program, VisiCalc, developed in the 1970s (Walkenbach, 2010). In 1981, Microsoft began the development of a spreadsheet program named *Multiplan*. The program was completed and presented to the public in 1982. However, Multiplan was unable to stand the test of time (VisiCalc and Lotus 1-2-3), or occupy a position in the market.

Research conducted by Jelen (2005) has proven the complete dominance of MS Excel in the spreadsheet applications market as 94% of users use MS Excel as the primary application for spreadsheet calculations. According to data provided by Microsoft in 2014, their software package Office (which includes Excel), is used by over a billion people, which comes down to every seventh person on earth (Microsoft, 2014)

## PROBLEM STATEMENT

As IT continues to transform both mature and emerging industries, IT governance may be one of a series of factors important enough for SMEs. Many aspects of business, education, healthcare and government, relies on IT (Excelsior College, 2016). Many businesses use spreadsheets daily. As the world embraces technology, it should be stated that technical knowledge and computer skills also become important (Nova Scotia Community College, 2016).

The factor that shows the improvement of the competitiveness of most enterprises is the adoption of something like spreadsheets (Bazhenova et al., 2012). In uMhlathuze district the impact of spreadsheets on the management of SMEs' performances has not been fully explored (Akande & Yinus, 2013).

In the opinion of Smith (2017), companies use spreadsheets to model and manipulate data, to create graphical visualisations and to inform future decision making and planning. The global and competitive business environment constantly asks for innovation; existing knowledge bases are getting obsolete, continuously thriving for advancement in process improvement. The learning curve is always tested, and enterprises are striving to remain ahead of the bunch.

With the help of spreadsheets, the user can help improve management decisions about selecting suppliers (the spreadsheet can be used to filter the data based on different criteria to select the best suppliers for the company for example) instead of doing it manually as is done presently (Chegg Study, 2018). However, the researchers interviewed some SMEs and it was confirmed they do not use a spreadsheet because of problems (e.g. lack of computer literacy, etc.).

There are other managerial challenges facing the use of spreadsheets in analysing an SME business. The problems associated with a spreadsheet do not always stem from the software itself. Even though people get an advantage from using spreadsheets, they might not have the skills or time to create a spreadsheet. Company spreadsheets have errors and surveys have shown that up to 91% of the spreadsheets used by organisations had errors (Excelsior College, 2016). The mistakes may be mechanical errors (such as pointing to the wrong cell when entering a formula) or logic errors (such as entering the wrong formula) (Chegg Study, 2018).

## **RESEARCH QUESTIONS**

This study aims to address the following research questions:

- i. What are the purposes of using spreadsheets in SMEs?
- ii. How often do SMEs use spreadsheets?
- iii. How can spreadsheets assist in decision making within SMEs?
- iv. How effective is spreadsheet as a management tool amongst SMEs?

The objectives below will assist in answering the study:

- i. Determine the purposes of using spreadsheets in SMEs.
- ii. Determine the frequency of use by SMEs of spreadsheets.
- iii. Determine if spreadsheets assist in decision making within SMEs.
- iv. Determine effectiveness of spreadsheet as a management tool amongst SMEs.

## **LITERATURE REVIEW**

Defining an SME can be challenging, as the term includes an array of definitions. The National Small Business Act 102 of 1996, p.17, defines SMME as “small business” which means a separate and distinct business entity. In SA, ‘SMME’ and ‘SME’ are terms used interchangeably but this study will use SME.

Tariqea and Schulerb (2010) noted that the business environment is global, complex, dynamic, competitive, and unstable. The trend will continue for years to come, especially with the introduction of IT (e.g. spreadsheets) that can help with the management of businesses. This trend of constant transformation requires SME businesses to adapt themselves to survive in a competitive economy.

Saunila et al. (2014) argue that the understanding of technology refers to the machinery, tools and instruments used to facilitate operations. The use of IT (e.g. spreadsheets) for aligning SME structure with environmental preferences may be a determining factor for the growth of SMEs in an unstable business surrounding (Mytelka and Farinelli, 2000).

### **Information technology and spreadsheets**

One of the reasons SMEs continue to face challenges in developing countries despite support from government, is their lack of technological capabilities (Arinaitwe, 2006). Small businesses are affected by their lack of technological implementation, despite

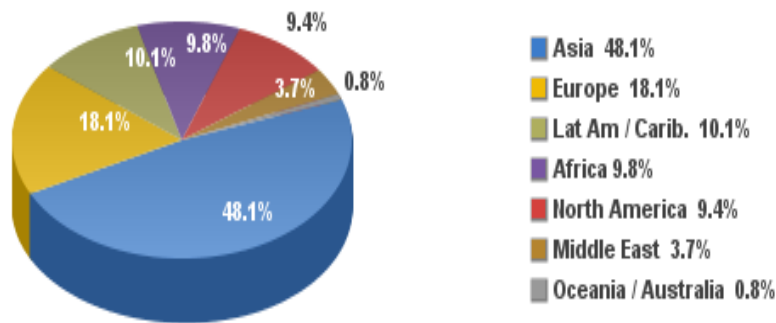
available technological advancements. Without technology (e.g. spreadsheets), small businesses will continue to find it difficult to compete and grow (Arinaitwe, 2006).

According to Csorny (2013), computers and software like spreadsheets influence every aspect of any organisation. Continued growth in end-user computing will be fueled by accelerating development of new IT. IT can assist with tasks such as driver-less motor vehicles and diagnosing diseases. He further stated that IT helps alignment and communication between businesses just like spreadsheets help enterprises integrate accounting tasks.

The adoption of IT by businesses is gradually on the increase and companies that can adopt some of these new technologies (e.g. spreadsheets), may be at an advantage in the years ahead. However, according to Qureshil et al. (2009), affordability is associated with implementing an IT project. Small business members do not possess technical knowledge and are ignorant of the benefits that spreadsheets can afford them. They lack information on any technologies and finding advice is difficult. Ignorance of the power of IT is an inhibiting factor for small businesses (Qureshil et al., 2009). Piscitello and Sgobbi (2004) note that conservative entrepreneurs and entrepreneurs with limited technical background are not expected to add new information channels to the traditional ones.

According to Statistics New Zealand (2006), 93% of businesses used computers and 46% of staff had access to the Internet. It was stated that IT can be a means of bringing about increased operational and administrative efficiencies as well as increased competitiveness like spreadsheets (Matthews, 2007). The use of technology- for example spreadsheets, is transforming strategic business planning in terms of speed of execution, time, distance, and perceptions of services delivered (Botha, 2006). To keep IT systems functional, a workforce is required to maintain networks, new software, and information security (Csorny, 2013).

## Internet Users in the World Distribution by World Regions - 2015 Q3



Source: Internet World Stats - [www.internetworldstats.com/stats.htm](http://www.internetworldstats.com/stats.htm)

Basis: 3,345,832,772 Internet users on Nov 15, 2015

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**Figure 1: Distribution of internet users in the world**

Chinese retailers have been able to help consumers feel more comfortable shopping online. e-Commerce transactions between China and other countries increased 32% to 2.3 trillion yuan (\$375.8 billion) in 2012 and accounted for 9.6% of China's total international trade in 2013, Alibaba had an e-commerce market share of 80% in China (Shahriari et al., 2015). e-Commerce has become a tool for small and large businesses worldwide, not only to sell to customers, but also to engage them. In 2012, ecommerce sales topped \$1 trillion.

### **Management skills and spreadsheets**

The importance of the knowledge of spreadsheets in financial calculations is non-negotiable, although there could be factors that may cause spreadsheet errors to occur. Spreadsheets are built by end-users who lack proper training (Panko, 2007). In contrast to “complex” applications, spreadsheets are developed and modified without detailed systematic testing by IS professionals (Caulkins et al., 2008).

According to Lenotti (2014) spreadsheet applications may be appropriate when (1) developers have significant spreadsheet experience and domain knowledge, (2) developers plan, design, and test their spreadsheets carefully, and (3) spreadsheets are of moderate complexity. Also, the task performed based on spreadsheet information is not critical to firm operations. Individuals with spreadsheet experience and domain knowledge will detect spreadsheet errors. Individuals working in groups

of two or more generally detect more errors than those working alone (Panko & Halverson, 1997).

Error type refers to whether errors are system-generated or user-generated (Rajalingham et al., 2000; Purser, 2006). As the name implies, system-generated errors are attributed to the software package used and are difficult to detect. User-generated errors are committed by the user (as opposed to software generated) and can be prevented, detected, and corrected by the user.

Shin-Yuan Hung et al. (2016) suggested that a business organisation size has a connection to the adoption of management Information Systems. This is because users of programs like spreadsheets have more opportunities to use IT in a developed infrastructure (Dalkir, 2011). Over 500 million people worldwide use spreadsheets for storing and manipulating data (Gualtieri, 2009).

### **Spreadsheets can help improve management decisions**

Making decisions when the situation is simple or the trade-offs are not overly difficult is easy. Users do this to make a decision, and eliminate anguish. There could be a better way to use in decision making and it is called a spreadsheet (Lockergnome Daily Report, 2012).

According to Lockergnome Daily Report (2012), one of the valuable tools for making financial decisions is the common spreadsheet. It is valuable that before the existence of computers, trained specialists worked with large sheets of paper, pencil, and erasers making and modifying spreadsheets.

A growing, but not yet extensive, stream of research addresses the issue of spreadsheet accuracy testing (SAT). There are different models suggested by SAT that can be used to plan, audit or correct spreadsheet error, thereby increasing spreadsheet accuracy and better decision making (Powell et al., 2007). Croll (2005) described interviews with about 20 auditors, accountants, bankers, insurers, analysts, and the like, showing how spreadsheets play an important role in London's financial community. Croll concluded that the awareness and control of risks are uneven, with banking, professional services, and private finance being hostile at dealing with the potential for spreadsheet errors.

### **Enterprises' incorrect approach in the use of spreadsheets**

End-users utilise spreadsheet models to support them in decision making. Studies have shown that there are errors in spreadsheets; up to 90% in some cases (Jorgensen 2013; Kadijevich 2009, 2013; Kwak 2013). Businesses regularly use spreadsheets in ways they were never intended to be used. Users of spreadsheets do not think of it as a decision-making tool. Their misuse leads to data losses, security breaches, financial losses, etc. (Stangarone, 2015). Spreadsheet abuse always leads to wasted time, data loss, security breaches, and even financial loss.

User-generated errors may be divided into two categories: quantitative vs. qualitative (Rajalingham et al., 2000). Quantitative errors make the spreadsheet to immediately produce an incorrect result. Quantitative errors are often classified into three types (Panko, 2000). Mechanical errors are simple mistakes, such as mistyping a number, failing to enter a minus sign, or pointing to a wrong cell. Qualitative errors on the other hand are problems with the spreadsheet design that its immediate quantitative errors are not generated instantly but may lead to quantitative errors later, during maintenance, what-if analysis, or other activities (Panko and Halverson, 1997).

Logic errors involve entering the wrong formula because of a mistake in reasoning. Logic errors involve higher level reasoning and are more difficult to detect and correct than mechanical errors and omission errors occur when something is left out and are the most difficult error to detect (Panko and Halverson, 1997).

### **SMEs using spreadsheets effectively**

Jelen and Alexander (2007) argued that it is agreed that approximately 50 percent of spreadsheet users do not tap into the full potential of spreadsheet utilities. Generally, research which deals with policies on spreadsheet development and implementation issues have revealed that only a small percentage of companies have clear, written policies on spreadsheet development, implementation and testing (Valenzuela et al., 2016). McGill and Klobas (2005) further stated that another plausible explanation may be that executives tend to view errors in spreadsheets as merely careless typographical errors. This is regarded as errors caused by inadequate policies on spreadsheet development and implementation (McGill and Klobas, 2005).

### **Advantages and disadvantages of spreadsheets**

Software usage in tertiary education can serve different purposes: it can improve learning of concepts and it can familiarise students with specific software (e.g. spreadsheets) that such students will later use in their careers (Kyng et al., 2011). Recent research points to the effectiveness of software such as spreadsheets, in achieving the first of these aims, enhancing students learning. Wagner (2006) observed considerable improvements in problem-solving numeric tasks among engineering students exposed to Excel.

There seems to be a view that spreadsheets are only appropriate for personal use (Mehrotra and Özlük, 2005). The IS 2002 Model Curriculum (Gorgone et al., 2003) promulgated by different associations identifies spreadsheets as a fundamental tool. They are suggesting that spreadsheets are of equivalent importance to IS as word processing. Senn (2004) stated that “spreadsheets focus on solving problems, aiding in personal decision making and increasing personal productivity”, indicating that spreadsheets are not IS. There is no doubt that spreadsheets are a tool for the end-user: customisable, flexible, and agile. They have provided finance departments the opportunity to manage financial records and business plans to meet with the growing demands of a business. Few would question that spreadsheets are a tool (Gothan, 2016)

## **RESEARCH METHODOLOGY**

A quantitative research method was used for this study. This was anchored in the survey research method through the use of a questionnaire to elicit information from registered SMEs in the uMhlathuze district, Zululand. SMEs in uMhlathuze municipality were targeted by the researcher for the purpose of this research. The section discusses the method of data collection and analysis used for the study.

The researchers employed descriptive design. The researchers used the method of questionnaire distributions to collect data. During data collection, the researchers prepared and obtained the required information from the target audience of registered SMEs in uMhlathuze municipality. For this research, the targeted population were all registered SMEs in uMhlathuze municipality using a spreadsheet in managing their businesses. According to the record obtained from uMhlathuze municipality, there were 5,580 members of SMEs registered with the municipality but only about 380 are functional.



A non-probability sample was drawn from the 380 in order to carry out the research. The sampling size was 80% of the active population in order to get the information from respondents. The researchers used questionnaires to collect the data from registered SMEs for the purpose of validating data that could guarantee reliable results. The questionnaires were validated. Results obtained were used to improve on the instrument before it was finally administered to the registered SMEs who were the target for this research. The questions prepared in this questionnaire were formulated with a view to gather information to answer the research questions.

## DISCUSSION OF RESULTS

This section explains the process of data analysis and interpretation of data after it has been collected from registered SMEs in the uMhlathuze district, Zululand. According to the record obtained from uMhlathuze municipality, there are 5,580 members of SMEs registered with the municipality but only about 380 are functional.

**Table 1: Age of Respondents**

Age	Frequency	Percentage (%)
20 – 30 years	10	14.9
31 – 40 years	31	46.3
41 – 50 years	17	25.4
51 – 60 years	7	10.4
Over 60 years	2	3
Total	67	100

More than 45% (46%) of participants from the survey sample were within the age group of 31-40 years. The researchers noted that 64% of participants were males. There is a possibility that SMEs prefer to hire males as managers. This bias could be as a result of the perception that females need time off at work if they become pregnant. It can also be for the fact that in the past, females have not been afforded equal opportunities.

**Table 2: Years of Working**

<b>Years</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1 - 2 years	8	11.9
3 - 4 years	16	23.88
5 – 6 years	12	17.91
7 – 8 years	10	14.92
9 – 10 years	4	5.97
More than 10 years	17	25.37
Total	67	100

The researchers observed that 25%, the highest percentage of participants had been working for more than 10 years with their respective organisations. Only 12% of participants have been working for less than 3 years. This means that spreadsheet users who had been working for their organisations for a number of years might have more experience with spreadsheets. Amongst the different purposes of spreadsheet usage, 90% of participants agreed that they are using it for storing names and addresses.

**Table 3: Comparing Data**

	<b>Frequency</b>	<b>Percentage (%)</b>
Strongly agree	51	75
Agree	16	23.5
Disagree	1	1.5
Strongly disagree	0	0
Total	68	100

The researchers found that 99% of participants used spreadsheets for comparing data such as budgets, sales, or inventories. This percentage indicates the level of success users found from spreadsheets in this area. It was also observed by the researcher that 99% of participants agreed to using spreadsheets to analyse data into graphs. This shows that this is one of the main purposes of using spreadsheets by users.

**Table 4: Computer Usage**

<b>Access to computer</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Strongly agree	8	12
Agree	43	63
Disagree	17	25
Strongly disagree	0	0
Total	68	100

Nearly 75% of participants believed that having access to a computer may increase the frequency of usage of spreadsheets. A large percentage of users who agreed to this show that in one way or the other by using a spreadsheet frequently.

According to Csorny (2013), spreadsheets affect nearly every aspect of an organisation. Continued growth in end-user computing will be fuelled by the development of new IT. This shows that the more access users have to computers, the more advanced they get in technology. This shows that users agree that the time spent on spreadsheets is an indication of how often they use spreadsheets as over 75% of participants agreed.

**Table 5: Developer for Decision making**

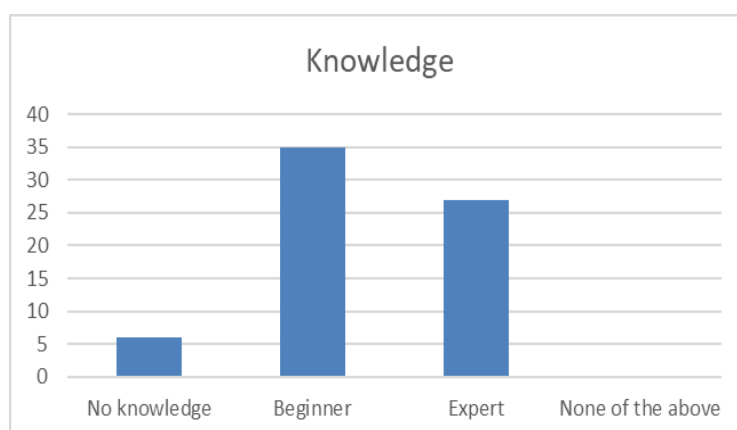
Developer	Frequency	Percentage (%)
Strongly agree	13	39.7
Agree	34	52.9
Disagree	21	5.9
Strongly disagree	0	1.5
Total	68	100

More than 90% (93%) of participants agreed that decision making can be enhanced by allowing a developer to modify spreadsheets. This could be because participants believe the developer has enough knowledge of spreadsheets that makes it easier for them to make the modification. The researchers noted that 99% of participants agreed that presenting a summary of results on a spreadsheet assists in decision making within SMEs.

**Table 6: Level of importance**

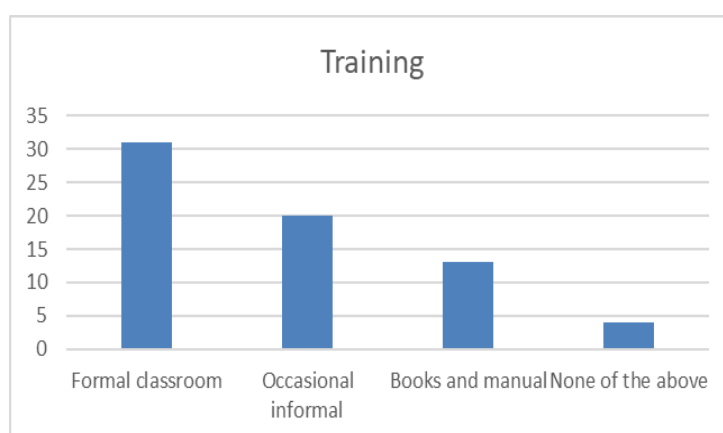
Level	Frequency	Percentage (%)
Strongly agree	48	70.6
Agree	20	29.4
Disagree	0	0
Strongly disagree	0	0
Total	68	100

The level of importance a spreadsheet has in SMEs is a determining factor to how often they are used. This is in agreement with the respondents of this survey.



**Figure 1: Experts of Spreadsheets**

Spreadsheet systems come with a maze of features, but end users struggle to find the correct features to accomplish their tasks because they lack knowledge (Stangarone, 2015). Less than half of the participants had prior knowledge of spreadsheets.



**Figure 2: Expertise in Spreadsheets**

## ASSOCIATIVE STATISTICS

There is 70.1 % correlation between where staff members reside and their place of work. This could be as a result that most staff members reside in urban areas. Research suggests that resident satisfaction is greatly influenced by the quality of resident relationships with staff, which in turn are shaped by staff working conditions (Smith, 2017).

There is a 61 % correlation between using evaluating alternatives as one of the purposes of spreadsheets and using determining trends as one of its purposes. Hence, the purpose of using spreadsheets by participants, determines the level of importance it has in their jobs.

There is 59 % chance that the level of experience possessed by users of spreadsheets has a direct link to the level of importance spreadsheets have in their jobs. This implies that the more importance attached to spreadsheets by users, the more they want to know more and use the software which in turn makes them acquire more experience using it. There is a 58.2% chance that users of spreadsheets who have prior knowledge of using it will be more experienced. This is an indication that prior knowledge acquired by spreadsheet users would continue to improve in as much as users continue using spreadsheets and this would definitely increase their experience.

There is 54 % chance that spreadsheets could either be used for tracking data or analysing data. Users found spreadsheets useful in both ways. There is 63 % correlation between spreadsheet users who believe that spreadsheets can either be used for evaluating alternatives or be used for determining trends.

There is a 51 % correlation between the frequency of usage of spreadsheets and the number of minutes spent on spreadsheets. This could be as a result of continuous usage of spreadsheets by SMEs which would surely show how much time spent on it.

There is a 56 % correlation which indicates that users who consider spreadsheets as an effective management tool have experience of using them. This might be as a result of the importance spreadsheets have in their jobs. There is 62% chance that users who have prior knowledge of using spreadsheets are more experienced. This is an indication that prior knowledge acquired by spreadsheet users would continue to improve in as much as users continue using spreadsheets and this would definitely increase their experience.

There is a 51 % negative correlation that users who lack prior knowledge of spreadsheets, lack adequate training on spreadsheets to succeed. This is because if they had adequate training on spreadsheets, they would have acquired enough knowledge on how to successfully use spreadsheets.

## **Regression**

To find out how spreadsheets can assist in decision making within SMEs:

H<sub>0</sub> Knowledge of spreadsheet does not have any significant impact on decision making within SMEs

H<sub>1</sub> Knowledge of spreadsheet does have significant impact on decision making within SMEs.

### One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Decision	67	1.4179	.67755	.08278
Modification	67	2.0896	.69044	.08435
Developer	67	1.6716	.66030	.08067
Summary	67	1.4478	.53040	.06480
Model	67	1.7761	.69240	.08459

### One-Sample Test

	Test Value = 2.5					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Decision	-13.073	66	.000	-1.08209	-1.2474	-.9168
Modification	-4.866	66	.000	-.41045	-.5789	-.2420
Summary	-16.239	66	.000	-1.05224	-1.1816	-.9229
Model	-8.557	66	.000	-.72388	-.8928	-.5550

*Knowing the level of risk posed by spreadsheets may help improve management decisions.*

The mean of the sample (1.4179) is statistically and significantly different from the test value of 2.5. Also, the result revealed that the t-test statistic is -13.073 while the p-value is 0.000. The p-value of 0.000 is less than 0.05. This means that the scoring is above the midpoint (2.5). The null hypothesis that the knowing the level of risk posed by spreadsheets may not help improve management decision is therefore rejected. One can conclude that knowing the level of risk posed by spreadsheets will be significant in helping to improve management decision.

*Users may make modification on spreadsheets to improve management decisions*

The mean of the sample (2.0896) is statistically and significantly different from the test value of 2.5 (Table 1). Also, the result revealed that the t test statistic is -4.866 while the p-value is 0.000. The p-value of 0.000 is less than 0.05. This means that the scoring is above the midpoint (2.5). The null hypothesis that modification made by users on spreadsheets does not improve management decisions is therefore rejected. One can reliably conclude that modification made by users on spreadsheets will improve management decisions.

*Providing a summary of results on spreadsheets is one of the ways of improving management decisions*

The mean of the sample (1.4179) is statistically and significantly different from the test value of 2.5. Also, the result revealed that the t test statistic is -13.073 while the p-value is 0.000. The p-value of 0.000 is less than 0.05. This means that the scoring is above the midpoint (2.5). The null hypothesis that providing a summary of results on spreadsheets does not help in improving management decision is therefore rejected. It can reliably conclude that providing a summary of results on spreadsheets does help in improving management decision.

*Sharing the entire model may help improve management decisions*

The mean of the sample (1.7761) is statistically and significantly different from the test value of 2.5. Also, the result revealed that the t test statistic is -16.239 while the p-



value is 0.000. The p-value of 0.000 is less than 0.05. This means that the scoring is above the midpoint (2.5). The null hypothesis that sharing the entire model does not help in improve management decisions is therefore rejected. We can reliably conclude that sharing the entire model does help to improve management decisions.

*Using Regression to estimate the impact of respondent's knowledge, experience and level of expertise on spreadsheet decision making in SMEs*

The objective is to test if the respondent's knowledge of spreadsheet has significant impact on decision making within SMEs. The results as presented below, showed that knowledge of spreadsheets has a statistically significant impact on decision making in SMEs at the 10 percent level of significance. The result further revealed that experience and level of expertise can influence the level of decision making within SMEs.

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.355	.392		3.457	.001
Knowledge	.251	.148	.249	1.697	.095
Experience	-.462	.198	-.384	-2.331	.023
Level	.332	.160	.305	2.077	.042

a. Dependent Variable: Developer

**Using Regression to estimate the impact of respondent's knowledge, experience and level of expertise on managing SMEs**

H0 Knowledge of spreadsheet does not have any significant impact in the management of SMEs

H1 Knowledge of spreadsheet does have an impact in the management of SMEs

## Spreadsheets can be used for evaluating alternatives

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.533 <sup>a</sup>	.284	.250	.69020

a. Predictors: (Constant), Level, Knowledge, Experience

### ANOVA<sup>a</sup>

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	5.397	3	1.799	3.629	.018 <sup>b</sup>
Residual	31.230	63	.496		
Total	36.627	66			

a. Dependent Variable: Trends

b. Predictors: (Constant), Level, Knowledge, Experience

Using a significance level of 0.05, then one find  $F_{0.05;3,63} = 3.629$ . Since the test statistic is larger than the critical value, one can reject the null hypothesis of equal population means and conclude that there is a statistically significant difference in the population means. Also, the p-value for 3.629 is 0.000, this means that the null hypothesis that knowledge of spreadsheets is not significantly effective in managing SMEs is rejected.

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.382	.434		5.483	.000
1 Knowledge	-.425	.164	-.372	-2.589	.012
Experience	.541	.220	.399	2.464	.016
Level	-.309	.177	-.252	-1.747	.086

a. Dependent Variable: Trends

The objective is to test if the respondent's knowledge of spreadsheets has significant impact on decision making within SMEs. The results as presented showed that knowledge of spreadsheets has a statistically significant impact on decision making in SMEs at the 10 percent level of significance. The result further revealed that experience and level of expertise can statistically influence the level of decision making within SMEs.

## CONCLUSION AND RECOMMENDATIONS

The aim of the study was to find out the impact of spreadsheets on the management of SMEs in uMhlathuze district, South Africa. Through a survey research method that made use of questionnaires as an instrument for data collection, the research established the importance of spreadsheets to SMEs in managing SMEs in uMhlathuze, South Africa. While doing this, four research questions were raised to address the problem of the study.

### Answering Research Questions

#### *What are the purposes of using spreadsheets in SMEs?*

SMEs agreed on three of its spreadsheets purposes where there was no discrepancy amongst them. Using spreadsheets for tracking data such as budget, sales or inventories is one purpose which 99% of participants agreed on. Using spreadsheets for analysing data such as financial and operational analysis is another purpose (99%) agreed upon. Another purpose of using spreadsheets is for analysing data. This is

supported by Stangarone (2015) who stated that the largest number of respondents used spreadsheets for data analysis, evaluating alternatives, determining trends and creating projections and tracking data. However, about 25% participants disagreed that spreadsheets can be used for evaluating alternatives. This could be as a result of lack of knowledge of the capability of spreadsheets as this claim is in contrast to the theory by Stangarone (2015) who argued that a spreadsheet is a decision-making tool intended to support managers to apply a set of decision criteria to a variety of alternative options.

In the opinion of Smith (2017), companies use spreadsheets to model and manipulate data, to create graphical visualisations and to inform future decision making and planning. Unfortunately, 25% of participants in this research, disagreed that spreadsheets can be used for evaluating alternatives. This could probably be as a result of lack of adequate spreadsheet design and organisation skills.

### ***How often do SMEs use spreadsheets?***

There are many ways to determine how often SMEs use spreadsheets. The common way was the ability to identify the level of importance spreadsheets have in SMEs. All of the participants agreed that the level of importance spreadsheets have in their jobs may help determine how often they would be used. According to Lenotti (2014), spreadsheet applications were used by 91% of the sample, making it a common business application.

### ***How can spreadsheets assist in decision making within SMEs?***

Spreadsheets can assist in decision making within SMEs in different ways. Some of the ways are; i. providing a summary of results on spreadsheets, ii. knowing the level of risk posed by spreadsheets is another way that may help improve management decisions. iii. it is best for the original developer to modify spreadsheets in order to improve management decisions.

According to the outcome of the research, 99% of participants believed that providing a summary of results on spreadsheets is one of the ways of improving management decisions. In the context of SMEs, a manager's knowledge of spreadsheets, can control the success or failure of projects because spreadsheets can play a role in an SME's decisions (Smith 2017).

Any effective future planning activity naturally needs to be informed by a clear picture of the present and past, some task spreadsheets are ideally placed to assist. This shows that if the level of risk is known, errors can be avoided which will automatically improve management decisions. Indeed, spreadsheets have become such a force in decision making that they generated a revolution in management instruction in business schools (Powell et al., 2007).

### ***How effective are spreadsheets as a management tool amongst SMEs?***

Spreadsheets could be an effective management tool amongst SMEs depending on some certain factors. The level of importance spreadsheets have within SMEs is a determinant to tell if spreadsheets would be considered a management tool. The level of knowledge of spreadsheets is another factor as well as the level of experience of users with spreadsheets. Bradbard et al. (2014) note that it is imperative that users possess some spreadsheet knowledge as it is easy to start using spreadsheets. However, it is also incredibly easy to make mistakes. It is important to ensure that spreadsheets are built correctly, although executives and senior managers consider the impact of spreadsheet errors as less significant (Caulkins et al., 2007). The problems are not new and were well publicised as far back as 1994, gaining notoriety in 2008 when Panko analysed a sample of spreadsheets used in 'real-world environments' and concluded that 88 percent had errors. However, about 75% of participants claimed to have encountered few errors while using spreadsheets. Like most programs, spreadsheet software is a manual process. That means calculations are susceptible to human error, such as keying in the wrong numbers or copying the wrong amounts.

Unfortunately, every formula is unique and has a specific task, there isn't an automated tool to check for spreadsheet errors (Botha, 2006). One reason for this is that it is unclear which spreadsheet formulas are desirable and which ones should be considered less useful. Research has not provided enough evidence on this yet and practitioners' recommendations are often conflicting with each other (Burgess, 2002).

### **RECOMMENDATIONS**

Considering the nature of this research, the literature reviewed and the findings, the following recommendations are proposed. These recommendations have been identified by the researchers as gaps in the research topic. Software such as

spreadsheets that are important in the survival of SMEs should be given better attention by SMEs. From the present study, the researchers gathered that less than half of the participants are regular users in terms of their spreadsheet knowledge.

SMEs must create awareness amongst its staff members of how important spreadsheets are to their organisations. Akande and Yinus (2013) reported that spreadsheet skills were a frequent additional topic for study for entry-level management accounting positions. Castillo (2018) concluded that SMEs use IT such as spreadsheets, strategically when it was perceived as being integral to the firms' strategy but now, that perception is being undermined.

Despite the fact that over 90% of participants of this survey considered spreadsheets to be important, it was gathered that about 19% of them had no knowledge about spreadsheets. Castillo (2018) suggested that financial awareness among managers of SMEs varies considerably and that the use of spreadsheets for the preparation of management accounting information is not at its full potential.

A number of researchers opinionated that, there are tens of millions of spreadsheet users and the flexibility of spreadsheets permits them to be used without great discipline (Csorny, 2013). Training in spreadsheet design has been tested by Lenotti (2014). The result was a statistically insignificant reduction in errors. Alternatively, working in teams was shown by Csorny (2013) to reduce errors. However, managers are unlikely to find this to be a reasonable solution for general use.

This training could also help SMEs survive in a harsh business environment. It is evident from the research that 75% of participants encountered few errors while using spreadsheets. This could be as a result of some SMEs offering no training courses on how to use spreadsheets where 24% of participants agreed to this fact. For users of spreadsheets who lack management skills, Burgess (2002) suggests that through appropriate training, lack of IT knowledge such as spreadsheets and lack of understanding of the benefits of spreadsheets can be overcome.

## **CONCLUSION**

According to the information gathered from this research, lack of fundamental knowledge of the basic spreadsheet design, organisation and the tendency to continue bad habits of not following instructions, warrant the need for a spreadsheet design

checklist. For example, the literature reviewed discovered when people learn a new software program, they often “jump the gun.” SMEs need to train their staff on the functions and importance of spreadsheets and how to use them efficiently.

Training can be defined simply as a systematic approach to learning so as to develop individual, team and organisational effectiveness by means of improving their knowledge, developing skills, and bringing about attitude and behavioural changes, to perform these effectively and efficiently. In other words, training refers to a planned effort by an organisation to enable employees to acquire certain job-related competencies, such as knowledge of spreadsheets, skills to handle spreadsheets with professionalism or behaviours that are essential for positive job performance.

Development refers to activities leading to the acquisition of new knowledge and skills for the purpose of personal growth. Training and development are therefore the framework for helping employees to improve their personal and organisational skills, knowledge and abilities. It is largely implied that training and development is a worthy initiative for SMEs and that it will boost SMEs business performance.

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# **HR professionals' competencies in the midst of COVID-19 and beyond**

Harriet Rivalani Maluka

Dr H.R. Maluka, Lecturer, Department of Business Management, School of Economics and Management, University of Limpopo, South Africa.

## **ABSTRACT**

The emergence of the COVID-19 pandemic caught organisations off guard and their employees had to improvise; instigating a challenge for Human resource (HR) professionals to effectively perform their strategic and operational roles. The COVID-19 pandemic required organisations and employees to rely heavily on the use of technology. For HR professionals to provide support to both organisations and employees, they are required to adapt to the environmental challenges by continuously updating their competencies and acquiring new competencies. Thus, it is important to explore the key competencies that could assist organisations to survive the demands imposed by the pandemic in order to move beyond it. The objectives of the paper were to investigate how the competencies of HR professionals have evolved over time in order to adapt to the environmental changes, including the COVID-19 pandemic as well as to explore the key competencies required for HR professionals to effectively execute their duties in the midst of the COVID-19 pandemic and beyond. A qualitative research approach in the form of an integrated systematic literature review was adopted. Thus, a comprehensive literature review of both earlier and recent data was undertaken in order to understand how the competencies of HR professionals has evolved over time. The secondary data was collected from credible sources. Thematic content analysis was used to analyse the collected secondary data. The findings revealed that the key competencies for HR professionals identified in the literature falls under nine major HR competency domains, namely; strategic positioner, human capital curator, total rewards steward, analytics designer and interpreter, compliance manager, technology and media integrator, paradox navigator, culture and change champion, and credible activist. However, the HR competencies seem to

change on a continuous basis, with some requiring minor improvements from the existing competencies while others never existed before.

**Keywords:** HR professionals, competencies, skills, COVID-19, technology, industrial revolution

## INTRODUCTION

The emergence of the COVID-19 pandemic caught organisations off guard and their employees had to improvise; instigating a challenge for Human Resource (HR) professionals to effectively perform their strategic and operational roles. These include building a good corporate image in order to attract motivated and competent employees as well as effective implementation of HR practices for the achievement of the organisations' goals (Renwick et al., 2013; Singh et al., 2020). As a human crisis, the COVID-19 pandemic required HR professionals to take a central role in order to assist organisations and their human capital to respond swiftly to the demands imposed by the pandemic (Collings, McMackin, Nyberg and Wright, 2021). The normalcy in which the HR professionals perform their HR functions had to change, requiring them to update their competencies.

Vu (2017) accentuated that HR competencies play a crucial role for the organisation because they influence the performance of other departments such as finance, sales, and marketing within the organisation, which ultimately have an impact on the success of the organisation. The terms competence and competency are usually used interchangeably (irrespective of their differences) to refer to “the ability to do a task” (Arifin, 2021, p. 756). Similarly, competencies and skills are sometimes used interchangeably to refer to abilities to perform a task, though skills “describe specific abilities” (Nägele and Stalder, 2017, p. 739). Therefore, in this paper, competence, competency and skills are used interchangeably.

The COVID-19 pandemic emerged during the time when the world was still in the process of adapting to the challenges related to rapid technological advancements in the form of artificial intelligence, robotics, automation, digitalisation and the “internet of things” brought by the fourth industrial revolution (4IR) (Hudson, 2017). The COVID-19 pandemic required organisations and employees to rely heavily on the use of 4IR technology. HR professionals had to assist the organisations and employees to adapt

to the “new normal”, which required them to acquaint themselves with various remote working tools in order to choose those that best match their organisational culture (Gigauri, 2021). HR professionals had to learn how to manage remote work while keeping a competitive workforce for the organisation (Shiri and D'Mello, 2021).

For HR professionals to provide support to both organisations and employees, they are required to adapt to the environmental challenges by continuously updating their competencies and acquiring new competencies (Strobel, 2016). The objectives of the paper were to investigate how the competencies of HR professionals have evolved over time in order to adapt to the environmental changes, including the COVID-19 pandemic, as well as to explore the key competencies required for HR professionals to effectively execute their strategic and operational duties in the midst of the COVID-19 pandemic and beyond. A literature review of both earlier and recent data was undertaken in order to understand how the competencies of HR professionals have evolved over time. The structure of this article is as follows: a literature review is presented, the research methodology is described, results and findings are presented, and recommendations are made in conclusion.

## **LITERATURE REVIEW**

### **Industrial Revolution**

Agriculture was the main means of people's economic survival before industrialisation (Cameron and Spies, 1986). However, industrialisation, which involved social and economic transformation from agricultural to industrial practices, brought a change to the way people lived their lives (Schreuder and Coetzee, 2016). Industrialisation contributed to the birth of “industrial revolution”, which involves the rapid “change of the technological economic and social systems in industry” (Dombrowski and Wagner, 2014, p. 100). From its inception, industrial revolution was marked by changes in the manner in which employees perform various duties in organisations, from hand-made products to reliance on machines (Stearns, 2012; Kohnová and Salajová, 2019). The HR-related functions performed in the different eras of industrial revolution, from the first to the fourth, informed the key competencies that were appropriate for that particular era.

#### *The first industrial revolution*

The first industrial revolution started in England in the eighteenth century, and then spread over time to Europe, America and later on, other countries (Stearns, 2012). It involved movement from agricultural practices to industrial practices through the introduction of steam engines and mechanisation of manufacturing (Morrar, Arman and Mousa, 2017). In the 1700s, new inventions in the form of technologies such as machines and new production systems began to assist in the production and transportation of manufactured products (Kohnová and Salajová, 2019). This resulted in the introduction of factories, which used big machines to manufacture and transport massive products (Makridakis, 2017). The employment of people in the factories required organisations (factories) to devise certain ways of managing them.

#### *The second industrial revolution*

The second industrial revolution followed in the nineteenth century, and involved development of steel production such as railways and the introduction of early technology such as the telegraph, transportation and communication (Morrar *et al.*, 2017). This era was marked with a move to more expensive technological equipment to increase production (massification of production), which resulted in the employment of a larger number of employees, consisting of a high number of unskilled and low skilled workforce as well as few with technical skills (Kohnová and Salajová, 2019). It can be argued that specific practices were required to manage the workforces from these three different levels of skills. This era also involved the development of electric power and automatic operations, which resulted in the invention of the first car. This invention made it more convenient, easier and faster for people to transport manufactured products from the factories and agricultural products (Makridakis, 2017).

#### *The third industrial revolution*

The third industrial revolution started in the twentieth century, with countries such as England, Germany, USA, and Japan as the principal players. The era was manifested by means of internet technology, renewable energy, as well as communication and information technology (Morrar *et al.*, 2017). This included the introduction of personal computers, which improved the manner in which people communicate at the workplace (Makridakis, 2017). This implies that information technology slowly began to be of importance in the day-to-day running of organisations. The acceleration of



communication resulted in the creation of more businesses, which ultimately led to massive job creation (Kohnová and Salajová, 2019).

### *The fourth industrial revolution*

The 4IR emerged in the beginning of the second decade of the twenty-first century. Marked with artificial intelligence, robotics, automation, digitalisation and “the internet of things” (Hudson, 2017), the 4IR promotes interaction between information and decisions made by people, processes and objects, by means of communication with each other via the internet (Morrar et al., 2017). The COVID-19 pandemic emerged during the 4IR, forcing organisations to adapt to the technological advancements linked to the 4IR. Stearns (2012) emphasised that industrial revolutions change the nature of work, requiring organisations to redefine or redesign employees’ work. Therefore, it cannot be disputed that such changes require effective and efficient human resource management (HRM) practices in order to meet the demands of the changing nature of work.

### **Human resource management practices in the fourth industrial revolution**

HRM has the role to ensure that humans, as valuable assets of the organisation, are managed in a way that would assist organisations to realise their strategic objectives (Puhovichova and Jankelova, 2020). Effective HRM practices are essential for every organisation to be successful (Rubel, 2019; Tiwari, Srivastava & Kumar, 2019). The basic functions of HRM include amongst others: HR planning, job analysis and job design, recruitment, selection, training and development, career management, employee remuneration, health and safety management, performance management, employee remuneration, employee retention, employment relation and exit management (Patrick and Mazhar, 2019; Tiwari *et al.*, 2019; Puhovichova and Jankelova, 2020; Nel and Werner, 2021).

The 4IR transformed the traditional HR into “HR 4.0”, which entails the use of the 4IR technology to perform HR functions. The emergence of COVID-19, which resulted in the national lock downs and strict regulations to reduce physical interactions, forced organisations to adopt the 4IR technologies such as artificial intelligence (Chanana and Sangeeta, 2021). Artificial intelligence is concerned with the use of machines to perform tasks which are performed by humans, and this is prevalent during the COVID-19 pandemic. The HR functions such as recruitment, selection, human

resource development (training and development) and performance management are performed through the use of technology (Rafique, Asim and Manzoor, 2021). Therefore, this paper is based on the Fombrun Model of HRM.

### **The Fombrun Model**

The Fombrun Model regards; recruitment and selection, training and development, performance management and compensation management as the core HR functions (Armstrong, 2009; Tiwari *et al.*, 2019). The discussion below focuses on how these core HR functions are performed through the use of technology since the emergence of COVID-19 pandemic, which can also be called eHRM (Yusoff, Ramayah and Ibrahim, 2010).

#### *Recruitment and selection*

The COVID-19 pandemic forced organisations to integrate technology to carry out the recruitment processes. The use of technology to perform recruitment in HR is known as e-recruitment (Mayhew, 2019). Mohammed (2019) describes e-recruitment as a process that makes use of a variety of electronic modes and technologies in order to grab the attention of potential job seekers for employment purposes. The use of technology makes the recruitment process simpler and more reliable as it becomes easier to reach potential candidates while the artificial intelligence assists to examine the resumes and reject those that are not appropriate for the position of interest (Rafique *et al.*, 2021). In the selection process, the use of technology assists HR professionals to quickly analyse resumes, schedule interviews and conduct interviews by means of virtual reality techniques, which does not only save costs, but makes the hiring process faster (Heaslip, 2020).

#### *Training and development*

The COVID-19 pandemic and its restrictions forced the HR professionals to rethink the manner in which training programs and managerial development programs are delivered in order to equip employees with job inherent skills and update their skills. HR professionals had to use technology to help employees to develop their knowledge and continue to grow professionally in line with the new trends, which is the 4IR (Pandian, 2018; Rafique *et al.*, 2021). Technology had to be integrated in training and development function, whereby training is delivered online, either live through video

conferencing or in a simulated environment (Miller, 2020). Thus, the 4IR technology assists to combine simulation training remotely and occasionally on-site training for employees to gain concrete, hands-on experience.

#### *Performance management and compensation management*

Although organisations had been using technology to manage employee compensation for ages (Williams, 2020), updated compensation management systems in line with the new trends continue to add value because performance management and compensation management functions tend to complement each other. Rafique *et al.* (2021) support this by stating that the significant amount of data collected on each employee's performance is used to determine individual employee's compensation. The use of technological tools such as artificial intelligence and big data analysis tools assist HR professionals to evaluate individual employee performance in a non-biased manner, making it easier to link individual employee compensation to performance (Rafique *et al.*, 2021). This means that HR professionals have to ensure that employees receive their salary, bonus, allowances, incentives and perquisites according to their performance in order to motivate employees to strive for good performance (Pandian, 2018).

#### **Human Resource competencies**

HR professionals are required to continuously develop their competencies to adapt to their changing roles and responsibilities informed by the demands from the external environment. This means that HR competencies which were once essential in a particular era are no longer sufficient in the new era with new challenges (Abdullah and Sentosa, 2012). HR competencies refer to a set of behavioural dimensions that contribute to effective performance of HR professionals in order to assist organisations to gain competitive advantage (Vu, 2017). In order to understand competencies in relation to HRM practices, it is important to focus on the evolution of the concept "human resource management" from its inherited name "personnel management" (Aslam, Aslam, Ali, Habib and Jabeen, 2013). Hence, this paper provides an overview of the evolving HR competencies from the first to the fourth industrial revolution.

According to Aslam *et al.* (2013), during the first and second industrial revolution era, HRM or its ancestral name, personnel management, did not exist. Employees were not viewed as humans but as raw material commodities. The employees received very

low wages, which were insufficient for them to make a decent living (Crafts, 2020). The managers, who were business owners used power, marked with hard-hearted behaviour as an important competence in order to ensure that the work gets done (Aslam *et al.*, 2013). This implies that the main competence required to manage human behaviour at the workplace during the first and second industrial revolution era was the ability to use power, especially coercive power, in order to ensure high productivity.

During the third industrial revolution era, the idea relating to personnel or HR practices, was introduced by Frederick Taylor during the scientific management era (1890-1910) prior to the First World War (Blake and Moseley, 2011). Frederick Taylor, who earned the title “the father of scientific management” advocated scientific selection and training of employees as well as the use of incentive-based compensation systems to motivate employees to perform their duties (Thomas, 1982; Rotich, 2015). In order to ensure organisational success, Frederick Taylor proposed four principles: scientific examination of each element of a job; systematic selection, training, teaching and developing of each employee; working cooperatively with employees to ensure good performance; and managers taking full responsibility for planning how the job should be done (Blake and Moseley, 2011).

Frederick Taylor’s ideas contributed to the discipline of industrial psychology which resulted in the use of employment-related testing for recruitment and selection of employees during the First World War era (1910-1930) (Thomas, 1982). Personnel functions during this era focused on administrative duties and ensuring compliance with policies and procedures (Rochford, 2018). These functions were performed by the business owners, line managers and supervisors, which formed part of the general management functions (Rotich, 2015). Blake and Moseley (2011) emphasised that Frederick Taylor’s ideas are linked to the four functions of management, namely; planning, organising, leading (directing) and controlling (monitoring). The important competencies required to perform personnel or HR functions during this era include administrative skills, testing skills, influence management skills, compliance management skills, facilitation skills, relational skills, leadership skills, planning and organising skills (Abdullah and Sentosa, 2012; Vu, 2017; Rochford, 2018).

The findings of the Hawthorne studies during the human relations era (1930-1960) emphasised the importance of the social and informal aspects (human relations) at the workplace, forcing organisations to consider the welfare of employees. This initiated a shift to focus on the needs of employees and their satisfaction in order to achieve higher organisational productivity (Rotich, 2015). Employees became informed of their rights, resulting in high labour movement employees, which shaped the personnel or HR function in order to address labour relations issues (Aslam *et al.*, 2013). The studies and theories that followed later resulted in personnel management developing into HRM. Hence, Rotich (2015) regards HRM as a product of the human relations movement of the early twentieth century. There was a focused shift from improving employees' efficiency and productivity to emphasis on improving the work conditions (Rochford, 2018). The HR competencies aligned to the human relations era such as human relations skills, diplomatic skills, negotiation skills, conflict management skills, problem solving skills and interpersonal skills became of utmost importance.

Organisations in the last decades of the twentieth century were faced with radical changes as a result of increased globalization and competition as well as high-tech progression. The HRM strategic role became of utmost importance in ensuring that talented employees are attracted and retained in order to assist organisations to realise their strategic objectives and sustain a competitive advantage (Aslam *et al.*, 2013). This gave birth to strategic human resource management (SHRM) (Rotich, 2015; Rochford, 2018). The changing competencies for HR professionals during the last two decades of the twentieth century was evident from three studies conducted by Ulrich and his associates.

The findings of the first study acknowledged the following three key HR competencies: business knowledge, delivery HR and change (Ulrich, 1989). Thus, HR professional should have knowledge of the core business, perform HR functions with proficiency and effectively manage change. The second study added personal credibility to the three earlier competencies (Ulrich, Brockbank, Yeung and Lake, 1995). This means that HR professionals should have integrity, act in an ethical manner and promote ethical behaviour within organisations (Rotich, 2015). The third study added culture to the former four competencies (Ulrich, 1997). Thus, HR professionals should have the

ability to shape the organisational culture in a manner that is in line with the environmental changes (Gigauri, 2021).

The last decade of the twentieth century and the first decade of the twenty-first century were marked with consequences of increases in globalization and competition such as mergers and acquisitions as well as rapid technological advancement (Vu, 2017). HR professionals had focused more on strategic initiatives such as talent management, succession planning, labour relations, HR ethics and diversity management in order to cope with drastic changes and intense competition (Rotich, 2015). HR competencies linked to this era include business knowledge (acumen), HR knowledge (proficiency), relational skills, personal credibility, change management skills, diversity management skills and technology proponent skills (Ulrich et al., 2015; Vu, 2017; Rochford, 2018).

In the beginning of the second decade of the twenty-first century, the 4IR emerged (Hudson, 2017). Ulrich and his associates conducted two studies during the first decade of the twenty-first century. The findings of the first study revealed the following five key HR competencies: business knowledge, strategic contribution, HR delivery, HR technology, and personal credibility (Ulrich and Brockbank, 2005). The review of previous studies conducted by Ulrich and his associates shows that the newly required competencies among these five are strategic contribution and HR technology while the other three only needed to be updated (Ulrich, 1989; Ulrich et al, 1995, 1997; Ulrich and Brockbank, 2005). This shows the impact that globalisation, competition and technological changes had on HR professionals' competencies (Aslam *et al.*, 2013).

The second study recognised the following six key HR competencies: business ally, strategic architect, talent manager and organisation designer, operational executor, culture and change steward, and credible activist (Ulrich and Brockbank, 2009). Thus, HR professionals' business knowledge was no longer sufficient, but the use of such knowledge to work jointly with top management as business partners and form part of strategic architecture became essential. Furthermore, HR professionals should effectively execute their operational (HR) duties and manage talent in such a way that employees are properly equipped with skills needed to deal with change as well as to build positive organisational culture (Ulrich and Brockbank, 2009). This means that the previously identified HR competencies required an update, with the exception of

management of change and culture, which was a new competence (Ulrich and Brockbank, 2005; 2009).

When the 4IR emerged in the beginning of the second decade in the twenty-first century (Hudson, 2017), Ulrich and his associates conducted two studies on key HR competencies. The results of the first study identified the following six key HR competencies: strategic positioner, HR innovator and integrator, technology proponent, change champion, capability builder and credible activist (Ulrich, Brockbank, Ulrich and Kryscynski, 2015). HR innovator and integrator, capacity builder and technology proponent were newly identified HR competencies while the remaining three competencies (strategic positioner, change champion and credible activist) were updated from the previously identified competencies (Ulrich and Brockbank, 2009; Ulrich et al., 2015). This shows that the 4IR technologies forced HR professionals to play an active role in repositioning organisations strategically through the use of technology, integrating HR functions with the new technology and capacitating employees to deal with change (Ulrich et al., 2015).

The results of the second study acknowledged the following nine key HR competencies: strategic positioner, human capital curator, total rewards steward, analytics designer and interpreter, compliance manager, technology and media integrator, paradox navigator, culture and change champion, and credible activist (Ulrich, Kryscynski, Ulrich and Brockbank, 2017). Two competencies (strategic positioner and credible activist) remained the same while three competencies (human capital curator, technology and media integrator, as well as culture and change champion) were updated from the previous competencies (Ulrich et al., 2015; 2017). This means that building human capacity within organisations was no longer adequate but required HR professionals to also ensure that organisations do not lose the needed talent by devising ways to retain human capital. Furthermore, being technology proponents was no longer sufficient, but HR professionals should also ensure that technology and media are integrated to effectively execute their duties. Such changes did not only require management of change competence, but also management of organisational culture because the new technology moulds the existing culture into a new culture (Ulrich et al., 2015; 2017).

The four newly identified competencies include total rewards steward, analytics designer and interpreter, compliance manager and paradox navigator. To remain competitive, HR professionals are required to play an active role in overseeing that employees with competencies required for organisations are well-compensated in order to retain them. On the other hand, the heavy reliance on technology requires HR professionals to ensure that they use the new technology in a manner that is in line with the employment laws and other relevant legislation. HR professionals should be able to build harmonious working relationships between the various organisations' internal and external stakeholders in order to ensure that organisations work towards realising their strategic objectives (Ulrich et al., 2017).

The 4IR demands organisations to build superior human capital, which require HRM practices that respond to the demands in order to maintain competitive advantage during and post the COVID-19 pandemic (Mefi and Asoba, 2021). As “beyond every crisis situation, lies rebuilding”, it is important for organisations to look beyond the pandemic and consider what needs to be done to recover from the pandemic (Mefi and Asoba, 2021, p. 1). HR professionals are at the forefront of organisations' efforts for recovery because the pandemic is a human crisis that had an impact on employees in the workplace. Therefore, HR professionals need the following HR competencies to sustain organisations' competitive advantage beyond the COVID-19 pandemic: big data management skills (Mefi and Asoba, 2021; Rafique *et al.*, 2021), human-machine interface skills, human-organisational strategic links related skills, human-technology interface competencies (Mefi and Asoba, 2021), human relations skills (relational skills such as communication and leadership skills), decisiveness (sense-making skills), technology proponent and architect skills, emotional intelligence (personal credibility), business acumen, functional/technical skills (HR proficiency) (Abdullah and Sentosa, 2012; Ulrich *et al.*, 2017; Vu, 2017; Rochford, 2018; Dirani, Abadi, Alizadeh, Barhate, Garza, Gunasekara, Ibrahim and Majzun, 2020).

The technology proponent, architect skills, and enabling competence require HR professionals to be competent with regards to the new technology in the market in order to assist employees to gain the required competencies (Dirani, 2020). The technology proponent and architect skills during the 4IR era can be linked to big data management skills, human-machine interface skills and human-technology interface competencies. The integration of technology in the HRM processes such as



recruitment, selection, training and development, performance management and compensation management implies that HR professionals should rely on big data to make decisions (Mefi and Asoba, 2021, Rafique *et al.*, 2021). Big data in HRM (HR analytics and metrics) assists HR professionals to make effective and efficient human-resource decisions (Rafique *et al.*, 2021). Therefore, big data management skills (HR analytics and metrics) become crucial.

As HR professionals continue to rely heavily on the use of artificial intelligence, robotics, web platforms and other digital systems to execute their duties, human-machine interface skills are important to ensure organisations' competitiveness during the COVID-19 pandemic. HR professionals require human-technology interface competencies in order to use and interpret the various forms of the 4IR technologies as well as to be in a better position to develop employees' knowledge, skills and competencies to use the technologies (Mefi and Asoba, 2021). HR professionals are expected to develop and implement HRM policies and programmes that assist organisations to achieve their strategic goals, hence, human-organisational strategic links related skills are considered important (Mefi and Asoba, 2021).

HR professionals should be able to analyse situational factors within and outside the organisation in order to develop policies that respond to those situational factors, which require both business knowledge and specific HR knowledge or proficiency (functional/technical skills) (Abdullah and Sentosa, 2012; Vu, 2017). Hence, skills related to human-organisational strategic links can be linked to business acumen and strategic partnering skills. Business acumen refers to the knowledge of core business operations and external factors that influence the operations of the business in order to formulate appropriate business strategy plans (Vu, 2017). HR professionals' role as strategic partners require them to apply their knowledge of core business and HR proficiency to formulate and implement business strategy that assist organisations to gain competitive advantage (Ulrich and Brockbank, 2009; Ulrich *et al.* 2015; Vu, 2017; Rochford, 2018).

The changing environments such as human crisis and technological advancements cannot and will never be avoided, hence, HR professional should always communicate with honesty and transparency and provide proper guidance (Dirani *et al.*, 2020). This means that HR professionals are at the forefront when it comes to addressing human

issues during crises or uncertainties in organisations, which require them to have effective communication and leadership skills. Employees will continue to depend heavily on HR professionals for guidance in order to strive for performance and survival during COVID-19 and beyond. HR professionals should be able to make sense of situations in order to be decisive and act as fast as they can with changing situations (Dirani *et al.*, 2020).

## **METHODOLOGY**

An integrated and comprehensive literature review of both earlier and recent data was undertaken in order to understand how the competencies of HR professionals have evolved from the first industrial revolution to the fourth industrial revolution, which is in the COVID-19 pandemic era. Snyder (2019) asserted that an integrated literature review is appropriate when the aim of the study is to provide an overview of the knowledge base and to expand on the theoretical foundation of the specific topic as it develops. The focus of the integrated literature is on combining perspectives and insights from different research instead of covering all articles published on the topic (Snyder, 2019).

The review of literature and secondary data from various sources and databases such as Emerald, Springer, ProQuest, ScienceDirect Ebschost and Google Scholar was conducted on the influence of industrial revolutions on HR competencies in order to identify the key HR professionals' competencies in the midst of COVID-19 and beyond. A combination of terms used to search for secondary data include: industrial revolution, HR competencies, HR models, technology and HRM. The collected data was critically analysed and examined to ensure advancement of knowledge and revision of HR competency models, as suggested by Snyder (2019). This involved systematic identification of certain words, concepts, characters, themes, or sentences relating to the changing competencies of HR professionals.

## **RESULTS AND DISCUSSION**

The evolution of HR professionals' competencies over time in order to adapt to the environmental changes was analysed by focussing on the HR-related changes linked

to the industrial revolution eras. The key competencies required for the HR professionals to effectively execute their duties during the COVID-19 pandemic and beyond were analysed by focussing on the competencies linked to the technological advancement and also linked to the 4IR.

Research on HR professionals' competencies shows that there are different domains within which clusters of competencies that belong together or have relationships with are grouped together (Abdul and Sentosa, 2015). The nine major HR competency domains: strategic positioner, human capital curator, total rewards steward, analytics designer and interpreter, compliance manager, technology and media integrator, paradox navigator, culture and change champion, and credible activist as suggested by Ulrich et al. (2017) were used to show how the HR competencies have evolved from the first to the fourth industrial revolution. Table 1 provides a summary of the evolution of HR competencies overtime.

**Table 1: Evolution of HR competencies over time**

INDUSTRIAL REVOLUTION (IR)				
COMPETENCY DOMAINS	First IR Sub-Competencies	Second IR Sub-Competencies	Third IR Sub-Competencies	Fourth IR Sub-Competencies
Strategic positioner	None	None	Planning, Organising, Leadership, Business knowledge, Strategic architect, Organisation designer	Strategic architect and positioner, Business acumen, Human-organisational strategic links, Business acumen
Human capital curator	None	None	Administrative, Training, Testing, HR knowledge, Operational executor, Talent management,	Capability builder, Succession planning, Talent management Decisiveness, HR knowledge, Operational executor
Total rewards steward	None	None	Knowledge of Compensation management systems	Knowledge of Compensation management systems

Analytics designer and interpreter	None	None	HR analytics and metrics	Big data management skills HR analytics and metrics
Compliance manager	Ability to use power	Ability to use power	Compliance management, controlling (monitoring) skills	Compliance management
Technology and media integrator	None	None	HRIS knowledge	Technology proponent HR innovator and integrator
Paradox navigator	None	None	Relational, Diplomatic, Negotiation, Conflict management, Problem solving, Interpersonal skills	Human relations (leadership, communication, interpersonal, networking), Emotional intelligence, Negotiation, Conflict management, Problem solving, Interpersonal skills.
Culture and change champion	None	None	Change management, Culture management,	Change champion, Culture management, Diversity management
Credible activist	None	None	Personal integrity	Personal integrity, HR ethics

### Strategic positioner

The COVID-19 pandemic changed the strategic role for HR professionals to strategic positioner role. Strategic positioner competency involves HR professionals' ability to assess both external and internal business environments and use the outcomes to assist the organisation to be in a successful position (Ulrich, 2017). These require them not to play a strategic architect role only, but to be active in moving the organisation to the next level. Hence, business acumen and human-organisational

strategic links are also HR professionals' essential competencies that assist in keeping the organisation competitive (Mefi and Asoba, 2021).

### **Human capital curator**

As HR professionals value humans as valuable assets within an organisation, human capital curator competence is important. It involves HR professionals' ability to provide and apply integrated and innovative HR solutions for managing people at their workplace in order to ensure organisational success (Ulrich, 2017). These include ensuring that the organisation has a talent required to achieve its strategic objectives, including equipping them with skills to work remotely during the COVID-19 pandemic. Hence, capability building, succession planning and talent management skills, as well as using HR knowledge to execute HR functions in a decisive manner are key HR competencies (Rotich, 2015; Vu, 2017; Rochford, 2018; Dirani *et al.*, 2020). These competences enable HR professionals during COVID-19 to manage remote work while keeping a competitive workforce for the organisation (Shiri and D'Mello, 2021).

### **Total rewards steward**

HR professionals require this competence in order to create total reward systems which include financial rewards as well as non-financial rewards such as remote working as supported by the new technology (Ulrich, 2020). Thus, their knowledge of updated compensation management systems in line with new technological trends and human crisis enables them to make decisions that have impact. Furthermore, they have to ensure that compensation is based on employees' performance in order to encourage good performance and discourage poor performance (Pandian, 2018). HR professionals have to the new technology to gather substantial amount of data on each employee's performance in an organisation, analyse the collected data in order to determine individual employee's compensation (Rafique *et al.*, 2021). This will continue to important post COVID-19 because for organisations to be competitive, they need to retain their competitive employees.

### **Analytics designer and interpreter**

The technology brought by the 4IR requires HR Professionals to be able to manage big data in order to make crucial strategic decisions in organisations (Mefi and Asoba, 2021; Rafique *et al.*, 2021). Analytics designer and interpreter competence require HR

professionals to get the right data and the knowledge of HR analytics and metrics in order to interpret business data and engage in impact decision making (Ulrich, 2017). As COVID-19 caught organisations off guard and employees had to improvise, HR professionals had to get the right information about the pandemic and analyse it in order to find possible ways for employees to continue to be productive and to use technology to analyse the impact of HR practices during the trying times. Beyond COVID-19, HR professionals should be able to assist the organisations to tolerate uncertainties as they have become a norm in the twenty-first century (Ulrich, 2020).

### **Compliance manager**

Compliance manager competence enables HR Professionals to manage the processes related to compliance with employment legislation and other relevant legislation (Ulrich, 2017). During the COVID-19 pandemic, HR professionals were required to ensure compliance with the stipulated guidelines and restrictions for managing and combating the spread of the coronavirus at the workplace (Shiri and D'Mello, 2021), while observing compliance with other legislation and their amendments. Furthermore, the use of the new technology required taking extra precautions to secure the privacy of employees and organisations in line with the amended Protection of Personal Information Act 4 of 2013 (POPIA). Thus, HR professionals' role to instigate measures to ensure cybersecurity reflects the importance of compliance management skills as a key competence. This is also important post COVID-19, because based on their nature, certain jobs may continue to be performed remotely (Ulrich, 2020).

### **Technology and media integrator**

Technology and media integrator competence enables HR professionals to leverage technology and influence the use of technological tools to build high performing organisations (Ulrich, 2017). The COVID-19 pandemic drove HR professionals to become technology proponents and architects in order for them to continue to perform their duties and for the entire workforce within organisations to perform their duties. This includes using different online platforms to recruit, select and train employees (Mayhew, 2019; Mohammed, 2019; Miller, 2020). To be successful, they had to be creative in order to find the best way to integrate technology in performing their functions. Ulrich (2020) asserted that the COVID-19 pandemic redefined boundaries

of work as space and place became worthless. Beyond the pandemic, employees' performance will not be tied to a place, requiring HR innovator and integrator competencies. Furthermore, HR professionals will require digital technology to make rigorous analytic decisions (Ulrich, 2020).

### **Paradox navigator**

HR professionals have to assist in creating harmonious working relationships between employees and organisations, between employees themselves and between organisations and their external stakeholders such as government, suppliers and customers (Ulrich, 2017). As some organisations thrived while others strived during the pandemic, organisations may be forced to customise services to unique customer needs (Ulrich, 2020), testing HR professionals' paradox navigation competence. The disruptions and confusion caused by the COVID-19 pandemic and the use of new technology requires HR professionals to have competencies that assist in crisis management and relationship management such as leadership, communication, interpersonal, and networking skills, emotional intelligence, negotiation, conflict management, problem solving and interpersonal skills (Vu, 2017; Rochford, 2018; Dirani *et al.*, 2020). Ulrich (2020) emphasised that beyond COVID-19, HR professionals may be required to personalise individual employee's work in order to perfectly fit the needs of each employee.

### **Culture and change champion**

The changes brought by the COVID-19 pandemic changed the organisational culture of many organisations, especially the changes in relation to interaction, which required culture management skills (Ulrich *et al.*, 2015). HR professional had to acquaint themselves with various remote working tools in order to choose those that best match their organisational culture while shaping their organisational culture to embrace the "new normal" (Gigauri, 2021). The changing composition of the workforce in the twenty-first century requires HR professionals to be able to manage diversity (Ulrich *et al.*, 2015; Vu, 2017; Rochford, 2018). Furthermore, adoption of the new technology required change management skills in order to assist employees to welcome and see the need for change. Ulrich (2017) asserted that by championing both change and culture, HR professionals assist in stabilising the level of uncertainties. Beyond the COVID-19 pandemic, HR professionals should continuously assess organisational

culture in order to promote the most appropriate culture that creates value for all organisations' stakeholders (Ulrich, 2020).

### **Credible activist**

HR professionals require credible activist competence in order to achieve the trust and respect they need by being good exemplars within the organisation. Thus, they should be ethical leaders who are viewed as valued and valuable partners (Ulrich, 2017). Ethical leaders demonstrate appropriate behaviour through personal actions and interpersonal relationships (Stouten, van Dijke, Mayer, De Cremer and Euwema, 2013). Thus, HR professionals should promote HR ethics and continuously observe the HR ethics (Rotich, 2015).

## **THEORETICAL AND PRACTICAL CONTRIBUTIONS**

It is apparent from the discussion that competencies for HR professionals change on a continuous basis. The paper systematically integrated literature on the changing nature of HR professionals, which provides an insight on how the HR competencies have evolved. Some of these competencies discussed were carried over from the past with minor improvements (updated competencies) while others never existed before (new competencies). The findings could enable organisations to devise effective mechanisms to respond to the demands of environmental changes and assist their HR professionals to continuously update or acquire relevant competencies. Vu (2017) emphasised that HR professionals' competencies will continue to evolve in the future, which necessitates continuous research to provide solutions in relation to HR competencies that would best add value to organisations in future. However, it is recommended for future research to focus on the use of primary data from various industries in order to provide valuable insight in relation to competencies for HR professionals and the manner in which the HR competencies add value post COVID-19.

## **CONCLUSION**

The changes in the external environment such as human crises and technological advancements have direct impact on the competencies of HR professionals because they have to re-examine the HRM practices and update their competencies in order to respond appropriately. The emergence of COVID-19 during the fourth industrial



revolution era was no exception. The paper examined secondary data to understand how the competencies of HR professionals have evolved over time in order to identify key competencies in the HR professional position in the midst of COVID-19 and beyond. As HRM focuses more on humans, whose behaviour changes with the environmental changes, research must be continuously conducted on how HRM can add more value to ensure organisational success.

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# **Motivations for the online social network engagement practices by Sub-Saharan tourism consumers**

Arthur Mapanga

Dr A. Mapanga, Senior lecturer, Department of Management & Governance, Walter Sisulu University, South Africa.

## **ABSTRACT**

This study sheds light on the motivations for online social network engagement practices for tourism consumers in Sub-Saharan Africa. Given the fading utility of the traditional marketing mix (product, price, placement, and promotion) in tourist destinations, the tendency of business organisations in the tourism value chain to try to capture the attention of potential tourists by maintaining an online social network presence is also on the rise. And yet, there remains an unusually high level of mismatch between vendors' online presence and the espoused tourist brand engagement. This suggests that business organisations are failing to take advantage of online social network marketing, possibly due to a lack of precise knowledge of the potential tourists' motivations to engage in online social networks. A cross-sectional survey was utilized to explore potential tourists' motivations for participating in online social networks. A convenient sample of 432 tourists was surveyed using an online Survey Monkey questionnaire. The findings of this study indicate three distinct motivations behind tourists' online social network engagement, namely, to search for information, to find entertainment, and to communicate. Of the three motivations, information seeking dominates in the minds of tourists in Sub-Saharan Africa. Being an exploratory study, the findings of this paper may be limited which could limit the generalizability of the findings beyond this sample. Nevertheless, the study demonstrates a need for businesses operating in the tourism value chain to first understand the various needs of tourists when they participate in online social networks. For maximum brand exposure, tourist destination marketers need to fine-tune their online presence strategies in line with consumer motivations.

**Keywords:** consumer, motivations, tourist, value chain, online social network, online presence, online social network engagement, brand exposure.

## **INTRODUCTION**

Given the fading utility of the traditional marketing mix (product, price, placement, and promotion) in tourist destinations, business organisations in the tourism value chain have fundamentally altered the way they communicate and advertise their offerings to the target market. Companies with a superior understanding of customer motivations in using online social networks are better equipped to leverage their online social presence for maximum visibility in the market, thereby outperforming rival companies. There has been a huge move towards maintaining an online social network presence in order to capture the attention of potential tourists. Yet, there remains a curiously high level of mismatch between vendors' online presence and their tourist brand engagement, further suggesting that overall, business organisations in the tourism value chain are failing to take advantage of online social network marketing, possibly due to a lack of precise knowledge of potential tourists' motivations in engaging with online social networks. This study aims to explore the motivations behind the online social network engagement practices for tourism consumers in Sub-Saharan Africa. Our hope is that the findings will help players in the tourism industry to craft the right online marketing strategies.

## **THEORETICAL UNDERPINNINGS**

To understand the motivations for online social network engagement practices by Sub-Saharan tourism consumers, this study was predicated on the motivational theory of consumer behaviour. This humanistic approach acknowledges that consumers have a conscious mind and free will, and that consumers need self-reflection and discovery to create an affinity with market offerings (Whitmer, 2019; Healy, 2022). According to Solomon *et al.* (2016), consumers' feelings and emotions play a significant part in their rational decision-making processes. This is hardly surprising as motivation is inherently an inner state that drives consumers to satisfy their specific needs (Duffett, 2015; Gonzalez-Fuentes, 2019). This current epoch in human development with its pervasive application of integrated marketing communication (IMC) has in Aydın (2019)'s view, strongly pushed consumer online social network engagement practices in their bid to discover products and services in the markets.

As alluded to above, online social networks have indeed become game-changers in how consumers engage with markets. Nonetheless, it is not clear in the literature whether a single suite of motivations drive consumer online engagement practices across all contexts. Furthermore, research on motivations for using online social networks outline quite some variation in the motivations for consumers' usage of online social networks. In some studies, consumers have been found to employ online social networks to realize their social needs such as inclusion, affection, control, relaxation, escape, and enjoyment. Online social networks can satisfy human needs typically fulfilled in real-life, such as societal communication, passing time, obsession, learning, and discovery; and to realize other needs, for example, time-shifting and building new friendships. In the marketing domain, it is also evident that consumers engage with online social networks due to both self-oriented and society-oriented motivations (Deng, Hine, Ji, & Wang, 2021).). In terms of self-oriented motivations, consumers seek personal gratification, knowledge of brands, and self-esteem preservation (Le & Quy, 2020; Wang, Yuan, Luo, & Liu, 2022). On the other hand, social-oriented motivations inspire consumers' desire for affiliation with other consumer groups, thus enabling them to secure social status which is crucial to achieving collective self-esteem (Ayca, Kanungo, & Mendonca, 2014; Chen & Chan, 2017; Pang, 2018; Liu, Min, & Han, 2020). Through online social networks, consumers are afforded the opportunity to disseminate information and thus become brand ambassadors. A study by Enginkaya & Yilmaz (2014) is interesting in that it specifically found consumer online social network engagement due to consumers' investigative, affiliation, communication, entertainment, and opportunity seeking motives. They went on to confirm both self and the social oriented motivations behind consumers joining online social networks. Specifically, the study pinpointed investigation, brand affiliation, conversation, entertainment, and opportunity seeking motivations.

Similarly, by means of the Gratifications Theory, some studies (for example, Lopes, 2017; Plume & Slade, 2018) established strong relationships between consumers' online social engagement practices and entertainment seeking, personal utility seeking, information seeking, convenience seeking, and information sharing motives. In the context of tourism, Xu & Pratt (2018) found consumers searching for information from endorsers on tourism destinations on online social networks like Facebook, WeChat, YouTube, and Twitter. All of this gives the impression that overall,



consumers' online social engagement practices are primarily motivated by the need for entertainment, personal utility, information, and convenience in locating products and services in the market. Having established the commonly reported motivations for consumer online social network engagement practices, it becomes necessary to examine contextual motivations for the consumer-social online network engagement practices of Sub-Saharan tourism consumers. This will enhance the design of online social network strategies by players in the Sub-Saharan tourism sector. The following section presents the methodology that was applied in this study.

## **METHODS**

An exploratory design was utilised to achieve the objective of this study, and as such, cross-sectional research was established wherein a structured questionnaire was employed to collect the data for exploring potential tourists' motivations for participating in online social networks. A convenient sample of 432 tourists in four (4) countries in Sub-Saharan Africa was used, these countries were Botswana, Eswatini, South Africa, and Zimbabwe. An online Survey Monkey questionnaire was distributed via agents in the tourism value chain of these countries.

## **PROCEDURE**

After a thorough literature study and some instructive brainstorming with practising marketers, 26 items associated with the motivations of consumer-online social network engagement practices were integrated into a multidimensional scale having a 10-point response scale, such that 1 = "Strongly disagree" and 10 = "Strongly agree". Considering the many items used to measure motivation variables, factor analysis was employed to unearth the underlying motivations for consumer online social network engagement practices in the Sub-Saharan tourism value chain. Factor analysis is a commonly used data reduction procedure used by researchers to statistically identify more prominent factors from a larger number of measurable factors. As such factors are not readily measurable, Principal Component Analysis (PCA) with an orthogonal rotation was used to explore the latent constructs describing the motivations for the consumer-online social network engagement practices in the Sub-Saharan tourism value chain. This study used the Varimax rotation technique, producing non-correlated components (Akhtar-Danesh, 2017; Rojas-Valverde *et al.*, 2020). As a result of cross

loading on more factors or for other necessities such as unreasonable solutions, some items were removed from the procedure.

To perform factor analysis, it is required to first confirm that the assumptions of factorability are met by the dataset. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett Test of Sphericity were calculated in SPSS version 26. Dimitrov (2014) maintains that only when the KMO test returns at least a minimum value of 0.6 and a significant Bartlett's Test of Sphericity ( $p=.000<0.03$ ) is factor analysis possible. For this study the sampling adequacy and significance tests on the dataset measuring motivation factors for consumer-online social network engagement in the Sub-Saharan Africa tourism value chain are as presented in Table 1:

**Table 1: Results of KMO and Bartlett's Test on motivation items**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.826
Bartlett's Test of Sphericity	Approx. Chi-Square	2349.459
	df	168
	Sig.	.0011

Source: Survey Data, 2022

KMO >.5

Bartlett's Test significant<0.05

## RESULTS

Taking Eigenvalues greater than 1, Table 2 shows that four (4) motivation factors with a cumulative contribution of 80.352 % of the explained total variance were retained. Per Dimitrov (2014), the 80.352 % is far above the mandatory benchmark of 50% for factor analysis to be considered.

**Table 2: Eigenvalues of motivation for consumer-online social networks engagement practices**

Total Variance Explained			
Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	4.948	44.982	44.982
2	1.507	13.702	58.683
3	1.295	11.770	70.453
4	1.038	9.899	80,352

*Source: Survey Data, 2022*

Given the above, principal component analysis (PCA) was carried with Varimax factor rotation to smooth the initial factor solution into an interpretable structure of the motivations for consumer-online social network engagement practices in the Sub-Saharan Africa tourism value chain. Table 3 displays the underlying motivation components for consumer-online social network engagement practices in the Sub-Saharan Africa tourism value chain. The four (4) components were extracted and tentatively labelled as Component 1.1 to Component 1.4.

#### **Motivation related components for consumer-online social network engagement practices**

Going through Table 3, one can see the mean and standard deviation scores of the specific items used to measure the motivation factors for consumer-online social network engagement practices in the Sub-Saharan Africa tourism value chain. These descriptive statistics indicate on average high mean scores for the items ( $\bar{x}$  =6.75) in terms of a 10-point scale of 1 to 10. Similarly, on average the observed small standard deviation scores (SD=1.310) around the mean imply very little variations of the responses to statements assessing the motivation factors. Overall, the results are indicative of a general agreement among the respondents about the motivations for consumer-online social network engagement practices in the Sub-Saharan Africa tourism value chain.

**Table 3: Motivation related components for consumer-online social network engagement practices**

Component 1.1 <b>Information Seeking</b>	Mean	SD	Factor loading
Mostly, I only follow the online social networks used by tourism brands that conform to my lifestyle (BA1)	7.60	1.134	.701
I merely follow on the online social networks used by the tourism brands that I often buy from (BA2)	6.86	1.212	.759
I use online social networks to exchange ideas on tourism destinations with contacts (BA3)	7.27	1.123	.801
In most cases, approvals by my family and friends decide from which tourism brands using online networks I will visit (BA4)	6.89	1.034	.748
By regularly following that online social networks used by tourism brands, I confident to get information about discounts and promotions (BA6)	8.02	1.216	.913
I trust I will find new tourist destinations if I continually follow the online social networks used by tourism brands (BA7)	6.90	1.216	.913
Component 1.2 <b>Entertainment Seeking</b>			
Even though I can't afford now, I just follow the online social networks used by those tourism brands I hope to buy from in future (E1)	7.96	.846	.910
I always look forward to the tourism brands' ever creative contents on online social networks platforms of tourism brands (E2)	8.89	1.144	.930
Component 1.3 <b>Communication Seeking</b>			
I am persuaded by the pictures, graphics and videos created by tourism brands on online networks (CS1)	6.94	1.813	.479

I use online social networks to learn about new tourism destinations without having to visit tour companies (CS2)	5.97	1.713	.786
I like usually contact tourism agents and my friends over online social networks because it is free and easy (CS3)	6.85	1.747	.803
<b>Component 1.4</b> <b>Buying intention</b>			
When I want to buy something, I always use online social networks to pay (BI1)	7.01	1.471	.700
I interact with brands on online social networks to book for my next tour (BI2)	6.90	1.211	.523
I get fair prices on online social networks when booking for my tours (BI3)	7.32	1.067	.491
Online social network is important to my buying decisions (BI4)	6.89	1.118	.827

As indicated in Table 3, four components characterise the fundamental elements behind motivations for consumer-online social network engagement practices in the Sub-Saharan Africa tourism value chain. Factor loadings helped in deciding what each extracted component denoted in terms of the motivations for consumer-online social network engagement practices. Per Table 3, the estimated standard factor loadings were over the recommended minimum absolute value of 0.40 ranging from .479 to 0.930 thereby indicating the uni-dimensionality of the items that were used to measure each of the motivation factors (Dimitrov,2014). Per Gorsuch (2010), the item with the highest absolute loading value adds most to the underlying factor and the component is labelled as such. This means component 1.1 with the highest loading of .913 was labelled *information seeking*, Component 1.2 with highest loading of .930 was labelled *Entertainment Seeking*, Component 1.3 with largest loading of .803 was labelled *Communication Seeking*, and lastly Component 1.4, with highest loading of .827 was labelled *Buying Intention*. These components contributed 44.982%, 13.702%, 11.770%, and 9.899% to the total variance in the factor solution. This could imply that consumers in the Sub-Saharan tourism value chain engaged with online social networks chiefly to get information about prospective tourist destinations.

## **DISCUSSION AND CONCLUSION**

The study sought to explore the motivations for consumer-online social network engagement practices in the Sub-Saharan tourism value chain. Taking advantage of online social network marketing depends on a profound understanding of the motivations behind consumers' online social network engagement practices. In line with the literature, the factor analysis applied in this study demonstrates that four distinct motivations are behind the use of online social networks by tourism consumers in the Sub-Saharan tourism value chain. Prospective tourists in Sub-Saharan Africa are likely to engage with online social networks to search for information, to find entertainment, and to communicate. Tourism operators that can develop a deeper understanding of the customer motivations for online social networks engagement will be better placed to leverage online social networks for maximum visibility in the market thus outperforming rivals and earning above average profits. This research further shows the important role of online social network marketing in the tourism value chain and as such tourism players in the Sub-Saharan African region should as a first step in their marketing efforts seek to understand the motivations for consumers-online social network engagement practices of their clients. Only then can effective online marketing communication strategies be formulated for maximum exposure of their tourism brands.

## **LIMITATIONS**

Without a doubt, this study has a few limitations. One such limitation is that the findings were never presented to the prospective tourists for their personal feedback. Per several scholars, for instance, Creswell (2014), soliciting respondent feedback on the findings of a study would have allowed the researcher to better grasp the accuracy of the empirical findings. Indeed, a precise account of the motivations for consumer-online social network engagement practices would have been fulfilled. A second limitation is that the research relied on input from only four countries to the exclusion of all other countries in Sub-Saharan Africa. The results cannot thus be generalizable to the rest of Sub-Saharan Africa. Thus, the findings of this study must be interpreted as only applicable to the prospective tourists in those four countries. To strengthen this study, more countries in Sub-Saharan Africa should be included in the analysis of the motivations for consumer-online social network engagement practices in the

tourism value chain. This is pertinent because research to refer to and compare with the findings of this study on this aspect of tourism in Sub-Saharan Africa is lacking. Researchers should thus conduct further studies to understand the reasons behind the limited use of OSNs in the tourism industry of Sub-Saharan Africa regions. It may be that the lack of a cogent understanding of the motivations for consumer-online social network engagement practices by tourism operators could be the factor behind the poor usage of online social networks in the tourism value chain. Such knowledge would then be used to develop an integrated programme for strengthening the tourism marketing in the Sub-Saharan African region.

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# **Globalisation and poverty in Sub-Saharan Africa: a disaggregated approach**

B.T. Mazorodze and Mavodyo, E.

Dr B.T. Mazorodze, Department of Economics, University of Zululand, South Africa.

Dr E. Mavodyo, University of Zimbabwe, Zimbabwe.

## **ABSTRACT**

As the debate around the controversial impacts of globalisation continue to intensify, so are the worsening poverty levels in sub-Saharan Africa. A paramount question that demands empirical scrutiny relates to the impact of globalisation on poverty in sub-Saharan Africa. In an effort to contribute to the burgeoning literature on the globalisation-poverty nexus in Sub-Saharan Africa, this study makes the following significant contributions: First, unlike prior research that used a single measure of globalisation, this study uses three variants of globalisation (economic, political, and social) obtained from the recent KOF Globalisation index by Gygli et al (2019). Relying on the system-GMM, results show that globalisation, in all its three variants, aggravates poverty levels in sub-Saharan Africa. Results, as well, show that globalisation worsens poverty even in those countries with high levels of democracy. From a policy perspective, sub-Saharan African economies are urged to cautiously embrace globalisation as a weapon for reducing poverty.

**Key words:** globalisation; poverty; sub-Saharan Africa

## **INTRODUCTION**

As the debate around the controversial impacts of globalisation continue to intensify, see for example, Ajide et al., (2019), Twerefou et al., (2017), and Yameogo et al., (2021), poverty levels in sub-Saharan Africa continue to worsen (see for example, Mahembe & Odhiambo, 2021; Mahembe & Odhiambo, 2018; Adeleye et al., 2020; Clementi et al., 2019).

The impact of globalisation on poverty is a subject of intense debate in the literature (Nadvi, 2004). According to neoclassical theory, globalisation improves resource allocation and facilitates the transfer of technology, which increases efficiency and fosters economic growth. It has been demonstrated that globalisation makes it possible to enhance exports, FDI, and deposit mobilisation. For emerging nations, this results in greater economic growth, income, and employment as well as a reduction in poverty and inequality (Neutel & Heshmati, 2006; Kai & Hamori, 2009). In the last 20 years, many who support globalisation (see for example, Stern et al., 2002; Nadvi, 2004; Dollar & Kraay, 2000) assert that great progress has been made in the battle against poverty worldwide and that inequality has decreased. They attribute this success to the liberalisation of economic policy or globalisation.

Contrary to the neoclassical theory, which holds that liberalisation reduces poverty and inequality, many economists stress that globalisation actually makes poverty and inequality worse in poorer nations. They contend that trade liberalisation encourages the transition to increasingly complex economic activities, which are accompanied by technology transfer, an increase in FDI, and a rise in outsourcing. This increases the need for highly qualified workers and makes any salary disparity worse (Milanovic, 2003; Bardhan, 2006; Mander & Barker, 2002; Dreher & Gaston, 2008). These economists also demonstrate how vigorous liberalisation promotion, by emerging nations with weak financial markets, can result in financial instability and a significant worsening of the poor (Claessens and Perotti, 2007; Arestis and Caner, 2004). In addition, it's probable that the openness of markets may make it harder to redistribute money, which could lead to an increase in inequality.

Thus, the relationship between poverty and globalisation continues to be a contentious issue in the literature, especially for sub-Saharan Africa. This has triggered interest in the analysis of the impact of globalisation in sub-Saharan Africa (Verkhovets & Karaoğuz, 2022; Koffi et al., 2018; Thorbecke, 2013).

Although earlier research has significantly added to our understanding of how globalisation affects the alleviation of poverty in sub-Saharan Africa, it has a significant shortcoming. Prior research only used one globalisation metric (see for example, L'Huillier, 2016; Schneider, 2003; Mahembe & Odhiambo, 2021). In this study, we contend that globalisation manifests itself in multiple ways (political, social, and

economic), and that using only one indicator of globalisation could muddle the analysis of the connection between poverty and globalisation in sub-Saharan Africa. Given this environment, by examining the effects of various forms of globalisation on poverty, our research significantly contributes to our understanding of the globalisation-poverty dynamics in sub-Saharan Africa.

While globalisation may have a detrimental effect on poverty generally, specific measures of globalisation may have distinct effects. As a result, an approach like ours is essential for policy insights. Policymakers in sub-Saharan Africa can benefit from a study like ours by concentrating on the components of globalisation that decrease poverty and enacting poverty-enhancing measures for the aspects of globalisation that do not reduce poverty on their own.

## **LITERATURE REVIEW**

Over the past few decades, sub-Saharan Africa has experienced a significant growth in globalisation, which has resulted in a rise in economic integration (Koffi et al., 2018; Asongu et al., 2020). Underpinning this tangible increase in globalisation is the reduction of transport costs and border tariffs, the rapid spread of ideas, the expansion of capital flows, and the increasing encouragement of human mobility (Collier & Dollar, 2002). However, the impact of increasing globalisation on poverty reduction in sub-Saharan Africa remains controversial, both theoretically and empirically.

Despite the fact that globalisation is aggressively touted as a crucial element of poverty reduction, the globalisation-poverty reduction relationship is unclear in theory. The static effect and the dynamic effect are the two primary schools of thought on how globalisation affects poverty, according to Bhagwati and Srinivasan (2002) and Fambeu (2021). The Stolper-Samuelson theorem (Beaulieu, 2002) which follows the static method, in its most basic form states that when a nation opens up to the rest of the world, the plentiful factor should experience a rise in its real income. This concept indicates that the poor (unskilled) in emerging countries have the most to benefit from trade if unskilled labour is the abundant element there.

This concept was utilised by Gros (2016) to make the case that trade reforms in emerging nations should favour the poor because these nations are more likely to have a comparative advantage in the manufacture of commodities requiring unskilled labour. The ability to switch between industries is necessary for comparative

advantage to enhance the incomes of the unskilled. According to Davis and Mishra (2007) and Topalova (2007), work may not be as mobile in the real world since there are too many barriers to entry and exit for businesses and labour mobility for workers. Thus, the anticipated advantages of trade liberalisation may not be realized when factor reallocation is hindered.

From a dynamic standpoint, economic growth is essential for reducing poverty in a sustainable way, and globalisation should result in the rises in productivity required to support growth. Greater investment incentives, size and competition advantages, a reduction in rent-seeking behaviours made possible by trade barriers, and an openness to novel concepts and inventions are all positives of globalisation (Scherer, 2011; Krueger and Berg 2003). Although the negative impact is predominant in developing nations, the empirical research reflects the theoretical uncertainty of the relationship between globalisation and poverty.

Beck, Demirguc-Kunt, and Levine (2007) and Kpodar and Singh (2011) find little evidence of a negative impact of globalisation on the underprivileged. In a sample of developed and developing nations, Dollar and Kraay (2001) found no evidence of a globalisation-related effect on the income of the poorest quintile. Guillaumont-Jeanneney and Kpodar (2011) discover a negative correlation between globalisation and the income of the bottom quintile when they examine a sample of emerging nations. Similar to this, Singh and Huang (2011) argue that increasing globalisation raises the poverty rate, widens the poverty gap, and lowers the income of the poorest quintile, focused on a sample of sub-Saharan African nations.

It is uncommon to find studies on the impact of globalisation on poverty that include data from sub-Saharan Africa. The simulation analysis by Fosu and Mold (2008) revealed that the impact of globalisation on poverty was either minimal or non-existent because of severe contractions in import-competing sectors in the majority of SSA nations. The benefits of globalisation on poverty in Africa were not automatic, according to a study by Le Goff and Singh (2014) that used data for the years 1981 to 2010. Instead, robust financial markets, high levels of education, and strong institutions were needed. Onakoya, Johnson, and Ogundajo (2019) discovered a favourable association between trade and multidimensional poverty in a more recent study of 21 African nations between 2005 and 2014.

Collier & Dollar (2002) concluded that globalisation is credited with the dramatic decline in poverty in the roughly 3 billion people in poor countries whose nations were able to enter the global market. However, the same report underscored that 2 billion people in underdeveloped nations are being left behind and given extremely small roles in the global economy. Basu (2007) concurs with the World Bank (2002) that the effects of globalisation vary based on a number of factors, including time and place. This implies that there may or may not be a positive effect of globalisation on poverty. This further complicates the role of globalisation on poverty reduction in sub-Saharan Africa.

## **EMPIRICAL STRATEGY**

### **Data source and description**

The sample covers 25 selected sub-Saharan African countries from 2010 to 2020. Data were sourced from the World Bank's World Development Indicators. Poverty is a dependent variable for the study. However, two issues confound the discussion of poverty and poverty reduction. First off, there are serious measurement issues and no single, accepted measure of poverty. According to Deaton (2002), these issues might lead to conflicting claims about whether or not poverty is rising or declining. In a similar line, Wiegand (2001) asserts that numerous studies examining the causes of poverty have issues with misspecification, resulting in uncertain results. Thus, in order to address this flaw, and for robustness, we used measures of both absolute poverty and inequality that are firmly established in the literature (Ravallion, 2003; 2009; Bane & Ellwood, 2003). We used five measures of absolute poverty: poverty headcount ratio at \$1.90 a day (2011 PPP) (percent of population), poverty headcount ratio at \$3.20 a day (2011 PPP) (percent of population), poverty headcount ratio at national poverty lines (percent of population), poverty headcount ratio at \$5.50 a day (2011 PPP) (percent of population), and lastly the poverty gap at \$1.90 a day (2011 PPP) (percent) as proxies for poverty.

As for the measures of inequality, we relied on two measures of inequality: the human capital index (HCI) (scale 0-1), and the lower bound human capital index (HCI) (scale 0-1). Lastly, we included public spending on health and education (both expressed as a percentage of GDP) to show how committed a government is to these potentially underfunded sectors. While the poverty gap is the ratio by which the average income

of the poor falls below the poverty line, which is set at half the median family income for the entire population, the poverty headcount is the percentage of a population with incomes below the poverty level.

Our primary explanatory variable of interest is the KOF Globalisation Index, which was first produced by Dreher (2006) and most recently updated by Gygli et al., (2018) and is broken down into the economic, social, and political components of globalisation.

The study makes use of three control variables that are consistent with previous research: the annual percentage growth rate of GDP, the age dependency ratio as a percentage of the working-age population, and democracy as a measure of the degree to which the poor would use their numbers in an electoral process to hold the government accountable. Despite claims to the contrary in the literature and empirical data, which show that Africa is growing without a corresponding decline in poverty (Adeleye et al., 2017; Adeleye, 2020), economic growth has been firmly established in the literature as the most important factor in eliminating poverty (Dollar & Cray, 2002; Fosu, 2009, 2015; 2017; Garza-Rodriguez, 2018; lyke & Ho, 2017). Thus, in order to measure economic growth, the study substituted the annual percentage growth rate of the GDP.

According to Lipton (1983), a high dependency ratio increases the probability of poverty while a large household is typically associated with higher levels of poverty. According to research by Sinnathurai (2013) a high age dependency ratio was positively correlated with a high prevalence of poverty. Since the majority of people in developing nations are impoverished, it makes sense that they would utilise their numbers in elections to hold the government accountable (Varshney 1999). Thus, our measure of democracy series is described as transparency, accountability, and corruption in the public sector which is rated on a scale from 1 (low degree of democracy) to 6 (high level of democracy).

### **Empirical model**

Alvi and Senbeta (2014) and Ravallion (2003) both put out different metrics for gauging inequality and absolute poverty. In a similar vein, Dreher (2006) disaggregated the concept of globalisation into three categories: economic, political, and social globalisation. Following this, we define the augmented model, which considers control

variables, potential routes through which aid may affect poverty, and the dynamics of poverty. The empirical model is specified in Eq. 1:

$$\log P_{it} = a \log P_{it-1} + \beta_1 \log GLO_{it} + \beta_2 Y_{it} + \beta_3 \log DEMOC_{it} + \beta_4 DEP_{it} + \vartheta_{it} + v_{it} \quad (1)$$

Where,  $P_{it}$  is a measure of poverty in country  $i$  at time  $t$  and  $\beta_1$  is the globalisation elasticity of poverty – our main parameter of interest.  $GLO_{it}$  is our main explanatory variable of interest which can either be overall, economic, political, or social globalisation as specified earlier;  $Y_{it}$  is the growth rate of real per capita income (real GDP per capita);  $DEMO_{it}$  and  $DEP_{it}$  are democracy (our policy variable) and age dependency ratio for country  $i$  at time  $t$ , respectively. The unobserved individual country-specific effect is  $\vartheta_{it}$ , and  $v_{it}$  is the idiosyncratic error term.

We include the lagged poverty level ( $P_{t-1}$ ) as one of the regressors in our analysis following studies by Mahembe and Odhiambo (2021) and Hoynes et al. (2006) that demonstrated that poverty is persistent and that past levels of poverty can explain the current and future levels of poverty (Eq. 1). The correlation between current poverty levels and their associated lagged values should, as a general rule, be higher than the 0.80 cut off (Asongu & Nwachukwu, 2017).

We add the interaction of the globalisation series with democracy as illustrated in Equation 2 since it is commonly acknowledged (Fambeu, 2021; Mahembe & Odhiambo, 2021; Mavodyo, 2022) that globalisation can impact poverty through strengthening of democracy.

$$\log P_{it} = a \log P_{it-1} + \beta_1 \log GLO_{it} + \beta_2 Y_{it} + \beta_3 \log DEMOC_{it} + \beta_4 DEP_{it} + \beta_5 \log(DEMO_{it} \times GLO_{it}) + \vartheta_{it} + v_{it} \quad (2)$$

Equation 2 is differentiated with regard to globalisation to produce:

$$\frac{\partial POV}{\partial GLO} = \beta_1 + \beta_5 \log DEMOC_{it} \quad (3)$$

$\beta_3$  and  $\beta_5$  show how much democracy in the sub-Saharan African country enhances the impact of globalisation on eradicating poverty. Due to the inclusion of the interaction term, the impact of globalisation on poverty should only be considered as



a minor influence in this specification (see Brambor et al. 2006; Asongu and Nwachukwu 2016; Akobeng 2016).

### **Estimation strategy**

The lack of robustness of econometric results in the empirical studies is one of the key criticisms of the early globalisation effectiveness literature (Chauvet 2015). This is partly caused by flaws in the approaches taken to deal with endogeneity problems. The reverse causality (or simultaneity) between the globalisation measure and poverty and the unobservable heterogeneity or omitted variable bias are the two main causes of the endogeneity of globalisation measures and poverty (Baltagi 2013). According to our model, the desire to be more linked to the country increases as poverty levels rise if higher degrees of globalisation are driven by the desire to reduce poverty. Second, some globalisation may have been sparked by a desire to spur real income growth in a nation that has received aid; as a result, globalisation and GDP per capita have been found to be right-hand side (RHS) regressors. Furthermore, new issues like autocorrelation and heterogeneity are brought about by the inclusion of the lagged dependent variable ( $P_i, t-1$ ) in Eq. (1) as one of the regressors. Ordinary least squares (OLS), random, and fixed effects estimates are inconsistent because of endogeneity, autocorrelation, and heterogeneity (Baltagi 2005, 2013).

To overcome the problems of data endogeneity, simultaneity, autocorrelation, and heterogeneity, we employ an endogenously robust GMM that extends the methods of Arellano and Bover (1995) and Blundell and Bond (1998) by Roodman (2009a, 2009b). The SGMM estimator is a refinement of the DGMM method. Blundell and Bond (1998) showed that the SGMM estimator achieves a dramatic efficiency improvement over the base DGMM (Baltagi 2013).

The sys-GMM estimator is designed for short panel analysis and has the following assumptions about the data generation process: This includes the fact that processes can be made dynamic by power. Realisation of dependent variables was affected by past realisations, in addition to the fact that regression variables are not strictly exogenous and can correlate with past and perhaps present realisations of the error term.

### **ESTIMATIONS AND DISCUSSIONS**

The study sheds light on the factual relationship between poverty and globalisation in 25 sub-Saharan African economies. The presentation of empirical findings that close critical gaps in the research on the relationship between globalisation and poverty presents evidence on whether globalisation alone lowers the prevalence of poverty and whether its connection with democracy increases or decreases poverty.

The analysis of the relationship between globalisation and poverty using the Pooled Ordinary Least Squares (POLS) technique is the first step in the estimation process, as shown in Appendix I. This is followed by the analysis using Fixed Effects (FE), which is shown in Appendix II, and the Sys-GMM techniques, which are shown in Table 1. To prevent proliferation, these results are condensed into composite tables. Results display the findings of the association between the seven proxies for poverty and inequality and the four measures of globalisation (overall, economic, social, and political globalisation).

A clear pattern from the globalisation-poverty relationship from most of the POLS and FE results is that the globalisation coefficient is positive and statistically significant across most of the specifications. The implications of these results for both POLS and FE show that, in the main, globalisation is a statistically significant poverty exacerbation variable in the majority of cases for sub-Saharan African economies. However, these results are less important as the POLS has the major drawback of not being able to control country heterogeneity and endogeneity issues. While the FE controls the heterogeneity of the country, but it does not address the issue of endogeneity.

**Table 2: Regression results of the impact of globalisation on poverty in sub-Saharan Africa**

	GI	econgi	polgi	sogi
Human capital index (HCI), lower bound (scale 0-1)	0,003*** (0,00133)	0.0003 (0,00082)	0.0025*** (0,00066)	0.0018* (0,00086)
Human capital index (HCI)	0.0113*** (0,0022)	0.0029* (0,0011)	0.0027*** (0,00037)	0.0021*** (0,00062)
Infant mortality rate	-3.211*** (0,554)	-0.209* (0,121)	-0.989*** (0,092)	-0.659*** (0,146)
Health expenditure as a % of GDP	0.0897**	0.0315	-0.105***	0.0209

	(0.034)	(0,0198)	(0,0169)	(0,0250)
Poverty headcount ratio at \$3.20 a day	-0.645**	-0.092	-0.1712	-0.782***
	(0,260)	(0,171)	(0,166)	(0,193)
Poverty gap at \$1.90 a day (2011 PPP)	3.613***	1.1684*	1.216*	0.894***
	(1,159)	(0,493)	(0,707)	(1,131)
Poverty gap at \$3.20 a day (2011	2.943***	1.782***	1.059*	11.613
	(0,959)	(0,618)	(0,577)	(7,346)
Poverty headcount ratio at \$5.50 a day	0.483***	0.160**	1.89**	0.514***
(2011 PPP	(0.165)	(0.088)	(0.744)	(0.174)

Notes to Table 1: \*, \*\*, \*\*\* signify significance at 10, 5, and 1% level of significance. Figures in parentheses are standard errors.

Therefore, we focus on the results of the system GMM which addresses the heterogeneity of the country and remains frugal in the face of endogeneity. Table 1 shows the results of the relationship between globalisation and poverty for the system-GMM results.

Results of the association between the globalisation index as a whole and poverty are positive and statistically significant for 5 of the 8 poverty measures utilised in this study, as shown in Table 1. These findings from Table 1 demonstrate that the globalisation index as a whole is a statistically significant variable that worsens poverty. These findings suggest that globalisation as a whole worsens poverty levels in countries of sub-Saharan Africa. This result is consistent with earlier research in the context of sub-Saharan Africa (Schneider, 2003; Sundaram et al., 2011).

Similarly, 5 out of the 8 indicators of poverty included in this study show a positive correlation with political globalisation. This shows that the sub-Saharan region's poverty levels worsen as the economy of sub-Saharan Africa become more politically linked with the rest of the globe. Out of the eight regression specifications for the relationship between social globalisation and poverty, four are positive and statistically significant, two are positive but not statistically significant, and only two out of the eight specifications demonstrate a negative and statistically significant relationship between social globalisation and poverty in sub-Saharan Africa. In general, it may be said that the outcomes of social globalisation support those of political and general globalisation in that social globalisation makes sub-Saharan Africa's poverty worse.

Another crucial conclusion that can be drawn from the interaction between economic globalisation and poverty is that economic globalisation consistently worsens poverty across 4 out of 8 parameters for the link between economic globalisation and the 8-poverty metrics included in this study. Four of the eight regression specifications show a positive and statistically significant relationship between economic globalisation and poverty in sub-Saharan Africa, three show a positive but non-significant relationship, and only one specification shows a negative and statistically significant relationship.

In general, it may be inferred that economic globalisation results confirm those for general, political, and social globalisation, with the overall conclusion that globalisation across all its various forms worsens poverty in sub-Saharan Africa. However, based on the conclusions of Herrera et al. (2007), Aloui (2019), and Anyanwu & Anyanwu (2017), among others, who firmly established that democracy is one key pre-condition for the effective poverty-reducing role of globalisation in sub-Saharan Africa, the results presented above may not be taken seriously until it is determined whether they still hold when taking into account the role of globalisation given the level of democracy of a country. This is accomplished by inserting a democracy and globalisation interaction term in the regression specification and examining the correlation between the various globalisation types and the eight poverty measures. Table 2 displays the results.

Results indicate that the democracy-globalisation coefficient for the four globalisation measures is negative and statistically significant at the 5% level for the eight regression specifications for political globalisation, social globalisation, and overall globalisation, while it is negative and statistically significant for six of the eight specifications for the relationship between economic globalisation and poverty. These findings confirm the claims made by Herrera et al. (2007), Aloui (2019), and Anyanwu & Anyanwu (2017) that the degree of democracy in a nation affects how effective globalisation is in reducing poverty.

**Table 3: Results of the globalisation-poverty relationship in sub-Saharan Africa considering the globalisation-democracy interaction term**

	gi	gi*democ	econgi	Econgi*democ	polgi	Polgi*democ	sogi	Sogi*democ
Human capital index (HCI), lower bound (scale 0-1)	0.008** (0,0026)	-0.001*** (0,0004)	-0.064 (0.705)	0.005 (0.066)	0.0037*** (0,00057)	-0.00039* (0,0002)	0.010* (0.005)	-0.002** (0,0009)
Human capital index (HCI)	-0.017** (0,006)	0.0057*** (0.0019)	0.162 (0.162)	-0.059 (0.0599)	0.0100*** (0.00065)	-0.0024*** (0.0002)***	-0.010** (0.0050)	0.0043*** (0.0015)
Infant mortality rate	0.7389*** (0.2161)	-1,459*** (0.1517)	0.570*** (0,142)	2,180*** (0,142)	-1.294*** (0.133)	0.1048*** (0.0248)	2.290*** (0.632)	-2.1416*** (0.5748)
Health expenditure as a % of GDP	0.224*** (0.039)	-0.197*** (0.0274)	0.229*** (0.050)	-0.068*** (0.0213)	0.103*** (0.0253)	-0.0709*** (0.009)	0.276*** (0.052)	-0.1097*** (0.0319)
Poverty headcount ratio at \$3.20 a day	10.99*** (3.364)	-4.330*** (1.192)	9.148*** (3.122)	-3.460*** (1.024)	15.140** (5.863)	-6.259*** (2.329)	10.56*** (3.333)	-4.193*** (1.22)
Poverty gap at \$1.90 a day (2011 PPP)	11.041*** (3.596)	-4.006*** (1.274)	9.928*** (3.449)	-3.482*** (1.1317)	14.183* (5.65)	-5.537* (2.247)	10.212** (3.566)	-3.511*** (1.307)
Poverty gap at \$3.20 a day (2011)	11.97*** (3.182)	-3.2306*** (1.091)	10.735*** (3.355)	-3.851*** (1.101)	16.043*** (5.961)	-6.382*** (2.3691)	11.43** (3.5242)	-4.1247*** (1.2917)
Poverty headcount ratio at \$5.50 a day (2011 PPP)	4.395* (2.004)	-1.878*** (0.710)	3,343* (1,862)	-1.380* (0.611)	0.7348*** (0.165)	-0.327*** (0.055)	1.5247*** (0.256)	-0.693*** (0.119)

Next, using the regression results from the specification with the interaction term between globalisation and democracy, we deduced the link between the four indicators of globalisation. Results show that while the economic globalisation coefficient is positive and statistically significant for 6 of the 8 regression parameters, the overall, political, and social globalisation coefficients are positive and statistically significant for 7 out of the 8 measures of poverty. Overall, these findings indicate that, even in sub-Saharan African countries with high levels of democracy, globalisation exacerbates poverty. These findings demonstrate that the argument that globalisation fails to reduce poverty in sub-Saharan African economies with weak democratic institutions is not supported by the data.

In fact, despite the opening of African economies by the SAPs of the IMF and the World Bank, our findings support the claim made by Sundaram et al. (2011) and Schmieder (2003) that rising globalisation in most African countries has not significantly reduced poverty levels but has, in fact, exacerbated them.

## **CONCLUSION**

The goal of this article was to examine the relationship between poverty and globalisation. Its empirical evidence is based on a Kofi globalisation measure developed by Dreher (2006) and recently updated by Gygli et al. (2018) that is based on three dimensions, or core sets of globalisation indicators: economic, social, and political. This study differs from previous studies that relied on a single measure of globalisation. More so, given the uncertainty surrounding the accurate definition of poverty, the study relied on eight measures of poverty and inequality that are provided in the literature.

The system-GMM for the 25 sub-Saharan African economies that were included in the study and for which the requisite data were available served as the foundation for the empirical findings in this research. The major findings indicate that, for the sub-Saharan African nations represented in the panel, globalisation worsens poverty regardless of the degree of democracy. One important conclusion of these findings is that the data does not support ideas that sub-Saharan African economies need to address democracy in order for globalisation to have an impact on poverty reduction. From a policy perspective, by implication, sub-Saharan African economies are advised to use globalisation sparingly as a poverty-reduction tool.

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# **The determinants of food security status among indigent rural households in the Isikelo community of the Mbizana local municipality, South Africa**

Vusi Mbewana, Irrshad Kaseeram and Corrie du Preez

Mr V. Mbewana, Department of Economics, University of Zululand, South Africa.

Prof. I. Kaseeram Professor, Deputy Dean Research and Internationalisation for the Faculty of Commerce Administration and Law, University of Zululand, South Africa.

Prof. C du Preez, Associate Professor, Department of Consumer Science, University of Zululand, South Africa.

## **ABSTRACT**

The Eastern Cape is the second largest province in South Africa, with high levels of poverty, and hence its rural areas, in particular, are considered to be highly food insecure. There is little known about the factors which determine the households' food security status in small rural towns such as Mbizana, a local Eastern Cape municipality mainly comprising of indigent households, for no such studies have been conducted in this area. The main objective of the study was to examine the determinants of food security status of the households in the Isikelo community of the Mbizana local municipality. The systematic random sampling was used and 330 data points were successfully achieved. Data collection occurred for three months, from December 2016 to February 2017. The study utilised a binary logit model and found that 09 of the 15 commonly used predictors, that were included in the regression, were statistically significant. These variables included household size, social grants, gender, marital status, total monthly income, farm income, remittances, improved seed, and subsistence farming. Moreover, 62% of the sampled households were food insecure, whereas 38% of them were found to be food secure. Based on the findings of the study, we recommended that the government or NGOs should introduce

programs that promote farm cooperatives, as well as subsistence farming to enhance food security of the rural indigent households.

## **INTRODUCTION**

The main aim of this study was to examine the determinants of households' food security status focusing on rural areas of the Mbizana local municipality. Food security is defined as the situation which occurs when all households at all times have economic and physical access to sufficient, safe and nutritious food for a good and healthy life (Grobler, 2013). It fundamentally depends on the interaction of four pillars which include availability, accessibility, utilisation and food stability (Jordaan, 2014). One of the most fundamental issues faced by the world today is how to ensure that millions of households who live in poverty can be granted access to adequate food of the best possible quality (Adekunle, 2013).

It was observed that global food insecurity was associated with an increase in hunger (FAO, 2006; FAO, 2017). According to Jones et al. (2013) when food scarcity increases, it signifies the severity of food insecurity. The challenge of food insecurity and under-nutrition were found to be more widespread in developing countries (Mbwana et al., 2016). The number of undernourished people rose sharply in the world between 2006 and 2009 due to high food prices and global economic crisis. However, in the year 2010 the number of undernourished people was expected to decrease considerably as the global economy recovered, but instead, it remained unacceptably high (FAO, 2010; FAO, 2015).

Westaway (2012) assert that the Eastern Cape is the second largest province within the Republic of South Africa, and it is severely affected by poverty, especially in the rural areas, as a result of the apartheid legacy. Thus, an assessment on food security risks among such indigent communities is critical from a developmental perspective. There is little known about the factors that influence the food security status in small towns such as Mbizana, a local municipality which is situated in the Alfred Nzo district of the Eastern Cape Province.

This municipality is characterised as an area that comprises the indigent households whose livelihood depends on agriculture and hence is considered to be highly food insecure. Empirical evidence shows that one of the causes which exacerbated food insecurity around the world was the sudden rising food costs in 2007 which had short

and long term negative effects on food security and also pushed the poor households further into poverty and hunger (Gustafson, 2013).

Tibesegwa and Visser (2015) posit that the prevalence of food insecurity was found mainly in female-headed households who reside in rural areas compared to male-headed households who live in urban areas. The prevalence of food insecurity is considered as a concern that is connected to high poverty levels observed in the country, specifically in rural based communities (Abdu-Raheem & Worth, 2011). Poverty rates in the Mbizana local municipality was estimated at 88.12% in 2006 which declined to 83.60% in 2016 (MLMSER & O, 2017). There is a direct link between poverty and household food insecurity (Du Toit et al. 2011). Due to the high poverty rate in Mbizana, it was crucial to investigate households' food security status to establish the factors that have a positive or negative effect on food access.

## **PROBLEM STATEMENT**

There is no study that has been conducted in the Isikelo community of Mbizana local municipality to investigate the determinants of food security status of the rural indigent households. The study by Zithutha (2010) is the only one which came close to investigating food security issues in the Mbizana area, however, the above-mentioned author mainly focused on the role played by small-scale farming in poverty reduction. Moreover, the studies that have been undertaken in the Eastern Cape Province were conducted in other districts, such as the Mhlontlo local municipality, under the OR Tambo district municipality which lies more than 130 km from the Mbizana local municipality. In addition, the Mhlontlo study used a qualitative method with a sample size of only 35 households to assess the factors that contribute to food insecurity (Selepe et al. 2015). However, the extent of financial support from central government or non-governmental organisations to get small agro-businesses to enhance food security in rural areas remains unexplored. The current study employed a sample size of 330 participants and the statistical data was analysed through a quantitative approach involving a logistic regression model and, hence, was expected to achieve more robust findings.

## **OBJECTIVES**

- To examine the determinants of food security status among the rural indigent households in the Isikelo community.
- To investigate the influence of the total household's income on food security status of the sample households in the Isikelo community.

## **EMPIRICAL LITERATURE REVIEW**

### **Determinants of food security status**

Ibok et al. (2014) examined the determinants of food security status among the crop farming households in Nigeria. A logit model was used and it was found that years of formal education have an impact on continuous access to adequate food of the best quality. Hence, the educated household heads were more likely to be food secure than those who did not have formal education. Ndobbo and Sekhampu (2013) investigated the determinants of household food security in South African townships. These researchers used a logit model and found that the vulnerability of food insecurity increased as the age of the household head rose in years. Kumba (2015) used a descriptive and inferential technique for examining the role of household characteristics in determining food security in Kenya. This researcher indicated that married household heads were more food secure than single household heads.

Asogwa and Umeh (2012) used a logistic regression model to examine the determinants of household food insecurity among the rural farming households in Nigeria. The food insecurity line (cost of kilojoules index) was employed in distinguishing households who were food secure from those who were food insecure. These researchers found that, when the household size rose by a single member, food insecurity increased as well. Sultana and Kiani (2011), as well as Adepoju and Adejare (2013), found the dependency ratio to have a positive and significant impact on the household food insecurity status. The above-mentioned researchers outlined that when the dependency ratio increased it leads to an increase in food insecurity.

A study conducted by Mango et al. (2014) used a linear regression model to investigate the household food security determinants among the smallholder farmers in the Mudzi district of Zimbabwe. The study found a positive correlation between food security and household remittances. Motbainor et al. (2016) investigated the household food security determinants in East and West Gojjam zones of Amhara



Region, Ethiopia. These researchers used a logit model and found that monthly income significantly predicted the household food security status in the study area.

Gebre (2012) revealed that the household head's employment status had a significant impact on predicting the household food security status of the sampled population. In addition, the above-mentioned researcher outlined that the employed household heads were more food secure compared to the unemployed ones. Mason et al. (2015) used the ordinary least squares technique for examining the determinants of food security in Tanzania. The study found male-headed households to be more food secure than female-headed households.

Hussein and Janekarnkij (2013) studied the food security determinants of rural households residing in the Jigjiga district of Ethiopia. The logit model was used and the extension services were found to have a significant impact on the household food security status in the area. Ibok et al. (2014) found a positive and statistically significant correlation between household food security and farm income. These findings indicated that the households who received farm income were more food secure than those who did not.

Gebre (2012) reports a statistically significant impact on household food security status by credit access. Therefore, these findings indicate that the households who have access to credits are more food secure compared to those households who do not have access to credits. Abdulla (2015) used an ordered logit model to examine the determinants of household food security status in Bule-Hora district of Ethiopia. The study reported that the improved seeds resulted in an increase in the household food security in the study area.

Beyene and Muche (2010) reported that the chemical fertiliser application affected the households' food security status in a positive way. The findings of this study revealed that as the use of fertiliser increased, so, too, did the probability of food security in the household. Oyeбанjo et al. (2013) studied the incidence of food insecurity among rural farming households in Nigeria and reported a statistically significant impact on household food security caused by farming experience. Ali and Khan (2013) used a propensity matching score technique and Poisson regression analysis to examine the impact of livestock on rural households' food security status in Pakistan. The study

reported that food insecurity prevalence was more pronounced in households who did not own livestock, while those who had livestock were found to be more food secure.

With regards to the empirical findings presented above, some studies found a positive correlation while others reported a negative association between the aforementioned predictor variables and food security status. Similar independent variables were employed in Isikelo to examine their impact on household's food access.

## **THEORETICAL FRAMEWORK**

### **Income Based Approach (IBA)**

The income-based approach is completely different from other approaches such as the food availability approach, which concentrates on the volume of food available at national level. This approach concentrates on minimum income required to purchase a sufficient amount of food (Burchi & De Muro, 2012). The income-based approach is the same as the traditional method used to examine poverty (Burchi & Muro, 2016). Poverty is defined as the lack of income or a consumption of a particular household which falls below a pre-determined threshold in order to meet the basic needs (Bhuiya et al., 2007). The World Bank set a threshold of \$1 per day as a global poverty line, which indicates that those who spend less than \$1 per day are in absolute poverty, while those who spend \$1 and more per day are non-poor (Muruviwa, 2011).

Most rural households suffer from severe poverty and food insecurity based on the fact that they used to experience a huge shortfall in their income, which consequently traps them in persistent poverty and food insecurity. According to Masuku (2013), rural poverty and food insecurity are exacerbated by low incomes received by rural households. However, this research study was grounded in this approach to explore the impact of the total household's income on food security status since it is perceived to be a major obstacle for food access.

## **RESEARCH METHOD**

The quantitative research approach was utilised in this project, which means that the data was presented using frequencies, percentages, and logistic results from the statistical software.

### **Model specification**

This study employed a binary response variable because the dependent variable has two categories. Food secure households were coded as 1, and 0 otherwise. The odds ratio represents the probability that an event will occur to the probability that an event is less likely to take place.

The odds ratio is expressed as follows:

$$\frac{P(Y=1)}{1-P(Y=1)} = e^{Z_i}$$

.....1

Introducing the natural logarithm on both sides of the above equation result to equation 2 as follows:

$$Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_n X_n + U_i$$

.....2

Where  $\beta_0$  represents the regressions' intercept, while  $\beta_1, \beta_2, \beta_3, \beta_4, \dots, \beta_n$  signifies the vector of parameters to be estimated, whereas  $X$  symbolises the characteristics of the sample households and  $U_i$  denotes the error term.

### Measurement of dependent variable

The dependent variable was measured using the household food insecurity access scale developed by USAID in 2007, which serves as the standard tool used across the world to measure food security status either at household or individual level (Kennedy *et al.*, 2011). HFIAS has nine (9) occurrence questions and its corresponding frequency of occurrence. For example, the participants were asked whether they experienced any food shortages in the past four weeks. Any respondent who said it happened in their household to have food shortages over the above-mentioned timeframe, the interviewer continued to ask the frequency of occurrence. These households were classified as food insecure, while those who indicated that they did not experience food shortages in thirty days (30) were categorised as food secure (Coates *et al.*, 2007). Therefore, food-secure households were coded as 1; and 0 otherwise.

$$HFS_i = \begin{cases} 1, \text{ Food secure} \\ 0, \text{ Food insecure} \end{cases}$$

## **ETHICAL CONSIDERATION**

We understandd that it was necessary to abide by the University policies and obligations imposed upon me and to mitigate any other risks that might have arisen. In particular, we understood that we should:

- Keep the information given by the participants confidential that all publications emanating from this study only mentioned broad trends and patterns in the data without mentioning individuals involved.
- Explain to the participants that they could withdraw from the survey at any time and they did not have to answer questions with which they were unhappy.
- Alert participants about their rights and whom they could call should they have any queries or complaints.

## **FINDINGS OF THE STUDY**

The study presented the findings in a form of descriptive statistics (socio-demographic characteristics of the respondents) and odds ratios from the binary logit regression model.

### **Socio-demographic characteristics.**

The findings of the study revealed that 54.55% were headed by males, while 45.45% were headed by females. This is an indication that both genders are well represented in the study. With reference to table 1 below, the majority of the households who participated in the study were those of 65 years and above. Regarding the marital status, 56.36% indicated that they are married while 30.30%, 11.82% and 1.52% showed that they never married, widowed or divorced, respectively. Education status of the participants shows that most of the households in the Isikelo community have primary education which constituted 41.82%. This was followed by people who attained secondary education (38.48%). The last group consists of the households who passed the matric and some with tertiary certificates (12.12%), followed by those who never went to school (7.58%).

**Table 1: Socio-demographic characteristics of respondents**

<b>Households' characteristics</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender of the household head</b>		
Males	180	54.55%
Females	150	45.45%
<b>Age of the household head</b>		
≤ 35	17	5.15%
36 – 40	41	12.42%
41 – 45	28	8.48%
46 – 50	75	22.73%
51 – 55	16	4.85%
56 – 60	34	10.30%
61 – 64	7	2.12%
65 ≥	112	33.94%
<b>Marital status of the household head</b>		
Never married	100	30.30%
Married	186	56.36%
Divorced	05	1.52%
Widowed	39	11.82%
<b>Employment status</b>		
Employed	28	8.48%
Self-employed	38	11.52%
Part time	74	22.42%
Unemployed	76	23.03%
Not in labour force	114	34.55%
<b>Education level</b>		
Never went to school	25	7.58%
Primary	138	41.82%
Secondary	127	38.48%
Matric and above	40	12.12%

Survey results.

### **Determinants of food security status**

The data shows that the majority of household heads (62%) in the Isikelo community failed to secure enough food for their families, while 38% were found to be food secure. It was also observed that 9 of the 15 independent variables fitted in the binary logit regression model were statistically significant. These predictors include the household size, social grants, household head gender, total household income, farm income,

remittances, improved seeds, and subsistence farming. Table 2 below shows the determinants of food security status in the Isikelo community.

**Table 2: Binary logit model**

Variables	Coef.	Odds ratios	Std. Err.	Z	P>z
Hhs – household size	-0.972	0.379	0.078	-4.71	0.000***
Hhsg – social grants	-2.311	0.099	0.086	-2.65	0.008**
Hhhag – household head age	0.049	1.050	0.033	1.57	0.116
Hhhg – gender	0.936	2.551	1.311	1.82	0.068*
Hhhm – marital status	1.684	5.388	2.840	3.20	0.001**
Hhhed – education status	0.315	1.369	0.662	0.65	0.515
Hhinc – household total income	0.003	1.003	0.001	5.80	0.000***
Farminc – farm income	3.792	44.433	74.919	2.24	0.025**
Lr – land restitution	-1.611	0.1997	0.294	-1.09	0.275
Rem – remittances	2.933	18.786	10.796	5.10	0.000***
Hhhemp – employment status	-0.608	0.544	0.361	-0.92	0.359
Livest – livestock ownership	1.014	2.756	1.948	1.43	0.152
Impr_seed – improved seeds	2.097	8.143	8.723	1.96	0.050**
Mcooper – coop membership	-0.078	0.925	0.794	-0.09	0.928
Sfarming – subsistence farming	-2.294	0.101	0.118	-1.97	0.049**
_cons	-5.421	0.004	0.007	-3.26	0.001

\*\*\*, \*\*, \* significant at 1%, 5%, and 10%, respective.

### Discussion of the findings from a binary logit model

The household size is negatively associated with food security status and statistically significant ( $p < 1\%$ ), which suggests that when the household size increases by 1 person, it decreases the likelihood of being food secure. The social grant coefficient is negative and significant ( $p < 5\%$ ), this indicates that when an additional household member receives a social security grant, it decreases the chances to be food secure. One of the reasons for this could be overdependence on government rather than creating other income-generating opportunities such as self-employment.

Gender is positively related to food security and statistically significant ( $p < 10\%$ ), which shows that when the household is headed by a male it is more likely to be food secure compared to their counterparts. Marital status is significant ( $p < 1\%$ ), and positively linked to food security status. Holding other factors constant, when the household is

headed by a married person, it is more likely to be food secure compared to a single, divorced or widowed head. The total monthly income is positive and significant ( $p < 1\%$ ), which indicates that a unit increase in household income (i.e. R1), assuming that all other factors are constant, increases the chances of being food secure.

The farm income coefficient is positive and statistically significant ( $p < 5\%$ ), which implies that an increase in farm income increases the chances for the households to be food secure. Remittances are statistically significant ( $p < 1\%$ ), and positively correlated with food security status. Holding other things equal, a unit increase in remittances increases the probability for the households to be food secure.

The improved seeds have a positive influence on household food security status and it is significant ( $p < 5\%$ ). This indicates that when the improved seed is used, it increases the probability for the households to be food secure. Subsistence farming is statistically significant ( $p < 5\%$ ), and negatively associated with food security status. This implies that when subsistence farming increases without supplementing it with other income sources may result in a decrease in the possibility of being food secure.

## **DIAGNOSTIC TESTS**

This study employed the Hosmer-Lemeshow test to examine the accuracy of data in the fitted binary logit model and the Wald test statistic, which examines the joint significance of the coefficients in the estimated model.

### **Hosmer-Lemeshow test**

The Hosmer-Lemeshow test results obtained from the binary logit model has a chi-square value of 5.91 with a p-value of 0.66. This indicates that the Hosmer-Lemeshow test was statistically insignificant, which revealed that the estimated model fits the data accurately. This is an indication that there is no misspecification in the fitted logit model.

### **Wald test statistic**

The F-statistic (0.000) and chi-square value (0.000) from the Wald test were statistically significant at less than 1% probability level. Suggesting that the null hypothesis, which says that the coefficients of the estimated logit model are jointly equal to zero, is rejected.

## CONCLUSION AND RECOMMENDATIONS

The study aimed to establish the relationship between food security and the characteristics of the sampled households in the Isikelo community of Mbizana local municipality. The findings revealed that only 38% of the sampled households were found to be food secure, while the majority which constituted 62% were found to be food insecure. Additionally, nine (9) predictor variables that were included in the logit model were found to be statistically significant. These variables included household size, social grants, gender, marital status, total monthly income, farm income, remittances, improved seed, and subsistence farming. Based on the findings reported in the study, we recommended that the government or NGOs should implement programs that will promote farm cooperatives to enhance food security in rural areas.

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# **Derived demand for clothing and local hemp fibre production as levers for clothing and textiles industry recovery in SA**

Moses M Mlangeni and Dev Tewari

Mr. M.M. Mlangeni, Department of Economics, University of Zululand, South Africa.

Prof. D.D. Tewari, Department of Economics, University of Zululand, South Africa.

## **ABSTRACT**

The utilisation of production capacity in the clothing and textiles industry in SA has dropped significantly from the late 1990s to date. Statistics SA highlights four reasons for the underutilisation of production capacity namely, raw material challenges; skills shortages; insufficient demand and maintenance downtime. This paper considers the derived demand for uniforms and clothing by government departments and municipalities as well as local hemp fibre production as key levers for the recovery of the clothing and textiles industry. The paper argues that such derived demand is guaranteed and sustainable. Furthermore, the current appetite by the SA government to commercialise the cultivation of hemp for various industrial purposes complements the derived demand for clothing and can realise the objectives of both the Clothing and Textiles Master Plan and the National Cannabis Master Plan. Regression analysis is used to test the relationship between the utilisation of production capacity and a number of independent variables, including clothing imports from China, manufacturing sales, wholesale trade sales, retail trade sales and employment. The results confirm that retail sales demand and employment are key factors influencing the utilisation of production capacity in the clothing and textiles industry. Stimulating industry demand through the manufacturing of staff uniforms for government departments and municipalities using locally produced hemp fibres can sustain demand and boost economic recovery.

**Key words:** derived demand, hemp, staff uniforms, capacity utilisation, master plans, regression

## INTRODUCTION

South Africa's (SA) clothing and textiles industry has not yet recovered from the decline it experienced since the 1990s when economic sanctions imposed on the country due to its racial discrimination system (apartheid) were lifted, and cheaper imported products started flooding the local market.

In 2021 employment in the clothing and textiles industry was estimated to be 81 782 people (Quantec, 2022), a significant variance from 258 890 workers in the industry estimated in 1996. The number of firms in the industry has also dwindled noticeably over the years. In the 1990s clothing and textile factories were sprawled in more than 20 towns and cities across the country, including Durban, Mooi River, Newcastle, Ladysmith, Isithebe, Cape Town, Woodstock, Salt River, Diep River, Atlantis, Paarl, Wellington, Worcester, King Williams Town, Queenstown, Butterworth, Phuthaditjhaba, Botshabelo, Babelegi, and Mogwase, among others. The industry also employed much more women than other industries (Vlok, 2006:230). Today, nothing or very few clothing and textiles firms exist in these towns and cities.

This paper considers derived demand for clothing, such as government staff uniforms, school uniforms, traditional and religious clothes, as key components that can sustain industry demand and be a lever for recovery in SA's clothing and textiles industry. Demand is derived when the consumption of an item, in this case a uniform, depends on or is derived from the existence of something else, that is, a government ministry or department. The demand for uniforms for staff in certain government departments, e.g. the SA Police Services and the army is guaranteed as long as the ministries or departments exist.

Similarly, different indigenous cultures in SA wear traditional clothing, for instance *isicholo*, a hat for Zulu women, *SeShweshwe*, a dress for Sotho women, *umbhaco* for Xhosa women, during cultural activities or ceremonies. It is most likely that a traditional clothing items are found in every African household in SA. This paper argues that such derived demand for clothing can sustain demand in the local clothing and textiles industry, particularly if fibre is locally available, and fabric and clothing production is also done locally.

Furthermore, the paper argues that derived demand for clothing and textiles in SA can be strongly complemented by government's current appetite and interest in the

commercialisation of hemp cultivation and boost industry recovery. Hemp is a plant that is cultivated in many countries around the world for use in the production of a wide range of products, including foods and beverages, personal care products, nutritional supplements, fabrics and textiles, paper, construction materials, and other manufactured and industrial goods (CRS, 2019:1). The production of hemp fibre locally can be a source of raw material required in the manufacturing of fabrics used for staff uniforms and traditional attire. This can sustain industry demand and have a significant impact on the recovery of the local clothing and textile industry.

Statistics SA data on the utilisation of production capacity in the clothing and textiles industry highlights “insufficient demand” as the main cause for production capacity underutilisation. Other reasons provided include raw material hurdles, labour and skills deficiencies, and other circumstances, such as maintenance downtime. Production capacity utilisation in the clothing and textiles industry in SA has dropped to 72.4% in 2021 from a higher figure of 86.4% in 2000.

This paper argues that derived demand for clothing, if complemented by local hemp fibre production, can boost the recovery of the SA clothing and textiles industry. Regression analysis is used to test the relationship that exists between the percentage of production capacity utilised in the industry and a number of independent variables, including Chinese clothing imports, manufacturing sales, wholesale trade, retail trade sales and employment. Results of the regression analysis provide important insights on whether imports, demand and employment have had any influence on utilisation of production capacity over the past 15 years. The motivation for analysing derived demand for clothing as a source of sustaining industry demand and boosting recovery stems from the regression results.

Despite a number of interventions and efforts by government to stimulate industry recovery through regulation, tariffs, quotas and incentives, cheaper legal and illegal clothing imports have continued to flow into SA, begging the question whether they will continue to flow into SA indefinitely.

In June 2019 the SA government developed several “Master Plans” aimed at “increasing localisation” in the production of goods “in order to promote reindustrialisation and economic growth” (the DTIC, 2021). One of these was the Retail Clothing, Textiles, Footwear and Leather (R-CTFL) Value Chain Master Plan to

2030 whose objective is to grow industry employment, advance inclusion and transformation and increase local procurement of clothing and textiles from 44% to 65%. Another government document relevant to this study is the National Cannabis Master Plan, which promotes research and commercialisation of the cannabis sativa and hemp plants in SA. These two master plans are key enablers which provide a basis from which to establish a sustainable hemp textile industry and boost industry recovery.

## **REVIEW OF LITERATURE**

There are three areas of this research that warrant a review of literature in order to provide context to the research and have an understanding of the status of the local clothing and textiles industry. Firstly, the extent of the industry decline must be clearly understood and secondly, derived demand for clothing has to be articulated in terms of its extent and the potential to sustain industry demand. Thirdly, the use of hemp fibre in the manufacturing of fabrics and textiles must also be understood as well as government's current position and initiatives around the plant.

### **SA Clothing and textile industry decline**

The decline of the local clothing and textile industry has been attributed to the influx of imports, especially from China. Imports of textiles into SA were valued at R26.2 billion in 2020, a five-fold increase from R5.2 billion in 2001 (Claassens, 2021:3). In 2006 SA was importing 99 000 tons of yarn and 95 300 tons of fabrics, having increased from 77 000 tons and 94 000 tons respectively in 2001 (Texfed, 2006). Made-up textiles flowing into SA surged from 4 900 tons in 2001 to 28 700 tons in 2006 (Texfed, 2006) while imports of clothing items more than tripled in five years, from 139 million items in 2001 to 567 million items in 2006 (Texfed, 2006). In 2006, 89% of clothing imports originated from China, 3% from India and the remaining 8% from the rest of the world while 60% of all made up textiles (blankets, bed sheets, towels and curtains) originated from China (Texfed, 2006).

The largest number of clothing and textile firms in 1990 were in the Western Cape (WC) province and KwaZulu-Natal (KZN) and Gauteng also had a significant number. However, the total number of firms declined significantly from 1248 to 654 firms between 1990 and 2001, with KZN reporting the biggest decline, from 445 to 153 firms



(Morris et.al., 2004:16). Today, the number of clothing and textile firms in the WC, EC, KZN and Gauteng are much lower.

**Table 1: Number of clothing firms per province in SA – 1990 to 2001**

Year	Western Cape	KwaZulu	Gauteng	OFS/NC	Total
1990	448	445	347	8	1248
1995	404	385	268	7	1064
1996	410	420	261	7	1098
1997	379	355	239	7	980
1998	361	301	226	6	894
1999	350	214	201	5	770
2000	351	186	179	6	722
2001	325	153	171	6	654
Growth (%) 1990-95	-1.97	-2.73	-4.98	-2.5	-3.08
1995-2001	-3.55	-13.55	-7.16	-2.38	-7.64

Source: (Morris et.al., 2004:7)

## Derived demand

Derived demand in this paper refers to the demand for staff uniforms due to the existence of government ministries and departments. Due to unavailability of data on traditional clothing demand and school uniforms demand, this paper focuses only on the demand for uniforms and clothing by government departments and municipalities.

The SA government spends millions of Rands annually on uniforms and clothing for staff in various departments, for example the SA Police Services (SAPS), the SA National Defence Force (SANDF), the SA Navy, Health and Correctional Services. For instance, the SAPS issued uniforms valued at R174.8 million to members, nationally, from three provisioning stores and six uniform shops situated, in the North-West (NW), the Eastern Cape (EC), Limpopo, the Northern Cape (NC), the Free State (FS) and Gauteng Provinces (GP) in 2019 (SAPS Annual Report 2019/20: 94). The SA government currently has over 40 departments all of which demand uniforms and clothing for some of their staff. Various staff in SA municipalities are also required to wear uniforms when on duty, for instance law enforcement officers, fire services, cleaners and security personnel. There are 248 municipalities in the country, all of whom spend on staff uniforms and clothing annually.

## **Hemp fibre and textile production**

The largest quantity of fibre consumed in SA in 2021 was polypropylene (21 382 tons), followed by cotton (16 463 tons), polyester (16 315 tons) and Jute (12 696 tons) (Claassens, 2021:8). Cotton SA indicates that 51 000 tonnes of lint cotton were produced in SA in 2018/19 (Cotton SA, 2020). According to the National Wool Growers Association (NWGA), "SA produces approximately 45 million kg (45 000 tonnes) of wool per annum which translates to 2-3% of the global wool production, and about 12% of the world apparel wool. The SA wool industry is valued at approximately R5 billion per annum (<http://www.nwga.co.za>, 2021).

The demand for textiles from crops such as hemp has increased over the years due to the growing demand for "greener" textiles. As a fabric, hemp is breathable, warm, moisture-wicking, antibacterial, biodegradable and can be easily blended with other fibres such as cotton. (Broadhurst et. al., 2019:4). According to Herer (1990:1) "Eighty percent of all humankind's textiles and fabrics for clothes, tents, linens, rugs, drapes, quilts, bed sheets, towels and diapers were made principally from hemp fibres in much of the world until the 20<sup>th</sup> century." Herer states that "hemp is softer, warmer and more water absorbent than cotton, and has three times the tensile strength of cotton and is many times more durable. Ireland and Italy are said to have made the world's finest cloth for clothing with hemp (1990:1). Research conducted by the Agriculture Research Council (ARC) on the cultivation of hemp found that the Western Cape, KZN and Eastern Cape have favourable growing conditions for the plant.

## **METHODOLOGY**

This research argues that the utilisation of production capacity in the manufacturing of clothing and textiles in SA can be improved significantly through the derived demand for uniforms for government departments and municipalities, produced locally using locally grown hemp fibres. Statistics SA highlights four reasons for the underutilisation of production capacity in the clothing and textile industry, namely raw material challenges, skills and labour, insufficient demand, and maintenance downtime. The paper departs from the assumption that improvements in any one of the four reasons provided by Statistics SA, will result in an increase in the utilisation of production capacity.

Statistics SA data on the utilisation of production capacity in the clothing and textiles industry is regressed against independent variables including imports of clothing from China, manufacturing sales, wholesale trade sales, retail trade sales as well as employment. The selection of these independent variables is influenced by the availability of empirical data. The manufacturing sales, wholesale trade sales as well as retail trade sales data represents demand. Since the paper is leaning towards localisation of manufacturing, the manufacturing sales variable is therefore very relevant. However, the wholesale trade and retail trade data are also included in the regression model. Furthermore, data on Chinese clothing imports is included as part of demand given their proliferation on the domestic market. The employment data represents labour skills.

## DATA

Two data sets are used for analysis in this paper namely, Statistics SA's utilisation of production capacity in the clothing and textiles industry between 2004 and 2021 and the manufacturing, wholesale and retail sales data for the industry as published by Statistics SA. The first data set highlights the key reasons for the underutilisation of production capacity in the clothing and textiles industry and the second set is empirical data showing Chinese clothing imports; manufacturing, wholesale and retail trade sales during the reference period.

**Table 2: Reasons for the underutilisation of production capacity**

period	Utilisation of production capacity	Underutilisation due to a shortage of raw materials	Underutilisation due to a shortage of skilled labour	Underutilisation due to a shortage of semi and unskilled labour	Underutilisation due to insufficient demand	Underutilisation due to other reasons (maintenance downtime, productivity changes, seasonal factors)
2004	85,7	1,7	0,2	0,2	10,9	1,3
2005	84,2	0,2	0,6	0,5	8,4	6,1
2006	83,3	1,3	0,5	0,7	7,9	6,3
2007	82,9	1,6	0,7	1,1	8,4	5,3
2008	82,7	1,4	1,1	0,9	9,4	4,7
2009	79,9	1,3	1	0,6	13,5	3,8
2010	76,7	0,8	1,3	1,3	15,8	4,1
2011	78,7	1	1,3	1,2	13,8	4,1
2012	80,4	0,9	0,9	1	12,3	4,5
2013	81,2	1	0,7	0,6	13,4	3,2
2014	79,3	0,6	0,9	0,3	16,5	2,5
2015	79,2	0,6	1,2	0,3	16	2,8
2016	77,5	0,7	1,4	0,4	16,7	3,4

2017	75,7	0,6	1,4	0,4	18,4	3,6
2018	75,4	0,6	1,4	0,4	18,8	3,5
2019	75,6	0,6	1,4	0,4	18,6	3,5
2020	59,4	0,5	1,5	0,4	26,1	12,1
2021	72,6	1,1	1,8	0,4	20	4,3

Source: Statistics SA, 2004-2021.

**Table 3: Empirical data: Production Capacity Utilisation and Chinese imports, Sales and Employment**

	Utilisation of production capacity (%)	Chinese imports (Rm)	manufacturing sales (Rm)	wholesale trade sales (Rm)	retail trade sales (Rm)	employment
2004	85,7	2694068703	37721	18354	68445	185921
2005	84,2	3555732595	38821	19431	67690	180814
2006	83,3	5415573684	39223	18461	74913	176586
2007	82,9	3903449253	41368	29391	84727	174545
2008	82,7	4519401428	41843	29575	96280	166020
2009	79,9	5684904006	38329	26270	101999	147892
2010	76,7	6699202682	37402	30151	111721	137919
2011	78,7	6973847308	39169	32219	121514	128556
2012	80,4	7722253811	39864	33071	127537	118853
2013	81,2	9691604103	43388	33511	145607	116681
2014	79,3	10233237594	49328	37558	148751	115855
2015	79,2	11602490899	50894	40257	154908	120266
2016	77,5	12056847141	54310	38206	150951	116101
2017	75,7	10886904674	56323	44443	153782	112472
2018	75,4	11771028546	56753	51646	163863	108710
2019	75,6	11948940387	57499	50970	171185	106948
2020	59,4	11490076689	50825	33784	150941	90800
2021	72,6	12261725589	56708	39221	173103	81782

<b>Regression Statistics</b>	
Multiple R	0,894723
R Square	0,800529
Adjusted R Square	0,717416
Standard Error	3,125675
Observations	18

	<b>Coefficients</b>	<b>Standard Error</b>	<b>t Stat</b>	<b>P-value</b>	<b>Lower 95%</b>	<b>Upper 95%</b>	<b>Lower 95,0%</b>	<b>Upper 95,0%</b>
Intercept	-25,22140826	28,27525947	-0,892	0,389931	-86,8279	36,38509	-86,8279	36,38509
Chinese clothing imports	-1,21532E-09	1,25419E-09	-0,969	0,35167	-3,9E-09	1,52E-09	-3,9E-09	1,52E-09
Manufacturing sales	-0,000352794	0,000266825	-1,32219	0,210753	-0,00093	0,000229	-0,00093	0,000229
Wholesale trade sales	-0,000333505	0,000285156	-1,16956	0,264886	-0,00095	0,000288	-0,00095	0,000288
Retail trade sales	0,000585222	0,000203675	2,873319	0,014003	0,000141	0,001029	0,000141	0,001029
Employment	0,000508389	0,000117179	4,338546	0,000964	0,000253	0,000764	0,000253	0,000764

## EMPIRICAL RESULTS

The output of a regression model provides estimates of the parameters for the independent variables. The question remains whether or not these estimates are “statistically significant”. A coefficient of 0 means there is no relationship between Y, the dependent variable and X, the independent variable. When we test for statistical significance of the estimated parameters, if the estimated coefficients are too close to zero it could be that the positive estimate occurred purely by chance.

We test for significance of the estimated parameters using t-tests. If the absolute value of the calculated t-coefficient is greater than the critical value obtained from the table we say the estimated parameter is statistically significant, if it is smaller we say there is no statistically significant relation.

Since we have 18 observations and have estimated 6 parameters, the degrees of freedom are  $n-k=18-6=12$ . Since we are using a 5% risk level (95% confidence interval), the critical value of t obtained from the table is 2.179. The calculated t values for the estimated parameters are given in the table above. Only retail trade sales and employment are statistically significant as their calculated absolute values (2.873 and 4.338) are greater than the critical value 2.179.

Another statistic employed to evaluate the overall acceptability of the regression equation is called the coefficient of determination, normally denoted as  $R^2$ . This statistic reflects the percentage of the total variation in (dispersion of) the dependent variable (about its mean) that is explained by the regression equation. In our case, the percentage variation in production capacity utilisation that is explained by the variation in manufacturing sales, wholesale sales, retail sales, imports and employment. Therefore, the value of  $R^2$  can range from 0 (regression equation explains none of the variation) to 1 (regression equation explains all of the variation). If the value of  $R^2$  is high, we say there is correlation between the dependant and independent variables; if it is low there is low correlation. The  $R^2$  figure of 0.80 above is high and therefore implies some correlation between the utilisation of production capacity and imports, sales and employment.

## **DISCUSSION AND CONCLUSIONS**

The regression results indicate that retail trade sales of clothing and textiles influence the utilisation of production capacity more than manufacturing and wholesale trade sales. Furthermore, the results also confirm employment as a key factor of production. The negative relationship between utilisation of production capacity and imports is also confirmed by the negative coefficient in the regression results. The paper argues that imports can be minimised by putting more emphasis on derived demand for clothing such as staff uniforms for government departments and municipalities, school uniforms, and traditional or cultural clothing. Such guaranteed demand is likely to sustain much needed demand for the recovery of the local clothing and textiles industry.

The SA government has implemented a number of initiatives since the decline of the clothing and textile industry, but the continued flow of legal and illegal imports imply that other avenues can be explored, especially those within the control of the state, such as expenditure on staff uniforms and clothing. All procurement by government organs is guided by legislation including the Public Finance Management Act (PFMA), Municipal Finance Management Act (MFMA) and the Preferential Procurement Policy Framework Act 5 (PPPFA) of 2000 and its Regulations of 2017, among others. The PPPFA was introduced by government to broaden economic participation and accelerate economic development and growth. The PPPFA Regulations of 2017, especially regulation 8 on local production and content, is of interest to this research study since the Clothing and Textiles sector was designated as one of the sectors where locally manufactured goods meet the stipulated minimum threshold for local production and content. Through this legislation, it can become mandatory for government departments and municipalities to procure uniforms and clothing made from locally produced hemp fabrics. This can play an important role in boosting the local clothing and textiles industry and achieving the goals of government's Clothing and Textiles Master Plan.

The Clothing and Textiles Master Plan as well as the National Cannabis Master Plan are enablers that should be taken advantage of to accelerate recovery of the clothing and textiles industry. The cultivation of hemp in SA has picked up interest in government in recent times. Government in the Mpumalanga Province says it is

blessed with weather patterns that make the cultivation of cannabis a sustainable revenue stream for the Provincial fiscus (MPSOPA, 2022:14). In Gauteng, the government is concentrating on establishing a dedicated unit to work with the industry and national government to address regulatory and licensing issues, attract investment, and facilitate black participation in this new sector that has enormous medicinal and industrial potential” (GPSOPA, 2022:5). A cannabis hub is planned to be part of the R45 billion Special Economic Zone in the Vaal region of Gauteng.

This paper has highlighted the derived demand for clothing, particularly locally manufactured staff uniforms, and the cultivation of hemp for fibre production as important levers that can turn around the clothing industry back to its glory days, opening new factories and creating jobs, especially for women.

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# **A review of design, functionality, and effectiveness of the municipal performance management system in the Eastern Cape Province, South Africa**

Malefetsane Alphons Mofolo

Dr M.A. Mofolo, Walter Sisulu University, South Africa.

## **ABSTRACT**

The introduction of the New Public Management (NPM) in the South African public sector has demanded new ways of managing performance in municipalities. Among the tools introduced by the NPM in the operations of municipalities is performance management, which led South Africa to develop its municipal Performance Management System (PMS). However, since its inception, effective implementation of the PMS in South African municipalities continues to be a challenge. This matter is demonstrated by the instances of service delivery protests that have been experienced across the country, which more often than not were characterised by violence. In an attempt to establish the effectiveness of the implementation of municipal PMS in South Africa, an investigation was conducted using seven (7) Eastern Cape municipalities. Both quantitative and qualitative research methods were deployed. Over and above the two approaches used in this study, document analysis was also conducted. The descriptive statistics included frequencies used to analyse the data, gathered from the information contained in the questionnaires. Furthermore, thematic analysis was also used to analyse qualitative data from the interview schedules and questionnaires. The findings of this study show that the implementation of the PMS in the Eastern Cape municipalities was not effective and there are weaknesses associated with its design. In light of these findings, the municipalities are recommended to revise their PMS frameworks, reconsider their policy landscapes, conduct periodic performance evaluations, make PMS mandatory to all employees, and adopt this study's proposed model changes.

**Keywords:** New Public Management, Performance Management, Performance Management System, municipalities, Balanced scorecard.

## INTRODUCTION

The introduction of the New Public Management (NPM) in South Africa has brought about new means of public management as it is expected that practices aligned to private management systems should also be implemented in the public sector (Sharma & Gadenne, 2011, cited in Ndlovu & Muller, 2018). Ndlovu and Muller (2018) further point out that as a result of this, advanced systems such as performance management (PM) and control mechanisms were institutionalised in the public sector. However since these systems and mechanisms were introduced, performance and quality service delivery in South Africa still seem to be elusive and difficult to realise for most municipalities as organs of local government entrusted to meet the needs and expectations of different communities.

Various pieces of legislation make it clear that all residents, regardless of their location, are entitled to good quality public services. It is in this regard, that it is imperative that local government ensures that performance is managed, measured, and improved (van der Walddt, 2006). The White Paper on Local Government (1998), cited in Mashamaite and Lethoko (2018) indicates that local government should be developmental, and PM is one of the tools to accomplish this.

In the context of local government, the implementation of a performance management system (PMS) is critical since public funds should be spent per the legal mandates of municipality, so as to ensure that they render high-quality services to their residents (van der Walddt, 2006). However, the instances of service delivery protests that have been experienced around the country, which more often than not are characterised by violence, require municipalities to take stock of their PMSs.

The primary causes of poor service in South African municipalities are attributed, *inter alia*, to a poor performance culture, a lack of competencies, political interference, and poor financial management (Govender, 2011 cited in Kariuki & Reddy, 2017; Monkam, 2014). Poor financial management is incessantly leading to the majority of municipalities failing to achieve clean audits and good performance. In the recent Auditor-General's (AG's) Report (2022:4) the AG remarked that:

The country's aspirations to improve the quality of life of all citizens should be most evident at the municipal level through the provision of water, sanitation, electricity, refuse services, roads, and infrastructure, as well as through enabling economic development. Unfortunately, this is not the case.

This quotation says everything about service delivery in South African municipalities. This state of affairs should not be the norm or form our country's status quo, something has to be done. Therefore, the aim of this study was to investigate the state of implementation of municipal PMS following the years since it was introduced in South Africa, further considering the legal framework that is discussed in related sections of this study. An investigation was conducted using seven (7) Eastern Cape municipalities. In an attempt to achieve our aims, the study sought to answer the following questions:

- Do municipalities in the Eastern Cape Province have PMS policies in place?
- What are the ways in which the existing PMS in municipalities are designed?
- Are the institutional arrangements for PMS in accordance with the relevant legislation?
- Is PMS being implemented as specified?

In pursuit of these questions, the study, firstly, discusses the NPM theoretical framework as the basis for other discussions to ensue.

## **NEW PUBLIC MANAGEMENT THEORETICAL FRAMEWORK**

As shown above, the NPM has brought reforms in the practice of public administration to South Africa. Globally, the NPM was introduced in the 1980s as a measure to ameliorate traditional public administration, which was based on the notion of Weberian bureaucracy (Gumede & Dipholo, 2014). According to Tyawa (n.d.), the introduction of the NPM was due to the fact that Weberian bureaucracy was beginning to lose its heuristic value, and this resulted in many western countries searching for other approaches.

Furthermore, Tyawa (n.d.) reveals that in the United Kingdom, Thatcherism also became critical to the failure of the public sector to provide the public with quality services, and this necessitated the shift from public administration to public management or the NPM. Gumede and Dipholo (2014) emphasise that the introduction of NPM as an alternative was necessary, as it created an environment

conducive to restructuring government bureaucracy in order to promote productivity, competitiveness, efficiency, and effectiveness.

In South Africa, the NPM was ushered in by the introduction of the new Constitution in 1996, which decentralised government into the three spheres of management. Thus, it created the democratic public administration which is oriented toward good governance. Some of the pieces of legislation that embrace the NPM and devolved from the Constitution, 1996, include the Public Finance Management Act (Act No. 1 of 1999), the Preferential Procurement Policy Framework Act (Act No. 5 of 2000), the Preferential Procurement Regulations of 2001, and the Municipal Finance Management Act (Act No. 56 of 2003) (Gumede & Dipholo, 2014).

Due to the introduction of the NPM in South Africa, which led the government to be divided into three spheres of management and consequently, the promulgation of the above pieces of legislation, it became imperative for the country to introduce PMS to ensure efficient and effective service delivery to the public. According to Hamied and Elbagoury (2022), this transformation resembles many countries' international experience, which resulted in central governments developing performance systems that were commensurate to the reform approaches. Following these circumstances, in the next section PM will be defined and explored.

## **PERFORMANCE MANAGEMENT DEFINED**

The concept of PM is defined in the literature in a way that emphasises commonality. For instance, Malefane (2016), citing other scholars such as Mwita (2000), Fletcher (2001), and Den Hartog *et al*, (2004), defines PM as a continuous, systematic, and integrated process meant to identify, appraise, manage and develop employees' performance. Furthermore, Malefane (2016), citing Public Service Commission (2007) defines PM as a strategic process that assists in bringing about a conducive climate to motivate employees to develop and achieve high standards of performance.

Likewise, Aslam and Sarwar (2010) contend that PM can be considered as a holistic philosophy that includes aspects such as motivation of employees to perform well; having knowledge of what is expected of them; developing skills; and constantly monitoring and measuring performance in order to identify areas that need improvement.

Correspondingly, Aguinis, Gottfredson, and Joo (2012) perceive PM as a continuous process that involves identifying, measuring, and developing the performance of individuals and teams that is aligned with the strategic goals of the organisation. Sahoo and Mishra (2012) on the other hand, view PM as a systematic process by which the overall performance of an organisation can be improved by improving the performance of individuals within a team framework.

What is common among all these definitions is the fact that, ultimately, PM aims at promoting organisational efficiency, effectiveness, and accountability (Sebashe & Mtapuri, 2011) by ensuring that every employee understands what should be achieved (Council of Europe, n.d.) in order to respond to the needs of the public. According to van der Waldt (2006:128), "the new public service culture places the client at the centre of service delivery. Increasingly, local government needs to demonstrate that public money and other resources are spent in accordance with their legal mandates and that high-quality services are rendered to clients and communities."

In a similar vein, Malefane (2016) points out that at the apex of a performance cycle of any public institution are the needs of the consumers or community, which should be translated into a vision and mission, and ultimately, to an institution's strategy. Briefly, Malefane (2016) argues that the first phase of a performance cycle should be constituted by performance planning, which should include performance agreements and work plans. The second phase should involve review and feedback, characterised by coaching and counselling. The third phase should be for performance appraisal; and the last phase, which is phase four, should involve rewarding performance or managing poor performance.

Radebe, Vyas-Doorgapersad, and Grobler (2015) citing the Municipal Performance Framework (2009) point out that the Municipal System Act (Act No. 32 of 2000) enjoins all municipalities in the country to be consistent in the application of PMS as they strive to efficiently and effectively deliver services to communities. Therefore, it is apparent that the application of PMS in South African municipalities is not a choice, but a requirement. This brings us to our discussion in the next section, focusing on the Balanced scorecard model in the application of PMS.

## **BALANCED SCORECARD MODEL**

The period around the end of the 1980s, heralded new measurement approaches or models that began to be used by public organisations (Hamied & Elbagoury, 2022). The methods or approaches that were measuring or depending on financial variables were criticised, and as a result, models which combine financial and nonfinancial indicators emerged and were regarded as providing a balanced view on measuring performance. The Balanced Scorecard (BSC) was one of those approaches that emerged in the early 1990s (Kaplan & Norton, 1992 cited in Hamied & Elbagoury, 2022).

Kaplan and Norton (1992) cited in Ndevu and Muller (2018) reveal that initially the BSC was coined for the private sector. As shown above, it was the argument of these authors that it is not enough for management to pay attention to the financial indicators only when managing organisations or measuring their performance. They argue that the BSC is critical as it provides an opportunity for managers to look at the organisation from four essential perspectives. According to Kaplan and Norton (1992), the BSC provides crucial answers to the following four questions:

- How do customers see us? (customer perspective).
- What must we excel at? (internal perspective).
- Can we continue to improve and create value? (innovation and learning perspective).
- How do we look to the shareholders? (Financial perspective).

Notwithstanding the above, there are some critics of the use of the BSC in the public sector. Even though Drogosiewicz (2018) points out that literature, in the context of public organisations, like municipalities, has always put an emphasis on the accountability to stakeholders, transparency, and decision-making, which are based on performance measurement and reporting, some authors criticise the use of 'for profit' methods in government.

On the contrary, authors such as Sulhan and Wasistiono (2017) argue that the use of BSC should be regarded as suitable for public organisations such as municipalities, as they should place service as a key performance measure, not profit. Regarding this, it is the view of these authors that the BSC concept can also be modified to meet the public sector performance requirements. Ndevu and Muller (2018) support the

implementation of the BSC in local government as they perceive it to be an effective tool for management to measure the four perspectives shown above.

Considering these four perspectives briefly, according to Kaplan and Norton (1992) the customer perspective should focus on four aspects of service delivery, that is, time, quality, performance and service, and cost. To this effect, they posit that time should measure the required time to meet the customer's needs. Regarding quality, they postulate that this measurement should focus on the value of the worth of the product or service from the customer's perspective. As far as both performance and service is concerned, they argue that it has to do with the measurement of the products' or services' value to the customers. Finally as regards cost, they indicate that the measurement should focus on the cost of the products or services, as ideally costs should be affordable. This is critical, particularly, when considering the service charges that are imposed on residents in some municipalities, where service delivery leaves much to be desired, as shown by the AG Report (2022), earlier in this study.

From an internal business perspective, Kaplan and Norton (1992:74) postulate that the focus should be on the operational processes of an organisation. For instance, it is the view of these authors that good performance stems from 'processes, decisions, and actions' that should happen throughout the entire organisation. Concerning innovation and learning perspectives, Kaplan and Norton (1992) caution that globally there are new developments that are also bringing about new products or services.

Therefore, Kaplan and Norton (1992) argue that organisations, such as municipalities should continuously improve their operations in order to be efficient and meet customers' needs. In achieving all these, Mofolo (2018) recommends that managers in the South African public sector should be astute leaders and should be aware of their external organisational environment which is continuously evolving. Thus, research is critical and should form the basis of understanding the external organisational environment of the South African municipalities and ensure innovation.

Lastly, with regard to the financial perspective, Kaplan and Norton (1992) aver that financial operation measures should concentrate on whether the company's strategy, implementation, and execution are bringing about the required improvements. To this, Kaplan and Norton (1992:77) expound that financial goals have to do with the company's 'profitability, growth, and shareholder value'. Given this exposition, it is



apparent that in municipalities, financial performance measures should focus on service delivery improvements and the betterment of people's life. Therefore, for municipalities to achieve this, they should have well-designed control measures that would assist them to improve their financial performance.

Having looked at the above assertions, it is essential at this juncture to consider the legal framework that governs PMS in order to understand the necessary measures required to manage performance in the South African municipal context.

## **OVERVIEW OF PERFORMANCE MANAGEMENT FRAMEWORK**

As shown above, in South Africa, the 1996 Constitution forms the basis of practice of the NPM in the public sector. Again, as it has been proclaimed in this study, PM is one of the consequential practices of the NPM. Therefore, in the below discussions, attention is paid to the policy framework of PMS in South Africa.

### **The Constitution, 1996**

The Constitution of the Republic of South Africa, 1996, is the supreme law of the country. This, therefore, implies that all government institutions, including municipalities, must abide by the Constitution. The Constitution, thus, serves as the basis for the objectives of all three spheres of government, which are comprised of the national government, provincial government, and local government. Chapter 7 of the Constitution regulates the local sphere of government; and to this end, Section 152 stipulates objectives that a municipality must strive to achieve within its financial and administrative capacity.

Correspondingly, Section 153, among others, provides that a municipality has a developmental duty of managing and structuring the budget, administration, and planning processes in such a manner that the basic needs of the community are given priority, and promotes the social and economic development of the community. While doing so, Section 195(1) of the Constitution mandates municipalities to observe the basic values and principles governing public administration.

Although these principles in the Constitution are not directly linked to PM, it is evident that they should form or underpin the PMS practices in South African municipalities. Linking to the PMS as per other pieces of the legislation that are discussed below, it is obvious that municipalities, among others, should ensure that resources are used

efficiently, economically, and effectively in order to meet the aspirations of the citizens. Furthermore, municipalities must be accountable; and good human-resource management and career-development practices must be cultivated in order to maximise human potential (Constitution, 1996).

What came to be known as *Batho Pele* (People First) principles are aligned to the Constitution as well, and they reinforce the constitutional values and principles as discussed above. In the same spirit, the *Batho Pele* principles strive to get public servants such as those in municipalities to be service-oriented, striving for excellence in their endeavours, and committing to continuous service delivery improvement (Local Government Action, n.d.). Therefore, Adonis and van der Walt (2017) point out that *Batho Pele* principles should be used to judge the effectiveness of municipalities regarding service delivery to communities. It can also be deduced that this assertion emphasises that *Batho Pele* principles should form the basis of the customer perspective in the BSC of the South African municipalities as well.

### **The Local Government Municipal Structures Act (Act No. 118 of 1998)**

Section 19 of the Municipal Structures Act (Act No 118 of 1998) echoes the imperatives of municipalities to achieve the objectives as set out in Section 152 of the Constitution. It further provides that a municipality must, on an annual basis, review the needs of the community, priorities to meet these needs, processes for involving the community, organisational mechanisms for meeting the needs of the community, and its overall performance in achieving constitutional objectives.

Furthermore, this Act provides functions and powers to municipal executive committees and executive mayors. For instance, Section 44 (3) and 56 (3) instruct the executive committee and executive mayor to identify and develop criteria in terms of which progress in the implementation of strategies, programmes, and services should be evaluated. This includes the identification and development of key performance indicators (KPIs) which are specific to the municipality and common to local government in general.

### **The Local Government Municipal Systems Act (Act No. 32 of 2000)**

Section 38 (a) of this Act makes it clear that a municipality must establish a PMS that is commensurate with its resources; best suited to its circumstances; and in line with the priorities, objectives, indicators, and targets contained in its integrated development plan (IDP). To this end, on one hand, Section 57 provides that the municipal manager and managers accountable directly to the municipal manager must have performance agreements that must be concluded annually and must include performance objectives and targets to be met.

On the other hand, Section 67(1) provides that a municipality must develop and adopt appropriate systems and procedures to ensure fair, effective, and transparent personnel administration, including the monitoring, measuring, and evaluating of staff performance.

### **Municipal Planning and Performance Management Regulations (2001)**

Performance management is dealt with in Chapter 3 of the regulations and regulation 7 describes the nature of PMS and postulates that the system should entail a framework that describes and represents how the municipal cycles and processes of performance planning, monitoring, measurement, review, reporting, and improvement should be conducted, organised and managed, including determining the roles of the different managers.

The circumstances under which PMS should be adopted are provided in Regulation 8, which provides for the adoption of PMS, and prescribes that the adoption should occur before or at the same time when municipalities commence the processes of setting KPIs and targets in accordance with their IDPs. The setting of the KPIs is provided for in regulation 9 and requires municipalities to set KPIs, including input indicators, output indicators, and outcome indicators, in respect of each of the development priorities and objectives.

Furthermore, the review of KPIs is dealt with in Regulation 11 and prescribes to the municipalities to review their KPIs annually as part of the performance review process referred to in regulation 13. Regarding the setting of performance targets, Regulation 12 prescribes the municipalities to set performance targets annually for each of their KPIs.

The monitoring, measurement, and review of performance are provided for in Regulation 13, and require municipalities, after consultation with the local communities, to develop and implement mechanisms, systems, and processes for the monitoring, measurement, and review of performance in respect of their KPIs and performance targets they have set.

Matters related to internal auditing of performance measurements are provided for in Regulation 14, and municipalities are required to develop and implement mechanisms, systems, and processes for auditing the results of performance measurements as part of their internal auditing processes.

### **The Local Government Municipal Finance Management Act (Act No. 56 2003)**

Section 53 of the Act regulates budget processes and related matters. It also requires that annual performance agreements as required in terms of Section 57(1)(b) of the Municipal Systems Act for the Municipal Manager and all Senior Managers, is to be linked to measurable performance objectives approved with the budget and to the service delivery and budget implementation plan.

### **The Local Government Performance Regulations for Municipal Managers Directly Accountable to Municipal Managers**

The establishment of performance contracts of Municipal Managers and Managers accountable to the Municipal Managers are defined by Regulation 4. While regulation 23 deals with a performance agreement and prescribes that they should specify objectives and targets, and be based on IDP, SDBIP, and the municipal budget. On the other hand, Regulation 26 prescribes the conditions for Municipal Managers and Managers reporting to Municipal Managers, that they must agree to participate in the PMS of municipalities.

## **RESEARCH METHODOLOGY**

Both quantitative and qualitative research methods were used in this study, and this approach is normally referred to as a mixed-methods or triangulation approach. This was done in order to generate more data and strengthen the implementation of both methods. As Neuman (2014) argues, basically, the use of both methods or approaches in research is to learn more about a phenomenon from multiple perspectives.

Over and above the two approaches used in this study, document analysis and reviews were also conducted. The aim of this exercise was to identify the PM policies that are available to support the implementation of the PMS in the municipalities. All selected municipalities were requested to provide those documents for review.

## **POPULATION AND SAMPLING**

The Eastern Cape comprises 39 municipalities. In order to select respondents and municipalities as a sample frame for this study, stratified sampling and purposive sampling methods were used. The selection criteria for the municipalities was informed by a number of factors. For instance, these municipalities were selected on the basis of the following criteria:

- The location of the municipality;
- Municipalities considered to be performing well in respect to PMS;
- Municipalities considered to be performing poorly in respect to PMS; and
- The category of the municipality (Local, District, or Metropolitan Municipalities).

As a result of the sampling techniques and criteria described above, the following seven (7) municipalities were selected: King Sabata Dalindyebo Local Municipality, Mnquma Local Municipality, Dr Beyers Naude Local Municipality, Enoch Mgijima Local Municipality, Senqu Local Municipality, Alfred Nzo District Municipality, and Buffalo City Metropolitan Municipality.

## **DATA COLLECTION**

The empirical study took place on the brink of the inception of Covid-19 in South Africa, and therefore, the country had not yet imposed restrictions at the time of data collection. Consequently, one-on-one interviews were conducted to draw primary data from four (4) Municipal Managers and eighteen (18) Heads of Departments (HODs). In other words, Sections 57 and 56 Managers were interviewed. Initially, it was the intention of the study to conduct interviews with all seven (7) Municipal Managers and all HODs in the selected municipalities, but due to the challenges of not being able to access them only four (4), Municipal Managers and 18 HODs were interviewed.

These interviews were conducted in order to assess the experience and opinions of Municipal Managers and HODs regarding the implementation of PMS in their

municipalities. Structured interview guides were used in order to ensure the validity and reliability of the data required for the purpose of this study. This means that the same questions were asked to those participants without any follow-up questions.

A total of one hundred (100) questionnaires were distributed to the Middle Managers, that is, Managers reporting to the HODs or Section 56 managers. While six hundred and forty (640) questionnaires were also distributed to employees at lower levels.

Of the one hundred (100) questionnaires that were distributed to the Middle Managers, sixty-six (66) were returned, which was a return rate of 66%. From six hundred and forty (640) questionnaires distributed to employees at lower levels, four hundred and thirty-five (435) were returned, which was a return rate of 68%.

## **DATA PROCESSING AND ANALYSIS**

Quantitative data was captured on an Excel spreadsheet. Following that, the data were verified and then analysed through the use of the SPSS Version 26.0. Descriptive statistics that included frequencies were used to analyse the data gathered from the information contained in the questionnaires. Furthermore, thematic analysis was also used to analyse qualitative data from the interview schedules and questionnaires, which eventually provided an opportunity to identify themes used for the findings and recommendations in this study.

## **RESULTS**

The results below are presented according to the research questions that the study sought to investigate. In these sections, the results and findings on four (4) research questions are presented.

**Research question:** Do municipalities in the Eastern Cape Province have PMS policies in place?

Table 1, item 1 below provides information on the responses of employee respondents when they were asked to give their opinion statement establishing whether municipalities have PMS in place.

**Table 1: Employees' opinions on whether municipalities have PMS in place**

	Opinion statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	The municipality has a Performance Management System (PMS) in place	18	12.1	18.5	28.2	23.2	100

Table 1, item 1, shows that the majority (51.4%) of respondents either agreed or strongly agreed that municipalities have PMS in place. On the other hand, 18.5% of respondents were neutral, while 30.1% of them either disagreed or strongly disagreed. This suggests that some employees in these municipalities are not subjected to PM practices. As a result, this can be viewed in this study as a contradiction to the recommendations made by the South African Local Government Association (SALGA) (2003) for municipalities to introduce PMS for individual employees in order to ensure that they meet their objectives and targets.

Furthermore, during the interviews, the question was posed to Municipal Managers in order to establish whether municipalities have a PMS. The majority of participants indicated that they have PMS in place. However, these participants indicated that the PMS is not wholly in operation since it is applicable only to Sections 56 and 57 Managers. Some of the responses were raised in the following manner:

- *“It is not yet cascaded to lower structures”.*
- *“I wouldn’t say it has, it has adopted a framework policy for performance management and we also have senior managers who have signed performance contracts, however, the system is not fully functional at this stage because we are supposed to have regular reviews even at senior management level. We are not conducting those reviews”.*

**Research question:** Are the institutional arrangements for PMS in accordance with the relevant legislation?

This question tested the employees’ opinions regarding disciplinary policies, policies for disputes on performance assessment results, employment equity, and succession plans. The existence of these policies form the basis for the implementation of PMS in

municipalities, and therefore they should be available to ensure the effectiveness of the implementation of municipal PMS as per legislation. The data pertaining to the availability of those policies is presented in Table 2, item 1 below.

**Table 2: Availability of policies, employment equity, and succession planning**

	<b>Opinion statements</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>	<b>Total</b>
1	The municipality has a disciplinary policy for underperformance	32.9	15.6	21.3	12.7	17.5	<b>100</b>
2	The municipality has a policy for disputes on performance assessment results	30.4	19.6	20.3	20	9.7	<b>100</b>
3	The municipality is implementing employment equity in an effective way	16.5	14.7	29.8	27.2	11.8	<b>100</b>
4	The municipality has a succession plan	20.7	17.5	30.7	19	12.2	<b>100</b>

Table 2, item 1, shows that the majority (48.5%) of respondents either disagreed or strongly disagreed that municipalities have in place policies that deal with under performance. On the other hand, 30.5% either agreed or strongly agreed, while 21.3% were neutral. In responding to the related opinion statement that sought to establish whether municipalities have policies to address disputes on performance assessment results (Table 2, item 2), the majority (50%) of the respondents either disagreed or strongly disagreed that their municipalities do have such policies. On the other hand, 29.7% of the respondents either agreed or strongly agreed with the opinion statement, while 20.3% decided to be neutral. For those who remained neutral, they arouse the impression that they may not be sure about the existence or non-existence of such municipal policies, which may also imply that some municipal employees are in the dark with regard to such policies. Considering that these policies directly relate to



administration decisions regarding financial rewards and discipline management, these findings are concerning (Malefane, 2016; van der Westhuizen, 2016, cited in Selepe, 2018).

On the issue of whether municipalities are implementing employment equity in an effective way (Table 2, item 3), 39% of respondents either agreed or strongly agreed with this opinion statement. However, 31.2% of the respondents either disagreed or strongly disagreed with it, while 29.8% of the respondents were undecided. The neutral respondents again raise concern as they give the impression that they do not understand employment equity or are not aware of the Employment Equity Act (No. 55 of 1998).

Opinion statement 4 in Table 2 sought to establish whether these municipalities have succession plans. In this regard, the majority (38.2%) of respondents either disagreed or strongly disagreed that their municipalities have succession plans. On the other hand, 31.2% of them either agreed or strongly agreed with the statement, while another considerable percentage (30.7%) of the respondents were neutral. This high proportion of respondents who were neutral is a cause for concern as it gives the impression once again that they might not be aware of such municipal plans. As a result, this confirms Perlman's (2010) observation, cited in Pita and Dhurup (2019) that while succession planning policies may be existing in the public sector, little evidence exists that succession planning is actually practised.

Furthermore, during the interviews, Municipal Managers were asked about the adequacy of policies and if not, which ones should be introduced to promote PMS' effectiveness. The participants provided various responses. Some examples are provided below:

- *"We have identified gaps within the existing policies. Therefore, I would not say are adequate. We have identified that there are policies that are not in place such as promotion policy, demotion policy, and a policy that deals with issues of wellness of staff. Furthermore, we need to review those that are in existence. Some of the policies were developed long ago".*
- *"We need to introduce a consequence management policy. I think that is one of our shortcomings".*
- *"I think we need to have a consequence management policy. For instance, one director has been found to have not met the targets – and often times nothing happens to say you have not met these but why? In other words, be*

*held accountable for non-performance. I think we need to strengthen in that area to manage the consequences of poor performance. In that way, we will be in a better position to improve the overall performance of the municipality”.*

**Research question:** Is PMS being implemented as specified?

In testing this question, our study sought to establish whether employees enter into performance agreements with their supervisors. Again, the study sought to test employees’ opinions about the culture of good performance in municipalities. This information is presented in Table 3 below.

**Table 3: Performance agreements and culture of good performance**

	Opinion statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	Employees enter into performance agreements with their supervisors	35.4	21.7	15.7	15.9	11.3	<b>100</b>
2	The overall culture of the municipality is conducive to good performance	31.4	19.5	21.9	15.9	11.4	<b>100</b>

Regarding Table 3, item 1 sought to establish whether municipal employees enter into performance agreements with their supervisors, the majority (57.1%) of employee respondents either disagreed or strongly disagreed with this statement. However, 27.2% of the respondents either agreed or strongly agreed with this statement. Consequently, it was only 15.7% of the respondents who were neutral.

In view of the above results, a contradiction was realised during the interviews with HODs. The majority of participants indicated that performance agreements have not yet cascaded or rolled down to employees at lower levels. This matter was also raised by the Municipal Managers when responding to the question that sought to establish whether the practice of the PMS is covering all employees. All the participants indicated that it had not yet cascaded down to all employees. Furthermore, all participants indicated that it is the intention of the municipalities that all employees should be subjected to this measure. Again, these findings are concerning if we are to follow SALGA’s (2003) recommendation of introducing PMS to every employees.

The next statement sought to establish whether the overall culture of municipalities is conducive to good performance (Table 3, item 2). In response to this statement, 50.9% of the respondents either disagreed or strongly disagreed. 21.9% of the respondents were neutral, while those who agreed or strongly agreed with the statement were slightly above the latter at 27.3%. These findings suggest that performance management practices in these municipalities are not consistent in instilling good work ethic. Perhaps, this matter could be associated with the manner in which municipalities deal with poor performance. Organisational culture of a municipality has been found to have an effect on the performance of employees (Gordon & DiTomaso, 1992; Denison, 1990; Abu-Jarad, Yusof & Nikbin, 2010, as cited in Nzewi, Ijeoma, Sibanda, and Sambumbu, 2016).

When this question was posed to HODs, seeking to assess how departments deal with poor performance, the majority of participants indicated that they start by assessing the root causes of poor performance in order for them to intervene. Most of the interventions that were cited include training, coaching, and counselling. Dismissal was regarded as the last resort after all necessary steps had been taken. In dealing with poor employee performance, these measures correspond to those proposed by Malefane (2016). Interestingly, some of the responses were given in the following ways:

- *“Well it is quite tricky at the moment because at some point some of our operations are not funded – and you cannot expect them to perform fully”.*
- *“We do not have a formal procedure, but based on my experience, I normally call people that I work with individually whenever there are shortcomings”.*
- *“As I have mentioned before, it is still a challenge as there are no even weekly plans for monitoring”.*
- *“In my department, even though we do not have adopted performance management to lower staff, I have a skeleton tool which I use as a monitoring tool”.*
- *“The PMS that we have has not been cascaded down to the lowest person on the ground, so right now the approach is haphazard”.*
- *“This is the reality of the current situation, it is difficult. I don’t want to lie, it is difficult to deal with that because as the head of the department you know why they don’t perform and the intervention is beyond your level. For example, currently, I have employees that do not have the equipment and I expect them to perform, how?”*

- *“Nothing much is done because sometimes you cannot blame them, they solely depend on the tools or machinery that they are assigned to work with. If those are not working or are not in operation, they are becoming handicapped”.*

## **FINDINGS FROM DOCUMENT ANALYSIS**

As mentioned earlier, this study also employed document analysis in order to establish whether municipalities in the Eastern Cape have PMS or not. In order to achieve this, the analysis and verification of PMS policies was done on only five (5) municipalities as others could not submit their PMS frameworks. Therefore, it was found that those municipalities that submitted their documents indeed have a PMS framework in place. This supported the view of the majority of respondents as discovered above.

With regard to the question that sought to establish the ways in which the existing PMS in municipalities is designed, the submitted PMS frameworks show that the PM model used by these municipalities is based on the BSC. Their BSC has four (4) perspectives in the same way as discussed in the literature. However, it was discovered that in these PMS frameworks, the key questions that are suggested to be posed by municipalities as they develop their BSC perspectives measures, are too general and academic. Again, they are not grounded in the context of the South African legal framework imperatives, like the constitutional values and principles, as well as, the *Batho Pele* principles as discussed above. For instance, the customer perspective should be based on basic constitutional values and principles, as well as *Batho Pele* principles to provide the indicators for performance in these municipalities.

In view of the learning and growth perspective, these municipalities focus on employees' skills and skill gaps. Although this binary is essential for continuous development as per basic constitutional values and principles, the lack of ways in which the municipalities themselves should learn in order to grow is regarded as a shortcoming. In 2011, SALGA initiated the Municipal Benchmarking Initiative, a voluntary programme that allows municipalities to learn from those that are doing well (SALGA, 2016) in order to improve and satisfy communities. In this way, benchmarking should be part of the learning and growth perspective of these municipalities.

Another identified weakness in the PMS frameworks is that some of the municipalities conduct a performance evaluation of employees (by implication from quantitative results in this study, municipal managers and senior managers) only twice a year, that is, mid-year and at the end of the year. These periods are regarded to be too far apart from each other, as performance targets should be measured quarterly at the very least.

## **CONCLUSION AND RECOMMENDATIONS**

Evidently, regardless of the 1996 Constitution and resultant policies as discussed in this study, the implementation of the PMS in some Eastern Cape municipalities appears to be a something of a pie in the sky. To that effect, the concept of the NPM and its practices to ensure efficient, effective, competitive, and productive municipalities is still to be achieved even after 22 years since the advent of the 'Developmental Local Government' in South Africa. Surely, this is a challenge that cannot be ignored any further. It is a matter that needs rigorous efforts to be uprooted if the needs and expectations of communities are to be met. Therefore, the study makes the following recommendations:

Firstly, it is critical that the PMS frameworks of these municipalities are revised and improved to ensure that they are contextualised to South African policy imperatives and they provide a broader framework for policies that are required to support the implementation of PMS.

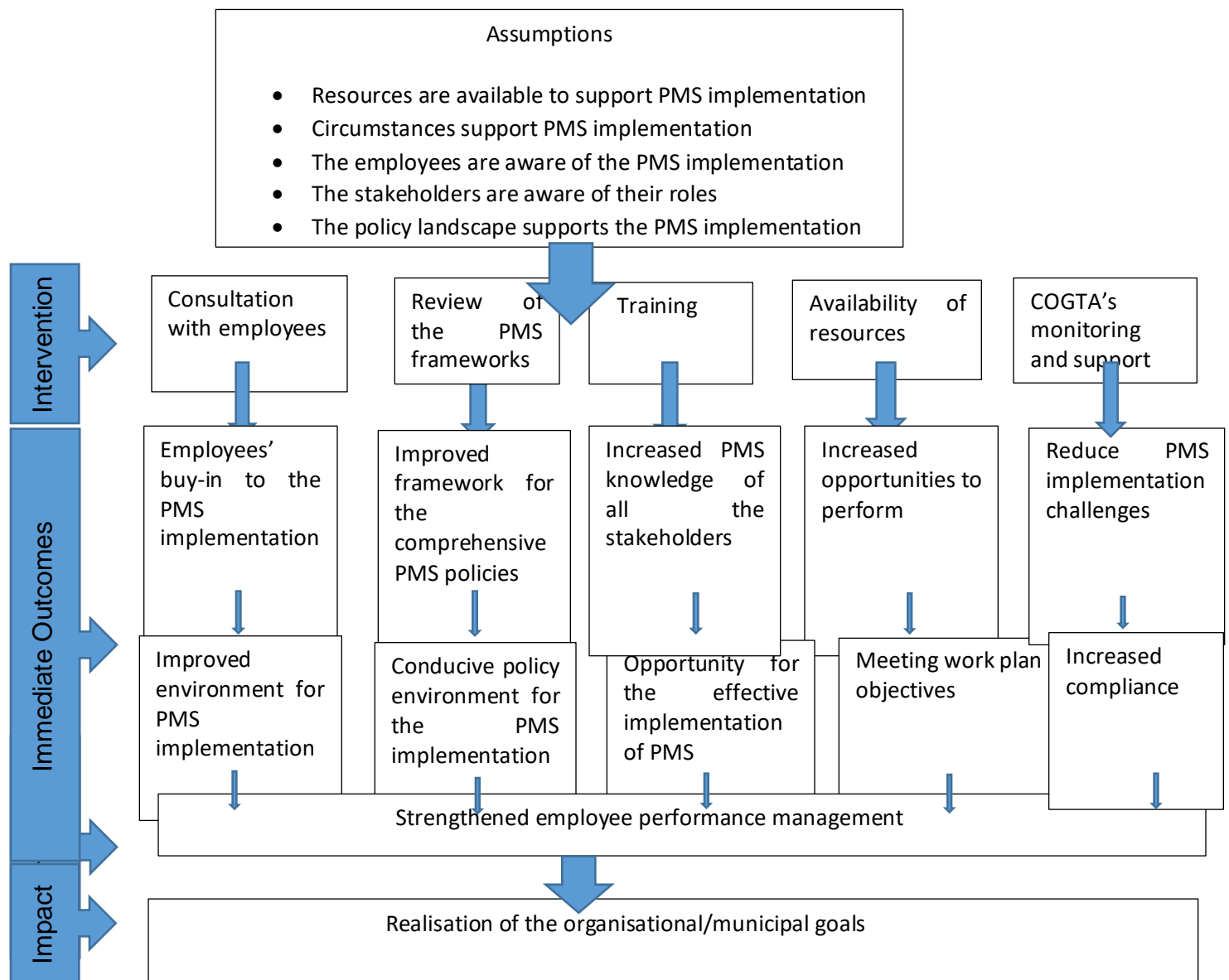
Secondly, it is also essential that the policy landscape at organisational and individual levels provide a conducive base for the implementation of PMS. In other words, these municipalities should ensure that all necessary policies that form the basis of the implementation of the PMS are available.

Thirdly, municipalities should conduct performance evaluations on a quarterly basis as this would assist employees in improving their performance.

Fourthly, the implementation of PMS in municipalities should not be selective, as this might further defeat the performance efforts of municipal managers and senior managers. Observance of Section 67(1) of the Local Government Systems Act, 2000 as discussed in the literature is critical as it requires municipalities to ensure fair,

effective, and transparent personnel administration, through the monitoring, measuring, and evaluating of the performance of all staff members.

Lastly, the study proposes the Model of change as shown in Figure 1 below.



**Figure 1: Proposed Model of Change**

**Source:** Authors (2022)

Figure 1 above advocates for the municipalities in the Eastern Cape and perhaps the country at large to implement the proposed changes as follows:

- **Consultation:** Employers (municipalities) should initiate discussion plans about PMS implementation with labour unions. Perhaps, it would also be essential to include SALGA and the Department of Cooperative Governance and Traditional Affairs (COGTA) in the Province. This is important as it would create a space for ironing out misunderstandings related to the implementation of PMS in municipalities.
- **Review of the existing PMS frameworks:** This exercise should also include the labour unions in order for them to contribute towards the improvement of the content and directives emanating from the frameworks. As shown above, the PMS frameworks provide a broader scope for the required policies that are supposed to be introduced to support the implementation of the PMS in municipalities. Having the required sound policies for the implementation of PMS minimises the chances of them being rejected.
- **Training:** having established collaboration and an amicable understanding of how PMS should be implemented, municipalities should embark on an awareness campaign in which all employees and managers are subjected to training. To start with, this training should be on the PMS frameworks, followed by training on organisational and individual policies that provide the environment for its implementation. Consequently, employees and managers should be trained on the guidelines of how the phases or components of PMS should be implemented. Politicians should also be trained since they are playing an oversight role in the implementation of PMS. Subsequently, all members including public representatives should be trained on their PMS' roles and responsibilities.
- **Resources:** the availability of resources, in all forms, that is, finance, equipment, and human labour, should be prioritised in order to promote good performance and ensure that PMS is implemented without hiccups in municipalities. Debt management policies should be applied rigorously, personnel wage bills are downsized to less than 60%, and cost containment measures should be instituted in order to ensure that municipal administrative productivity is enhanced.

- **COGTA's monitoring and support:** the role of COGTA to monitor and support municipalities should be strengthened by having the necessary skills and knowledge to monitor and support municipalities through training and evaluation of the implementation of PMS. This would help to identify challenges on a continuous basis and consequently this would help to provide the necessary solutions for the smooth implementation of PMS in all provincial municipalities.

It is envisaged that once these actions have been effected they would lead to a situation where the implementation of PMS could be inclusive for all those who should play part in a connected effort towards the achievement of the organisational or municipal goals.

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# **The strategic impact of talent leadership at historically disadvantaged higher education institutions in South Africa**

Doreen Morukhu and Arthur Mapanga

D. Morukhu, Lecturer, Department of Human Resource Management and Labour Relations, University of Venda, South Africa.

Dr A. Mapanga, Senior lecturer, Department of Management & Governance, Walter Sisulu University, South Africa.

## **ABSTRACT**

In today's world, talent leadership is widely considered a core component of organisational strategy success. However, while human capital and talent decisions are highly regarded in higher education institutions, it seems there remains a vague understanding of the impact of talent leadership on the performance of higher education institutions in South Africa. Historically disadvantaged higher education institutions face challenges in attracting and retaining quality academic staff at the professorial level. This research sought to explore the impact of talent leadership on attracting and retaining high-value professors at historically disadvantaged higher education institutions in South Africa. A qualitative approach was employed whereby 20 face-to-face interviews with academic leaders at five historically disadvantaged higher education institutions (HDHEIs) and document analysis were undertaken. The findings indicated five themes about the impact of talent leadership at HDHEIs namely: empowerment, motivation, engagement, commitment, and competence in the university's professoriate staff. This study thus shows the importance of talent leadership in providing the professoriate with a sense of belonging, respect, personal growth, and development which are important ingredients for attracting and retaining high-value professors.

**Keywords:** Talent, leadership, talent leadership, historically disadvantaged institutions, professors.

## INTRODUCTION

The extraordinary challenge of strategy execution in organisations emphasizes the notion that talent matters for all types of organisations, and globally, while the nuts and bolts of talent management are deeply established, a deficit of an extra spark of real talent leadership remains the foremost concern for organisations' ability to deliver on their strategic objectives (Collings *et al.*, 2017; McDonnell *et al.*, 2017). Without genuine talent leadership, it has been consistently argued that only those organisations with the capacity to acquire and retain the premium talent and skills will have long-lasting competitive advantages to survive in the globalised economy (Isson & Harriott, 2016; Deters, 2017; Kueng, 2020). The higher education sector institutions in their quest to attain world-class status are without exception global in nature (Song, 2018; Altbach, Reisberg & Rumbley, 2019). In South Africa, the war for academic talent continues to rage unabated (Erasmus, Grobler & Van Niekerk, 2015; Ramohai, 2019; Abiwu, 2021). It is too common for higher education institutions in South Africa to poach the few skilled and experienced academics, especially at the professorial level from one other (Maistry & Eidsvik, 2017). For the historically disadvantaged higher education institutions (HDHEIs), this presents some serious challenges as they cannot out-compete the more established, predominantly former white institutions. While overall, talent management processes and policies exist at the HDHEIs, there seems to be a vague appreciation of the strategic impact of talent leadership as the historically disadvantaged higher education institutions (HDHEIs) in South Africa find it difficult to attract, acquire and retain high-value professors. This failure is manifest in the stagnant research output growth, and awfully low throughput rates of postgraduate students thus undermining HDHEIs' ability to build their revenue base from the Department of Higher Education grants and subsidies (Mlachila & Moeletsi, 2019; Tanga *et al.*, 2021). The overall rating of these institutions lags behind all the former, predominantly white universities and is also symptomatic of a shortage in critical talent at the professorial level. Furthermore, as the professoriate academics resign or retire, the challenges for HDHEIs are significant because of the huge financial investment in developing academics through the ranks to become professors. This demonstrates a desperate need for effective talent leadership capable of attracting, developing, and retaining high-value professorial level academics in historically disadvantaged higher education institutions. This study was carried out to

understand the impact of talent leadership in developing high potential academics at professorial levels at historically disadvantaged higher education institutions in South Africa by answering the research question “*how does developing an effective talent leadership architecture engender strategic value for the historically disadvantaged higher education institution in South Africa?*”

## **LITERATURE REVIEW**

In the literature, different views and theories have been used to explain talent management and leadership in organisations. Of particular note is the prevalence of two perspectives, namely, the inclusive (egalitarian) or strengths-based approach and the exclusive approach (elitist) (Ariss, Cascio and Paauwe, 2014). This suggests that an organisation may view all its employees as having the potential to become talent or only focus on the talents of high-potential or high performing employees whom it deems to add value to its performance. In view of this, in this study, we view the practice in higher education to be that of both perspectives necessitating the adoption of the psychological-contract theory (Hoglund, 2012) which emphasises the role of employee perceptions on the organisation’s rewarding practices and talent qualities and the impact thereof on employee-felt responsibilities to develop skills. This means per social exchange theory, investment in employee development is correlated with effective talent leadership. We complement this theory with the Organisational Support Theory which focuses on employees’ reactions to how the organisation values talented employees and their contribution to the organisation. (Kurtessis, Eisenberger, Ford, Buffardi, Stewart & Adis, 2017). Studies based on these theories show that the institutional context of talent leadership can influence the attraction and retention of academics at the professorial level at most universities (Mohammed, Baig & Gururajan, 2020; Abell & Becker, 2021). Historically disadvantaged higher education institutions are found lacking in holistic talent leadership as they seem to think high-value academics can only be retained by money, to the exclusion of other talent leadership practices (see, for example, Kisoonduth, 2017). Efficient talent leadership in recruitment processes (Hamilton & Davison, 2018), exceptional career management (Gama & Edoun, 2020), and effective employee engagement can cultivate a fascinating corporate brand that attracts academics at the professorial level to the disadvantaged HEIs (Saurombe *et al.*, 2017).

Per Ireland and Hitt (1999), the concept of talent leadership conjures the idea of an organisation's ability to articulate a strategic vision, think strategically, and motivate others to make a feasible future for the organisation. It talks of the executives' experience, qualities, predilections, and cognitive styles when directing and influencing organisational talent management decisions and practices (Vaiman & Collings, 2014). To succeed in the 21<sup>st</sup> Century, organisations need to implement effective initiatives and actions to sustain strategic competitiveness and talent leadership in ensuring that these initiatives are realised. For Mukweyi (2016), the fundamentals for progress and growth in higher education institutions depend on talent leadership to nurture a talent management environment that is capable of impacting the performance metrics of the institutions. For this to happen, it is paramount that HDHEIs should enhance talent leadership and management programs. Several scholars (for instance, Kissoonduth, 2017; Mohammed *et al.*, 2020; present a compelling picture of the impact and relevance of talent leadership on organisations.

Ngobeni & Bezuidenhout (2011) sustain that talent leadership provides organisations with an opportunity for retaining their competitive relevance and growth to achieve their business objectives. Specifically, scholars Al Ariss, Cascio & Paauwe (2014); Collings (2014) and Sparrow & Makram (2015) indicate that talent leadership and management ensures that organisations can successfully acquire and retain essential talents when effectively performed and define the extent to which these employees remain engaged. For Khatri *et al.* (2010: 42), one of the primary impacts of talent management on any organisation is that it directly influences and enhances an organisation's ability to achieve its strategy, set goals, and objectives. A strategic talent leader needs to focus on the right strategies to develop and retain the employees, otherwise employees would not prefer to stay long at the workplace (Graybill, 2014). Talent leadership enhances the employee's abilities, and career development and aligns the employees with the strategies of the organisation.

Given the above, talent leadership thus becomes a realistic platform on which an organisation can build value creation capability through attracting and retaining a unique set of knowledge, capabilities, contributions, commitment, skills, and competencies possessed by its talent. Such talented employees become a strategic asset for achieving competitive advantages (Sparrow & Makram, 2015). For

Schiemann (2014), an effective organisational talent leadership architecture oversees the active management of the whole talent life cycle leading to talent optimization – an imperative that balances talent acquisition, development, performance, and retention in organisations (Schiemann, Seibert, & Morgan, 2013; Soltani, Shahin & Barzoki, 2020). This means from a strategic point of view, talent leadership has the potential to give the organisation a focused, committed, and engaged employee cadre with the right capabilities. In addition, initiating an effective talent leadership architecture in an organisation provides a strong alignment of employees with the goals, customers, and the brand (Schiemann, 2006), the outcomes of which are improved innovative employees, and higher employee retention (Schiemann, 2014; Ambrosius, 2018).

## **METHODS**

The research employed a qualitative research design within the Social Constructivist paradigm. The adoption of the Social Constructivist paradigm was deemed necessary to improve the exploration of the diverse views of the participants regarding the strategic value of talent leadership in the higher education sector of South Africa. The goal of a study built under this paradigm was to focus on the participants' subjective opinion on the problem under study through interviews. Twenty face-to-face interviews were conducted with academic leaders at five purposively sampled historically disadvantaged higher education institutions (HDHEIs) in South Africa. This was also complemented with some document analyses undertaken to give background to the topic of talent leadership. A free online content cloud generator for non-commercial use <https://classic.wordclouds.com/> was employed to generate the content clouds for this research. Word clouds, also known by the term clouds, are a promising technology for qualitative data analysis (Cidell, 2010; Brooks *et al.*, 2014; Sellars *et al.*, 2018). For Selars *et al.* (2018), word clouds are potent as dashboards as they deliver easy, quick, and meaningful qualitative data analysis thus providing meaningful interpretations through text size and color (DePaolo & Wilkinson, 2018). The interview responses were transcribed and thematically coded into a word or short phrases. These words/ short phrases were entered into a word cloud generator, which is freely available to researchers on the web. The outcome of this process was the images with the themes describing the strategic value of talent leadership in historically disadvantaged higher



education institutions in South Africa. A word list was also extracted to indicate the number of times a particular theme was mentioned by the academic leaders. The subsequent section presents the results of the study.

## FINDINGS

We used word clouds to visualize content from interview responses to process the research question of the strategic value of talent leadership in historically disadvantaged higher education institutions in South Africa. Figure 1 shows the results of the qualitative analysis using word clouds.



**Figure 1: Content cloud from interview transcripts on the strategic value of talent leadership in HDHEIs in South Africa**

Figure 1 provides the visualization of the themes describing the strategic value of talent leadership in HDHEIs in South Africa. The participants thus revealed Alignment, Talent-equity, Talent-Retention, Value-Creation, Talent-commitment, Talent-engagement, Talent-acquisition, Talent-empowerment, Competencies, and employee satisfaction were the strategic outcomes of effective leadership in the historically disadvantaged higher education institutions in South Africa. A word list was then applied to find out the level of agreement among the participants on each of the outcomes of talent leadership.

**Table 1: Themes emerging from content cloud analysis**

Theme	Frequency	Weight
Alignment	16	80%
Talent-equity	16	80%
Talent-Retention	13	65%
Value-Creation	13	65%
Talent-commitment	12	60%
Talent-engagement	12	60%
Talent-acquisition	12	60%
Talent-empowerment	12	60%
Competencies	11	55%
Employee-satisfaction	9	45%

As Table 1 reveals, in the process of conducting interviews at these historically disadvantaged higher education institutions in South Africa, we discovered a thread that weaves them even more tightly together: 80% of the participants viewed alignment and talent equity as the greatest benefit of talent leadership, while 65% of the participants indicated talent retention and value creation with 60% invoking the strategic value of talent commitment, talent engagement, talent empowerment and talent acquisition to the organisation as a result of talent leadership. 55% thought talent leadership could contribute to competencies while 45% raised the issue of employee satisfaction.

## **DISCUSSION**

The object of the present study was to empirically evaluate the strategic impact of talent leadership in historically disadvantaged higher education institutions in South Africa. The empirical investigation of the present study was performed in five historically disadvantaged universities in South Africa. The results of the present study reinforce the strategic impact of talent leadership in historically disadvantaged higher education institutions in South Africa. In literature, the scholars report different arguments regarding the strategic impact of talent leadership, strongly associating it with the power to move the staff from functioning at an individual level to a collective

level thus creating value for themselves and the institution. Because talent leadership is naturally motivational, there is a real likelihood of employee engagement, and therefore a committed cadre of academics driving value creation processes in the historically disadvantaged higher education institutions. The ability of HDHEIs to achieve talent engagement is so important to making the high-value academics meaningfully connect with the institutional mission, culture, and daily tasks of their academic role thereby adding to value creation

In addition, the findings of this study suggest that talent leadership in HDHEIs translates into a proactive approach that can be used to drive positive change as it fosters an avenue for bi-directional feedback. This feedback is necessary for bringing about behavioural improvement as well as continued growth and development among the professoriate level academics, allowing for strategic alignment with the institutional goals and as the literature says, providing a good impact on the institution and impacting talent engagement. This further suggests that the institution will be in a better position to capture the differential value from its professors since they will be focused on contributing to the current employing institution. In short, this attests that indeed talent leadership is an avoidable strategic priority for the HDHEIs in South Africa as it establishes the foundation of talent management tools and processes that support the business strategy of the institution through an ongoing partnership between senior institutional leaders and the human resource (HR) professionals to best support the achievement of the institution's long-term goals and purposes. Implied here is the idea that talent leadership is key to the organisational stability of HDHEIs. Literature indicates that leaders who can spot, acknowledge and develop internal talent create a more stable organisational hierarchy.

These findings also suggest that talent leadership in HDHEIs can allow for proper long-term talent alignment by ensuring that high-value academic employees already in the employ of the institutions are empowered to succeed and grow into the professorial ranks. Without a doubt, such academics when they become professors will make the largest impact on the performance of the institution. This talent alignment as an outcome of talent leadership can also help to improve collaboration within the institution. Literature is emphatic on the strategic impact of organisational members working collaboratively towards a common goal. For the HDHEI, there is a possibility

of improved efficiency and consistency in research productivity and postgraduate throughputs, thus giving the institution room to accrue revenue from the DHET grants and subsidies. Moreover, this organisational unity can help to make the professorial ranks feel more connected thus increasing their work satisfaction and thus they would be less likely to leave for greener pastures.

Another interesting thread arising from the study relays talent equity as one of the strategic impacts of talent leadership in HDHEIs. Talent equity looks at all factors including value equity, brand equity, and retention equity. Through talent leadership, the institution moves beyond the transactional approach of talent management to a holistic approach that sees employees or talents as important internal customers, and this provides the HDHEIs with an early warning system that they can use to correct staff retention problems well before they cause the dreaded turnover of high-value academic talent. Achieving talent equity has been lauded for improving value equity, brand equity, and retention equity in the minds of employees thus fostering a culture of belonging and loyalty to the organisation. For the historically disadvantaged institutions, this finding implies their ability to nurture a genuine culture of growth and opportunity for each and every one of their employees and thus increasing the chance of their retention within the institution. As well, through talent equity, talent leadership enlarges competency development in the HDHEIs allowing them to yield the differential value that these talented employees are going to contribute. Because the institutions would be seen as out to exercise strategies that lead to talent equity, they are more likely to achieve high-value talent acquisition. This indeed is in line with the literature which maintains that good talent leadership leads to the ability of organisations to hire and retain the right employees for critical job positions at the right time, whenever they are needed, further enabling strategic alignment in organisations (Oladipo, 2014; Rout & Satpathy, 2020). This implies that through effective talent leadership the HDHEIs will succeed in achieving high professoriate retention rates allowing them to operate at an advantage both in meeting their strategic goals and in recruiting new professorial hires. This ability to create a talent pool, by acquiring the pivotal competencies that take strategic key positions within the institutions can in the end generate value and competitiveness towards organisational success (Sparrow, Hird & Cooper, 2015; Taylor, 2018).

Finally, the findings of the study indicate that the true power of talent leadership resides in its ability to create change rather than to manage it. For Kane (2017), talent leadership allows a better image of the future, which is only possible through empowering people to unleash their talents in a meaningful, sincere, and dedicated way for the organisation. Should there be adequate talent leadership in the HDHEIs, it would be possible to empower high-potential academics to become the champions they need to be to meet the demands of the future. In literature, employee empowerment can instill greater trust in leadership, encourage employee motivation, lead to greater creativity, and improve employee retention – all of which ultimately results in a better bottom line (Gichohi, 2014). For HDHEIs, this means that having an engaged professor who will be committed and motivated to produce results, will not think of leaving and above all, will become an ambassador of the institution at all times and thus build the institutional brand necessary to attract other high-value professors and postgraduate students.

## **CONCLUSION**

The research demonstrates the strategic impact of talent leadership in historically disadvantaged higher education institutions in South Africa. The impact is evident in that talent leadership allows the institutions to achieve beneficial and strategically relevant effects on the institution's overall performance through improving talent retention, equity, engagement, empowerment, commitment, acquisition, and alignment with the institutional objectives. Talent leadership gives the historically disadvantaged higher education institutions the power to effectively harness and optimise their talent pool in line with the operational priorities and so contribute to the fulfilment of institutional strategic goals. HDHEIs in South Africa need to design and implement the talent leadership processes and practices to attract, develop, and retain an engaged, committed, and competent cadre of professorial level academics to improve institutional value creation and brand identity.

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# **The antecedent of electronic library systems for agility and resilience on Covid-19 impact**

Eric D. Ncube and Thokozani P. Mbhele

Dr. E.D. Ncube, Lecturer, School of Management, IT and Governance, University of KwaZulu-Natal, South Africa.

Dr. T.P Mbhele, Lecturer, School of Management, IT and Governance, University of KwaZulu-Natal, South Africa.

## **ABSTRACT**

The higher education sector became susceptible to disruptions by the Coronavirus disease outbreak in academic teaching and learning operations. The South African government immediately declared a State of Disaster in order to manage and ameliorate virus transmission. The lockdown restrictions ensued, engendering operations on virtual platforms to facilitate communication and information within and beyond borders. Transforming academic activities from face-to-face (contact) teaching and learning to online platforms required agile and responsive strategies using Microsoft Teams, Google classroom, Zoom, and Moodle. Sustainable academic operations are leaning towards blended or hybrid learning to create resilience with the help of digital communication. University campus libraries are determined to create resilient and responsive systems to circumvent the customer demand shift and source electronic materials and book loans online. Short-term and inter-library loan services are hindered by the lack of available electronic material from suppliers and rising procurement costs of subscription to new contracts and licenses for electronic books and academic journals online. This paper explores how digital library systems influence electronic information transformation capabilities in adapting to market changes, and the paper further determines the influence of agile library systems and processes in improving the library's competence.

A mixed research approach was employed, and data was collected using questionnaires from a purposive sample of 380 respondents comprising students,

academics, and library staff. The data were analysed using descriptive and inferential statistics, while in the three interviews with heads of library circulation, the qualitative data were analysed thematically. The findings reveal that academic libraries should use both hard and electronic materials to serve changes in taste and preference (the diverse needs of its patrons), so as to become resilient to dynamic market environments, and remain competitive.

**Keywords:** agility, library materials and systems, information sharing, and electronic systems and processes

## INTRODUCTION

The outbreak of the Coronavirus disease in 2019 left the higher education sector with no option but to adapt with the economic markets. Teaching and learning operations adopted new platforms to present lectures online. University libraries had to quickly adjust to these changes and serve their patrons remotely with electronic materials. This paradigm shift has challenged library operations, where the library buying section had to start seeking new contract agreements to support online services. Library material shifted its consumption from analogue to digital operations so as to support online teaching and learning. The library and academic staff worked from home, and students' lectures were conducted virtually. With the shift to virtual platforms there was increasing demand for electronic materials to support core teaching activities.

Access to university libraries has always been challenging, and more than 70% of libraries stock are hard (printed) material to support researchers and the student community. Following the Coronavirus outbreak, the supply side faced enormous pressure as they could not meet the new demand in hard material. There was an urgent need for library suppliers to start adapting to the changing taste and preference of their patrons. The necessity for virtual librarians to assist library users remotely arose. The existing library material had to be digitised so that library operations could remain resilient and recover from the threats of the Coronavirus. The library's primary goal is to respond to customer needs and support research, teaching, and learning. This study aims to examine how effective the library's operations, processes, and systems were in meeting the needs of its internal users during the coronavirus outbreak. The paper's objectives are to explore the extent to which the electronic information-sharing capabilities of the newly reconfigured library systems adapted to

market changes. Furthermore, this study seeks to determine the influence of agile library systems and processes in improving the library's competence. The library processes and systems need to be integrated so that save operation costs are reduced and new scholars and students are attracted to become part of a technologically driven institution competing with global universities.

## **LITERATURE REVIEW**

The library's daily supply chain operational activities involve purchasing and making prescribed books, journals, and database subscriptions and creating access to other library material (Landoy, 2012). Library success depends heavily on its viability and ability to coordinate the network of relationships that link it internally and externally with supply chain partners to provide the desired service (Kress and Wisner, 2012). The main goal of supply chain management is to enhance positive outcomes for supply chain partners by offering improved client service, pricing, and quality, thus improving customer satisfaction while reducing overall costs and wastage through continuous improvement. The paper underpinned by a conceptual framework that covers the following concepts: agility (responsiveness, flexibility) and resilience components (anticipation, adaptation, and recovery).

### **Agility**

Over the years, supply chain agility has been considered as one of the fundamental drivers of a successful firm and a sign of competitive advantage (Humdan, Shi and Behnia, 2020). Slack Brandon-Jones et al. (2017) suggest that agile supply chains are basically concerned with what needs to happen to respond rapidly to sudden demand or supply. The agile supply chain has three fundamental drivers: cost, speed, and efficiency, based on the sensitivity to customer demand and in terms of volatility of demand (Sher, 2016). Sher (2016), suggested that in the "New Competition" era, where markets are dynamic and prices go to organisations that can build a better structure and do better integration, agile supply chain management is the solution, as it is more information-centric than inventory-centric. Service provision implies an endless combination of resources through integration and application. Failure to respond to the university environment in a proactive and timely manner will ultimately mean redundancy and failure as a quality higher education service provider (Makhanya, 2012). Interconnected database systems are necessary to accommodate

the efficient sharing and transmission of information across database systems, achieving seamless interconnection.

### **Responsiveness**

The customer plays an integral role in any market it serves, and the operations function ensures that the customer's needs are responded to timeously. The university library had to align with changes in the market to satisfy customer needs. Responsive supply chains hedge against demand uncertainty (Chopra, 2020). A firm's supply chains frequently introduce new services or products to stay competitive, and demand predictability is low (Chopra and Mendl, 2019). Customers can pick up physical products at retail stores quicker than they can obtain them through other channels, while online channels are the fastest for downloaded information. Wharton (2017) proposes that supply chains serving different markets are managed differently. A responsive supply chain policy stresses high service levels and responsiveness to the end customer (Slack, Chambers, Johnston, Singh, and Philela, 2017). Agile supply chains are marked by flexibility, adaptability, and a quick and effective response to changing markets (Sher, 2016).

### **Flexibility**

There are two types of system: open and closed. An available system is flexible and can adapt and change by interacting with the external environment. It usually takes inputs from the environment, processes them, and transforms them into outputs. The flexible response is thought to be the ability to match changes in the marketplace, where design innovations and volumes fluctuate substantially (Heizer Render and Munson, 2017).

Jacobs and Chase (2017) define supply chain management as a total system approach to managing the flow of information, materials, and services from raw material suppliers through factories and warehouses to end-users. Outsourcing and mass customisation are forcing firms to find flexible ways to meet customer demand. The outsourcing strategy raises the need to optimise core competencies to increase the speed of responsiveness to customers' changing expectations. With current trends in university libraries comprised of all generations, it is critical that post-coronavirus library material be both in print and electronic to balance all college and age needs.

## **Resilience**

The term resilience was introduced into English terminology around the 17th century from the Latin word "resilire", which means rebound or recoil (Duchek, 2019). Francis Bacon's *Sylva Sylvarum* (1627), who was an English philosopher, describes resilience as rebounding and resonating on repercussions on the recoil of something after impact and reverberation. Resilience is the ability of people, communities, organizations to anticipate and prepare for the effects of shock (Naidoo, 2020). It is the ability to tolerate and recover from harsh conditions, which may include personal stress, health issues, natural or human-made disasters (Ferreira and Ebersöhn, 2012). Resilience refers to "positive adaptation within the context of significant adversity" (Hoegl and Hartmann, 2020). This way of thinking about resilience is based on a different definition of resilience, viz. resilience as a process: "[the] potential or manifested capacity of a dynamic system to adapt successfully to disturbances that threaten the function, survival, or development of the system" (Masten, 2015b) and "[the] process of adjusting well to significant adversity" (Theron, 2016). Here, resilience centres on the mediating factors or processes that enable positive outcomes in the wake of adversity. Deloitte and Touche (2020) suggest that modern supply chains are carefully optimized to maximize cost efficiency and, since the pandemic struck, we have come to appreciate the potentially crippling cost of being victims of a failed supply chain.

## **Anticipation**

Like any other pandemic, the COVID-19 pandemic negatively impacts the library supply chain. This includes listeriosis, foot and mouth disease, and others that the market has not been aware of or been caught off guard by. Businesses had to employ contingency plans to overcome the situation at hand.

When organisations forecast and plan for the future, they should have an alternative plan in place should there be deviation from intended outcomes. The university library must have an alternative means of disseminating information in the event of an unplanned situation, especially when the demand for materials is uncertain.

The StatsSA (2022) report on the unemployment rate suggests that the COVID-19 pandemic has lasted far longer than anyone in any country anticipated. According to Van Niekerk (2016), anticipation is about intentionality, action, agency, imagination,

possibility, and choice. It is also about being doubtful, unsure, uncertain, fearful, and apprehensive. Anticipation helps orient human action and emphasizes that people create the future (at least the immediate one), whereas adaptation helps influence or constrain human action. Anticipation is predictive or proactive. It means taking plausible future events and the hope of achieving specific goals and ambitions into consideration. Teixeira, De Oliveira, and Werther (2013), argue that this does not mean that resilient organizations can prevent every failure or crisis. Anticipation can help communities become resilient to shock and stress, and to identify and exploit different opportunities that may be on offer.

### **Adaptability**

The market forces are not predictable, and the operations manager has to constantly adjust the material flows to deal with the mismatch between supply and demand. The coronavirus took different businesses out of their comfort zones, forcing them to adapt to deal with situations. New processes and systems had to be reintroduced to maintain competitive advantage. Complex systems have the ability to change to a new state (Duchek, 2017) and do so rapidly (Poli, 2014).

All interactions in a complex system do not necessarily lead to the enhancement of that system. If that were the case, everything we do would continuously contribute to making the system better and more resilient. For such complex adaptive systems to become more resilient the question may not only be 'what if' but, more importantly, 'when' (Fisher, 2016). Asking 'when' requires deeper thought about the consequences of our 'what if' actions. Therefore, we need to understand 'when' certain scenarios will play out, as well as what we will do if they are realized. The 'when' question requires the complex adaptive system to anticipate, rather than predict, future events (van Niekerk, 2016). Library supply chains align systems and processes to possible changes in the market. Nowadays, the library trend is shifting from print to electronic material, and the users prefer access that is available at any time and anywhere in contrast to formal structures like library buildings.

### **Recovery**

Recovery is when businesses have to pick themselves up from a hard fall. Sometimes, companies lose value to their customers, and need to create a new set of suppliers

and introduce new methods, systems, and processes to save the image of the organisation. Supply chain networks can be characterized by increased complexity and uncertainty about matching demand with supply during severe disruptions (Rohzikov, Ivanov, Blackhurst and Nair, 2022). Supply chain resilience is the network's ability to bounce back and recover to a desirable state (in other words: a return to the original state, an equivalent state, or a new one) of supply chain operations and performance. After the pandemic, university libraries have adopted a dual system that deals with online and printed material circulation. The University of Leeds has drawn up a university library disaster recovery plan to cater for unforeseen circumstances such as the coronavirus pandemic.

## RESEARCH METHODOLOGY

This article used both primary and secondary data to collect data. The paper employed a mixed methods approach, questionnaires, and interviews with a population of students, academic and library staff at all colleges across all five campuses. The quantitative data collection involved the administration of three hundred and eighty (380) questionnaires and three (3) face-to-face interviews with heads of library operations. The purpose of collecting qualitative data was to understand the library environment concerning library supply chain operations and to test the suitability of the data collection method used in the study. Quantitative data was analysed through SPSS, and qualitative data by thematic analysis. Quantitative research data were analysed by performing descriptive, inferential, and multiple statistics analyses, respectively.

## FINDINGS

### Qualitative Results

Theme	Library Staff
Enable	50%
Agility	50%

Source: Researcher, 2022

The two themes used in the study indicate that the heads of library departments had a 50% view in favour and the remaining areas that need the attention of heads of operation departments to sustain competitive and dynamic market changes. In a



nutshell, contingency plans must be in place to overcome structural, natural, and economic disasters.

Some responses from library interviews are as follows:

Do you think the Interlibrary Loan service is reliable and where source materials that UKZN library does not have, can be obtained quickly from its value chain of partners?

*"Regarding E-books, funds are allocated to different schools, and when that happens, there [are] ... recommended books from the academics. With E-books, it is different sometimes. You may find books that some academics want to have copies printed. It does not allow you to print the whole book; that is why we are [moving] ... towards the electronic system. If you are going to consider the distance that students take to check the book, if it is online, they can download it rather than come all the way to borrow the book. It is beneficial to have the E-books". (Library Staff Interviewee 3)*

Is there an availability of quality library systems and materials that attract global researchers and improve their position in the world rankings? And, do the UKZN systems and processes add value and reduce time wasted?

*(Library Interviewee 1) suggested that UKZN is the first in Africa to implement all World Share Management System modules. There was resistance, but eventually there was buy-in. The systems allow access to the world of information just like Google. It works for both lecturers and students. I know university libraries, such as the University of Stellenbosch (and others), visit UKZN for learning and implementation.*

*A library staff member expressed that: "Our systems are ready [for] and compatible with new technologies, for example EDI, but some of our materials suppliers are still far behind" (Library staff interviewee 2).*

*Our systems are ready and compatible with new technologies, for example, EDI, but some of our materials suppliers are still far behind". (Library staff interviewee 2)*

Are UKZN library systems and processes responsive to the firms' essential skills requirements in today's global higher education sector and the local economy?

*"We can expect turnaround time for book and materials quite fast..... we are quite competitive now compared to other institutions, but not sure [about the rest of] the*

*world. I am certain UKZN is the trend in SA.... I foresee possible external benchmarking". (Library interviewee 3)*

*"Because we have so many [more] international [student] enrolments than others, our collection can be searched by any universities [in] the world, and our systems allow us to evaluate our collection against other institutions of the world". (Library Interviewee 1)*

Respondents asked: Do you think that UKZN systems and processes have a high degree of interconnectivity between the network members and that systems and processes are quick and flexible in changing customer requirements?

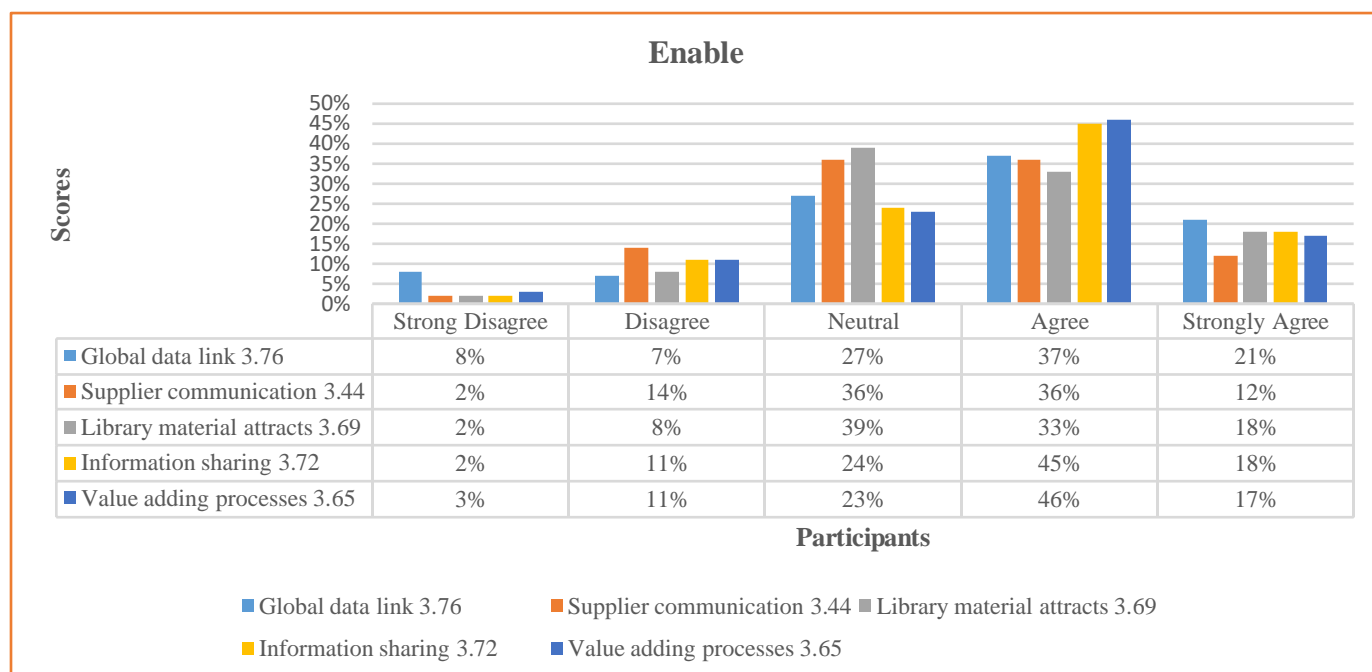
*(Library Interviewee 1) suggested that the World Share management system is a useful tool in improving service to Masters and PhD students, as well as academics who can publish journal articles in their offices... There was one Nigerian student who was interviewed after implementing the tool and flew to Spain to present in a conference on benefits of the system and the benefits to students. The student said: "I see value and quality in this".*

*(Library interviewee 3) "...[We] have not reached the world standards as yet. Technology fails, sometimes you acquire the best technology, but you need to train your staff and filter it down to the users as well (students and academics)... our (WMS) system is [much] broader. We [can] now access 150 countries, and first world countries. We [are] just above the average and closing the gap slowly."*

Agile companies identify a limited number of strategic suppliers with whom they can work as partners through linked systems and processes. Firms form collaborative working relationships across all levels. Supplier development teams interface with the equivalent to customer management teams within supplier organisations (Christopher, 2000).

## **Quantitative Results**

This section will present quantitative results on descriptive statistics, internal consistency (reliability statistics), bivariate and multiple regression.



**Figure 1: Enable Variable**

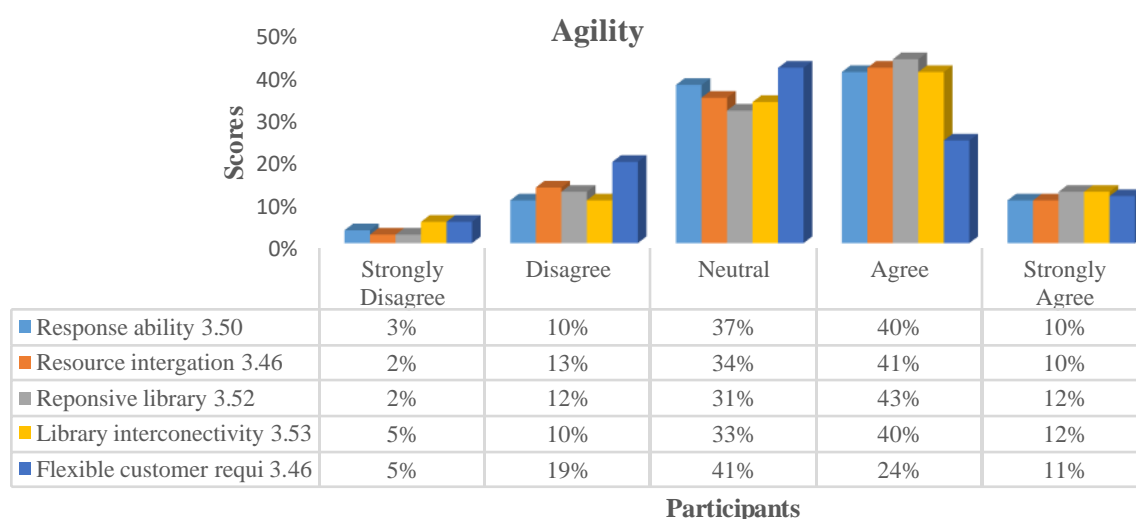
Figure 1 shows the library's enabling processes and systems. The first question aimed to establish whether university library systems and processes link to global scholarly databases to enhance research, teaching, and learning. The results show that 8% of the participants were in strong disagreement with this statement, 7% disagreed, 27% were neutral, 37% agreed, and 21% strongly agreed. A combined percentage of 58% of the participants thus agreed that university library systems and processes link to global scholarly databases to enhance research, teaching, and learning.

The second question assessed whether the UKZN libraries ensure changes in customer expectations communicated to suppliers in an efficient, timely manner, requiring real-time communication networks with suppliers. Two percent of the participants strongly disagreed, 14% disagreed, 36% agreed neutral, 36%, and 12% strongly agreed. A combined percentage of 48% thus agreed with this statement.

The third question was whether the university offers quality library materials and systems that attract world-class researchers and students, thus improving its global ranking. The scores show that 3% of the participants strongly disagreed that this was the case, while 8% disagreed, 39% remained neutral, 33% agreed, and 17% strongly agreed. Thus, a combined percentage of 50% of the participants believed that the university offers quality library materials and systems that attract world-class researchers and students and thus improve its global ranking.

The fourth question aimed to establish whether information and knowledge-sharing systems in university libraries enable users to be useful in their research and produce quality graduates. Two percent of the participants strongly disagreed, 11% disagreed, and 24% were neutral, 45% agreed, and 18% strongly agreed. A combined percentage of 63% agreed that library information and knowledge sharing systems at the university enable users to be useful in their research and produce quality graduates.

Finally, the participants asked whether university library systems and processes add value and avoid wasting time. Three percent of the participants strongly disagreed, 11% disagreed, 23% remained neutral, 46% agreed, and 17% strongly agreed. A combined percentage of 63% of the participants agreed that university library systems and processes add value and reduce time wasted.



**Figure 2: Agility variable**

Figure 2 above shows that 3% of the participants strongly disagreed that the university libraries can respond to competitive challenges and sustain competitive advantage as a critical element of success in the global marketplace, while 10% disagreed, 37% were neutral, 40%, and 10% strongly agreed. A combined percentage of 50% of the participants thus agreed with this statement. The second statement was that UKZN libraries offer speedy service, innovation, and flexibility and are proactive by integrating reconfigurable resources and best practices in a knowledge-rich

environment to provide customer-driven products and services in a fast-changing market. The figure shows that 2% of the participants strongly disagreed with this statement, 13% disagreed, and 34% were neutral, 41% of participants agreed, and 10% strongly agreed. A combined percentage of 51% thus agreed with the statement. The third question sought to ascertain the degree to which the participants felt that the university library is responsive to firms' necessary knowledge and skills in today's global higher education sector and economy. The scores indicate that 2% of the participants strongly disagreed that this was the case, with 12% disagreeing, 31% remaining neutral, 43% in agreement, and 12% strongly agreeing. A combined percentage of 55% of the participants thus agreed with the statement.

The fourth question measured whether the UKZN library has a high degree of process and systems interconnectivity between network members. Five percent of the participants strongly disagreed that this was the case, while 10% disagreed, and 33% were neutral. On the other hand, 40% in agreement and 12% strongly agreed, making a combined percentage of 52% that agreed that the university library has a high degree of library processes and systems interconnectivity. The final question in this section measured the extent to which university libraries are flexible and quick to respond to changing customer requirements. The results show that 2% of the participants strongly disagreed, 15% disagreed, and 31% remained neutral about this issue. However, 41% agreed, and 11% strongly agreed, resulting in a combined percentage of 52% who agreed that university libraries are flexible and quick to respond to changing customer requirements.

**Table 2.1 Analysis of Variance**

<b>ANOVA-</b>						
		<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>Response Ability</b>	Between Groups	9.166	2	4.583	6.455	.002
	Within Groups	264.832	373	.710		
	Total	273.997	375			
<b>Resource Integration</b>	Between Groups	2.412	2	1.206	1.484	.228
	Within Groups	303.067	373	.813		
	Total	305.479	375			
<b>Responsive Library</b>	Between Groups	3.340	2	1.670	2.001	.137
	Within Groups	313.064	375	.835		
	Total	316.405	377			
<b>Library Interconnectivity</b>	Between Groups	3.862	2	1.931	2.473	.086
	Within Groups	291.974	374	.781		
	Total	295.836	376			
<b>Flexible Customer Requirement</b>	Between Groups	6.849	2	3.425	3.928	.021
	Within Groups	326.974	375	.872		
	Total	333.823	377			

Table 2.1 reveals that the participants differed significantly in their views regarding flexibility in respect of customer requirements and the ability of the library systems and processes to respond to competitive challenges (.002) and sustain competitive advantage. However, their views did not differ insignificantly concerning library integration and interconnectivity (.086). The variable responses to flexible customer

requirements are critical to agile library systems and processes. The variable responses are insignificant to resource integration (.021 and .137) in all age groups concerning the agility component of library operation systems and processes.

**Table 2.2 Correlation**

<b>Enable</b>	Pearson Correlation	.572**	.576**	.639**	.618**	.570**	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	379	379	379	379	379	
<b>Agility</b>	Pearson Correlation	.576**	.575**	.647**	.621**	.574**	.717**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	379	379	379	379	379	379
**. Correlation is significant at the 0.01 level (2-tailed).							

Correlation is the analysis used to describe the strength and direction of the linear relationship between two variables (Pallant, 2016). Table 2.2 shows there is no negative correlation between variables; all results have positive signs, and all variables indicated that  $p \Rightarrow .005$ .

## ANOVA

Analysis of variance is briefly known as ANOVA. ANOVA compares the variance (variability of scores) between different groups (Pallant, 2016).

**Table 2.3**

ANOVA _ Enable						ANOVA						Sig.	
ENABLE		Sum of Squares	Df	Mean Square	F	Sig.	AGILITY		Sum of Squares	Df	Mean Squar	F	.002
Global Data Link	Between Groups	13.299	2	6.649	8.741	.000	Response Ability	Between Groups	9.166	2	4.583	6.455	
	Within Groups	285.273	375	.761				Within Groups	264.832	373	.710		
	Total	298.571	377					Total	273.997	375			.228
Supplier Communication	Between Groups	11.821	2	5.910	6.890	.001	Resource Integrati on	Between Groups	2.412	2	1.206	1.484	
	Within Groups	320.837	374	.858				Within Groups	303.067	373	.813		
	Total	332.658	376					Total	305.479	375			.137
Library Material Availabil ity	Between Groups	12.967	2	6.483	7.828	.000	Responsi ve Library	Between Groups	3.340	2	1.670	2.001	
	Within Groups	310.571	375	.828				Within Groups	313.064	375	.835		
	Total	323.537	377					Total	316.405	377			.086
Informati on and Knowled ge Sharing Systems	Between Groups	16.547	2	8.274	10.031	.000	Library Interconn ectivity	Between Groups	3.862	2	1.931	2.473	
	Within Groups	309.286	375	.825				Within Groups	291.974	374	.781		
	Total	325.833	377					Total	295.836	376			.021
Value Adding	Between Groups	8.782	2	4.391	4.756	.009	Flexible Customer Require ment	Between Groups	6.849	2	3.425	3.928	
	Within Groups	345.297	374	.923				Within Groups	326.974	375	.872		
	Total	354.080	376					Total	333.823	377			

Source: Researcher

Table 2.3 shows both enable and agility levels. Enable variables show for all five questions posed to the respondent,  $p > 0.05$ , except the question about information sharing, which is  $p > 0.05$ . In the second table 2.4(b) variables, the questions asked show that four questions out of five are insignificant except responsive library, which is more significant than other variables.

**Table 2.4**

### Reliability Statistics

Cronbach alpha			
Construct	Cronbach	Question	Percentage
Enable	.848	5	85%
Agility	.870	5	87%

Source: Researcher extracted from SPSS



Reliability refers to the consistency or repeatability of instruments. The basic form of reliability for multi-item instruments is the instrument of internal consistency, which refers to the degree to which sets of items on a tool behave similarly (Creswell and Creswell, 2018). It is important because instrument scale items should have assessed the same underlying construct, so these items should have suitable intercorrelations. Cronbach Alpha quantifies internal consistency. Maree (2016) suggests that if items are strongly correlated with each other, their internal consistency is high, and the alpha coefficient will be close to one. Researchers generally accept Cronbach alpha as follows: 0.90 high reliability, 0.80 moderate reliability, and 0.70 low reliability. The two themes reflect that internal consistency is relatively reliable, close to 1 (Creswell and Creswell, 2016 and Maree *et al.*, 2016).

## **DISCUSSION**

Creswell (2009) states that the researcher uses triangulation to ensure validity and reduce the risk of the biased limiting conclusion of the study by using different sources for data collection. It was necessary to conduct interviews with open-ended questions and administer survey questionnaires with 5 tail to 7 tail Likert scales (Trochim and Donnelly, 2007). These data collection instruments provided a source for triangulation of data that allowed the researcher to get valid results and findings under investigation. The triangulation sources allowed the investigator to ensure that data collected from each source were relevant to the same question. The researcher then compared the results of qualitative and quantitative data to confirm whether it produces similar results. The triangulation of data helped determine the kind of agile library support systems and processes, and the library user needs to understand that their performance and quality of education are in line with library trends and the taste and preferences of the end-users.

Effective systems do the right things, and efficient processes yield positive results by doing things right at the right location, in the right quantity, and at specified lead times. Universities are investing in improving systems and processes to enhance performance and gain a competitive advantage. Competitive advantage stems from creating value for customers that exceeds the firm's cost of creation. An organisation's tools to achieve these objectives include its value chain, its activities from design,

sourcing, manufacturing, distribution, and product research. Some companies also opt to identify their core competencies and outsource functions that do not add value.

There is a significant increase in online learning, teaching, and research. Cox (2020) predicted the paradigm shift in higher education due to COVID-19. Laboratory closures, and travel restrictions present barriers to faculty research. Libraries can assist researchers by developing online environments for faculty members to collaborate from a distance. Virtual lab environments, built on current voice recognition and data visualization initiatives, can be developed to aid researchers unable to conduct physical experiments. Researchers will also need places to deposit data and distribute their research. Libraries can use tools like ORCID to connect preferred gateways like ArXiv with institutional repositories to develop a comprehensive research platform for researchers. Research productivity units in universities worldwide will drop drastically due to fear and the spread of the pandemic. University teaching has changed from contact to online, which poses challenges, especially to students from a disadvantaged background, having no access to online resources and power outages, amongst other things. Self-service facilities will negatively impact on a country's unemployment rate.

Moyo (2004) suggests that enabling technologies have led to the transformation of library services from traditional services incorporating card catalogues, printed books and periodicals, bibliographic instruction, in-person/face-to-face reference to new services and delivery modes incorporating electronic collections, such as e-books, e-journals and databases, virtual reference services, and other online services. The innovation of new services that are peculiar to the online/web environment is the trend in modern electronic libraries and periodicals, bibliographic instruction, in-person/face-to-face reference, to new services and delivery modes incorporating: electronic collections, such as e-books, e-journals, and databases; virtual reference services, and other online services. The innovation of new services peculiar to the online/web environment is the trend in modern electronic libraries. According to data from Statistics South Africa, South Africa's unemployment rate recorded a sharp decline of 6.8% in the second quarter of 2020 compared to the first quarter of 2020. The official unemployment rate fell from 30.1% in Q2 2021 to 35.4% in Q1 2022. The impact of COVID-19 has contributed significantly to this decline in employment levels. For SA,

rates have declined from an average of 76,9% in Q2:2020 to a low of 44,6% in Q4:2021. The article suggests the need for a virtual librarian that will provide remote assistance to library users from all colleges.

## **PRATICAL IMPLICATIONS**

During the coronavirus outbreak, the university library supply chain had asked many questions about how much they could afford to pay for gadgets to access library information and data bundles. The university libraries had to seek new partnerships and collaboration to support structural changes, negatively impacting revenues and operating costs. Resilience and agility library supply chains incorporate adaptation, adoption recovery flexibility, and efficient, responsive systems and processes capable of adjusting to market changes. Library archiving systems will decrease, and there will be a significant rise in digitisation: advances in technology allow institutions to provide expanded access and education, however, important priorities are addressed before embarking on a digital conversion project. Digitisation in an archival environment includes taking a physical object or analogue items, such as an art object, a tape recording, a map, or correspondence, from a collection that is rare or unique, often too fragile, and taking photographs of the item, and transferring the pictures to a digital medium (Cox, 2020).

## **SUGGESTIONS FOR FUTURE RESEARCH**

The study focused on one university out of 26 South African academic institutions of higher learning. These universities had different experiences to share about coronavirus challenges and their infrastructures. Processes, and systems that support library activities are not the same and the results cannot be generalised countrywide, but rather limited to one university. The future research should tap into areas such as new library trends in underdeveloped countries as opposed to developed states. The researchers have to look at how collaborations could assist library circulation of electronic materials without failing to meet demand.

## **CONCLUSION**

Universities around the globe are operating on dwindling budgets and serve communities from disadvantaged communities at most. The study suggests running parallel library operations systems to satisfy all its customers equally. The article concludes that to survive competition with other academic libraries and market

changes, it is critical to have both electronic and printed copies. This practice can be linked closely with the demand patterns of all library users, mainly academics, students and researchers, whose tastes and preferences change from time to time. With the Fourth Industrial Revolution, university libraries have to employ processes and systems to support the university's teaching, learning and research, especially during market disruptions such as coronavirus, floods, and other natural and economic factors. The paper reveals that the libraries of the 21<sup>st</sup> century should use both printed and electronic materials to serve changes in taste and preference (diverse needs), be resilient to the dynamic changing market environment, and remain competitive.

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# **The determinants of unemployment and the discouraged worker effect in the rural and peri-urban areas of uMhlathuze Local Municipality.**

Khulekani Ignatius Ngqulunga\* and Irrshad Kaseeram\*\*

\* Postgraduate student and Junior Lecturer, University of Zululand.

\*\* Professor of Economics and HoD Economics Department, University of Zululand

## **ABSTRACT**

**Background:** South Africa has one of the highest unemployment rates in the world, at 34.9 percent in the third quarter of 2021, according to the precise definition of unemployed (Stats SA, 2020). Employment is one of the indices of national wellbeing; changes in the employment rate will have positive or negative consequences for individual households, communities, and the country as a whole. The uMhlathuze Local Municipality, which falls under King Cetshwayo (uThungulu) district in northern KZN, is one of the underprivileged and rural-urban mixed municipalities and is a victim of the high unemployment rate, which was 48.6 percent in the third quarter (Stats SA, 2021). As a result, the researcher felt it was critical to look into the causes that contribute to such high unemployment in this rural-dominated area in order to inspire positive change. Unemployment is viewed as the most pressing of the government's "three issues" of unemployment, poverty, and inequality in South Africa.

**Aim and setting:** Unemployment is defined as the percentage of the workforce that is unemployed but willing and able to work. An unemployment person is someone who has the ability and wants to work but is unable to find work (Stats SA, 2021). As a result, a jobless individual is someone who is looking for work and actively engages in the labour market. A discouraged worker has given up hope and has ceased looking for work. The study had two goals: first, it looked into the factors that contributed to unemployment and discouraged workers from looking for work in general. Second, it attempted to offer a remedy to the issue. Age, gender, education, marital status, family

size, housing type, health status, location of residence, household joint income, health, commuting costs to town, and work experience are some of the important factors/variables identified by the literature that were included in the analysis. The study uses primary data collected from the area of uMhlathuze.

**Methods:** The analysis was conducted using multinomial logistic regression models to determine which factors lead to unemployment and discouraged job seekers, as well as to infer how discouraged people survive after leaving the labour market. Using a stratified random sampling method, the study used a questionnaire to conduct a survey to acquire primary data from inhabitants in the uMhlathuze Local Municipality area, resulting in a sample of 600 respondents.

**Results:** The descriptive statistics revealed that 43.8 percent of the respondents are unemployed, 31.8 percent are employed, and 24.3 percent are discouraged job seekers, according to the data. The odds ratio of a male getting a job is larger than that of a female, according to the first regression panel (discouraged versus unemployed). This finding confirms the gender gap in the labour market. The impacts of education, family size, home area, household income, and transportation costs were all statistically significant. Age, gender, marital status, family type, household income, and transportation cost were statistically significant with respective effects in the second regression panel (unemployed vs employed). The findings also suggest that rural areas are dominated by discouraged individuals with little education, and that only a small percentage of homes still have both parents.

**Conclusion:** The discouraged worker effect is lessened as a person's education increases, according to the regression results. Age was a major factor that was linked to a lower level of discouraged workers and a higher level of employment. Young-targeted activities should be strengthened even further to combat youth unemployment in the research region. These strategies should include instilling a strong work ethic at school and in the home, as well as administering aptitude testing at an early age to allow for suitable vocational grooming. Entrepreneurship should be taught in schools as well. Large family sizes and increases in combined family income were similarly linked to the discouraged worker impact. This emphasises the importance of instilling a sound work ethic in children at an early age, both at school and at home.

## INTRODUCTION

Unemployment is commonly recognised as a symptom of macroeconomic sickness, which might be "voluntary" or "involuntary". Voluntary unemployment refers to a situation in which a person chooses not to work because he or she has alternative sources of income. Involuntary unemployment, on the other hand, occurs when workers are willing to work at the current wage rate but are unable to find work (Durosini, 2012). Unemployment is defined as the ratio of the labour force that is without jobs but is willing and able to work. Somebody who has the capability and preparedness to work and searches for a job but does not find one is considered unemployed (Stats SA, 2020). Thus, an unemployed person is one who has hopes of finding a job and participates in the job market. A discouraged worker is one who has lost hope and has stopped searching for jobs.

Unemployment is a global phenomenon and one of South Africa's most pressing socio-economic issues. Since the uMhlathuze municipality has a mix of urban, semi-urban, and rural residents, the employment rate in the COVID-19 era is hovering around 50% (Stats SA, 2021). Statistics on unemployment are based on unemployment claims filed with the government's unemployment bureau. However, the bureau lacks information on rural unemployment rates. Rural residents are considered self-employed (for example, subsistence farmers) or actively employed in the informal economy, and hence are ineligible for unemployment benefits.

According to the National Development Plan (NDP), if unemployment is to be reduced to 6% by 2030, South Africa will need to grow at a rate of 5.4 percent on an annual basis. Despite the government's efforts to implement broad strategies such as the RDP, GEAR, ASGISA, and NGP, as well as micro-level labour market policies (e.g., Promotion of Small, Micro, and Medium Enterprises (SMMEs)) and a number of regulations aimed at increasing job creation and absorption of the youth labour force, unemployment remains high and has increased further since the COVID-19 lockdowns. Some of these job creation strategies have proven to be successful in other countries, but they appear to be ineffective in South Africa.

A discouraged worker is a person of legally employable age who is not actively seeking employment or who has not found employment after long-term unemployment, but who would prefer to be working (World Bank, 2013a). This is usually because an



individual has given up looking, hence the term “discouraged”, apart from the post-apartheid challenges the state faces in creating employment, these challenges are exacerbated in peri-urban and rural areas due to their relative long distance from cities where opportunities exist for semi- and unskilled workers. Thus, the unemployment statistics understate the exact nature of the unemployment problem since this category of workers is not considered to be unemployed since, by their definition, an unemployed person is actively seeking work.

The next section contextualises the discouraged worker effect, while the third section briefly looks at the theoretical literature review. The fourth section covers empirical literature on unemployment. The fifth section covers the research methodology, while the latter two sections of this paper discuss the findings and conclusions and makes policy recommendations regarding unemployment and the discouraged worker effect.

### **Overview of unemployment**

The International Labour Organization (ILO) defines unemployment as the number of economically active persons who are jobless but seeking for work, including those who have lost their jobs and those who have willingly left their occupations (World Bank 2013a). The labour force can be defined as follows, according to Mankiw (2009):

$$= E + U$$

[Eqn 1]

Where,

L= Labour force

E= the number of employed people and

U= the number of unemployed people

The unemployment rate is  $U \div L$  [Eqn 2]. To get the steady-state unemployment rate, rewrite the formula as  $E = L - U$  [Eqn 3], where the employed equals the labour force minus the unemployed. The majority of studies agree that socioeconomic and psychological conditions have an impact on job seekers who are discouraged (Posel et al. 2014). Discouraged employees, according to Kingdon and Knight (2001), are handicapped or delayed by hurdles such as poverty, extended periods of unemployment, and unfavourable local economic conditions to the extent they believe

that it is futile looking for a job, however, if one is offered to them, they will take it. Ravikumar and Shao (2014) noted that discouraged workers' knowledge, skills, and abilities have become outdated due to excessively lengthy periods of unemployment, or they might not have the necessary schooling or training needed to get the job they desire. Moreover, they might feel that employers prefer younger workers in the available jobs, while some might believe they have been discriminated against because of their gender or race. In the South African context, Kingdon and Knight (2007) discovered that discouraged job seekers were, on average, more disadvantaged and impoverished than those who were actively looking for work.

This type of joblessness is frequently referred to as "hidden" unemployment. Although those in hidden unemployment do not send out market signals, it is theoretically similar to open unemployment. People in hidden unemployment frequently engage in second-choice labour activities such as education or housework due to social mores, mostly because job opportunities at their level of education or for women are not available (Todaro and Smith, 2013).

Rural job seekers in South Africa have less access to modern communication facilities (such as the internet) than those in established semi-urban and metropolitan areas, making job searching physically tough and time-intensive. According to the 2020 Integrated Development Plan (IDP, 2020), a significant area of the uMhlathuze Local Municipality is located outside of town, 58% of the residents reside in these areas where they have limited access to internet services and face exorbitant transport costs in travelling to the urban areas.

## **THEORETICAL LITERATURE REVIEW**

Lindbeck and Snower's (1984) insider-outsider theory examines how economic agents act in markets where some participants have a competitive edge over others. Insiders have more favourable work opportunities than outsiders because they have been employed for a long period. The explanation for this mismatch is that corporations pay labour turnover costs when they replace insiders with outsiders. Labour turnover costs include the costs of hiring, terminating, and providing firm-specific training. Outsider competition can be fended off by insiders refusing to collaborate with or harassing outsiders who try to undercut incumbent workers' pay. This theory might explain why

rural discouraged workers find it difficult to access jobs in predominantly urban areas where urban insiders reinforce preferences and support for urban co-workers.

According to the human capital theory (Becker 1993), people invest in abilities that will make them more productive and employable. As a person gains education, training, and work experience, his or her human capital grows. People seek employment to avoid being unemployed or underemployed. The higher the level of education of the unemployed person, the greater the loss of income or return on investment in education, and thus the job search is more intensive. Based on discouragement, it is feasible to hypothesize that the likelihood of searching increases with education and training levels.

The 'spatial mismatch' hypothesis (SMH) has been utilised elsewhere in the world, particularly in the United States, to suggest that 'suburbanisation' of economic activity has resulted in greater unemployment among the comparatively low-skilled, who tend to dwell more proportionally in central-city regions (Ihlanfeldt and Sjoquist 1990, 1991; Houston 2005). As a result, more low-wage jobs are being developed in suburban areas, which low-wage workers in core cities have less access to and knowledge of. According to Coulson, Laing, and Wang (2001), the SMH predicts that in suburban locations, there will be more vacancies for low-skilled labour and that low-skilled salaries will be greater than in core city areas. "Spatial challenges continue to separate the poor; the poorest people are disproportionately concentrated in rural areas," writes Turok (2011), which might accurately express the plight of discouraged workers in the uMhlathuze area. He noted that the poorest people in cities live far from their places of work, and the situation has undoubtedly gotten worse since democracy began, with many people now living in inconveniently located settlements."

Since the release of articles by Stigler (1961, 1962) that included the premise of the job search theory, it has grown in importance as a theoretical and empirical tool for understanding labour market performance. Labour economists have published a vast body of work based on job search theory. Only occupations paying at least as much as the reservation wage would be considered. How persistently a person searches determines the number of job offers he or she receives. Individuals can improve their chances of finding work by adjusting the intensity, strategies, and positions in which they look (Lippman and McCall 1976; Kiefer and Neumann 1979; Devine and Kiefer

1991). Job openings are typically publicised on social media platforms and websites, which can be difficult to access in rural locations. Workers are unable to see the available positions on the market as a result of this constraint. The majority of workers go to various companies where they feel jobs are available in person. Individuals hunt for a month or less due to commuting costs, especially if they have little faith that a job will become available. The job search theory will aid in the analysis of the tactics adopted by the unemployed in their job hunt. Some people are inconsistent in their job hunt, which reduces their chances of landing a position. It's likely that people are unemployed because they only look for work at local businesses due to transportation costs, and they give up looking for work because the chances of obtaining a job are slim. Distance can hinder employment opportunities in seven ways, according to Gibillon, Selod, and Zenou (2007). Three of these are relevant to the topic of this paper: long commutes cause workers to turn down employment; the greater the distance between employers, the less efficient a job seeker's job search becomes; and worker location and distance from jobs may increase search costs.

Long-term unemployment has a negative impact on an unemployed person's labour demand and supply, according to Duration Theory. According to the human capital story, it is as follows: Because firms consider long-term jobless employees to be low-quality employees, the longer an unemployed person has been unemployed, the less likely he or she will be granted a job. To put it another way, if firms utilise unemployment experience as a screening technique, long-term unemployed people are considered as less suitable applicants. Furthermore, the longer an employee is unemployed, the more discouraged he or she will get, and the more likely the agent will give up looking for work. This is one of the most important factors to consider while attempting to figure out why some people, even those with skills, are unable to find work. According to Blanchflower and Bell (2011), people who have been unemployed for a long period are at a considerable disadvantage when looking for work. Unemployment has a significant impact on a person's life depending on how long they have been unemployed. Individuals looking for work have worse morale as their unemployed period lengthens. As a result, the chances of finding work are slim. Individuals who are unemployed for an extended period of time without a source of income are at risk of falling into poverty (Mahadea and Simson 2010).

## **EMPIRICAL LITERATURE REVIEW**

Jobs are the foundation of economic and social development (World Bank 2013a). South Africa has one of the world's highest unemployment rates, and it is the government's most persistent policy issue (CDE 2013). The fundamental advantage of creating jobs is that it raises living standards (World Bank 2013). Skills mismatch and young unemployment are global issues, as youth unemployment rates are typically twice or three times higher than the country's general unemployment rate. Young people are frequently found in low-paying, low-quality temporary occupations (World Bank 2013). As they become older, youth make up a larger percentage of the unemployed and discouraged (Festus et al. 2015). The unemployment rate in South Africa has continued to rise, rising to 35.3 percent in the fourth quarter of 2021 from 34.9 percent in the third quarter. The 4.9 percent growth rate in the economy in 2021 was a jobless recovery, the youth unemployment rate has remained stubbornly high at 65.5 percent. (Stats SA, 2021).

In South Africa, job losses and unemployment have become an inextricable aspect of existence. When adopting the narrow definition, South Africa's unemployment rate is around 31 percent, and around 43.1 percent when using the broader definition (Stats SA 2020). The newly employed convention's retrenchment, a lack of job search skills/linkages, inability to pay for travel fees to pursue work, and the tendency of 'searching about' are among the issues listed by Altman (2007). (among the better-off youth).

Hofmeyr (2014) asserted that South Africa's economy has been devastated by structural economic development issues. The reasons that contribute to unemployment in South Africa are rooted in the country's socio-political and economic institutions, making it a long-term problem. Verick (2011) argued that unemployment has risen due to a decrease in both demands for the less educated (i.e., semi- and unskilled) and a growth in the supply of those with low levels of education. Factors such as skills mismatch, shift to capital-intensive methods of production, labour market inflexibilities, and a weak relationship between wage increases and productivity growth, according to the Industrial Development Corporation (IDC 2013), are some of the main causes of the economy's failure to absorb the labour force.

According to the study by Lyle, Kasongo, Moses, and Yu, (2015) unemployment is one of South Africa's most pressing issues. They give a number of justifications for this. To begin with, a labour market with a skills shortage emerges from an education system that does not respond to the labour market and economic needs. Second, pay rigidity is a result of the recently adopted minimum wage, which requires that minimum wages be set higher than the market-clearing level, making it more difficult for businesses to hire all of the workers they require. Third, there are idealistic reservation-level salaries, in which people refuse to accept job offers unless their monthly salary exceeds their social assistance and remittances. Finally, South Africa's informal sector is small and difficult to access. As a result of limited access to the credit market and a lack of infrastructure, those who are unable to find jobs in the official sector confront problems in the informal sector. Despite these challenges, the job market in South Africa has been unable to recruit enough new workers, resulting in an increase in unemployment.

Bhorat, Kanbur, and Mayet (2013) use a dataset compiled by Botero, Djankov, Porta, Lopez-de-Silanes, and Shleifer (2004) to study South Africa's relative union power and protection of workers in collective bargaining disputes. Botero, Djankov, Porta, Lopez-de-Silanes, and Shleifer (2004)'s ground-breaking research on the influence of labour legislation around the world uses data from 85 countries for the late 1990s. The findings demonstrate that South Africa's labour union control index, which measures workers' rights to join unions and bargain collectively, is significantly higher than the average value for all other nations, even when comparing South Africa to the upper-middle-income category.

Bhorat, Kanbur, and Mayet (2012) examined union and negotiating council salary premiums using data from the 2005 South African Labour Force Survey. To account for the endogeneity of union position while controlling for firm-level and job characteristics, he devised a two-stage selection model. Union affiliates outside of the bargaining council structure received a premium of about 7%, and members of private and public bargaining councils who were not members of unions received a premium of about 8.97% to 10.5 percent over non-union workers outside of the bargaining council system, according to their most detailed estimate. The aggregate estimated

premium for workers who are union members was 22% inside the public bargaining council.

Another reason for South Africa's high unemployment rate, which is fuelled by above-average incomes, is that pay law, particularly minimum wage policies, has resulted in growing remuneration rates in the targeted sectors. There is a dearth of systematic economic research in South Africa on the effects of minimum wages on labour market consequences or household poverty. In terms of sectors, what is offered is frequently limited. In numerous industries, minimum wage legislation has a negative impact on labour results (Bhorat et al. 2012).

Even industrialised countries were hit by the economic crisis in terms of overall unemployment and that of their younger demographic segments, which increased by close to 50% in countries like Spain and Greece (Van Mol 2016). Bakare (2011) highlighted labour demand and supply, population size/growth, inflation, gross capital formation (GCF), capacity utilisation, pay rates, and private domestic investment as key factors influencing urban unemployment in Nigeria. According to Maqbool, Muhammad, and Tahir (2013), GDP, population, inflation, and foreign direct investment are all important determinants of unemployment in Pakistan in the short and long term.

When Du and Dong (2009) studied Slovenia and China, they discovered that women are more prone than men to be discouraged and that women take longer to find work. Previous jobless spells, according to Theodossiou and Zarotiadis (2010), increase the duration of future unemployment, particularly among women over 45 and workers in the commerce or service industries. A lack of human capital could also be to blame. According to Baah-Boaetang (2013), increasing the reserve wage has a large marginal impact on the risk of being unemployed. He also stated that some forms of unemployment may be prevented if the reservation wage was maintained or set at the level of one's capacity to perform the work. Brown and Taylor (2011) discovered that those with higher-than-expected reservation salaries are more likely to look for work.

Penido and Machado (2000) examined the extent of unemployment in the Belo Horizonte metropolitan region, finding an average of seven months and concluding that those with higher education or skills, as well as those who have been unemployed for a longer period of time, are less likely to find new work. Antigo and Machado (2006)

found that younger people and those who had been unemployed for a longer amount of time had a higher risk of being jobless and a lower possibility of regaining employment in a study conducted in Belo Horizonte.

According to Oliveira and Carvalho (2006), an employee's educational level has a negative impact on the likelihood of being laid off. The standard of living survey conducted by the Brazilian Institute of Geography and Statistics (IBGE – Instituto Brasileiro de Geografia e Estatística) was used in the study. Female and older employees had a negative impact as well, showing that discrimination exists in the Brazilian labour market.

Meneses and Cunha (2012) combined the personal characteristics of unemployed people with macroeconomic and regional factors. According to the study, women, those with more education/higher training, non-whites, and people who are not household heads had a higher likelihood of remaining jobless. Furthermore, the study discovered that people in Salvador and Rio de Janeiro's urban districts are unemployed for longer, and that this is related to unemployment and inflation, but not to employee average income or GDP.

A geographical and skills mismatch, according to Daly, Hobijn, Sahin, and Valletta (2012), is seen as a primary contributor to a rising natural rate of unemployment because training/education or transferring individuals and vacancies takes time. Many studies have concluded that education is the key issue, with the majority of graduates failing to find work. Rabten (2014) argued that increasing educational attainment has resulted in some improvements in employment statistics, particularly in developing nations. He also discovered that current education and training arrangements are not adequately preparing young people for jobs that require specific abilities, experience, and attitudes. Velletta and Kuang (2010, for example) reported similar cases.

Cai, Yang, and Wang (2013) assert that the data on this indicator is not well gathered, and the official unemployment rate is not regarded as meaningful in their examination of the quality of China's labour statistics. The labour force participation rate, another important and associated labour market indicator, is not even published in official data. People are hesitant to register with native job service agencies because of low levels or quality of benefits. Furthermore, data aggregation may not be accurate or free of inaccuracies (Feng, Hu, and Moffitt, 2015).



Feng et al. (2014) stated that their research was only the beginning of a thorough understanding of China's labour market during the last few decades due to data constraints. In any event, based on the research of the authenticity of China's GDP data by Fernald, Hsu, and Spiegel 2019, and Holz 2014, few studies reckoned that statistics about China are by and large less informative and instructive.

According to Baah-Boateng (2013), the majority of developing countries have high rates of youth unemployment. According to a study conducted in Vietnam, single young people are more inclined to look for work than their older counterparts. Poor education, a lack of experience, and a shortage/mismatch of skills were cited by Sackey and Osei (2006) as factors for youth unemployment. Macharia (2014) discovered that young job seekers in Kenya are more likely to be unemployed than adults. Anyanwu (2013) cited a number of factors that contribute to the discrimination against young people in the labour market, including the fact that young people are more readily retrenched or laid off than their older counterparts. Youth struggle to get work due to a lack of experience and abilities. In 2009, the worldwide youth unemployment rate rose to its highest level on record. There were 75.8 million unemployed youth in the labour force (UN 2012). "We are entering an era of unprecedented talent scarcity, which, if left unchecked, would stifle global economic growth and profoundly alter how we approach labour concerns" (Charest 2011). "The world is on the verge of a new reality in which human potential becomes the primary driver of economic progress" (World Bank, 2018). This assertion implies that in the future the discouraged worker effect is likely to rise given the talent scarcity challenge.

The young unemployment rate in South Africa is extremely high. Many young South Africans between the ages of 15 and 34 (DBE 2011) have improved their education and skills in the recent decade. The rising number of students enrolled in tertiary education institutions supports this conclusion. According to Van der Berg and Broekhuizen (2012), 57.9% of the labour force have completed their tertiary degree. This indicates that the graduate labour force is expanding in tandem with the structural shift in demand for skilled/highly trained professionals. This implies that the structure of the South African economy with high wage trade union dominance will result in a prevalence of the discouraged worker among semi- and unskilled workers.

Females, regardless of age, suffer significantly more than males (Stats SA 2014). For instance, in the fourth quarter of 2014, the overall jobless rate for women was at 52.5 percent, whereas it was 47.5 percent for men (Stats SA 2015). The report also indicated that young women are the hardest hit by unemployment, with a rate that is significantly higher than that of men. The African Development Bank discovered that adolescent girls had a higher likelihood of being unemployed and discouraged than their male counterparts in 8 of the 12 Sub-Saharan African countries studied in a study of the African labour market. Young females have fewer work possibilities than young males when age and gender are combined, resulting in higher unemployment rates for young women (ADB 2012).

The probit model was applied with the Household Budget Surveys 2005/06 to discover factors causing or explaining unemployment in a paper by Vuluku, Wambugu, and Moyi (2013) evaluating gender differences in unemployment and underemployment in Kenya. According to the probit model estimations, females have a higher chance of being unemployed than males. Residential area, age, education level, marital status, non-labour income, and adverse shocks were all key human capital attributes in the difference.

Rabten (2014) found that the number of males recruited in regular paid labour in Bhutan was three times higher than the number of females hired in 2012. It's also worth noting that from 2003 and 2012, the female labour force participation rate was only 7.3 percent, compared to 15.3 percent for men. Through his analysis of Ghanaian data from 1991/92, Baah-Boateng (2013) discovered that females were more likely than males to be unemployed. Macharia (2014) found a similar observation, stating that in Kenya, females had a 4.67 percent higher likelihood of being unemployed than males.

Graduate unemployment is also a crucial topic to investigate because it has a negative economic impact, especially in the under-researched phenomenon of 'discouraged inexperienced graduates' which might take root in South Africa due to a unionised high wage economy where employers are reluctant to pay high wages to inexperienced graduates with inappropriate qualifications. The South African government is aware of the issue and has taken a number of steps to address it. One of the methods proposed to solve the issue of graduate unemployment is the Joint Initiative for Priority Skills

Acquisition (JIPSA). The creation of special training programs, the return of retired workers or emigrants to South Africa, and the recruitment of new immigrants are all part of this strategy (Pauw, Oosthuizen & Van Der Westhuizen, 2006).

Naong (2011) looked into the reasons for graduates' struggles to find work in South Africa and discovered that some graduates have trouble finding work because they may have chosen the wrong field of study or because of other flaws in the country's educational system. Graduate unemployment is also linked to the higher education institution attended, as some employers are thought to favour certain post-secondary schools due to the quality of education they provide (Baldry 2013 and Walker 2015). In South Africa, historically affluent universities are generally thought to give superior education with higher standards than historically underprivileged institutions, prompting employers to hire students from previously privileged universities (Moleke 2006 and Baldry 2013).

Graduate qualifications also play a role, with particular fields of study or certificates deemed less employable, making it more difficult for holders to obtain work. Walker (2015) claims that people with science and engineering degrees have a better probability of finding work after graduation than those with general degrees like humanities and arts. Some graduates will not have improved career possibilities due to varying work market conditions and spatial/job incompatibilities. For a variety of reasons, the quality and relevance of one's education and training are critical in the employment market.

South Africa is hardly an outlier when it comes to changing attitudes toward marriage, with people waiting longer to marry, living together (cohabitation) on the rise, and divorce rates on the rise (Lundberg and Pollak 2015). (Posel, Rudwick, & Casale, 2011). As a result of these developments, it is vital to assess the impact of changes in marital systems on workers. The state of one's marriage has a substantial impact on one's employment chances. Various studies have revealed that married people have a far lower risk of unemployment and discouragement than unmarried people (Macaharia 2014, Kingdon and Knight 2004, Sackey and Osei 2006).

Women have a vital role in the economy, as evidenced by various studies that have connected gender imbalance to poorer GDP growth (Ageno and Canuto 2015). When compared to their male counterparts, women in South Africa are less likely to be

employed (Barker 2015). Age is mentioned by Collet and Legros (2016) as a proxy for the quantity of skills, knowledge, and experience that women have. Choi, Janiak, and Villena-Roldan (2015) used marital status and gender to analyse monthly data from the Current Population Survey (CPS) in the United States to compute unemployment and participation rates, as well as worker flows between employment, unemployment, and discouragement. Marital status has a similar effect (or "treatment") on both males and females in terms of lowering unemployment rates via affecting moves into work and discouragement. The "cleaned" impact/effect for males is related to a strong link to the labour market (high participation likelihood), whereas the effect for females is owing to a higher chance of becoming discouraged after controlling for variables such as age, education, race, and so on (the odds of being unemployed and discouraged are very high).

Unemployment is influenced by household variables such as family assets and household sizes. Macharia (2014) employed housing tenure as a proxy for household assets in a study for Kenya, finding that housing tenure is statistically significant for both urban and rural samples, and has a negative effect on unemployment. Thi (2018) also reports similar findings for Vietnam. Economic status was utilised as a proxy for household assets, and the study found that well-off youth are less likely to be employed. A survey on job search and its association with household income was undertaken by Kingdon and Knight (2002). In contrast to the foregoing, it was discovered that job searchers from higher-income families were more likely to be actively looking for work than those from lower-income families, owing to the high expense of looking for work.

The positive correlation between being a member of a female-headed home and experiencing total household unemployment is alarming. This puts female-headed households at a higher risk of poverty than male-headed households, a conclusion that has been well proved in the South African context (Rogan 2013). In comparison to male-headed households, female-headed households are more likely to experience entire household unemployment. This is a major factor to South Africa's well-known positive relationship between female household headship and poverty (Nwosu and Ndinda 2018).

Although various studies have looked into the labour supply drifts and contributing factors in South Africa, the potential impact of health has been mostly ignored (Ntuli and Wittenberg 2013). Only a few studies have looked at the relationship between health and the labour market in South Africa, for example, Young (2005) and Levinsohn et al. (2014). This research built on the work of Arndt and Lewis (2000) and Booysen et al., (2002), respectively. Despite the fact that Arndt and Lewis (2000) found no effect of HIV/AIDS on career chances in South Africa, Young (2005) discovered a significant long-run negative association. In the Free State province, Booysen et al. (2002) found a negative relationship between infection and labour participation rate. These studies largely ignored the principles of labour supply determination in South Africa, in addition to not employing countrywide representative survey data. Based on propensity scores, Levinsohn et al. (2014) discovered that HIV positive job seekers had a 6 to 7 percent increased risk of being unemployed. Instead of focusing on a single health measure, HIV/AIDS, none of these studies looked at the impact of a composite/global health indicator on these labour market repercussions.

South Africa offers a one-of-a-kind opportunity to investigate the impact of travel expenditures on job status. Commute costs can be calculated in a variety of ways. Individuals, for example, must have the means to look for work, and one of these means is the money required for daily travel. The expense of transportation is a crucial aspect of the job search and commuting process. They're more important for inexperienced and unskilled persons living outside of industrial and economic areas, where internet access, labour market connections, and information about potential work prospects are scarce (Mlatsheni, 2014).

In times of strong employment, comparing the discouraged and active labour force in terms of their transition into employment may be more difficult. This could be due to the notion that the economically inactive may benefit by not looking for work because the costs to job seekers are much higher in these circumstances. According to Matsilele (2015), being active or inactive is based on a person's view of how they want to spend their time and the tiny benefits they believe they get from looking for work. Interregional movement, according to Basile et al. (2012), might exacerbate disparities in employment rates rather than achieving a balance in the labour market. "The richest regions are characterised by smaller internal migration patterns," Guriev and

Vakulenko (2015) write, "and one of the hurdles to labour mobility for potential migrants from impoverished regions is the lack of affordability to migrate."

One of the drivers of unemployment is location, and many studies imply that unemployment is mostly an urban problem, as most individuals migrate from rural to urban regions in search of better chances, particularly for work. Anh et al. (2005) and Baah-Boateng (2013) use cross-sectional data to show that an urban area has more unemployed persons than a rural area. In addition, a comparable study found that living in an urban region increases the risk of being unemployed by 6.5 percent when compared to living in a rural area (Sackey and Osei 2006).

It is assumed that having previous work experience reduces the likelihood of leaving a job to pursue further education. This is to be expected, as these individuals have already shown potential employers that they are capable of being productive without lengthy training. Young people have a higher unemployment rate than older people. Furthermore, due to their lack of experience, the youth are less likely to obtain work and those who do are more likely to be laid off during economic downturns (Levinsohn et al. 2014). The finance minister's announcement in the February 2011 Budget Speech that a youth wage subsidy will be implemented in 2012 was based on the hope that the subsidy program would increase young labour demand and reduce youth unemployment.

Job searching takes time and money; yet, it can be considered an investment. People incur expenses in the hopes that they will be reimbursed once they find work. As a result, workers are hesitant to accept the first job offer that comes their way since the pay may not be equal to or greater than the opportunity cost - the potential benefit of waiting for a better job in the future. One of the reasons for South Africa's high unemployment rate is job hunting. Circumstances have an impact on many unemployed persons (Posel, Casale and Vermaak 2014). Lack of financial resources, issues such as poverty, and a lack of labour market information about where work opportunities may exist are examples of such constraints. Kingdon and Knight (2007) found that persons who were both unemployed and not looking for work were poorer than those who were actively looking for work in a study of the unemployment phenomena in South Africa.

There is a theory that high levels of remittances reduce the economy's effectiveness because they increase beneficiaries' reservation wages and the labour market's real wage balance. This theory is based on the widely held belief that transferring monies from the employed to the unemployed and discouraged has a negative influence on the receiving family's labour supply. Many academics have studied the effects of remittances on the labour market using household level data, with conflicting results. Airola (2008) revealed that allowance income is connected to fewer hours worked in Mexico. Kim (2007), on the other hand, found a negative relationship between remittances and labour supply in Jamaica, but no statistically significant relationship in Haiti (Jadotte 2009). Surprisingly, Amuedo-Dorantes and Pozo (2006) found no link between male Mexican labour supply and remittances. Remittances, on the other hand, appeared to reduce labour supply among female workers. Posso was one of the few studies that included macroeconomic data in 2012. In 66 developing countries from the Middle East, Africa, Asia, the Pacific, Latin America, and the Caribbean, researchers discovered a positive relationship between remittances and aggregate labour supply.

## **RESEARCH METHODOLOGY**

Stemming from the literature discussed above, the objectives of this study are as follows:

- a. To investigate the factors contributing to unemployment and workers being discouraged from seeking employment in general.
- b. To suggest the way forward towards reduction of the problem.

In instances when we must characterise the relationship between dichotomous/polynomial answer variables, the Multinomial Logistic Regression model has become the standard way of analysis. The multinomial regression model differs from the linear regression model in that the outcome is polynomial.

This is a statistical probability model in which the dependent variable has two or more categories (Liao and McGee, 2003). In a logistic regression model, the outcome variable is assumed to be a categorical variable. It is common to assume that the outcome variable is a dichotomous variable, with the outcome being either employed or unemployed (Agresti 2015).

When dealing with a binary dependent variable,  $Y$  has two values: zero and one. However, in this scenario, the range of probable outcomes has been broadened. The multinomial logit model is used in the study to distinguish between employed, jobless, and discouraged workers. There are three categories in the dependent variable, which is categorical in nature (trichotomous). A person is either employed or jobless, and when unemployed, he or she is either looking for work or feeling disheartened. Multinomial Logistic Regression (MLR) is a classification approach that extends logistic regressions to issues with many discrete outcomes.

Conceptually, the model is specified as:

$$Y_i = \beta_0 + \beta_i X_i + u_i \text{ [Eqn 4]}$$

Where  $Y_i$  = unemployment,  $X_i$  is a vector of explanatory variables,  $\beta$  represents a vector of parameters of explanatory variables to be estimated, and  $u_i$  is a vector representing the stochastic error term.

The multinomial logit model is utilised in this study to distinguish between employed, jobless, and discouraged workers. The dependent variable is trichotomous and categorical; a person is either employed or jobless, and when unemployed, he or she is either actively looking for work or discouraged. Multinomial Logistic Regression (MLR) is a classification approach that extends logistic regressions to issues with many discrete outcomes.

The study takes into account the following two distinct outcomes: (or categorically distributed dependent variables). Two separate outcomes emerge from the trichotomous dependent variables: The first discrete outcome is the log odds of the likelihood of those jobless to the probability of total employment, where the probability of total number employed is the reference category. The log odds of the probability of discouraged workers to the probability of overall employment is the second discrete outcome.

The nominal (or categorical in the sense that they explain quality) dependent variables (i.e., the newly established discrete outcomes) are coded as follows so that they may be simply estimated in SPSS:



Unemployed =  $Y_0=1$ . The model estimates the probability  $P_1$  as the probability of being unemployed.

Discouraged worker =  $Y_1=2$ . SPSS models this variable as the probability  $P_2$  of being discouraged.

While employed =  $Y_2=3$ , SPSS models this variable as the probability  $P_3$  of being employed. In the analysis this category serves as the reference category. Moreover, note that  $P_3= 1- (P_1 + P_2)$ .

These dependent variables are modelled as follows:

$$\ln\left(\frac{P_1}{1-(P_1+P_2)}\right) = \beta_0 + \beta_1 Age + \beta_2 Gender + \beta_3 Edu + \beta_4 M/Status + \beta_5 FamSize + \beta_6 HouseType + \beta_7 Income + \beta_8 Health + \beta_9 CostToTown + \beta_{10} Experience + \beta_{11} Area\ of\ residence + u_i \quad [\text{Eqn } 5]$$

$B_0$  is the constant term, and  $X_i$  is a vector predictor of variables of individuals' personal and job related characteristics including age, gender, education, marital status, family size, house type, income, health, cost to town, area of residence and experience which are factors affecting the dependent variables.  $\ln\left(\frac{P_1}{1-(P_1+P_2)}\right)$  can be interpreted as the log odds of being unemployed (relative to the reference category/variable) is the function of a set of independent factors.

Likewise:

$$\ln\left(\frac{P_2}{1-(P_1+P_2)}\right) = \beta_0 + \beta_1 Age + \beta_2 Gender + \beta_3 Edu + \beta_4 M/Status + \beta_5 FamSize + \beta_6 HouseType + \beta_7 Income + \beta_8 Health + \beta_9 CostToTown + \beta_{10} Experience + \beta_{11} Area\ of\ residence + u_i \quad [\text{Eqn } 6]$$

$\ln\left(\frac{P_2}{1-(P_1+P_2)}\right)$  Can be interpreted as the log odds of being a discouraged worker (relative to the reference category, employed) and is the function of a set of independent factors.

The study also performs a number of tests to determine which factors are the most important in causing a category variable to manifest itself.

If the Z-statistic derived by maximum likelihood approaches reveals that any of these variables is statistically inconsequential, more sparing models will be chosen by removing the unnecessary variables. To fulfil the aims, the Likelihood ratio test, as well as the AIC and BIC tests, which were all described earlier, are applied. The Pearson "goodness of fit" test is also used to determine how well covariates explain the dependent variable.

This study collected primary data from locations outside of Empangeni and Richards Bay to evaluate the drivers of unemployment and the discouraged worker impact in the rural and peri-urban areas of the uMhlathuze municipality. Peripheries, informal communities, townships, and rural areas outside of these cities were among them. To reach out to a sample of 600 respondents from all throughout the area, the stratified random sampling approach was used.

After the questionnaires were returned and the interviews were finished, the data was coded and organized in a way that was straightforward to analyse using the Statistical Package for Social Sciences (SPSS). For the overall analysis of data in terms of frequencies and regressions, the researchers employed STATA, Eviews, and SPSS. SPSS was used to create descriptive statistics. As assessment approaches in the data analysis, descriptive and inferential statistics were used.

## RESEARCH FINDINGS

**Table 1: Summary Statistics/ Case Processing Summary**

		N	Marginal Percentage
EMPLOYMENT_STATUS	UNEMPLOYED	263	43.8%
	EMPLOYED	191	31.8%
	DISCOURAGED	146	24.3%
AGE_OF_RESPONDENT	15 to 25	175	29.2%
	26 to 35	219	36.5%
	36 to 45	146	24.3%
	46 to 55	56	9.3%
	56 to 64	4	0.7%
GENDER_OF_RESPONDENT	FEMALE	256	42.7%
	MALE	344	57.3%
HIGHEST_LEVEL_OF_EDUCATION	PRIMARY	13	2.2%
	SECONDARY INCOMPLETE	216	36.0%
	MATRIC	262	43.7%
	TERTIARY/HIGHER EDUCATION	109	18.2%
MARITAL_STATUS	OTHERWISE	418	69.7%
	MARRIED/PARTNER	182	30.3%
SIZE_OF_THE_RESPONDENT'S_FAMILY	10	55	9.2%
	01 to 05 people	64	10.7%
	06 to 10	276	46%
	11 to 15	179	29.8%
	16 to 20	61	10.2%
	Above 20	20	3.3%
MONTHLY HOUSEHOLD_INCOME_PER_CAPITA	R100 to R500	88	14.7%
	R501 to R1000	206	34.3%
	R1001 to R1500	102	17%
	R1501 to R2000	57	9.5%
	R2001 to R2500	46	7.7%
	Above R2500	91	15.2%
HOUSEHOLD_TYPE	OTHERWISE	301	50.2%
	HOUSE WITH BOTH PARENTS	299	49.8%
HEALTH_STATUS	FAIR	4	0.7%
	GOOD	38	6.3%
	VERY GOOD	194	32.3%
	EXCELLENT	364	60.7%
TRAVEL_COST_TO_TOWN	R0 to R20	39	6.5%
	R21 to R40	334	55.67%
	R41 to R60	201	33.5%
	R61 to R80	26	4.33%
	R81 to R100	00	00%
YEARS_OF_TRAINING/EXPERIENCE	00 to 1 year	410	68.3%
	More than 1 to 2 years	63	10.5%
	More than 2 to 3 years	59	9.8%
	More than 3 years	68	11.3%
RURAL		383	63.83%
URBAN (PER-URBAN)		217	36.17%

Age, gender, education, marital status, family size, household income, dwelling type, health status, transportation cost, and experience are explanatory variables (independent variables) in the multinomial model outlined in the equations. All of the information used in this study came from a 600-person survey done by the researcher across the rural and peri-urban areas of the uMhlathuze Local Municipality. 43.8 percent of respondents are unemployed, 31.8 percent are employed, and 24.3 percent are discouraged job seekers, according to Table 1. 65.7 percent of the respondents are between the ages of 15 and 35, with 57.3 percent of men and 42.7 percent of females. In terms of education, 2.2 percent have completed primary school, 36 percent have completed secondary school, 43.7 percent have completed matric, and 18.2 percent have completed further education. 69.7 percent of the population is single or never married, does not live with their partners, or is widowed, while 30.3 percent is married and lives with their partners. Thirteen percent of households have nine members, ten percent have eight, and nine percent and nine percent have 12 and ten individuals, respectively. There is additional information on household income per capita. 49.8% of the juvenile population comes from two-parent households, while 50.2 percent come from single-parent, child-headed, or female/male-headed households. 60.7 percent had outstanding health, 32.3 percent had very good health, 6.3 percent had good health, and only 0.7 percent had fair health. People pay R80 per day to travel from their homes to the city centres and industrial regions, while roughly 17.5 percent pay R40 and 22.3 percent pay R80 per day to travel from their homes to the city centres and industrial areas. Those with no work experience make up 38% of the population, and have either never been trained or never worked before. Some of them are employed as unskilled labourers, but the majority of them find it difficult to find work and are discouraged. 17 percent have only a semester or a year's worth of experience.

**Table 2: Results of the Multinomial Regression/Parameter Estimates**

Emp. Status reference category (unemployed)	Coef.	Std. Err.	z	P> z	Odds Ratio
Discouraged					
_cons	-29.95804	4.160796	-7.20	0.000	
Age	.2389022	.1668264	1.43	0.152	1.27

Gender	-.727777	.253336	-2.87	0.004***	0.483
LEDU	-.6572964	.1824004	-3.60	0.000***	0.518
MSTA	.3252337	.3826126	0.85	0.395	1.384
FAMSIZE	.0795919	.0309082	2.58	0.010**	1.082
LHINCOME	1.627261	.5028042	3.24	0.001***	5.089
HTYPE	.1438822	.2888671	0.50	0.618	1.155
HSTATUS	-.0860196	.1995169	-0.43	0.666	0.918
RESIDENCE	1.590181	.470053	3.38	0.001***	4.904
EXPERIENCE	.0710369	.0679792	1.04	0.296	1.074
LTRCOST	5.368313	.6261151	8.57	0.000***	214.504
*****	*****	*****	*****	*****	****
<b>Employed</b>					
_cons	-4.925163	3.101766	-1.59	0.112	
Age	.5488891	.1482078	3.70	0.000***	1.731
Gender	.491174	.2248647	2.18	0.029**	1.63
LEDU	.2622668	.1487909	1.76	0.078*	1.299
MSTA	.6359706	.3221097	1.97	0.048**	1.888
FAMSIZE	.0356784	.0265034	1.35	0.178	1.036
LHINCOME	1.164006	.3524305	3.30	0.001***	3.203
HTYPE	-.4688143	.2482616	-1.89	0.059*	0.626
HSTATUS	-.2730787	.1796876	-1.52	0.129	0.761
RESIDENCE	.0303099	.3858573	0.08	0.937	1.028
EXPERIENCE	.0319572	.0568352	0.56	0.574	1.032
LTRCOST	-1.314185	.5345584	-2.46	0.014**	0.269

Number of obs = 600

LR chi2 (22) = 297.83

Prob > chi2 = 0.0000

Pseudo R2 = 0.2320

Log likelihood = -492.9778

Source: MLM regression results (Author)

Note the conventional significance levels are: 10% (0.1\*); 5% (0.05\*\*) and 1% (0.01\*\*\*).

### Panel 1: Discouraged vs Unemployed

$$\ln\left(\frac{P_1}{1 - (P_1 + P_2)}\right) = -29.958 + 0.239Age - 0.728^{***}Gender - 0.657^{***}LEdu + 0.325MStatus + 0.079^{**}FamSize + 0.144HouseType + 1.627^{***}Income - 0.086Health + 5.368^{***}CostToTown + 0.071Experience + 1.590^{***}Area\ of\ residence + u_i$$

The multinomial regression in Panel 1 of Table 2 is summarised in Equation 5.1. Note that, as stated in the methodology section, P1 refers to the discouraged workers who were assigned a code of 1 while the rest of the categories were assigned a value of 0. P2 also refers to unemployed workers, who were assigned a code of 1 while the rest of the groups were assigned a zero. The reference category was unemployed workers; hence the latter two categories were approximated using jobless workers as the base group.

When interpreting the odds, a positive coefficient of a regressor suggests a higher probability of one choice over the base outcome/reference category, which in this case is employment. A negative value of a coefficient, on the other hand, implies that the odds in favour of the base category are greater than those in favour of the other group, such as discouraged or employed. Referring to the table above, which summarises the study's findings:

Among the factors predicting unemployment status, the gender variable was statistically significant at the 1% level. When compared to their female counterparts, men are less likely to be depressed because they are unemployed. More specifically, if you're a man, your chances of becoming discouraged are 52 percent lower than if you're unemployed. Alternatively, the chances of being discouraged are less than half of those in the unemployed category (0.48 or 48 percent). These findings are consistent with the situation in South Africa, where women's career options are limited compared to men's, resulting in greater unemployment rates for women (ADB 2012).

According to certain studies, women are more likely to be discouraged as a result of gender-related vocational choices and the fact that some positions are exclusively available to men owing to the nature of the job.

Among the factors predicting employment status, the schooling variable was significant at the 1% level. People are less likely to be discouraged as their education level improves, compared to being unemployed, when the probabilities are roughly 0.52. In other words, the chances are reduced by 48%. Because of the money spent on education and training, people are actively looking for work in order to reap the benefits. When selecting whether or not to seek work, human capital is a factor. Graduate qualifications also play a role, with certain graduates from certain disciplines finding it more difficult to get work than others.

When a family grows by one member, the chances of a person becoming discouraged increase by 1.08 times when compared to the unemployed category. This suggests that the odds increase by 8%, which is a relatively tiny increase, hence the difference between the reference and discouraged worker categories is not significant. At the 5% level of significance, the result is statistically significant. The findings show that both discouraged and jobless employees have a comparable reaction to family size expansion, i.e., both groups rely on family resources in the same way.

When a person's household income rises, he or she is 5.08 times more likely to be discouraged than if they were unemployed. In other words, a unit increase in family income raises the probability of a person being discouraged by about 5 times when compared to being unemployed. In comparison to the unemployed, there is a 408 percent increase in the likelihood of being discouraged. When a person's household income rises, he or she can afford to pay for transportation, data bundles to use the internet, or mail services to find work.

Among the characteristics that predict job status, the rural/urban distinction variable was significant at the 1% level of significance. When a respondent lives in a rural location versus an urban area, his or her chances of being in the discouraged category increase by 4.905 compared to being jobless. People who live in rural areas are more prone to depression than those who are unemployed. Rural locations have few businesses, and commuting is difficult due to the high costs. As a result, individuals are flocking to metropolitan centres in quest of work. As a result, they have designated

areas where they wait for employers to come and pick them up based on the quantity of people they require and their skills. The odds of getting a job improve as one moves from remote/rural locations to urban areas, thus a person chooses among various firms with a better probability of finding work.

Among the variables affecting employment status, the transport costs variable was significant at the 1% significance level. People are 214.5 times more likely to be disappointed about being unemployed as transportation or job search costs rise. South Africa provides a once-in-a-lifetime opportunity to study the effects of transportation costs on unemployment. According to Kingdon and Knight (2000), one of the key reasons for the high probability of rural people being unemployed is a lack of job-search attempts due to the inaccessibility of labour centres. To put it another way, the more remote a location is, the higher the costs of job hunting and, as a result, the higher the odds of being unemployed. This is especially true in South Africa, where a province like the Eastern Cape, which is underdeveloped, has a large number of unemployed people, both young and old.

Age, marital status, household type, health status, and experience were not statistically significant in Panel 1, despite the fact that other similar research found them to be key determinants of job status.

## Panel 2: Unemployed vs Employed

$$\ln\left(\frac{P_2}{1 - (P_1 + P_2)}\right) = -4.925 + 0.549^{***}Age + 0.491^{**}Gender + 0.262^{*}LEdu + 0.636^{**}MStatus + 0.0357FamSize - 0.469^{*}HouseType + 1.164^{***}HIncome - 0.273Health - 1.314^{**}CostToTown + 0.031Experience + 0.030Area\ of\ residence + u_i$$

The multinomial regression in Panel 2 of Table 2 is summarised in Equation 5.2. As previously stated, P1 refers to the employed workers who were assigned the code 0. P2 also refers to unemployed workers who were assigned a code of 2 while the other groups were assigned a value of 0. The unemployed employees were the



base/reference category, which meant that the following two categories were approximated based on the unemployed workers.

At the 1% level of significance, the age variable is statistically significant among factors predicting employment status. The odds of being employed relative to being jobless increase 1.73 times as a person gets older, i.e., the odds in favour of being employed relative to being unemployed increase by 73 percent. Collet and Legros (2016) used age as a proxy for job seekers' marketability, which is then reflected in their abilities, knowledge, and experience. Employment chances are heavily influenced by one's age. According to Leibbrandt et al. (2010), young South Africans who enter the job market for the first time suffer challenges in finding work and acquiring entry to the labour market, but as they grow and earn experience in certain industries, they begin to get jobs.

Among the factors predicting job status, the gender variable was statistically significant at the 5% level. If a person is a man, the probabilities of being employed relative to being jobless increase 1.63 times, or 63 percent. In comparison to their female counterparts, males are more likely to be employed than jobless. These findings back up Barker's (2015) findings that women in South Africa are less likely to be employed than men.

Among the characteristics predicting job status, marital status was statistically significant at the 5% level. When a person is married, his or her chances of being employed relative to being unemployed increase 1.88 times, i.e., his or her chances of being employed relative to being unemployed increase by 88 percent. The likelihood of becoming unemployed is heavily influenced by marital status. Many empirical studies have found that married people have a far lower chance of becoming unemployed than unmarried people (Macaharia 2014).

Among the characteristics predicting job status, household type was statistically significant at 5%. If a person lives with two or both parents, the odds of being employed reduce by 0.63 times, or by 37%. Respondents from families with both parents have their parents' support, making it easier for them to live without a job under challenging labour market conditions than respondents from other household settings, who are desperate to make a livelihood. Female headship was found to be positively connected to unemployment and poverty in South Africa by Nwosu and Ndinda (2017).

Among the characteristics predicting job status, household income was statistically significant at 1%. The odds of being employed relative to jobless increase 3.2 times as aggregate household income grows, i.e., the odds in favour of being employed relative to unemployed increase by 320 %. More people are projected to be employed as household income (hincome) rises, as opposed to being unemployed. This could be because they can pay the search costs and can satisfy the illegal demands of individuals in positions of power who accept bribes in order to improve one's chances of obtaining work. This is in contrast to Ariola's (2008) findings, which revealed that as income rises, especially through remittances, people are likely to stop looking for work or, if they do, work less hours. According to Posso (2012), there is a link between higher income and aggregate labour supply.

Among the factors determining employment status, transportation costs were statistically significant at the 5% level. When transportation costs rise by a rand, the probability of being employed compared to being unemployed falls by 0.27 times, i.e., the odds in favour of being employed fall by 73 percent. People are less likely to be employed than jobless as transportation costs (trcost) rise. According to Mlatsheni (2014), transportation costs are a significant part of the job search and community to work. They are particularly significant for unskilled job seekers living outside of economic hubs who may lack access to the internet, labour market networks, or job-related information.

Education, family size, health status, place of residence, and experience were not found to be statistically significant in Panel 2, despite the fact that other similar research showed them to be key predictors of job status.

**Table 3: Model Fitting Information**

Model	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1285.008	1293.802	1281.008			
Final	1465.289	4666.254	9.289	1271.719	726	.000

The results imply that there is a significant statistical correlation between the dependent variable and a collection of independent factors, with a Chi Square value of 1271.719, 726 degrees of freedom, and a significance level of 0.000. (Table 5.3). The test findings show that the model's independent variables are linked to the dependent variable, meaning that they aid in reducing model errors and properly forecasting the model's dependent variable, which is current economic activity or job status (Arrkelin 2014).

**Table 4: Goodness-of-Fit**

	Chi-Square	df	Sig.
Pearson	3.463	456	1.000
Deviance	6.517	456	1.000

The Pearson and Deviance goodness-of-fit indices were both statistically insignificant (P-values less than 0.05), indicating that the model is accurate (Table 4).

**Table 5 Pseudo R-Square**

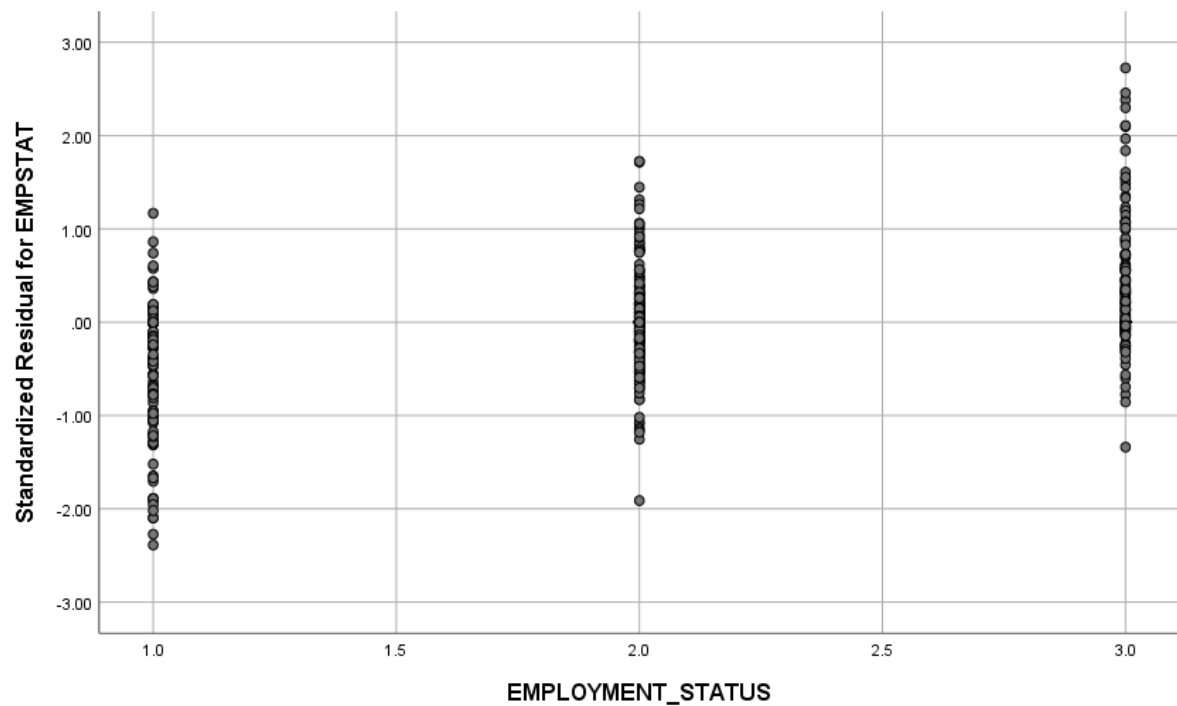
Cox and Snell	0.880
Nagelkerke	0.997
McFadden	0.991

Pseudo R-squared measures are a type of relative measure that indicates how well a model explains data when compared to other models. The model's Nagelkerke Pseudo R-Square score of 0.997 indicates that it fully fits the data (Table 5).

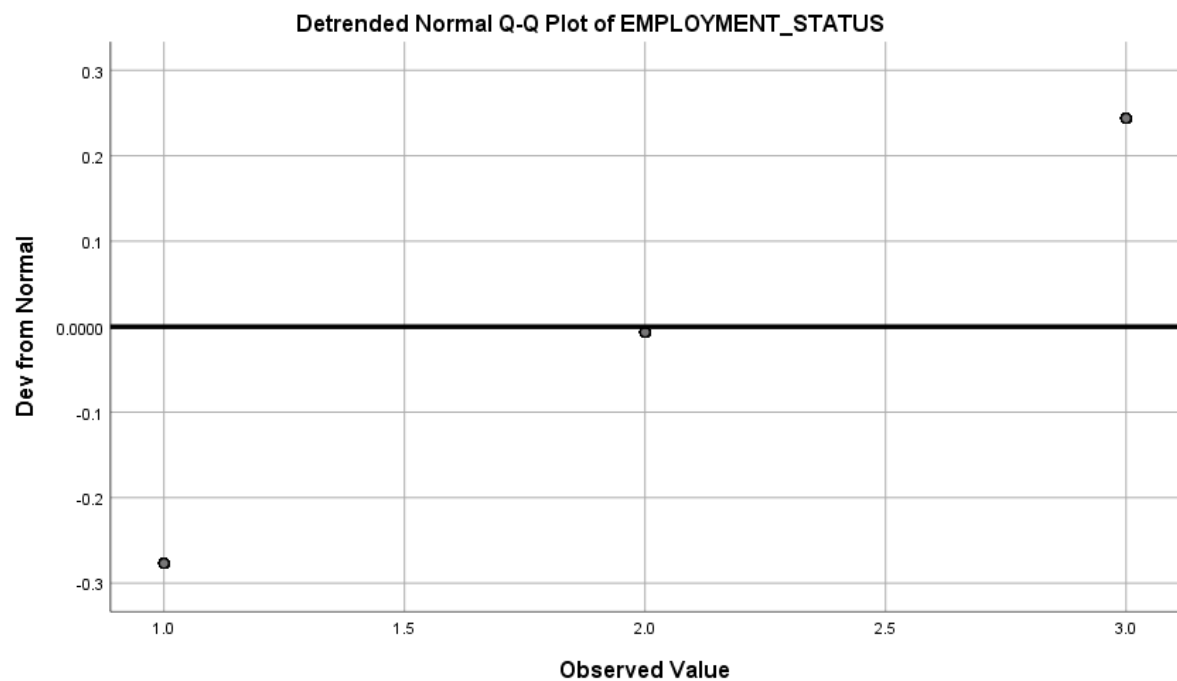


**Figure 1: Normal P-P Plot of the Standardised residuals**

The standardised residuals of the regression above are plotted in a normal P-P plot, which demonstrates that the residuals follow a diagonal, along the straight line, which is the criterion for a normal distribution. The estimated values are closely similar to the actual values, implying that the model is well-fitting.



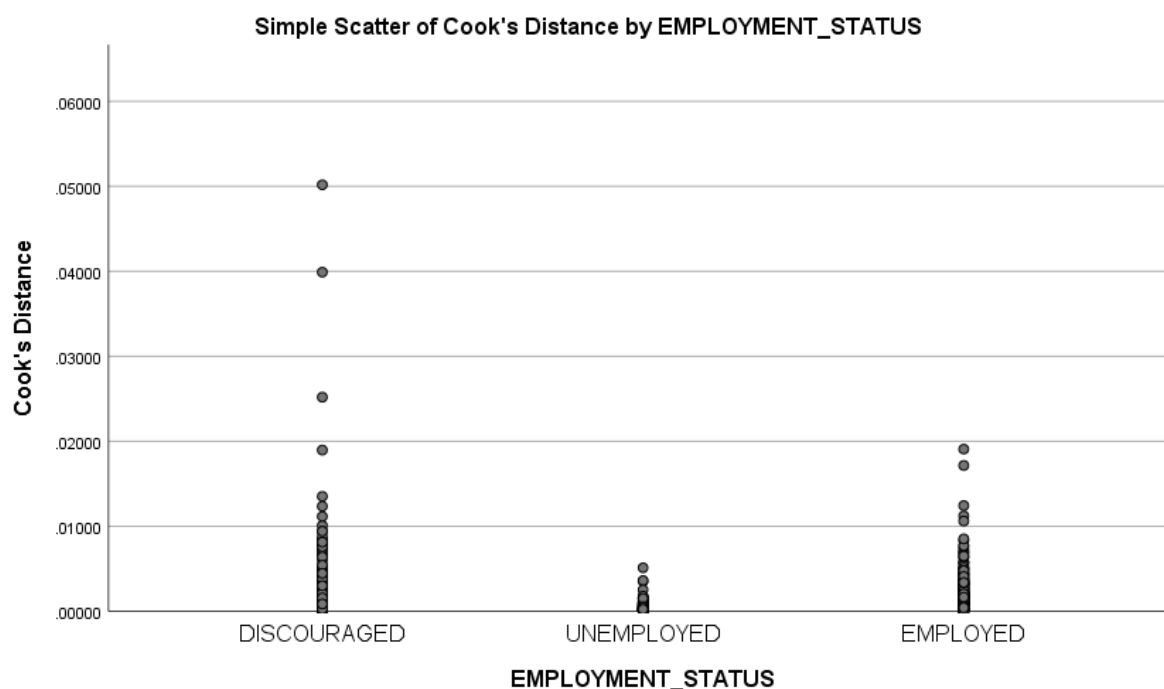
**Figure 2 Standardised Residual Plot**



**Figure 3 Residual Deviance Plot**

The spread is pretty equal for both levels of residual graphs, as seen in the preceding graphs (figures 2 and 3), indicating that there are no substantial differences between

them. We accept the significance of the results since the data meets the conditions for normality and equality of variance.



**Figure 4 Analog of Cook's distance statistics**

The Cook's distance indicates that there are no outliers in the model, implying that no data have a significant impact on model estimations. The data is based on the multinomial outcome's values. All of the diagnostic tests show that the factors determining employment status in the uMhlathuze Local Municipality's rural and peri-urban areas are statistically significant.

## CONCLUSION AND POLICY RECOMMENDATIONS

Two research goals were pursued in this study. The initial goal was to look at the variables that contribute to unemployment and workers being discouraged from looking for work in the uMhlathuze Local Municipality in general. The study's second goal was to propose a strategy for dealing with the problem of discouraged employees in northern Zululand's rural and peri-urban areas. The data was collected using a survey questionnaire and a stratified random sampling approach. The study focused on the peri-urban and rural areas of the uMhlathuze Local Municipality, which is located in the northern region of KwaZulu-Natal.

The summary figures revealed that 43.8 percent and 24.3 percent of respondents, respectively, were unemployed and discouraged, as mentioned in the previous section. Furthermore, just 18.2 percent of respondents had higher education/training and 68 percent have less than a year of experience, according to the data. The discouraged worker effect is lessened as a person's education increases, according to the regression results. As a result, the government must take steps to improve the education system and career advice in order to align labour market demands with the skills obtained by job searchers, particularly youngsters. Provision of training or work experience programs, as well as subsidies for businesses attempting to integrate the unemployed, are critical between the government and the private sector.

The regression findings also revealed that age is a significant variable that is connected with a lower discouraged worker effect and a greater level of employment. As a result, youth unemployment initiatives in the research area should be strengthened further. These strategies should include instilling a strong work ethic at school and in the home, as well as administering aptitude testing at an early age to allow for suitable vocational grooming. Entrepreneurship should be taught in schools as well. Large family sizes and increases in combined family income were similarly linked to the discouraged worker impact. This emphasises the importance of instilling a work ethic in children at an early age, both at school and at home.

It was also discovered that workers in rural areas are more likely to be discouraged than those in peri-urban settings. Furthermore, the higher the transportation costs in rural areas, the greater the discouraged worker effect; therefore, it is recommended that the government (local municipalities) establish unemployment agencies where the unemployed can be registered and those actively seeking employment can be subsidised with transportation costs. Furthermore, such a platform can connect the unemployed with open positions. Furthermore, tax and other incentives for businesses to locate job seekers in peri-urban and rural areas can help in two ways: by lowering job seekers' transportation expenses to industrial centres and by lowering taxes for businesses that relocate their facilities to these locations.

Females are more likely than males to be discouraged, according to one interpretation of the findings. This contributes to South Africa's well-known positive relationship between household female headship and poverty. Women's career prospects will

improve as a result of tax incentives and subsidies for businesses that set up shop in rural areas, as well as train and employ females. Furthermore, the aforementioned municipal-based labour organisations might make it a priority to link unemployed women with job openings.

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# **Causes and effects of delays in the implementation phase of infrastructure construction projects: Umgeni Water Case Study**

N.A. Ngubane, M.A. Phiri, and L.N. Kunene

Mr N.A. Ngubane, Prof. M.A. Phiri and Dr. L.N. Kunene, School of Management, IT and Governance, University of KwaZulu-Natal, South Africa.

## **ABSTRACT**

The occurrence of delays during the implementation of infrastructure projects is an indicator of substandard project performance. Unfortunately, the sources and the impact of delays at Umgeni Water (UW) have not been scientifically established. UW is a bulk water provider servicing municipalities in KwaZulu-Natal (KZN), the second-most populated province in South Africa (SA). Hence, the need for funding for infrastructure development projects is more significant in KZN than in most other provinces. Since 2012, UW has spent more than R4.7 billion on implementing these projects. Unfortunately, construction delays are evident in almost all UW projects, leading to cost overruns, among other effects. This study investigates the extent of the delays and their causes and effects.

The quantitative research in this study identified and used eight causes of construction delay categories. They were: client; consultant, contractor; material, equipment; labour, contractual relationship-related; and external factors. The study used these categories in a structured questionnaire. Data was gathered from clients, contractors, and consultants. The common causes of delays and their categories were rated according to severity and frequency of occurrence on a 5-point Likert scale. The delays were then ranked using the importance index, a product of severity and frequency indices.

The most important causes of construction delays in UW infrastructure projects were: perceived extensive changes to the scope of works, local community unrest, and contractor's financial deficiencies. The most important effect of the delays are time overruns, cost overruns, and lost opportunities for UW to realise profits.

It is recommended that UW focus its efforts on the most important causes of delays, as discussed above. Among the most important causes, it is most noteworthy that UW cannot exclusively eliminate these issues without input from contractors, engineers, and relevant stakeholders.

**Keywords:** water, overruns, scope, water, project management

## **INTRODUCTION**

Construction projects are critical to promoting and boosting the socio-economic development of any nation (Kabirifar & Mojtahedi, 2019). Unfortunately, construction delays have detrimental effects that can threaten the fulfilment of these projects. Sambasivan & Soon (2007) claim that the most notable consequence of delays is in time overruns, which give rise to additional costs, thereby reducing the profitability of these projects.

The literature indicates that delays are a global concern (Sambasivan & Soon, 2007). Yet, there is little literature on the subject in South Africa. Being a third-world economy (UN, 2019), it is even more in need of effective implementation of infrastructure projects, particularly for water infrastructure, which is already strained (Sambasivan & Soon, 2007).

Construction delays have more severe implications in less developed and developing countries than in developed countries, particularly for major projects (Memon & Rahman, 2014). This is because large projects in undeveloped and developing countries are highly dependent on foreign materials. Construction projects implemented by UW are no exception.

Delays should be reduced since UW is increasingly entrusted by the Department of Water and Sanitation (DWS) with the implementation of bulk water schemes in KZN (Umgeni Water, 2019). Successful delivery of these mega-projects will require a reduction in construction delays. This study investigated and evaluated the extent of construction delays in infrastructure construction projects implemented by UW.

## **BACKGROUND**

Access to safe potable water and sanitation services is essential to sustaining human well-being (WHO, 2019). In KZN, the role of providing these services is mainly fulfilled

by UW, a state-owned enterprise that derives its legislative mandate from the Department of Water and Sanitation (Redelinghuis, 2015). It was established in 1974 and has become one of Africa's most effective water management entities (Umgeni Water, 2019). It is the second-biggest provider of water and sanitation services in SA (Umgeni Water, 2019).

UW is responsible for implementing bulk water and sanitation infrastructure projects. Significant projects recently implemented by UW include the Lower Tugela Bulk Water Supply Scheme (BWSS) Phase 1 (R1.4bn cost); Hazelmere Water Treatment Works (WTWs) (R294bn cost); Umzinto WTWs Upgrade (R63m cost); and Greater Mpofana BWSS (R469m cost) (Umgeni Water, 2019). Despite the eventual completion of some of these previous projects, late completion remains a concern. Darville WWTWs Upgrade, still under construction in 2022, was scheduled for completion in December 2015. Similarly, Umzinto WTWs Upgrade and Greater Mpofana BWSS projects are still in the construction phase in 2022 despite being scheduled for completion in 2018 and 2017, respectively (Umgeni Water, 2022). The delays carry terminal time and cost implications. Infrastructure projects are multidisciplinary undertakings; hence, the root causes for the delay in completing the projects may vary in nature and significance. This study investigates the implications and consequences of delays in UW projects.

## **PROBLEM STATEMENT**

Time is one of three key indicators of project performance; the other factors being quality and costs (Chin and Hamid, 2015). Negative consequences of construction delays include cost overruns, lost opportunities to generate income, disputes, termination of contracts, and project abandonment (Jacob & Sunjka, 2013). These are project-level effects that are detrimental to the public, who is the end user of these projects. The research problem for this study is that '*the occurrence of time delays during the implementation of construction projects is an indicator of substandard project performance*'.

## **RESEARCH OBJECTIVES**

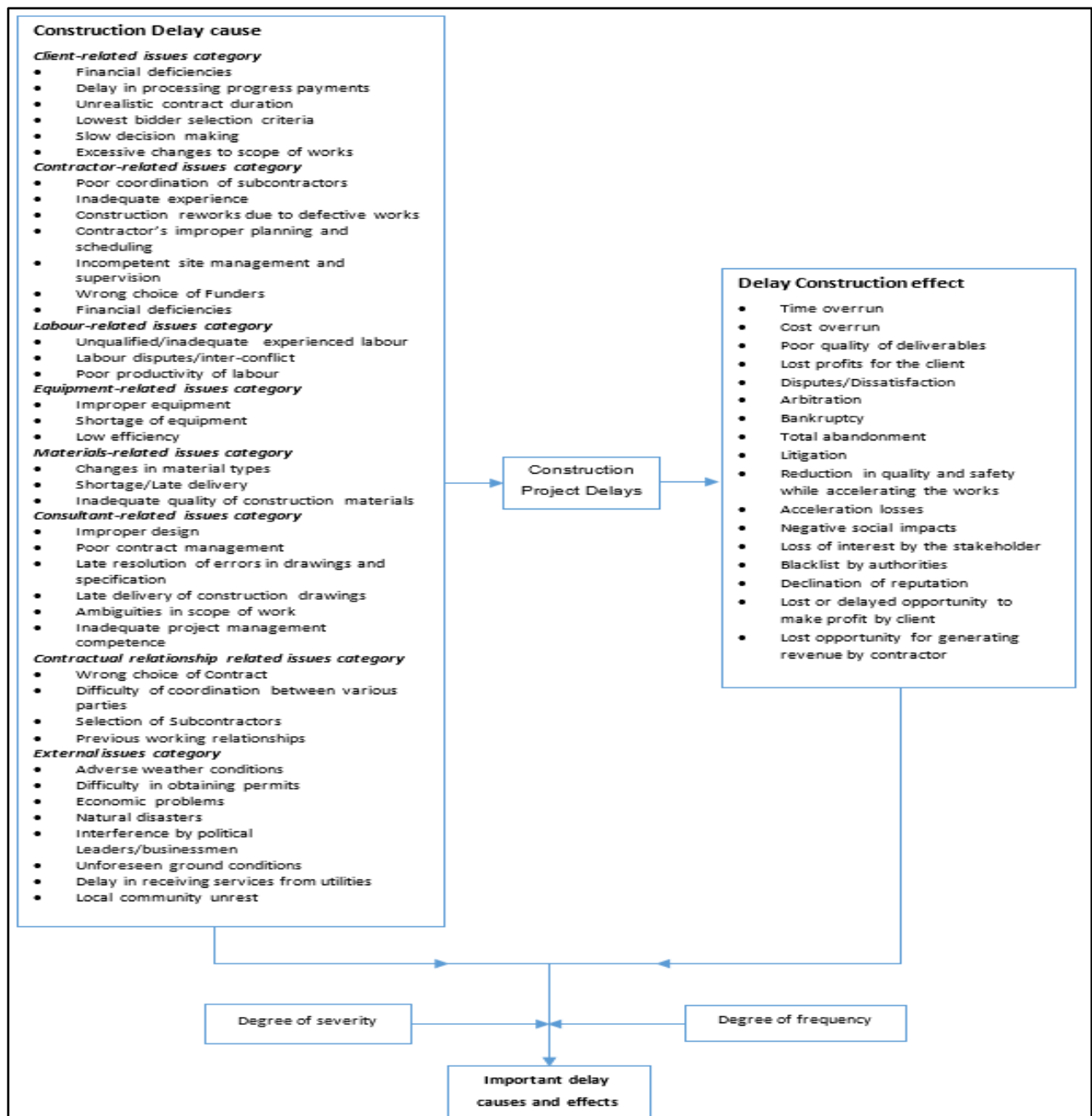
This study aims to examine factors that cause delays and delay effects on UW's infrastructure construction projects. As per the aim, the following research objectives were framed:

1. To investigate the most common causes of construction delays at UW,
2. To investigate the most important causes of construction delays at UW,
3. To investigate the most important category of construction delays at UW,
4. To investigate the most common effects of construction delays at UW, and
5. To investigate the most important effects of construction delays at UW.

## **CONCEPTUAL FRAMEWORK**

The development of our conceptual framework was split into two phases. The first stage was to provide a conceptual framework for delay causes and effects in construction projects, which was then expanded to incorporate categories of delay causes and moderating variables. The model was then evaluated by checking whether it accurately represented the objectives. Figure 1 presents the conceptual framework, identifying independent, dependent, and moderating variables. The importance of a delay cause or effect depends on the frequency of occurrence and degree of severity. The model is based on the idea that not every frequent or severe delay has causes or effects that are important. Most delay models focused on the determinants of the delays to the detriment of the appraisal of the extent of these. This model serves as a framework for identifying the most important delays causes and effects. That way, the preventive efforts can be focused on the causes and effects of those matters. According to the model, a delay cause or effect with high frequency and severity is highly important.

Determining the degree of frequency for the causes and effects enabled the achievement of research objectives (RO) 1 and 4, respectively. RO 2, 3, and 5 were achieved by computing indices' product (i.e. importance index) for the degree of frequency and severity.



**Figure 1: Conceptual framework for important construction project delay causes and effects**

Source: Author's Own

## LITERATURE REVIEW

### The anatomy of construction delays

Construction projects are essential for growing national economies (Osei, 2013). They typically come in three primary forms (Davidson *et al.*, 2015):

- *Infrastructure projects*: These heavy projects provide the capacity necessary for the transportation and distribution of goods and interaction among people. They are characterised by their ability to affect multiple stakeholder groups.
- *Industrial projects*: These are mostly process engineering projects. Examples include electrical power generation plants and petroleum refineries.
- *Building projects*: These projects require significant input from architects and engineers. They range from living or working spaces to high-rise buildings.

### **Stakeholders in infrastructure construction projects**

Stakeholders are groups that influence the achievement of project goals (Alias *et al.*, 2014). They can be classified into external and internal stakeholders. External stakeholders are groups affected by the project, including local communities and regulatory authorities. Internal stakeholders are legally contracted with the client and the core project team (PMI, 2008). In construction projects, these typically include the client, engineers, and contractors (Chin & Hamid, 2015):

- The client is the party that initiates a project in response to a business need or opportunity. Contractually, this is "the party for whom the works are executed" (SAICE, 2015).
- The contractor is the party who is legally responsible for executing construction works using drawings and specifications received from the client (SAICE, 2015).
- The engineer is the party that designs the works, administers a contract on behalf of the client, and makes rulings on contractual claims (Islam & Trigunarsyah, 2017).

### **Causes of construction delays**

Despite construction delays being a global concern, their occurrence and effects are more predominant in developing nations than in developed nations (Alaghbari *et al.*, 2007). In this section, global delays are classified according to developed and developing countries as per the United Nations (2019) classification based on the gross national income per capita.

### **Causes of construction delays in developed nations**

The most common cause of construction delays in developed nations is unforeseen ground conditions. This delay factor was found in 80% of the reviewed studies (Ahmed *et al.*, 2003; Couto and Teixeira, 2007; Orangi *et al.*, 2011; Daewood *et al.*, 2012; Andersen *et al.*, 2015). Difficulties in obtaining permits ranked second. Crawford *et al.* (2003) suggest that bureaucratic procedures in developed nations hinder obtaining construction permits. The contractor's improper planning and scheduling, excessive design changes in construction drawings, and adverse weather conditions are ranked third.

### **Causes of construction delays in the Middle East**

This study reviewed seven peer-reviewed journal papers to discern the primary causes of construction delays in the Middle East. Our literature review looked for the most significant factors causing delays and ranked excessive scope changes as the most frequently occurring delay factor. This factor was encountered in 85% of the studies. Delayed payment by the client for completed work and the financial deficiencies faced by the client both ranked in the second position. Also ranked in the second position were contractor-related factors in the form of financial deficiencies and contractors' poor site management and supervision. The following factors were a shortage or late delivery of material, the client's slow decision-making, and the lowest bidder selection criteria.

### **Causes of construction delays in Asia**

The delay causes in Asia were extracted from Fung *et al.* (2006); Ali *et al.* (2010); Kao *et al.* (2010); Doloi *et al.* (2012); Gardezi *et al.* (2014); Assaf *et al.* (2015); and Dissanayake *et al.* (2015). The studies indicated that poor communication between the project team is the most frequent delay factor. Here, communication refers to the degree to which drawings and specifications convey critical information to enable construction that is free of errors (Kwan *et al.*, 2017). Another frequent cause of the delays in Asia is managerial and financial matters. Improper planning by the contractor and poor site management ranked second, along with financial deficiencies faced by the contractor. Financial management deficiencies are not exclusively associated with



contractors. It was noted that financial deficiencies faced by clients were ranked fourth, along with the shortage or late delivery of material.

### **Causes of construction delays in Africa**

Studies on construction delays in Africa include Crawford *et al.* (2003); Kaliba *et al.* (2009); Baloyi and Bekker (2011); Alinaitwe *et al.* (2013); Aziz (2013); Kamanga and Steyn (2013); Bonga and Nyoni (2017); and Gebrehiwet and Luo (2017). In the literature, shortage and/or the late delivery of material emerged as the most frequent cause of delays. This is documented in 67% of the studies. Kaliba *et al.* (2009) state that late material delivery is a clear indication that many African countries import specialist construction materials. Ranked second are excessive changes to the scope of work and delayed payment by clients for completed work. Delayed progress payments are caused by several factors such as the client's insufficient working experience in construction projects (Crawford *et al.*, 2003).

Financial deficiencies faced by the contractor and delayed communication of information by the client are ranked third. Fourth ranked were escalating material prices; an external issue outside the construction party's control (Aigbavboa *et al.*, 2015), and the contractor's poor site management and supervision. Clients and contractors were responsible for 50% and 30% of the delays, respectively, while the remaining 20% came from external factors.

### **Categorising causes of construction delays**

The literature in Africa reveals a similar pattern to that in other developing nations. In addition to consultant, external, contractor, and client-related factors, African studies suggested material-related factors as another significant reason for delays. This demonstrates this factor's significance in delaying projects in Africa. The categories of delays adopted for this study, as illustrated in Figure 1, were derived from multiple African studies as listed in Table 1.

**Table 4: Categories of construction delay causes**

Author(s)	Group of factors causing delays
Aziz (2013)	client-related, consultant-related, contractor-related, material-related, labour-related, equipment-related, project-related, design-related, and external
El-Rasas & Marzouk (2009)	client-related, consultant-related, contractor-related, material and equipment-related, labour-related, project-related, and external
Adaku <i>et al.</i> (2015)	financial, resource, technical, economical, environmental, operational, government and political, relationship, and legal
Isah & Mohammed (2012)	design-related, construction-related, financial-related, managerial, code, and acts of God
Aigbavboa <i>et al.</i> (2015)	client-related, consultant-related, contractor-related, material-related, equipment-related, labour-related, and external factors
Bonga & Nyoni (2017)	owner-related, contractor-related, consultant-related, client-related, labour-related, design team-related, contract-related, material-related, contractual relations, equipment-related, project-related, and external factors
Adugna (2015)	client-related, contractor-related, consultant-related, design-related, project-related, material-related, equipment-related, labour-related, and external factors

### Effects of construction delays

The effects of construction delays can be described as negative repercussions that manifest when the causes of delays are overlooked and not addressed effectively (Aigbavboa *et al.*, 2015). These effects vary in their degree of importance, frequency and severity but are common to construction projects worldwide. Many of the studies conducted on the subject of delays have focused more on delay causes than on effects. However, there is still a significant body of literature that has focused on effects. Several studies carried out around the world have attempted to identify and rank the effects of construction delays.

### Effects of construction delays outside Africa

Alias *et al.* (2014) listed the most frequently occurring causes of construction delays in Malaysia as time overruns; cost overruns; contractual disputes, lengthy negotiations; legal action and total abandonment. Time overruns ranked first as the most important consequence of delays; cost overruns came second highest, while total project abandonment came last. These findings are consistent with those in

Pakistan where Bibi *et al.* (2011) found that the five most frequently mentioned effects were schedule overruns; cost overruns, project abandonment; and lengthy negotiations for claims and disputes. Enshassi *et al.* (2009) found the following effects of construction delays as important in Romania: "schedule overruns; cost overruns; a decrease in the client's financial commitment; a reduction in quality; negative social impacts; a reduction in safety; contract termination; loss of interest by the stakeholder; blacklisting by the authorities; and loss of reputation".

The delay effects in developed nations can be compared to the rest of the world. However, the most common factors in developed nations are contractual disputes and litigation (Kumaraswamy & Lam, 2007). Hartman *et al.* (1994) ranked the most important effects of delays in Canada as claims for extension of time, need for acceleration of works, and legal disputes in that order.

### **Effects of construction delays in Africa**

Kikwasi (2012) in Tanzania ranked 14 effects of delays in the following order of frequency of occurrence: time overruns; cost overruns; negative social impact; wasted resources; claims and disputes; arbitration; delayed loans repayment by the client; poor quality outputs; lost or delayed opportunity for generating revenue; bankruptcy by contractual parties; litigation; contractor's additional distress; project abandonment; and losses associated with construction acceleration. This finding partly agrees with Gebrehiwet and Luo (2017) regarding Ethiopian projects. However, in this study, cost overruns ranked first, followed by time overruns, construction contract termination, arbitration, and litigation.

According to Ajuwon and Gbahabo (2017), the effect of construction delays in Sub-Saharan African projects is due to a combination of effects, which are as follows; sequentially, "Pareto-inefficient allocation of resources; further delays and cost escalation; contractual disputes and litigation; negative public perception; loss of jobs and income; and total project abandonment".

In investigating the construction delay effects in SA, Aigbavboa *et al.* (2015) used Gauteng as the case study. The study identified ten effects and ranked them in terms of frequency as time overruns; budget overruns; loss of expected revenue; claims and contractual disputes; work of substandard quality; client's distress; acceleration costs;

the strained relationship between contractual parties; claims; and loss of revenue-generating opportunities by the client.

### **Effects of construction delays across the world**

There are numerous effects of delays identified in the literature. However, the most common ones can be listed and described according to Ismail and Pourrostan (2011):

- Schedule overruns refer to a project taking longer than planned. This is the margin between the deadline and the actual project completion time (Ajuwon & Gbahabo, 2017).
- Cost overruns occur when costs exceed the project budget (Jacob & Sunjka, 2013). Time overruns often lead to cost overruns since they generate additional time-related costs (Akomah & Jackson, 2016; Mbachu & Nkado, 2002).
- Claims and disputes arising between contractual parties in a construction project (Mitkus & Mitkus, 2014). In situations where there is no amicable agreement, arbitration, litigation, and even contract termination often follow.
- Arbitration offers an alternative dispute resolution process for contractual parties to resolve disputes without court proceedings. Arbitration typically follows if a dispute cannot be resolved through an amicable settlement between the parties (SAICE, 2015).
- Litigation is a legal process where disputes are referred to courts of law for resolution. Disputes often lead to court cases, particularly when hefty penalties are triggered (Aigbavboa *et al.*, 2015) and take a long time to resolve (Bibi *et al.*, 2011).
- Total project abandonment may occur if issues prompting the time overruns are not settled timeously (Jacob & Sunjka, 2013). Abandonment refers to the absolute stoppage or termination of all work on a project, or suspension of the project for a prolonged period (Jacob & Sunjka, 2013).

## **RESEARCH METHODOLOGY**

### **Research Approach**

This research is quantitative and based on numerical data (Bhattacharjee, 2012). The motivation for this choice is to quantify the occurrence and impact of delays and

categorise and rank them. The common causes of delays and the categories were analysed and ranked according to severity and frequency using a 5-point Likert scale. The categorisation was adopted from Jacob and Sunjka (2013) and consists of client; consultant; contractor; material; equipment; labour, contractual relationship, and external related factors. The questionnaire was formulated from the literature.

### **Target population and sample frame**

The target population comprised a total of 116 contractual representatives, including clients, contractors and engineers from ongoing and previous construction projects at UW. These parties played significant roles in project execution, qualifying them to contribute meaningfully to the study. The client respondents included project managers and quality assurance personnel for the projects. Resident engineers represented engineers, while site agents represented contractors. The projects considered for this survey were implemented after founding the Project Management Office at UW in 2007. Project records before 2007 lack details to identify the research sample. The sample frame was drawn from UW project records, and consisted of 31 subjects from the clients, 36 from the engineers, and 47 from the contractors.

### **Sampling method**

Stratified random sampling was used in collecting the research data. This technique is appropriate when mutually exclusive subgroups within a target population are expected to express divergent responses on a subject of interest (Sekaran, 2003). The target population was divided into client, contractor and engineer subgroups. Using stratified random sampling within the three distinct groups of the target population enabled tracing response trends within the subgroups and population. The random selection of respondents from each stratum followed the stratification of the subjects.

### **Determining the sample size**

The sample size ( $n$ ) for the target population was determined statistically using Eq. (2), which has been adjusted from Eq. (1) to correct for a finite population (Cochran, 1977):

$$n_0 = \frac{z^2 pq}{e^2} \dots \dots \dots (1)$$

$$n = \frac{n_0}{1 + (\frac{n_0 - 1}{N})} \dots \dots \dots (2)$$

$n_o$  = initial sample size;  $z$  = standard error;  $e$  = desired level of precision;  $p$  = estimated proportion of an attribute that is present in the population;  $q = 1 - p$ ;  $N$  = target population size

A maximum degree of variability (DoV),  $p = 50\%$ , was assumed since the population's DoV is unknown. At a confidence level of 95%,  $z$  equates to 1.96. Since stratified random sampling was used, the population of  $N$  units was subdivided into subpopulations of  $N_1$ ,  $N_2$ , and  $N_3$ . The minimum required sample size for each stratum is shown in Table 2.

**Table 5: Subpopulation and sample size**

Stratum	Subpopulation	Sample Size
Client	$N_1 = 33$	$n_1 = 31$
Engineers	$N_2 = 36$	$n_2 = 33$
Contractors	$N_3 = 47$	$n_3 = 42$

## DATA ANALYSIS

Primary data was analysed using the frequency index (FI), severity index (SI), and importance index (II). It was ranked accordingly to determine the relative FI and II to examine the causes and effects of delays. This analysis method was also adopted by Al-Hejji and Assaf (2006) in Saudi Arabia; Megha and Rajiv (2013) in India; and Alinaitwe *et al.* (2013) in Uganda. The II, a product of FI and SI, was used to rank the variables by assigning the first rank to the highest value and the last rank to the lowest value. The indices for each of the variables were computed using Eq. 3 to 5, which are described in Al-Ghafly and Al-Khalil (1999):

$$SI(\%) = \left( \frac{\sum_{i=1}^4 a_i n_i}{\sum_{i=1}^4 N_i} \right) \times 100\% \dots (3); \quad FI(\%) = \left( \frac{\sum_{i=1}^4 b_i n_i}{\sum_{i=1}^4 N_i} \right) \times 100\% \dots (4); \quad II(\%) = [SI(\%) \times FI(\%)] / 100\% \dots (5)$$

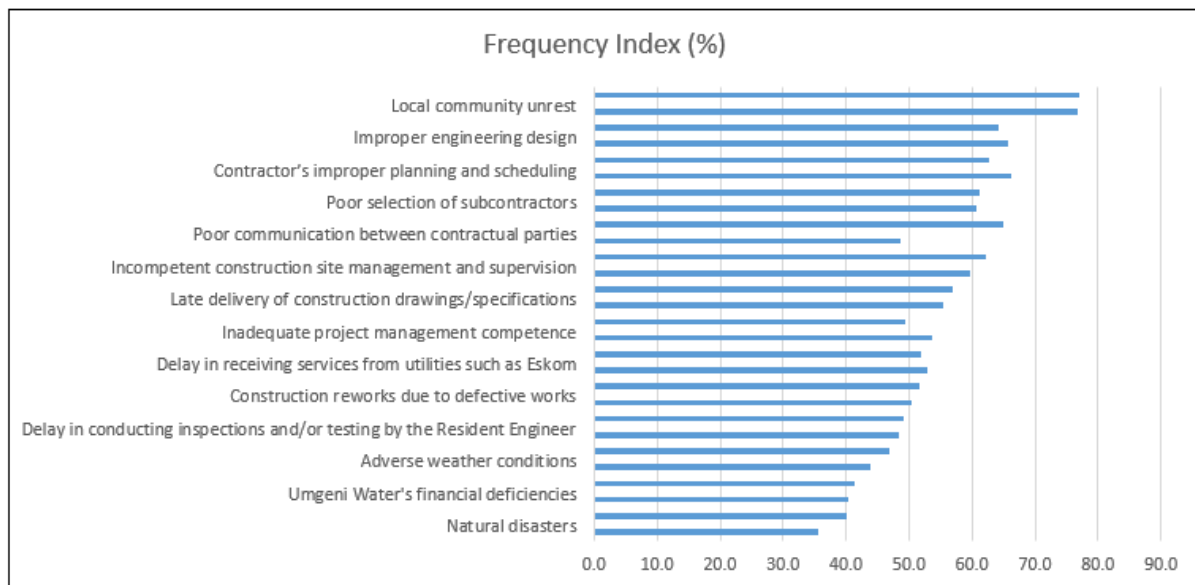
a = weighting assigned to each response (from 1 for 'not at all' to 5 for 'extremely severe'); n = frequencies of the responses; N = total no. of responses; b = weighting given to each response (from 1 for 'never' to 5 for 'always').

## **DISCUSSION OF EMPIRICAL RESULTS**

Scholars concur that infrastructure projects are unique, and construction delays often threaten their success (Memon & Rahman, 2014, Ajuwon & Gbahabo, 2017; Sambasivan & Soon, 2007). They are unique because they differ in the final product delivered, the stakeholders involved, and the location of their footprint. However, it is possible to profile the most common delays by collecting and evaluating the views of professionals who executed the projects. Since UW is subject to similar documented challenges, the study's first objective is to investigate the common causes of delays.

### **Objective 1: to investigate the most common causes of construction delays at UW.**

In congruence with Kikwasi's (2012) findings, who concluded that time is a universal factor of project delays, the study showed that time-related constraints rated highly. The findings showed that most respondents reported excessive changes to the scope of work as the most common cause of construction delays on UW projects. Moreover, this factor ranked first in all three respondents: the client, contractors and engineers. It was followed by local community unrest and contractor's improper planning and scheduling as shown by Figure 2.



**Figure 2: Common causes of construction delays**

Below is the list of the three most common causes of delay, listed according to their ranks:

- 1) Excessive changes to the scope of work;
- 2) Local community unrest;
- 3) Contractor's improper planning and scheduling.

This finding is consistent with Kaliba *et al.* (2009); Ali *et al.* (2010); Doloi *et al.* (2012); Kamanga and Steyn (2013); Gardezi *et al.* (2014); Assaf *et al.* (2015); Bonga and Nyoni (2017); and Dharma and Rauzana (2022). This shows that the causes of delay in SA has a strong relationship with fellow African countries and Asia. Across both continents, excessive work scope changes are the prime cause of construction delays.

The client predominantly causes changes to the scope of the work. It is categorised as a sub-variable to client-related issues. Bonga and Nyoni (2017), Kamanga and Steyn (2013), and Kaliba *et al.* (2009) all concur, highlighting this as a common challenge within the African context. Bonga and Nyoni (2017) state that excessive changes to the scope of work is not necessarily concerned with physical changes to planned works but can also encompass additional scope or 'scope creep'. The



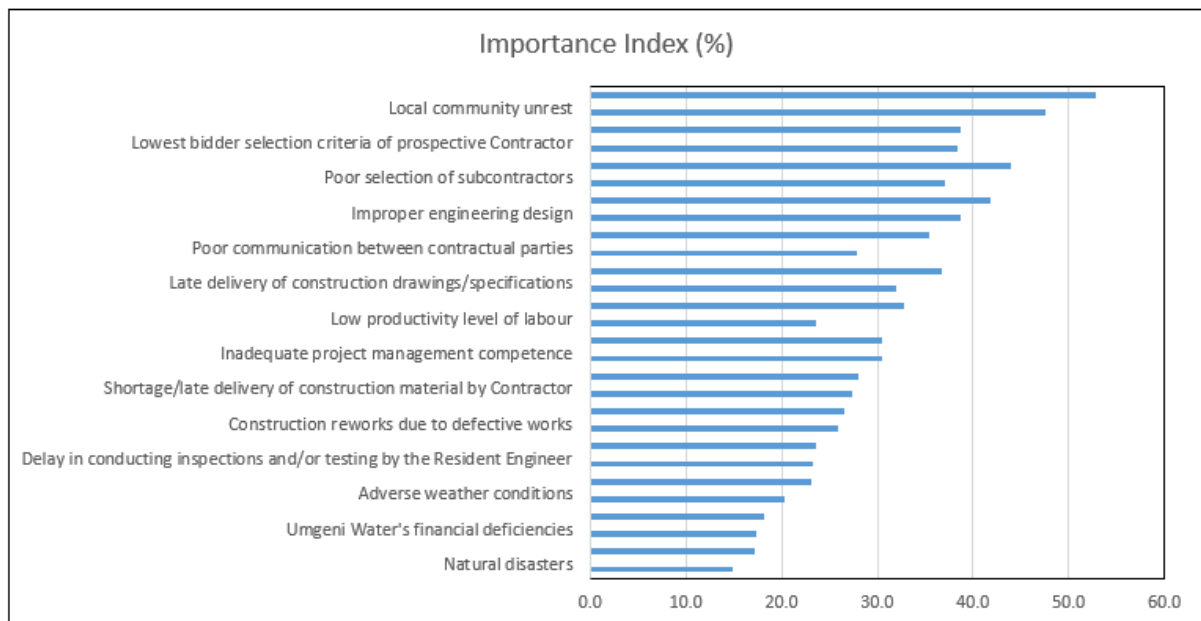
scholars further contest that the changes originate in the construction project initiation and planning stages. The project scope is supposed to be formulated, comprehensively articulated, and agreed to by relevant parties.

**Objective 2: to investigate the most important causes of construction delays at UW.**

The findings indicate that excessive changes to the scope of work are the most important cause of construction delays at UW. However, it only ranked highest in the client subgroup of respondents. This is a significant finding since it nullifies the argument that clients have less representation and are more susceptible to blame from contractors and engineers. The sub-variable ranked second with contractors, while it ranked third with engineers. It is followed by local community unrest and contractors' financial deficiencies. Below is the list of the five most important causes of delay, listed according to their ranks:

- 1) Excessive changes to the scope of work;
- 2) Local community unrest;
- 3) Contractors' financial deficiencies;
- 4) Contractors' improper planning and scheduling;
- 5) Poor administration of construction contract.

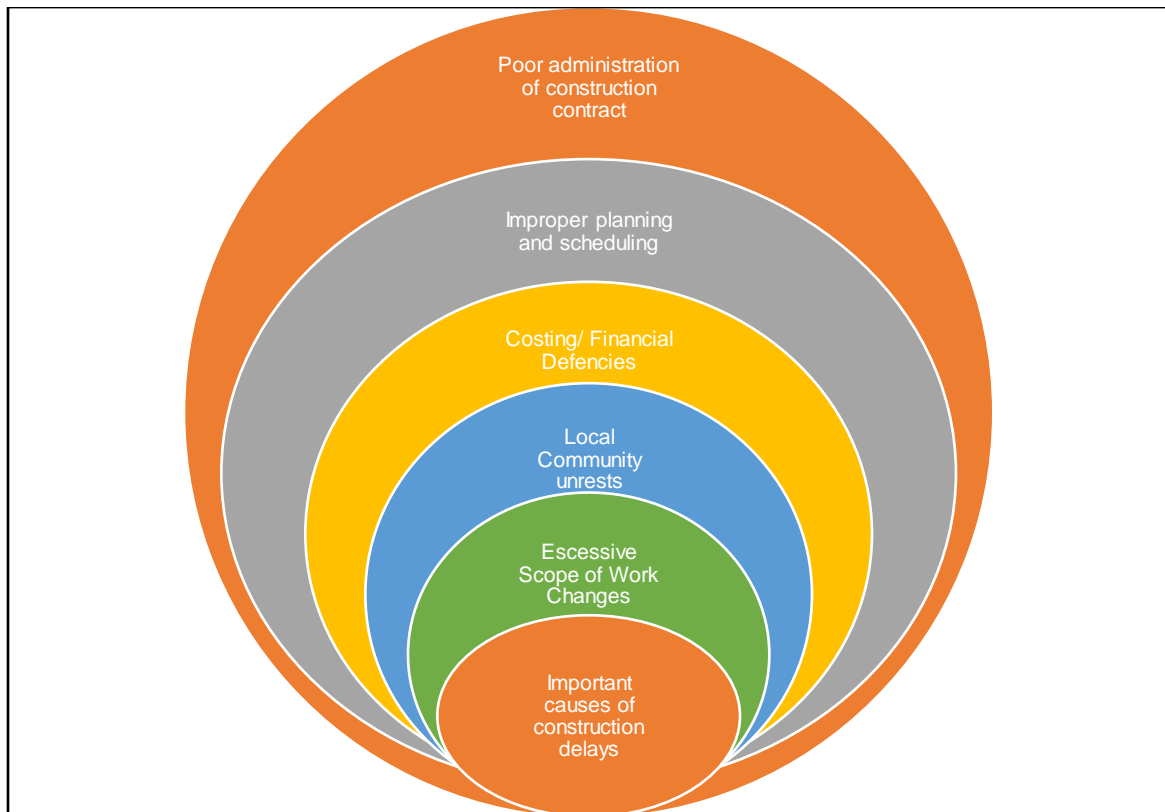
In Figure 3 these are presented with the quantitative results which show how they were ranked. However, further on in Figure 4, a framework based on these result was created to articulate the fit these have on a single project and to depict their heirarcy for UW.



**Figure 3: Important causes of construction delays**

Excessive changes to the scope of work affect the core of the project's success, including time, cost, and quality. Scope creep means more time is required to execute the additional work. It requires additional materials and supervision, thus increasing planned fixed and time-related project costs. Excessive changes to the scope of work ultimately compromise the final product since changes are often executed without adequate planning.

Local community unrest ranked as the second most crucial factor. It typically manifests as community strikes and forced work stoppages by construction mafias. The relatively high ranking of this factor is a significant concern since SA is expected to continue experiencing more community strikes in public infrastructure projects (Odendaal, 2014). This indicates a gap in meeting stakeholder requirements for the projects. Thorough planning and communication with diverse stakeholders are essential, particularly during the early stages, and transparency is essential for all stakeholders, i.e. every party participating in or affected by the project.



**Figure 4: Important causes of construction delays framework**

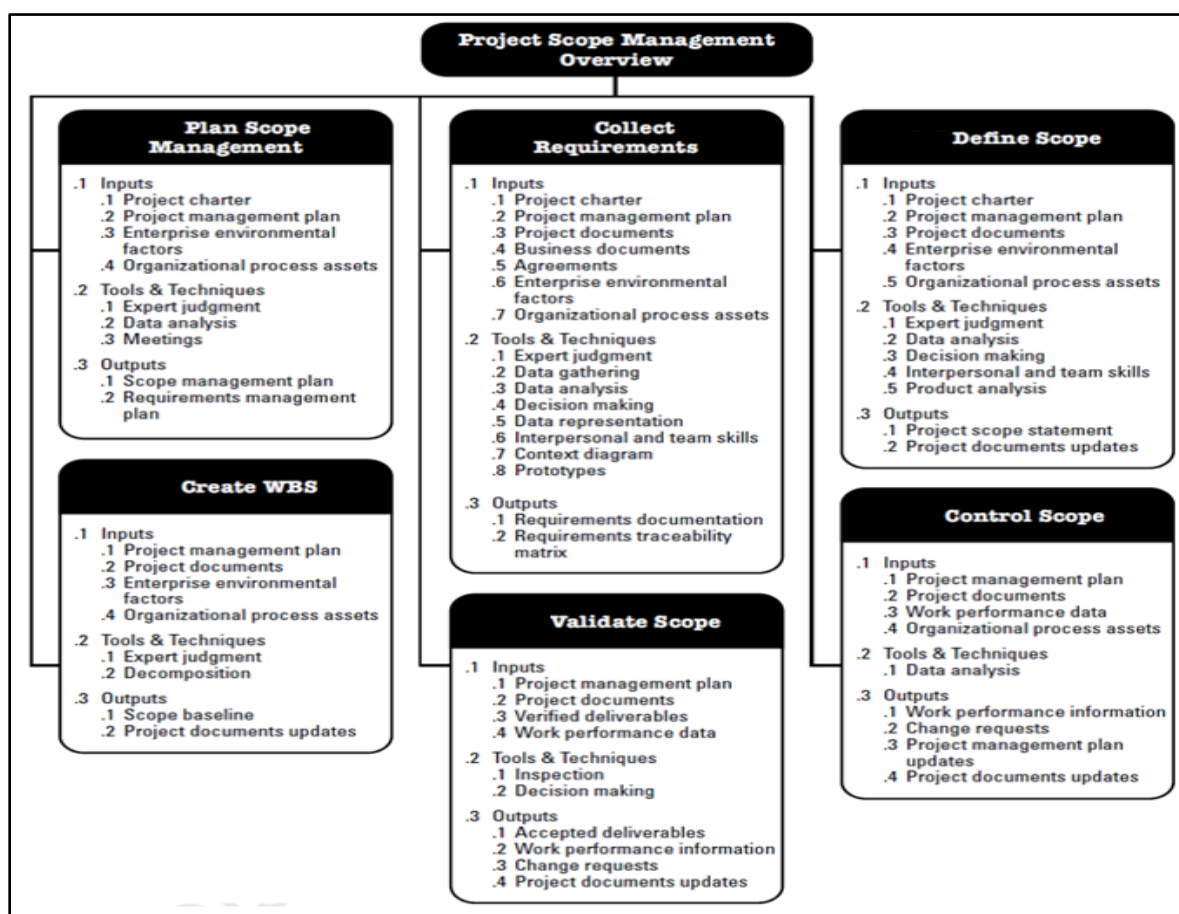
*Source: Author Own*

The contractor's financial deficiencies were shown to be a significant cause of delay. These are of utmost importance as they translate into a shortage in materials supplied, and thus the consequent adverse construction delays. As highlighted in the literature, the effects of the costs or financial deficiencies have direct and indirect effects on other variables of the project.

According to the formula adopted for determining the most important delay causes, which is a function of frequency and severity, an important delay factor has to score relatively high both in frequency and severity. This implies that excessive changes to work scope probably pose the highest risk to UW's timely completion of construction projects. Therefore, it is at the heart of any project where the risk of success is linked to project delays.

It is crucial to examine the complexity of excessive changes to the scope of works by identifying the root causes and nature thereof. According to Hao, et al. (2008), these

excessive changes result primarily from the designer's omissions and the client's natural inclination to identify needs for additions during the progress of the works. Also, it is widely accepted that scope changes are inevitable in projects since decisions are often made based on incomplete information during design (Geraldi, et al., 2011). For that reason, project scope must be managed through a formal scope management process from the initiation stage of projects. According to PMI (2008), scope management can be effectively managed through the steps shown in Figure 5: "plan scope, create work break down structure, collect requirement, validate scope, define scope, and control scope."



**Figure 5: Project scope management process**

Source: PMI (2008)

The processes depicted in Figure 5 aim to ensure that a comprehensive scope baseline is developed by collecting important stakeholders' requirements and scope definitions. For a project executed through the process mentioned above, scope creep is minimised, and additional scope is controlled through an established change

request procedure in an organisation. In a project-centric organisation such as UW, adopting a project scope management plan can minimise the effects of excessive changes to scope.

A design review procedure should be developed and implemented to minimise excessive changes to the scope of works caused by the designer's errors or omissions. Design reviews ensure that all previously set requirements at the end of each phase have been satisfactorily met. This ensures that a credible basis is set for the next phase in the Process Life Cycle. Design reviews assist in avoiding re-work, scope creep and reduce the risk of adversely affecting project deliverables in terms of cost, quality, time, and scope. To conduct design reviews, it is essential to define the end-of-phase baselines. These baselines will describe the requirements that need to be met for each phase/stage in the process life cycle in terms of designs, standards and deliverables (Eskom, 2016).

**Objective 3: to investigate the most important category of construction delays at UW.**

The literature review demonstrated how the causes of construction delays are categorised into eight distinct groups: labour; contractual; external; contractor, client, engineer, material; and equipment-related factors. Accordingly, the causes of construction delays were examined in line with the categories described above. The client and engineers reported contractor-related issues as the most important category, while contractors ranked engineer-related issues as the most important category of delays. The difference in the opinions of the three parties may stem from their contractual positions in typical construction contracts.

This study found that engineer-related issues is overall the most important category. Within engineer-related issues, the most important delay factors, ranked from the most to the least important, are poor administration of construction contracts; improper engineering design; late resolution of errors in construction drawings/specifications; late delivery of construction drawings/specifications; and delays in conducting inspections and/or testing by the Resident Engineer.

The above-listed engineer-related issues do not occur independently. For instance, proper construction contract administration ensures timely delivery of contract

documents (drawings and specifications), the clarification of discrepancies in and among the documents, and timely inspections by the construction-monitoring team. This interdependence may imply that to address delays associated with engineer-related issues, a collective effort would have to be directed to all the issues rather than just selecting the highest-ranking factor.

**Objective 4: to investigate the most common effects of construction delays at UW.**

With a comparison of the FI results from the three subgroups of respondents, it is clear that the client, engineers and contractors share the same view on the most frequent effects of delays. Across all the subgroups, time overruns ranked as the most frequently occurring effect across UW construction projects; refer to Table 3. Time overruns may originate from several sources or be caused by any delay, be it client; contractor, engineer; contractual relationship; labour, material; equipment-related or external issues. Cost overruns ranked second, while a lost opportunity to make a profit by a client ranked third in the frequency of occurrence.

The findings are generally similar to those from studies that assessed the effects of construction delays in Sub-Saharan Africa (Baloyi & Bekker, 2011; Kikwasi, 2012; Ajuwon & Gbahabo, 2017; Bonga & Nyoni, 2017). Time overruns (ranked first) and cost overruns (ranked second) were identified as the two most frequently occurring results of construction delays in Sub-Saharan Africa; by Aigbavboa *et al.* (2015) in South Africa and Kikwasi (2012) in Tanzania. Gebrehiwet and Luo (2017) reported cost overruns as the most common effect of delays, ahead-of-time overruns in Ethiopian construction projects.

The literature showed a lack of appreciation for the difference between frequency of occurrence of the delays versus the importance of the effects. This is reflected in their interchangeable use of the terms 'frequency/common' and 'importance' in the studies. For instance, Aigbavboa *et al.* (2015) claimed to have studied the most common effects of delays, but in the text, these effects are also referred to as important effects of delays. That being said, the bulk of the literature focuses more on the importance, rather than the frequency, of the effects, thus making it hard to contrast the empirical results of this study with the literature.

**Table 6: FI for the effects of construction delays**

Effect of Delay	Frequency Index (%)	Rank	Frequency Index (%)	Rank	Frequency Index (%)	Rank
	Umgeni Water		Contractors		Engineers	
1. Completion time overrun	81.3	1	81.2	1	80.0	1
2. Cost overrun	72.9	3	76.4	2	76.2	2
3. Lost opportunity to make profit for	73.5	2	72.7	3	72.4	3
4. Negative social impacts	61.9	5	66.1	5	65.7	5
5. Reduction in construction quality	52.3	8	49.1	10	59.0	7
6. Disputes/Dissatisfaction claims	63.2	4	68.5	4	71.0	4
7. Arbitration	53.5	6	65.5	6	63.8	6
8. Litigation	36.8	13	38.8	12	38.6	12
9. Bankruptcy of Contractor	40.6	11	35.2	13	45.7	9
10. Loss of interest by stakeholders	38.7	12	44.8	11	42.9	10
11. Decline of reputation for Contractor	52.9	7	51.5	8	48.6	8
12. Decline of reputation for Employer	43.9	9	57.0	7	40.0	11
13. Decline of reputation for Umgeni	41.3	10	49.7	9	36.2	13
14. Total abandonment of project	29.7	14	29.1	14	26.7	14

**Objective 5: to investigate the most important effects of construction delays at UW.**

The most important effects of delays are those associated with exceptional consequences on a construction project. These are essentially the highest-ranking effects in terms of frequency and severity. Time overruns emerged as UW's most important effect of delays in construction projects; referring to Table 4. Cost overruns and lost or delayed opportunities to make a profit by a client ranked second and third, respectively. This finding (i.e. rankings for the three effects mentioned above) is consistent with Aigbavboa *et al.* (2015), which investigated the delay effects in construction projects in SA, particularly in Gauteng province.

**Table 7: II for the effects of construction delays**

Effect of Delay	Importance Index (%)	Rank	Importance Index (%)	Rank	Importance Index (%)	Rank
	Umgeni Water - the client		Contractors		Engineers	
1. Completion time overrun	56.1	1	55.1	1	48.0	1
2. Cost overrun	45.6	3	49.5	2	47.9	2
3. Lost opportunity to make profit for Umgeni Water	48.9	2	48.5	3	44.8	3
4. Negative social impacts	36.0	4	36.8	5	40.7	5
5. Reduction in construction quality while accelerating the works	25.3	8	22.3	10	35.7	7
6. Disputes/Dissatisfaction claims	33.4	5	38.6	4	41.2	4
7. Arbitration	26.9	7	35.3	6	38.6	6
8. Litigation	17.3	13	18.3	12	20.6	10
9. Bankruptcy of Contractor	22.6	10	17.7	13	28.1	8
10. Loss of interest by stakeholders	18.0	12	21.5	11	18.4	11
11. Decline of reputation for Contractor	30.0	6	28.4	7	25.0	9
12. Decline of reputation for Employer's Agents/Engineers	22.9	9	28.3	8	17.7	12
13. Decline of reputation for Umgeni Water	20.0	11	25.2	9	15.3	13
14. Total abandonment of project	14.2	14	12.7	14	13.5	14

Despite a lost opportunity to make a profit by UW being ranked the third most important effect, it was not ranked as high in the literature. Kikwasi (2012) ranked it ninth, while Aigbavboa et al. (2015) ranked it the least important. Remarkably, other reviewed studies did not even make mention of the effect. The lack of recognition of this effect in the literature arguably stems from a lack of appreciation of the ripple effect of construction delays, which extend from the construction phase to the operational phase of the infrastructure. Apart from that, the aforementioned studies centred on the general construction industry, not water infrastructure. The opportunity to generate revenue can be easily assessed by considering the expected water demand and approved water consumption tariffs.

## CONCLUSIONS

As per the research aim, research objectives were framed. The conclusions for the findings were organised and discussed in the following paragraphs in line with the research objectives.

**Objective 1: to investigate the most common causes of construction delays at UW**



Excessive changes to the scope of work, local community unrest, and contractors' improper planning and scheduling are UW's three most common causes of construction delays. This finding is consistent with Kamanga & Steyn (2013) and Bonga & Nyoni (2017), who reported excessive changes to the scope of work as a prime cause of the delays in SA.

#### **Objective 2: to investigate the most important causes of construction delays at UW**

The three most important causes of construction delays were excessive work scope changes, local community unrest, and contractor financial deficiencies. Excessive changes to the scope of work is both a frequently occurring and important delay cause, thus requiring more attention from UW. Although local community unrest ranked as the second most important factor to excessive changes to the scope of works, it should be assessed and addressed with a comparable effort. The significance of this factor is expected to rise as the construction mafia, usually presented as business forums, which forcefully stop work and extort construction projects, continue to expand their operations and influence across SA.

#### **Objective 3: to investigate the most important category of construction delays at UW**

Despite excessive changes to the scope of work, a client-related sub-variable was ranked the most important cause of the delays; it was not the client-related delay category that emerged as the most important. Engineer-related issues ranked first as the most important delay category. Contractor-related and client-related issues followed it. That the ranking of engineer-related issues, contractor-related issues, and client-related issues are the three most important delay categories has important implications. It implies that reducing important delays is within the control of UW, engineers, and contractors, the principal contractual parties.

#### **Objective 4: to investigate the most common effects of construction delays at UW**

Time overruns ranked as the most frequently occurring effect across UW construction projects. Cost overruns ranked second, while a lost opportunity to make a profit by UW ranked third. The findings are similar to studies conducted in Sub-Saharan Africa

and SA. Time overruns (ranked first) and cost overruns (ranked second) were identified as the two most frequently occurring delay effects by Aigbavboa *et al.* (2015) in SA and Kikwasi (2012) in Tanzania.

### **Objective 5: to investigate the most important effects of construction delays at UW**

In addition to being the most frequently occurring, time overruns emerged as the most important effect of construction delays. Cost overruns and a lost opportunity to make a profit by UW followed in second and third place, respectively. The successive ranking of time overruns and cost overruns is intriguing. These are inseparable effects of delays because completing the delayed work requires payment for time-related items (Akomah & Jackson, 2016).

### **RECOMMENDATIONS**

- To prevent extensive changes to the scope of work, UW must ensure that all critical stakeholders accept the scope. This requires the project team to ensure that the client's project objectives are investigated thoroughly. A satisfactory site investigation should be performed before the design phase to prevent variations and late adjustments during construction. For a project executed through a formal project scope management process, scope creep is minimised, and additional scope is controlled through an established change request procedure, which includes mandatory design review. From the planning phase, all stakeholders of the project must be present, including the end expected end users of the project. Such an inclusive, consultative planning phase will help identify possible design flaws which can be avoided, ensuring the scope of work is closest to reality.
- Local community unrest can arise from a lack of local employment by contractors, a lack of involvement of local businesses, or a lack of engagement with the traditional leadership, among other things. This calls for the proactive identification of stakeholders to define their expectations at the project inception phase. Moreover, the client, Umngeni Water, should use a power/interest criterion where project stakeholders with much power and interest are managed with maximum effort. Due to poverty and high unemployment rates, these destructions have become inevitable. Therefore, when sourcing labour, it is advisable to meet

with political and traditional leadership and any local forums looking after the community's interests. Working together with these community-based structures, they should identify available skills in the area and use those that fit the project from within the community

- Due to the stiff competition among prospective contractors or bidders to win construction projects, there is a risk that bids are submitted at very competitive rates. This can result in the appointed contractor suffering from financial deficiencies, thereby delaying critical activities in the construction programme. This is especially relevant to financially unstable emerging contractors with minimal resources, who often seek to win the bid and underestimate the work to be completed. These contractors are usually small, medium and micro enterprises (SMMEs) that usually exhibit reactionary and nervous bidding behavior resulting in projects not being completed as they are more costly than they might anticipate. No matter how desperate, bidders should avoid underpricing to win the bid. Such action damages the project and the contractor as their weakened work quality becomes questionable, and their brand in the construction space tarnish future work opportunities.
- Improper planning and scheduling in this field are usually associated with emerging contractors who often lack adequate expertise to schedule construction activities. Emerging contractors (which are usually but not always, black-owned businesses) should seek robust project management training whose curricula emphasise planning and scheduling. In most instances, these SMME contractors are also superficially appointed to fulfill the Broad Black Business Economic Empowerment (BBBEE) mandate. Such practices defeat the purpose of BBBEE and set up the scheme for failure for this flawed implementation. What UW should instead engage with is a model that allocates the core aspects to matured contractors on the condition that a portion of the project scope will be assigned to SMME contractors to upskill them on the job. The experienced contractor will take on a supervisory role. With the greater experience these entities receive, their delivery will improve, positioning them as worthy competitors in the future. This strategy is an on-the-job Enterprise Supply Development technique initially envisaged in the country's BBBEE codes.

- To facilitate adequate administration of a construction contract, the engineer should prioritise the timely delivery of documentation and execution of inspections; and should maintain close contact with the client and contractor to ensure. Within plans and schedules, details about administrative activities should be provided for and shared with all stakeholders. Tentative appointments with various admin stakeholders should be locked early in the project.

## **AREAS FOR FUTURE RESEARCH**

UW implement various infrastructure projects including dams, pipelines, and WTWs. The projects vary in technical nature, for instance, WTWs require more expertise in piping and instrumentation than do water dams, which require civil, geotechnical, and structural expertise. A further study to identify and quantify the delays for each type of project would enable an informed decision-making process for dealing with delays in the future.

It was not the objective of this study to identify possible relationships between the causes and effects of delays in construction projects for UW. A study could be conducted to investigate the empirical relationship between common causes and effects of the delays.

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# A sectoral analysis of output elasticity of employment in South Africa

Marvellous Ngundu<sup>1</sup> and Harold Ngalawa<sup>2</sup>

<sup>1</sup>Corresponding Author. Postdoctoral Research Fellow (Economics), School of Accounting, Economics, and Finance, University of KwaZulu-Natal, Durban, South Africa.

<sup>2</sup>Professor of Economics, School of Accounting, Economics, and Finance, University of KwaZulu-Natal, Durban, South Africa.

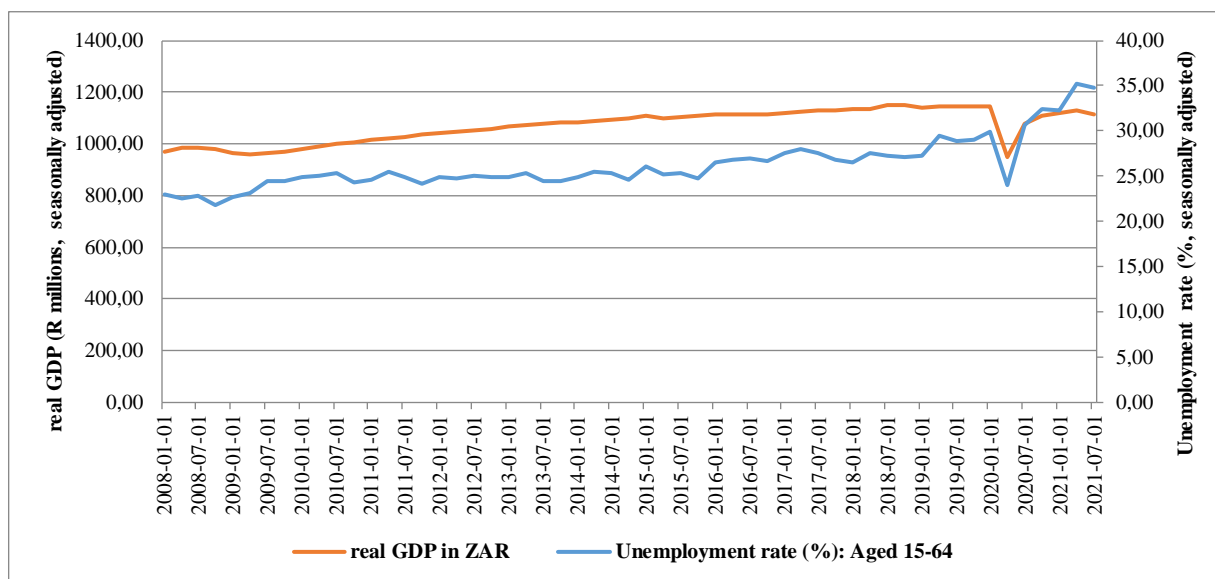
## ABSTRACT

Despite substantial research, the consistent increase in South Africa's unemployment remains an enigma. This study seeks to explore the responsiveness of sectoral employment to changes in the sectoral output in South Africa. We focus on agriculture and informal sectors, with the understanding that a large portion of South Africa's unemployed population does not have post-matric education. South Africa's Quarterly Labour Force Survey (QLFS) statistics show that from 2008 to 2019 only 7% of the unemployed population were tertiary education graduates. Thus, South Africa's current unemployment phenomenon appears to necessitate the development of policies that will create inclusive skills-based jobs. Okun's law, which considers output growth as a primary labour demand stimulus in the economy, underpins the study's hypothesis. When the labour demand function is cointegrated, Okun's law is assumed to hold; otherwise, jobless growth applies. Our findings from the Engle-Granger two-step testing procedure on the double-log linear labour demand function over the 1993–2018 period show evidence of jobless growth in the formal agricultural sector, while the informal agriculture and informal non-agriculture sectors demonstrated Okun's law features. Notably, we found a fairly elastic (1.35%) employment intensity of output growth in the non-agriculture informal sector, with an equilibrium adjustment rate of 86% within a year, *ceteris paribus*. Our findings suggest that, while South Africa's formal agriculture is no longer labour-intensive due to agricultural mechanization, economic policy consciousness on the informal sector, including agri-entrepreneurship, is necessary to create inclusive mass employment in South Africa.

**Keywords:** Agriculture; Okun's law; Employment; Jobless growth; Informal sector; South Africa.

## INTRODUCTION

The consistent rise in South Africa's unemployment rate since 2008 (see, Figure 1) is cause for concern, as the scenario appears to be deviating from the National Development Plan (NDP)'s goal of reducing unemployment to at most 6% by 2030. The seasonally adjusted unemployment rate in the third quarter of 2021 (34.69%) is almost 6 times higher than the 2030 targeted maximum threshold. Based on Okun's law, one can assume that South Africa's economy is underperforming. However, the country's economic growth has been steadily positive, save for the COVID-19 structural break in 2020, from which the economy is gradually recovering (see, Figure 1). Okun (1962) proposed the inverse growth–unemployment nexus and, as a result, concluded that economic growth is a pre-requisite for job creation. This proposition has been the basis for most job-creating economic growth empirics in developing countries. In South Africa, Okun's proposition ceased to hold in the early 1990s due to structural changes (Mkhize, 2019). This has been the case for the majority of African countries, regardless of the distortion period (see, for example, Dada, 2018; Léautier & Hanson, 2013; Ajilore & Yinusa, 2011). Thus, for the past few decades, the growth pattern in the majority of African countries has been described as jobless growth (Léautier & Hanson, 2013), and it seems that South Africa is no exception (Figure 1). Jobless growth tends to be a threat to inclusive growth, resulting in poverty, inequality and social unrest (Dada, 2018). Meanwhile, South Africa is in a state of disarray as a result of these challenges, which necessitate immediate policy intervention. According to the World Bank Group's April 2020 poverty and equity statistics, approximately 55.5% of South Africa's population lives below the national upper-bound poverty line, while the income distribution as measured by the Gini index stood at 63.3%. Following the severe civil unrest that the country experienced in July 2021, these statistics are likely to have worsened.



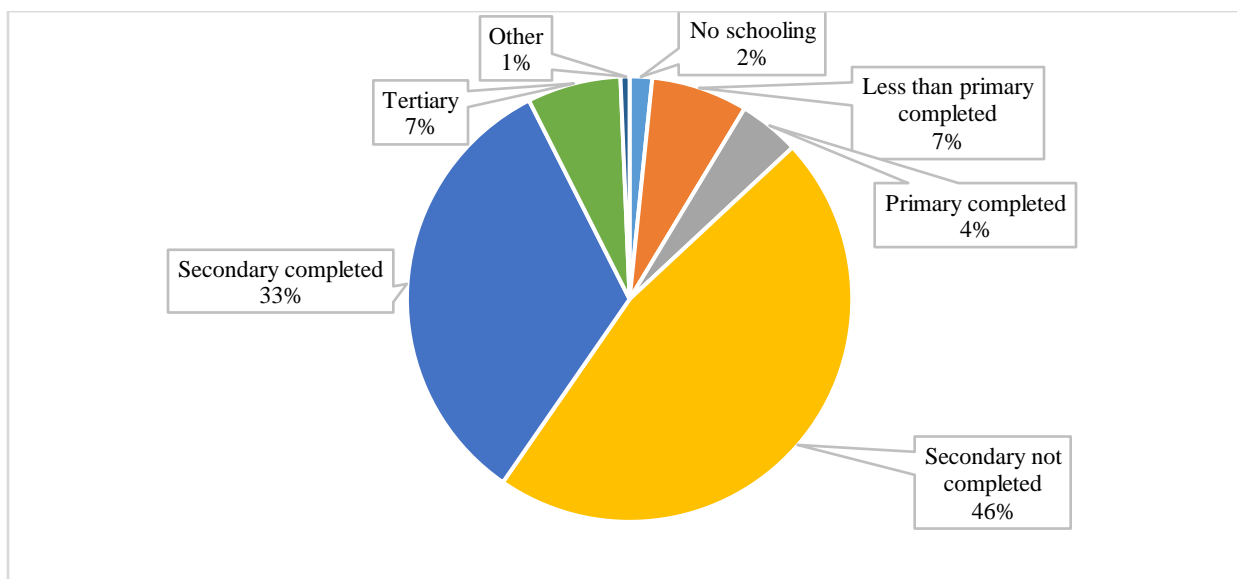
**Figure 1: South Africa's Unemployment–GDP relationship for the period (Q1: 2008 – Q3: 2021).**

**Source:** Authors' computation using FRED Economic data.

For the past three decades, the South African economy has undergone several fundamental structural reforms to boost economic growth and address the country's ongoing tripeptide challenges (unemployment, poverty, and inequality). Educational reforms to promote human capital development through education, industrialization, and various socioeconomic transformation initiatives are among these reforms. This period has, therefore, seen an influx of secondary and tertiary graduates into the job market, yet various industries were experiencing structural shifts from labour-intensive to capital-intensive. Such developments often result in a surplus labour force in the market due to the accumulation of new entrants and job losses (Altman, 2006). In line with Altman (2006), South Africa's QLFS statistics show that job losers and new entrants increased by approximately 50.4% and 38.4%, respectively, from the first quarter of 2008 to the first quarter of 2019. While human capital development through education and industrialization are commendable efforts, Léautier & Hanson (2013) caution African countries must not neglect the agriculture sector. Africa remains an "agriculture-based society and, will need to look to the agriculture sector to generate the bulk of needed employment in the coming years." Léautier & Hanson (2013:1). Similarly, Dada (2018) asserts that agriculture-led economic growth is inclusive, and thus has a high potential for creating mass employment in Africa.

This period has also seen a rise in informal sector employment. According to QLFS data, informal employment increased from 15.3% in 2013 to 18.3% in 2019, while formal employment decreased from 71.2% to 68.5% over the same period. It is assumed that the unemployed youth population living below the poverty line turned to the informal sector for employment. This is consistent with Blaauw's (2017) assertion that in a predominantly poor society, informality is the primary means of earning income and overcoming poverty. As of 2018, one in every six employed South African citizens worked in the informal sector, which contributed approximately 18% of the country's Gross Domestic Product (GDP) (Fourie, 2018). This brief on the informal sector exhibits the sector's potential to support the NDP's 2030 agenda of creating 90% of jobs by small, medium, and micro enterprises (SMMEs). However, the sector has remained on the periphery of economic analysis and policy consciousness.

In light of the preceding discussion, it is reasonable to argue that South Africa's jobless growth dilemma is likely to persist as long as agriculture and informal sectors are overlooked. While this argument does not dispute Mkhize's (2019) recommendation to create new employment opportunities through investing in non-agriculture sectors, typically the tertiary sector, the recommendation lacks inclusiveness, which is a major shortfall in South Africa's employment crisis. South Africa's current unemployment phenomenon appears to necessitate the development of policies that will create inclusive skill-based jobs (see, Figure 2). Figure 2 illustrates that during the first quarter of 2008 and the first quarter of 2019, only 7% of the population were unemployed tertiary education graduates with a chance of being absorbed into the tertiary sector. This study, therefore, builds from Mkhize's (2019) empirical work to provide an alternative empirical analysis of the sectoral employment intensity of output growth in South Africa. We focus on agriculture and informal sectors, with the understanding that a large portion (93%) of South Africa's unemployed population do not have post-matric education. In other words, the study seeks to explore the responsiveness of sectoral employment to changes in the sectoral output of South Africa's agriculture and informal sectors in order to inform policies about the extent of these sectors' labour absorption capacity.



**Figure 2: Average proportion of South Africa's unemployed population according to the highest level of education for the period (Q1: 2008 – Q1: 2019).**

**Source:** Authors' computation using QLFS data.

The study is organized into five sections. Following this introductory section, a review of the literature on the relationship between labour demand and output is conducted. The study's methodology is discussed and specified in the third section. Section four presents and discusses the study's findings, while the final section concludes the study.

### **Employment-output relationship**

Employment and output relationships can vary depending on a variety of factors, including output per worker, time frames, labour and goods market adjustments, and sectoral economic activities (see, for example, Sahin, Tansel & Berument, 2013; Landmann, 2004). In the short-run, output growth may not lead to increased labour demand. Rather, it may only result in increased working hours because firms may avoid the costs of recruiting and training new workers by paying overtime to the existing workers, *ceteris paribus*. However, constant output growth may overwhelm the existing workforce, forcing firms to increase employment capacity in the long-run. Using Australian workers, Okun (1962) proposed that a country's output growth must be approximately 3% above the nominal rate in a year to achieve a 1% point increase in employment. Several studies, however, argue that, while Okun's coefficient is a

useful benchmark in the formulation of employment–output macroeconomic policy, it varies with the economy and time frame under consideration, among other factors that influence the employment intensity of output growth (see, for example, Karim & Aomar, 2016; Okun, 1970). On the other hand, while industrialization and other structural reforms may lead to increased productivity and thus output growth both in the short-run and long-run, they also force firms to downsize their labour force, weakening or even eliminating the positive employment–output relationship. For instance, Upender (2006) found that the employment–output relationship in the Indian agricultural sector switched from positive during the pre-reform period (1983–1991) to negative in the post-reform period (1992–2000). Thus, the fourth industrial revolution may result in jobless growth as it promotes the use of machinery in place of the considerable quantity of human labour, thus decreasing demand for labour, nonetheless with a positive impact on output.

Furthermore, as Sahin, Tansel & Berument (2013) point out, various movements occur in the labour and goods markets as a result of the market's specific macroeconomic factors and institutional settings. In general, disequilibrium between the two markets tends to be a result of labour market rigidities. First, the effects of output shocks phase out faster in the short-run than those of labour market shocks. Second, closing the long-run employment gap may take longer than closing the long-run output gap. Third, changes in the labour market are smaller than changes in the goods market, and changes in output are accompanied by smaller changes in employment. As a result, the economy's employment creation puzzle may be structural, and the supply side's ability to generate employment may be weaker in the short-run. However, as the interaction between the forces of the goods and labour markets develop, they tend to reach equilibrium in the long-run.

The relationship between employment and output can also be explained in terms of the economy's sectoral economic activities (see, for example, Mkhize, 2019; Yinusa & Ajilore, 2011). The heterogeneity in the sectoral employment intensity of output growth, according to Sahin, Tansel & Berument (2013), is due to differences in cyclical behaviour, wages, technology, intensity, capital-labour substitution effects, and employment multipliers. This implies that looking through a sectoral lens is vital when considering the issue of employment intensity of output growth. However, empirical



evidence on the subject is still lacking, particularly in Sub-Saharan Africa, where unemployment is rampant. In Botswana, Yinusa & Ajilore (2011) found that labour demand in both agriculture and non-agriculture sectors was inelastic (less than 1%) in response to national output growth from 1990 to 2008. Botswana's national output predominantly depends on the mining sector (Leshoro, 2014). The mining sector is capital-and technology-intensive, thus, jobless growth in the country is not a surprising outcome. In South Africa, Mkhize (2019) found disparities in employment elasticities across eight non-agriculture sectors from 2000 to 2012. His findings show that only the finance and business services sector had an elastic employment intensity of output growth (1.56%), while the rest were inelastic, confirming jobless growth features.

The empirical works of Mkhize (2019) and Yinusa & Ajilore (2011) lacks explicit analyses of employment intensity of output growth in the informal sector, yet according to the International Labour Organisation (ILO)'s press release on the 30<sup>th</sup> of April 2018, 85.8% of employment in Africa is informal, with informal agriculture accounting for the largest proportion. The press also emphasizes the significance of education levels in informality in developing economies. "People who have completed secondary and tertiary education are less likely to be in informal employment compared to workers who have either no education or completed primary education." (ILO, 2018: 30 April 2018). Considering the education level of the current unemployed population in South Africa (Figure 2), the informal sector may be a significant source of employment. Figure 2 shows that 60% of the unemployed population do not have secondary education. Furthermore, due to the country's educational reforms, there has been an influx of tertiary education graduates in the labour market, resulting in a decrease in demand for secondary education graduates. This implies that South Africa holds 93% of the unemployed population, which can hardly be absorbed in the formal sector (see, Figure 2). Several studies suggest that when there is an excess of labour in the market, informality can serve as a cheap alternative to formal employment (see, for example, Adair & Souag, 2018; Blaauw, 2017; Pasipanodya, 2020). Agriculture, on the other hand, is perceived as a labour-intensive and inclusive source of mass employment, typically in Africa (see, for example, Dada, 2018; Léautier & Hanson, 2013). Thus, the current study builds on Mkhize's (2019) empirical work to provide an alternative empirical analysis of the sectoral employment intensity of output growth in South

Africa, with a particular emphasis on agriculture and informal sectors. The analysis is carried out from the theoretical standpoint of Okun's law.

### Empirical strategy

Following Mkhize (2019), Ajilore & Yinusa (2011), and Upender (2006), this study utilizes the double-log linear labour demand function (Equation 2) derived from the constant elasticity of substitution (CES) production function (Equation 1) through solving the marginal product of labour.

$$y_t = A[\phi K_t^{-\gamma} + (1 - \phi)L_t^{-\gamma}]^{-\delta/\gamma} \text{ where } A > 1, \delta > 1, 0 < \phi < 1, \text{ and } \gamma > -1 \quad (1)$$

As in the Cobb-Douglas production function,  $y$  is the output,  $K$  is the capital input,  $L$  is the labour input, and  $A$  is the productivity parameter. The subscript  $\gamma > -1$ , represents the extent of substitution between capital and labour inputs, and is related to substitution elasticity  $\delta = 1/(1 + \gamma)$  (Romeo, 2020). The subscripts  $\delta$  and  $\phi$  proxy for the returns to scale and distribution parameters, respectively. Equation (1) can be decomposed to the double-log linear employment function specified below.

$$\ln L_t = \alpha + \beta_1 \ln y_t + \phi' \ln X_t' + \varepsilon_t \quad (2)$$

For the purpose of this study,  $y$  is the sectorial gross value added (GVA) at factor cost in real terms,  $L$  is the employed population in a specific sector,  $X$  is a set of regressors that are justified in the literature as vital in explaining labour demand,  $\varepsilon$  is the disturbance term, and  $t$  represents time. These regressors include sector-specific nominal wages (seasonally adjusted), the user cost of capital, and the inflation rate. The estimated coefficients of Equation (2) are interpreted as elasticities because the model is specified in logs.

### Estimation technique

The study adopted the Engle-Granger two-step testing procedure (Engle & Granger, 1987) to test the null hypothesis of jobless growth assuming evidence that it exists if there is no cointegration between employment ( $L$ ) and output ( $y$ ). Engle-Granger's two-step testing procedure proceeds in two linked steps. The first generates the residuals from the static cointegration equation. The generated Ordinary Least Squares (OLS) residuals are a measure of disequilibrium. A cointegration test is thus a test of whether the OLS residuals have a unit root.

$H_0$ : The residuals have a unit root.

Accepting  $H_0$  implies that there is no cointegration, thus confirming jobless growth in that particular sector; otherwise, Okun's law applies. If cointegration holds, the static cointegration equation is said to be super-consistent, implying that the standard OLS diagnostic test may not be required because the only thing that matters is residual stationarity. A valid error correction term [ECT(-1)] exists when a set of variables is cointegrated. Accordingly, the second step is to estimate the error correction model by fitting a regression of first-differenced residuals on lagged residuals using the generated OLS residuals from the first step. To indicate the presence of a long-run causal relationship, the ECT(-1) must be significantly negative.

In terms of data, the study utilised readily available sectoral time series annual data from 1993 to 2018. Table 1 describes variables and data sources.

**Table 1: Variable descriptions and data sources**

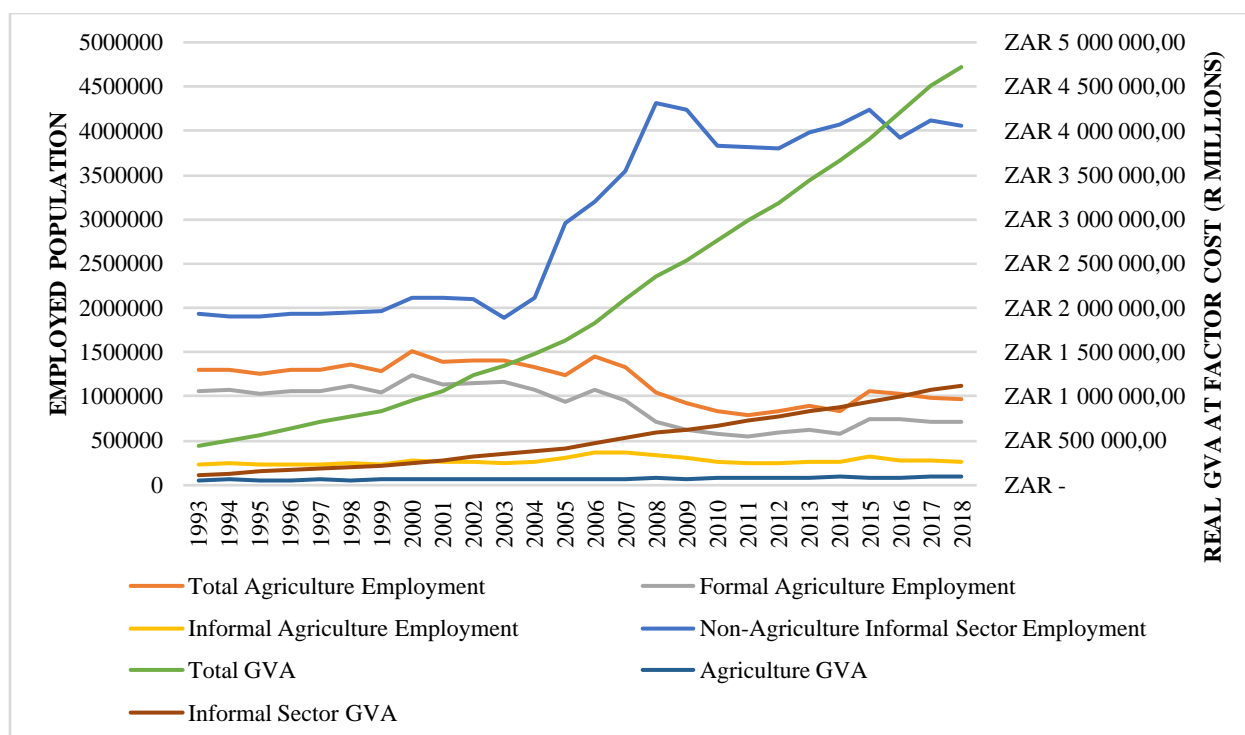
Variables	Description	Source
Sectoral Employment/labour demand	Employed population.	Quantec EasyData (2022).
Output : Agriculture sector	Sector-specific real Gross Value Added (GVA) at factor cost.	Quantec EasyData (2022).
: Informal sector		Authors' computation using Quantec data (Quantec EasyData, 2022) and the World Bank database on the informal economy (Elgin, Kose, Ohnsorge & Yu, 2021).
Wages	Sector-specific nominal compensation.	Quantec EasyData (2022).
Cost of Capital	Long-term 10-year	FRED Economic Data (2022).

	government bond Yields.	
Inflation	Consumer Price Index: All items.	FRED Economic Data (2022).

The GVA of the non-agriculture informal sector was estimated by multiplying the total GVA from Quantec by the Dynamic General Equilibrium model-based (DGE) percentage estimates of informal sector output contribution sourced from the World Bank database. The World Bank's informal economy database provides the informal sector's output contribution estimates based on the Multiple Indicators Multiple Causes (MIMIC) model and the GGE model. Although the difference in estimates is marginal, we chose DGE model-based estimates because they are “based on more volatile variables such as employment, investment, and productivity” (Elgin, Kose, Ohnsorge & Yu, 2021: 11). MIMIC estimates are based on slow-moving variables, such as institutional quality. Because GVA data matching formal and informal agriculture employment is not readily available, we analyzed both sectors using total agricultural (both formal and informal) GVA.

## **ESTIMATED RESULTS AND DISCUSSION**

The findings are presented in the Engle-Granger two-step testing procedure, but we begin with descriptive statistics (Figure 3).



**Figure 3: Employment and GVA in South Africa's Agriculture and Informal sectors**

**Source:** Authors' computation using Quantec and World Bank data.

Figure 3 demonstrates that employment in the agriculture sector is primarily dependent on formal agriculture. Moreover, labour demand in the sector has decreased by 33% from 1 447 429 workers in 2006 to 969 172 workers in 2018. One would expect the agricultural sector's output to have decreased in response to a decrease in labour demand. However, agricultural output has remained constant at an annual average value of R 68.3 billion from 1993 to 2018. Based on agricultural statistics, it is reasonable to attribute job losses in the formal agriculture sector to agricultural mechanization; as a result, the validity of jobless growth in this sector is most likely. The descriptive statistics also show that the country's total output has steadily increased from R 440.2 billion in 1993 to R 4.7 trillion in 2018. Thus, agriculture accounted for a very small share of the country's output, 3.3% per year on average over the study period. Between 1993 and 2018, the informal agriculture sector employed an average of 270 863 people per year. Although the agriculture sector is regarded as the largest employer of informal labour in developing countries (ILO, 2018), Figure 3 shows that, relative to the non-agriculture informal sector, small-

scale farming in South Africa has been neglected since the early 1990s. Non-agriculture informal sector labour demand surged by 128% from 1 891 139 workers in 2003 to 4 310 406 workers in 2008 and has remained above four million since then. However, Rogan & Skinner (2017) and Blaauw (2017: 345) indicate that the sector's employment is still small relative to peer-group countries, yet "distinctly long-term in nature". The output of the non-agriculture informal sector has also steadily increased, from R114.7 billion in 1993 to R1.1 trillion in 2018. The descriptive statistics of the non-agriculture informal sector appear to reflect an aspect of Okun's law.

### Cointegration test results

As a preliminary check of the cointegration test, we conducted unit root tests of all variables using the Cointegration Augmented Dickey-Fuller (CADF) test as recommended by Engle & Granger (1987). Except for the cost of capital and inflation variables, we found that other variables have unit roots in levels and are generally differenced stationary of orders one  $I(1)$  and two  $I(2)$ . Following this preliminary examination, the Engle-Granger cointegration tests for each targeted sector were performed, and the results are shown in Table 2 below.

**Table 2: CADF test results.**

Economic Sector	Residuals' ADF Test: Test	
	Statistics	Decision
Total Agriculture	-1.49	Not cointegrated
Formal Agriculture	-1.27	Not cointegrated
Informal Agriculture	-2.37	Cointegrated
Informal non-agriculture	-2.46	Cointegrated

*Notes:* The critical values for the Engle-Granger cointegration test on regression residuals at 1%, 5%, and 10% are -2.62, -1.95, and -1.61, respectively. The null hypothesis of no cointegration is rejected if the |test statistic's value| > |the critical value at 5%|. *Source:* Authors' computation using R.

Table 2 shows that the null hypothesis of no cointegration could not be rejected on total agriculture and formal agriculture models, confirming jobless growth. Similar findings were documented in Turkey by Sahin, Tansel, & Berument (2013). They found that the Turkish agriculture sector did not demonstrate an employment–output link both in the short-run and long-run during the period (1988–2008), reflecting jobless growth characteristics. This finding, as highlighted in descriptive statistics, confirms that South Africa's agriculture sector predominantly depends on commercial agriculture. Commercial agriculture has become capital-intensive as a result of agricultural mechanization, therefore, the evidence of jobless growth in the sector is not surprising. On the other hand, we rejected the null hypothesis in both the informal agriculture and informal non-agriculture models, demonstrating Okun's law features in the sectors. This implies that there was a long-run relationship between the informal sector's employment and output for the period (1993–2018).

### **Employment intensity of output growth results**

The findings on the employment intensity of output growth in South Africa's agriculture and informal sectors are shown in Table 3 below. Following the results in Table 2, we estimated Equation (2) in error correction form for both the informal agriculture and informal non-agriculture models to determine the adjusting speed to equilibrium, while the total agriculture and formal agriculture models were estimated within a short-run perspective. The  $ECT(-1)$  denotes the rate at which labour demand returns to equilibrium following a change in output and other explanatory variables in the model. The coefficients assigned to sectoral output (GVA) correspond to the employment elasticity of output growth, pointing to the causal relationship between employment and output.

**Table 3: Labour demand elasticities in South Africa's agriculture and informal sectors**

<b>Dependent Variable:</b>	Total	Formal	Informal	Non-
Employment/labour demand	Agriculture	Agriculture	Agriculture	Informal Agriculture
Constant	16.19*** (4.40)	15.27*** (5.42)	16.55*** (3.39)	1.02 (3.01)
GVA	-0.56 (0.41)	-0.66 (0.50)	-0.25 (0.34)	1.35*** (0.38)
Wages	1.11 (0.71)	1.47 (0.87)	0.07 (0.40)	0.87*** (0.17)
Cost of Capital	-0.04 (0.21)	0.09 (0.25)	-0.46*** (0.16)	0.46** (0.19)
Inflation	-1.63 (1.01)	-2.12 (1.22)	-0.15 (0.77)	-3.36*** (0.47)
Error Correction Term [ECT(-1)]			-0.64*** (0.20)	-0.86*** (0.29)
Summary Statistics:				
Adjusted R-Squared	0.52	0.60	0.32	0.96
F-Statistics	7.68	10.25	3.93	145.3
P(F-Statistics)	0.00	0.00	0.02	0.00
Estimated Method	OLS	OLS	OLS	OLS

*Notes:* The ECT(-1) was obtained by fitting VECM in the Engle-Granger 2OLS estimator. \*\* and \*\*\* significant at 5% and 1%, respectively. Standard errors are in parentheses.

**Source:** Authors' computation using R



Table 3 shows that the employment–output relationship is statistically insignificant in both total agriculture and formal agriculture models, even in the short-run. Regarding the cointegrated models, we found negative and highly significant ECT(-1) values in both informal agriculture (-0.64) and informal non-agriculture (-0.86) models, implying a disequilibrium adjusting rate of 64% and 86% within a year, respectively. However, the informal agriculture sector's employment intensity of output growth is statistically insignificant. This is not surprising considering that informal agriculture in South Africa has been neglected since the 1990s (see, Figure 3)<sup>1</sup>. The findings of the non-agriculture informal sector model show a fairly elastic (1.35%) employment intensity of output growth over the study period, with a statistical significance at 1%, *ceteris paribus*. If we review our findings together with those of Mkhize (2019), we derive that the non-agriculture informal sector is South Africa's second most labour-intensive sector after the finance and business services sector (1.56%).

All control variables entered the respective models as expected. The estimated coefficient of cost of capital in the informal agriculture sector model is highly significant and negative, implying that the high cost of capital discourages potential agri-entrepreneurs and the growth of existing ones. Anecdotal evidence suggests that South Africa's agri-entrepreneurs (both start-ups and existing) face capital constraints to finance, raw materials, inputs, and operational costs. Although some raw materials can be substituted with labour, such as the use of labour instead of tractors, productivity will be low. Conversely, the same variable is significantly positive in the non-agriculture informal sector model. This implies that non-agriculture SMMEs can substitute capital with labour when capital costs are high. This is especially true in South Africa, where the service industry, particularly trade, dominates the informal sector (Rogan & Skinner, 2017). Thus, an increase in the cost of capital reduces capital demand while increasing labour demand. The estimated non-agriculture informal sector's wage coefficient is positive and highly significant, indicating that entrepreneurs are drawn to high-paying informal economic activities, and their wages according to Zhou & Pindiriri (2015), depend on output. Inflation raises operating costs, particularly for SMMEs, and thus discourages entrepreneurship.

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<sup>1</sup> However, Okun's law validity in the sector suggests that it has the potential to significantly contribute to the country's employment in the long run.

The long-run regressions in Table 3 are subject to residual tests performed to confirm the fundamental assumptions of the classical long-run OLS model. These tests include normality, heteroscedasticity and serial correlation tests, and the results are shown in the subsequent table.

**Table 4: Diagnostic test results**

<b>Diagnostic tests:</b>	<b>Informal Agriculture</b>	<b>Informal agriculture</b>	<b>non-</b>
Normality (Jarque-Bera)	0.73(0.69)	3.78(0.15)	
Heteroscedasticity (Breusch-Pagan)	0.67(0.07)	4.45(0.35)	
Serial Correlation: Breusch-Godfrey LM Test	7.98(0.05)	0.34(0.56)	

*Notes:* Accept  $H_0$  if p-value > 0.05. P-values are in parentheses.

Source: Authors' computation using R

As shown in Table 4, no null hypothesis could be rejected for any of the tests, indicating that the long-run estimates in Table 3 are robust and correctly specified.

## CONCLUSION

Given the ILO's assertion about the inverse relationship between education level and informality, discerning the employment intensity of output growth in the informal sector is vital, especially for developing countries where education levels are relatively low. For South Africa in particular, QLFS statistics show that from 2008 to 2019, an average of 93% of the unemployed population did not have post-matric education, implying that the informal sector can be a significant source of employment. However, the sector has remained on the periphery of economic analysis and policy consciousness. Furthermore, literature perceives agriculture as an inclusive labour-intensive sector, and thus a source of mass employment in developing economies. Thus, this study examined the responsiveness of sectoral employment to changes in the sectoral output of South Africa's agriculture and informal sectors for the period (1993–2018)

using the Engle-Granger two-step testing procedure on the double-log linear labour demand function.

We found that employment and output are only cointegrated in the informal sector (both agriculture and non-agriculture), confirming Okun's law features. However, the employment elasticity of the informal agriculture sector's output growth was statistically insignificant over the study period. This indicates that small-scale farming is neglected in South Africa, despite its potential to generate self-employment. The findings of the non-agriculture informal sector exhibited a highly significant and fairly elastic (1.35%) employment intensity of output growth over the study period, with an equilibrium adjustment rate of 86% within a year, *ceteris paribus*.

This finding leads to the conclusion that the non-agriculture informal sector is South Africa's second most labour-intensive sector, after the finance and business services sector. In the formal agriculture sector, the employment–output relationship appears to have been eliminated by agriculture mechanization which promoted jobless growth in the sector. These findings suggest that South Africa's formal agriculture is no longer labour-intensive as a result of agricultural mechanization. However, in line with sustainable development goal (SDG) 8.3, economic policy consciousness on the informal sector, including agri-entrepreneurship, is necessary to create inclusive mass employment, which is an essential missing piece in the puzzle to curb unemployment in South Africa.

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# **The effectiveness of service quality and the role of customer care in the Tourism and Hospitality Sector**

Vikelwa Judith Nomnga\*

Dr. Vikelwa Judith Nomnga, Lecturer, Walter Sisulu University, Buffalo City, South Africa.

## **ABSTRACT**

Service loyalty, with its final effect on repurchasing by the customer, appears to have received relative attention. The study starts by examining the concept of service loyalty, service quality, and customer certification. Service loyalty with final effect on repurchasing by customer is one of the most important builds in service marketing. Loyal customers that indulge in repeat purchases are the bedrock of any businesses. The concept of this service quality, customer satisfaction, and service loyalty are related to each other. A better understanding of the effects of service quality and customer satisfaction on service loyalty can help tourism and hospitality management academics in the development of a service marketing. It can also assist in indicating where best to devote marketing attention and service corporate resources. This study seeks to contribute to the development of a conceptual framework that integrates service loyalty, service quality, and customer satisfaction. The literature review is based on the three constructs and outlines the expected relationship between them. The research focuses on tourism and hospitality management. The chrematistics of loyalty customers in management will be discussed.

**Keywords:** Service quality, SERVQUAL, customer care, tourism, hospitality, literature

## **INTRODUCTION**

The collection of knowledge produced by methodologically sound research is what gives an academic field its legitimacy and social acceptance (Fritz, 2020). This is also true for the field of tourism and hospitality. A significant channel for information on the advancement of knowledge is research journals. Scholarly papers generate,

distribute, and disseminate academic information (Wang, 2022). Reviewing preceding research papers might assist in grasping what is known in a related industry (Hart, 2018). It establishes a firm ground for knowledge and aids in growth of the ideology (Choong and Leung, 2022). The advancement of its subject material and evolving trends can be tracked with the aid of deductive research reviews of academic articles (Byrne, 2022). The same can be said about articles on the field of tourism and hospitality.

One of the main areas of study in tourism and hospitality research that has drawn a lot of interest from academics and researchers is service quality and customer care (SQCC). Since the first theories of service quality were developed in the mid-1980s (Gronroos, 1984; Oliver, 1981; Parasuraman et al., 1985), there has been a sizable amount of literature on SQCC, and they are still an active research area (Tra and Ha, 2021; Misischia et al., 2022; Zygiaris et al., 2022). The effectiveness of SQCC and their role in the tourism and hospitality sector are examined in this article. Customer care is crucial to business success because it fosters long-term recurring business and customer loyalty (Tein et al., 2021). Thus, for the tourism and hospitality sectors, service excellence and customer care continue to be a strategic asset and key factor for success (Park and Jeong, 2019; Shyju et al., 2021). There has not been much scholarly research that has addressed and methodologically analyzed the field of study linked to service quality and customer care, according to a thorough evaluation of research and literature (Famiyeh et al., 2018; Pan and Ha, 2021; Vespestad and Clancy, 2021; Jengwa and Pellissier, 2022). In order to identify the gaps in the literature, the effectiveness of service quality needs to be evaluated, and the role of customer care explored in the tourism and hospitality industries. This paper will look at trends in service quality and customer care. There are not many research studies on service quality and consumer happiness, especially in African countries (Mena et al., 2020; Amegayibor and Korankye, 2021; Bakari, 2021). By assessing the impact of service quality on customer satisfaction in the tourist and hospitality sectors, the study aims to reduce the research gap currently present in the field. This research is essential for these sectors and for growing their potential consumer bases. Additionally, research includes data on the effectiveness of service quality aspects and the role of customer care in the tourism and hospitality sectors.



Since they are seen as a crucial source of income for the nation, the tourism and hospitality sectors are currently of utmost importance (Allaberganov et al., 2021). Therefore, many economies are competing to attract visitors and tourists to their shores so that they can develop and improve their country's quality of life (Gardi et al., 2020). The relationship between the tourists and the various hospitality and tourism service providers, like hotels, is a reflection on important factors like value, quality, and satisfaction in the hospitality and tourism consuming process. When a customer evaluates a particular service to determine whether it meets expectations at the optimum consistency, this is referred to as service quality (Taylan Dortyol et al., 2014). The term "perceived service quality" refers to how the consumer perceives the quality of the service as a whole (Seopela and Zulu, 2022). Taking a closer look at the tourism and hospitality sector can help with the perception of the service quality of the businesses. Resorts, restaurants, pubs, hotels, theme parks, and tourist attractions are just a few examples of the types of enterprises that fall under the umbrella of the tourism and hospitality industry. These tourism and hospitality companies often draw fewer clients and make fewer sales when they disregard the importance of providing excellent customer care (Raouf et al., 2019). This study will examine all of this.

## **LITERATURE REVIEW**

Service quality and customer satisfaction form the basis of service loyalty, and are essential for the performance of companies in the tourism and hospital industry.

### **Service quality**

The quality of service is considered one of the main factors in determining whether a business succeeds or fails in the world of tourism and hospitality. This is because service delivery and performance have an impact on service quality, which in turn influences guest satisfaction (Wantara and Irawati, 2021). The definition of quality is the degree of luxury at a reasonable cost and the operational evaluation of consistency at a worthwhile charge (Kainthola, 2021). Quality service in the mass-production market, for example, has consistently been a major factor influencing customer loyalty (Lee et al., 2018). Many researchers have thus been inspired (by this shift toward benefit and profit segmentation) to go on and analyse the tourism and hospitality

sector's service quality (Liat et al., 2014; Shyju et al., 2021; Wantara and Irawati, 2021).

Within the tourism and hospitality sectors, the hotel industry is regarded as one of the leading contributors to economic growth (Suprayitno and Heng, 2021). This is due to the fact that hotels are an essential part of the tourism and hospitality sectors, and they encourage these sectors to further aid families by generating money and jobs. The importance of hotels also lies in the fact that they meet the most basic of guest demands – lodging (Prabhu et al., 2020). In addition, guests to hotels can take advantage of other amenities like tennis courts, restaurants, saunas, lounges, swimming pools, and so forth, making their stay more of an experience than a simple stay. Guests should be supplied with excellent service, as the hospitality offered by the hotel reflects and sets the tone for the kind of relationship that will form between the guest and the hotel as host. Due to their role in receiving and assisting guests, hotel employees are essential to the operation of the hotel industry (Anwar and Shukur, 2015). The way that guests who are paying customers are handled is a reflection of company values and standards. For instance, unsatisfactory service quality from hotel staff will have a detrimental effect and decrease the likelihood that guests will return to the same hotel. However, if hotel employees are successful in providing their customers with high quality service, visitors will have a pleasant stay and may return (Sultan et al., 2020).

Taking all the aforementioned into account, the hotel industry's ability to provide quality service holds a vital position in its competitiveness. Hotel administrations need to have a thorough understanding of what customers want in order to establish the components of service quality. Reflection on what customer's want is essential to identifying customer preferences and strategizing for service quality features. To attain customer loyalty, growth, and effectiveness, it is vital for tourism and hospitality service providers, hotels included, to achieve customer satisfaction (Chen et al., 2022; Nyagadza et al., 2022). The role of customer care is relevant here. One of the most important factors affecting service execution in the tourism and hospitality sectors is the improvement of management and service quality, which results in financial returns and an advantage in the long term (Allaberganov et al., 2021). Basically, the ultimate

aim of quality service is to provide good customer care which results in customer satisfaction.

### **Customer satisfaction**

Customer satisfaction is a significant element in retaining customers and ensuring loyalty. Chen et al. (2022) describe customer satisfaction as the extent to which customers think that utilising certain services can stimulate positive emotions. Wantara and Irawati (2021) add that customer satisfaction is about the outcome after evaluating the disparity between customer expectations and the quality of service provided. In essence, customer satisfaction leads to a customers assessing the price that they paid to receive a certain service and the experience. Chang and Lin (2022) state that customer satisfaction will increase when the benefits obtained are better than the expenses incurred. And, where the situation is contrary, customer satisfaction will decrease. In the hospitality industry, the customer's loyalty is enhanced by service quality, customer satisfaction, value, trust and commitment to customer (Nyagadza et al., 2022). These components can improve service excellence and customer retention. Consumer activity in tourism and hospitality has evolved to be more experience based than procedural as a result of being a part of the service industry (Cetin et al., 2014). Since the year 2000, there has been a notable rise in the study of experiential marketing, risk, quality, and customer satisfaction (Kim and Stepchenkova, 2018; Wu et al., 2019). According to scholars in the tourism and hospitality sectors, among other relevant criteria, service quality influences customer loyalty and satisfaction (Ali et al., 2021; Nyagadza et al., 2022). The perceived value, enjoyment, and attitudinal loyalty are all related to the quality of the experience in hospitality and tourism. An important determinant of attitudinal loyalty is service quality (Nyagadza et al., 2022).

### **Customer loyalty**

Customer loyalty is important in supporting business performance and growth (Naz et al., 2021), and therefore plays a major role in the tourism and hospitality industry. Customer loyalty can be described as the readiness for and capability of buying or supporting a selected product/service on an ongoing basis in the future, causing repeated purchases of the same brand, even when circumstantial effects from marketing efforts may encourage a change in behaviour (Gontur et al., 2022).

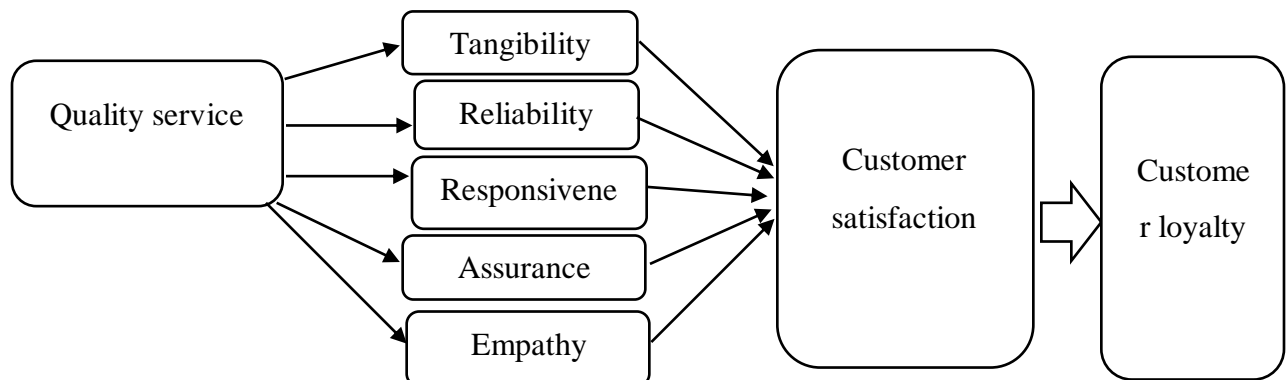
Customer loyalty is what makes customers go back to the same hotel or use a particular service again. Customers who demonstrate their loyalty towards a business will assist in its expansion by purchasing regularly, paying premium prices and introducing and luring new customers through positive verbal compliments (Naz et al., 2021). Gontur et al. (2022) argue that it is therefore essential for hotels to keep a record of customer loyalty in order to prevent losing them. It is less costly to keep a loyal customer than to secure a new one. This is vital in the hospitality industry, as customer loyalty has a positive effect on the business reputation through satisfied customers relating their positive experiences to others (Hoang and Suleri, 2021). Quality service is vital to customer satisfaction, which leads to customer loyalty.

### **Measuring service quality**

In order to gauge service quality in the hospitality and tourism sectors, the instrument often utilized is the SERVQUAL model. It is a multifaceted research tool made to record consumer views and expectations of service along the five categories thought to be indicative of service quality. As an illustration, Ali et al. (2021) conducted a study on the impact of service quality on customer satisfaction in the hotel industry of Erbil city in the Kurdistan region and findings were presented with pointers that were connected to SERVQUAL. The far more critical factor indicating the widespread desires of service and administration quality valuation was undeniably organizational structure. Wilkinson and Birmingham (2003) also looked at the Australian hotel industry's organizational structure. From SERVQUAL, components such as style and comfort, room quality, intriguing offers, quality service, character, efficient organization, and quality food and beverages were delivered. Additionally, an increasing number of studies (Naz et al., 2021; Gontur et al., 2022; Nyagadza et al., 2022) have emerged demonstrating that, from the perspective of customers, the attributes of quality management and demands on an organization varied depending on the structure of the accommodation establishment.

The expectancy-disconfirmation paradigm, on which SERVQUAL is based, defines service quality as the degree to which consumers' pre-purchase expectations of quality are confirmed or disproved by their actual impressions of the service experience. To create this model, Parasuraman (1985) enumerated several service-related characteristics that can be grouped together, and they essentially came down

to be the five dimensions or variables in SERVQUAL: tangibility, reliability, responsiveness, assurance, and empathy.



**Figure 1: Research SERVQUAL model**

Figure 1 above shows how the five dimensions can be used to increase customer satisfaction, leading to customer loyalty. The literal facilities or amenities, personnel attire, technology, machinery, and information systems of tourism and hospitality establishments are all represented by tangible variables. These variables are focused on providing resources and physical infrastructure to customers. For instance: does the hotel keep its environment tidy? And, do its employees dress appropriately? The SERVQUAL model's reliability dimension affirms the ability to offer services effectively, on schedule, and authentically. Providing consumers of the tourism and hospitality sectors with services or experiences in error-free conditions requires consistency. These establishments must honour their pledge to provide customers with the service they requested effectively and with ease. The willingness to treat customers with care and respect, and to offer prompt service to appease them is referred to as responsiveness. This dimension emphasizes the two crucial components, prompt service and willingness. Therefore, after the COVID-19 pandemic, which affected the flow of customers in the tourism and hospitality industry, service providers must ensure that the customer receives their service swiftly and without hesitation and convey to them their genuine interest in being of assistance.

SERVQUAL guidelines suggest that customer wait times for a response or solution can be utilized to measure responsiveness. Simply put, being responsive entails resolving customer issues as quickly as possible through the delivery of anticipated

information or item replacements. During the COVID-19 pandemic period a lot of customers had to endure prolonged customer wait times due to the safety protocols that meant a lot of check-ups had to be conducted. In the post COVID-19 era, it is important that service providers ensure that there is an improvement in responsiveness to ensure customer satisfaction. The assurance variable entails earning customer respect and trust. Here, the expertise, practical interaction skills, courtesies, credibility, competence, and professionalism of the employee all come into play. These abilities will aid the tourism and hospitality establishments in gaining the confidence and loyalty of clients. Four elements are included in the assurance variable: security, politeness, competency, and reliability. Competency implies possessing the necessary abilities and information. The professionalism, respect, attention, and politeness of employees are all examples of courtesies. Reliability relates to the employees' dependability, credibility, and sincerity. Security refers to the customer being safe from danger or uncertainty. The employee treating customers with kindness and consideration is an illustration of the assurance dimension.

Empathy entails paying close attention to the clientele to ensure thoughtful and exceptional service. After the COVID-19 pandemic, which caused a lot of strain on humanity, people are now visiting tourist and hospitality spaces to distress from the strain that was caused by the pandemic. Empathy plays a significant role in such instances. Service providers in some parts of the globe place a premium on treating each consumer as an individual. Additionally, it is a remarkable way to boost customer loyalty, faith, and retention while also providing some satisfaction to the customer. And, because of the risk of client loss brought about by a lack of compassion from staff, tourism and hospitality service providers must always ensure that they are compassionate. In addition, the following elements come together to form empathy: physical and social accessibility (for example: approachable staff and ease of contact between customers and staff); communication (for instance: being attentive to customers and ensuring that communication is in a language they understand); recognizing the client (for example: striving to understand customers and their specific needs).

There is a wealth of academic literature (Amegayibor and Korankye, 2021; Chen et al., 2022; Gontur et al., 2022) supporting the usefulness of the SERVQUAL paradigm, particularly stressing the significance and effectiveness of service quality and the role

of customer care in the tourist and hospitality sector. For instance, Ali et al. (2021) discovered SERVQUAL to be a noteworthy tool that was also a suitable estimating tool for the hotel industry. Additionally, Saunders et al. (2009) developed a measure for evaluating the friendliness of administrative practices. The study also proved that the SERVQUAL scale is a very helpful tool that can be customized for the various service sectors such as tourism and hospitality service providers.

## **RECOMMENDATIONS AND CONCLUSION**

This study contributes to the tourism and hospitality industries by analysing the value of high service standards and the function of customer care. The comprehension of SERVQUAL attributes, the theory of customer satisfaction, and the interplay of SERVQUAL variables input towards customer satisfaction are all contributions made by this study to the aforementioned areas. The awareness of crucial service quality interventions towards customer happiness in South Africa will assist business managers, marketing academics, and all stakeholders of the tourism and hospitality industry. In this way, it can be claimed that this study added to both the academic and business fields. The purpose of the study was to examine how customer satisfaction levels in the tourist and hospitality industries are impacted by service quality. The majority of the service quality aspects assessed in this study had a positive impact on customer satisfaction, according to the findings. The results of this study may therefore be helpful to tourism and hospitality service providers, including hotel management, in determining how to interact with customers, and in maintaining and improving the hotel's primary goal of revenue maximization and cost minimization. The results point to the importance of quality service to ensure customer satisfaction and loyalty in the period after COVID-19, which negatively affected the tourism and hospitality industry. The research was done to analyse SQCC in a variety of tourism and hospitality contexts, demonstrated by the literature evaluated in this work, including airline companies, airports, conference centres, resorts, restaurants, hotels, lodges, guesthouses, tourist sites, festivals, events, etc.. This paper raises several crucial points with practical applications. The tourism and hospitality sectors were negatively impacted by the pandemic in 2020, and only with good management procedures will they continue to recover. This is achievable by taking into account the significance of customer satisfaction, the effectiveness of service quality, and the

function of customer care. In terms of the guidance provided in this paper, preserving the quality of services provided should be the most important duty of companies in the tourism and hospitality sectors. In so doing, customer satisfaction is guaranteed and, in turn, customer loyalty.

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# **The spillover effects of US unconventional monetary policy on inflation and non-inflation targeting emerging markets: A comparative study**

Lwazi Senzo Ntshangase, Sheunesu Zhou and Irrshad Kaseeram

Mr L. Ntshangase, University of Zululand, South Africa.

Dr S. Zhou, Senior lecturer, Department of Business Management, University of Zululand, South Africa.

Prof. I. Kaseeram, Deputy Dean Research and Internationalisation for the Faculty of Commerce Administration and Law, University of Zululand, South Africa.

## **ABSTRACT**

The study employs the panel autoregressive model (PVAR) to examine the US spillover effect of unconventional monetary policy on inflation and non-inflation targeting emerging markets post the credit crunch and during COVID-19 over a period of 2000q1 to 2020q4. The study adds to the existing body of knowledge by employing dummy variables to represent the United States quantitative easing. Other control variables included are: equity prices, the federal reserve rate, the exchange rate, central bank assets and the short-term interest rate. The panel VAR for inflation and non-targeters consists of 8 and 4 countries respectively. According to the empirical result for inflation and non-targeters, the US unconventional monetary policy causes a surge in the exchange rate and equity prices in the short-run and a decrease in the policy rate of emerging markets. The empirical results are statistically significant, robust, and consistent with previous studies. I suggest that future study employ the global VAR which links more economies through financial weights to investigate the impact of US unconventional monetary policy on developing countries.

**Keywords:** Unconventional monetary policy, emerging markets, United States of America

## INTRODUCTION

The credit crisis of 2007-2009 and the COVID-19 pandemic induced the Federal Reserve Bank of the United States to pursue an unconventional monetary policy, as the policy rate was at the zero lower bound in order to encourage economic development and maintain financial stability. As policy rates approached and eventually became locked at their effective lower bounds, central bank balance sheets essentially took over as the primary policy instrument (Feldkircher et al., 2017). As a result, conventional monetary policy was unsuitable for steering macroeconomic variables and assessing the post-crisis spillover effect of the United States of America (US) unconventional monetary policy on inflation and non-inflation targeting countries (Papadamou et al., 2019). The study compares the US spillover effects of unconventional monetary policy during COVID-19 and after the credit crunch on inflation and non-inflation targeting emerging countries.

In a similar vein, the unconventional monetary policies pursued by the central banks of the advanced economies to reduce financial instability can have significant spillover effects in the rest of the world. In response to the financial turmoil and collapsing demand during the global crisis, the U.S. Federal Reserve embarked upon a massive purchase of U.S. government and corporate bonds in a desperate bid to stabilize the financial system and support economic growth. QE is the process through which money is printed to purchase bonds from the public (Matousek, 2019). The policy known as QE occurred at various intervals between 2008 and 2014, and contributed to an expansion of global liquidity, some of which flowed into emerging markets. Studies that have examined US Spillover effects of unconventional monetary policy were conducted by Martin et al. (2018), Rebucci et al. (2022), Fratto et al. (2021).

The recent COVID-19, outbreak had a detrimental effect on the economy of emerging and advanced economies in March 2020. A marked increase in global investors' risk aversion combined with lower commodity prices translated into a rise in local currency bond yields, capital outflows, and sharp currency depreciations. The federal reserve responded to the COVID-19 crisis with a combination of conventional and unconventional measures. The Federal Reserve introduced unconventional monetary policy (UMP) measures at the end of the post credit crunch in 2014q4 in the form of large asset purchase programs (APPs).

So far, the evidence has primarily concentrated on the post credit crisis of 2007-2009 and the impact of unconventional monetary policy measures utilizing high-frequency data (Lubys and Panda, 2021; Peersman, 2011; Lenza, Pill, and Reichlin, 2011). Recent studies that have investigated the unconventional spillover effects of the COVID-19 pandemic in the US have employed high frequency data in an event study (Arslan et al., 2020 and Fratto et al., 2021). Moreover, there are few studies that have been conducted into the unconventional monetary spillover effects during COVID 19 and the post credit crisis (Ijiri and Jinushi, 2022; Inoue and Okimoto, 2022; Fratto et al., 2021).

This study contributes to the body of knowledge by investigating both the post credit crunch crisis and the COVID-19 US spillover effects of large asset purchase programs to the selected emerging markets. Furthermore, no research has been conducted to evaluate and compare the consequences of US unconventional monetary policy spillover to non-inflation targeting nations and inflation targeting emerging countries post the financial crisis and during COVID-19. It is the only study that uses a dummy variable in a panel vector autoregressive as a proxy variable for unconventional monetary policy post credit crunch and during COVID-19. The following section will discuss the theoretical literature, followed by the empirical literature, and then the methodology and results. Lastly, the conclusion and policy recommendations will be discussed.

## **LITERATURE REVIEW**

The unconventional monetary policy or large assets purchases operates through the balance sheet channel. During the zero lower bound interest rate advanced economies induced macroeconomic variables by changes in the central bank assets which was achieved by large asset purchases. The large asset purchases triggered a surge in aggregate demand by lowering the borrowing rate (Fratzscher et al., 2017). The balance sheet channel assumes that interest rate charge to a borrower is determined by the borrower's financial position. A borrower with less liquid assets and less profitable security to safeguard the loan is charged more. Changes in the borrower's financial position influence the status of a debtor's balance sheet. Hence, changes in the financial position of debtors are translated into their investment and spending decision.



Before the COVID-19 pandemic there were many studies conducted to examine the spillover effects of US unconventional monetary policy on emerging economies (Sugimoto and Matsuki, 2019; Kenourgios et al., 2019; Kolasa and Wesolowski, 2020). There are a number of research papers assessing the impact of a large assets purchasing program on domestic macroeconomy and financial markets (Curdia and Woodford, 2011; Ihrig et al., 2018; Papadamou et al., 2019; Lyonnet and Werner, 2012; Swanson, 2021).

There seems to be consensus in the empirical literature on the spillover effect of QE from developed economies to emerging markets post the credit crunch of 2007-2009. According to Lavigne, Sarker and Vasishtha (2014), QE spillover effects resulted in currency appreciation, increases in equity prices, an increase in output, a rise in capital inflows and a surge in temporary inflation. Investors were attracted by the high rate of returns in emerging markets. Ganelli and Tawk (2016) employed the GVAR model to systematically examine the spillovers from Japanese QE on emerging Asia. The study also found that implementing QE in Japan caused a hike in equity prices and an appreciation of the currency in Asian emerging markets. Also, there was an increase in capital inflows, economic activity and a temporal increase in inflation.

The spillover effects of US, Europe and Japan QE have the same effect on emerging markets (Papadamou, 2019). QE easing in US and Europe resulted in the depreciation of the domestic currency and outflow of capital. Hence, QE was a gain to emerging markets, as their capital inflows increased, currency appreciated, output rose and their equity prices also increased. Chen, Filard and Zhu (2015) in the US employed the GVAR model to examine the impact of QE shocks to emerging markets and obtain similar results. According to this study, US QE shocks to emerging markets increased capital inflows and currency appreciation to emerging markets. In another study, US and Europe QE spillover resulted in the depreciation of both the US and the British currencies as well as a decrease in long-term interest rate (Glick and Leduc, 2012).

Bhattarai, Chatterjee and Park (2018) employed the Bayesian panel VAR to investigate the effects of US quantitative easing on emerging market economies. The study found that an expansionary US QE shock has significant effects on financial variables in EMEs (including: Chile, Colombia, Brazil, India, Indonesia, Malaysia, Mexico, Peru, South Africa, the Republic of Korea, Taipei, China, Thailand, and

Turkey). It leads to an exchange rate appreciation, a reduction in long-term bond yields, a stock market boom, and an increase in capital inflows to these countries. These effects on financial variables are stronger for the “Fragile Five” (Brazil, India, Indonesia, Turkey, and South Africa) countries compared to other EMEs. Tillmann (2016) employed the Qual VAR to investigate the impact of QE in the US to emerging economies. He also found the spillover effects of QE to have a significant effect on capital inflows, exchange rate and equity prices in emerging markets.

Most existing research on the drivers of financial spillovers, such as that of Aizenman et al. (2014), Chen et al. (2015), Rai and Suchanek (2014), Neely (2015), Estrada et al. (2016), and Fratzscher et al. (2018), has used the event study approach to examine the effect of the announcement of both QE and tapering. Bauer and Neely (2014) also used the event study approach and Gaussian dynamic term structure models to investigate the relative importance of signalling and portfolio balance channels for international effects originating from the large-scale asset purchases in 2008 and 2009 by the US Federal Reserve (US Fed hereafter). However, only a few researchers like Chen et al. (2015) and Fratzscher et al. (2018) have explored the direct relationship between the magnitudes of financial spillovers and quantitative degrees of changes in QE and tapering.

Our study builds on the work of Rebucci by including a dummy variable that represents the unconventional period before and during COVID-19. Rebucci et al. (2020) employed an event study and a Global Vector Autoregressive (GVAR) to examine the unconventional monetary spillover effects of advanced economies on daily yields and bilateral US dollar exchange rates during the financial crises triggered by the COVID-19 pandemic. The study found a significant effectiveness of QE in advanced economies and that its international transmission is consistent with the operation of long-run uncovered interest rate parity and a significant dollar shortage shock during the COVID-19 period. The impact of QE on bond yields is much stronger in emerging markets, and its transmission to exchange rates is qualitatively different than in advanced economies. The GVAR evidence presented by the authors shows the Fed's pivotal role in the global transmission of long-term interest rate shocks, as well as the ample scope for country-specific interventions to affect local financial market conditions, even after controlling for common factors and spillovers from other

countries. The GVAR evidence also shows that QE interventions can have significant real effects on output, owing to a long-term impact on interest rates.

In another event study during COVID-19, Fratto et al. (2021) examine the unconventional monetary policy in emerging and developing countries. The study employed recent data on unconventional monetary statements and execution for 27 emerging markets and 8 small, advanced economies from March to August 2020. Various approaches are used to estimate the balance sheet implications on bond yields, currency rates, equities, and debt spreads. The findings demonstrate that APPs were successful in considerably lowering bond yields in EMDEs, and that these impacts were stronger than policy rate cuts, implying that such UMP could be useful instruments for emerging markets amid financial market stress.

## **METHODOLOGY**

This section discusses the estimation techniques which is the panel VAR model. The first panel VAR model (Model 1) for is estimated for the spillover effects of the US unconventional monetary policy on inflation targeting emerging economies and the second panel VAR (Model 2) is for non-targeting emerging markets over a period of 2000q1 to 2020q4. Model 1 and Model 2 consists of 8 (Brazil, Chile, Indonesia, Philippines, South Korea, South Africa Thailand, and Turkey) and 4 (Algeria, Morocco, Tunisia, and Malaysia) inflation targeting and non-targeting emerging markets, respectively. The control variables for both Model one and two are: central bank policy rate (SR), the Federal reserve rate (FDR), the equity prices (BA), the nominal exchange rate (EXC) and the dummy variable for US unconventional monetary policy (UNCOV). Data is retrieved from the International Financial Statistics (IFS), compiled by the International Monetary Fund and Haver Analytics. All the variables are retrieved from the IFS except for the equity prices which are obtained from the Haver Analytics. The natural logs of the nominal exchange rate are taken in order to interpret coefficients as elasticity. The variables for Models 1 and 2 are order (1) and the order (2) hence the panel VAR is appropriate as an estimation technique.

### **The panel VAR model**

A panel VAR Model consists of endogenous and interdependent variables, both in a static and in a dynamic manner, while in some relevant cases, exogenous variables

could be included, and it adds a cross sectional heterogeneity to the framework (Canova and Ciccarelli, 2013). Most studies conducted in emerging and developed countries to investigate the spillover effect US unconventional monetary policy have used the VAR Model (Obafemi and Ifere, 2015 and Ciccarelli et al., 2015). The VAR Model treats all variables as endogenous and interdependent both in a static and dynamic manner (Ramey and Shapiro, 1998). The PVAR model is one of the latest models, which combines both the characteristics of panel data and the VAR model. The panel VAR model is suitable for ascertaining the US unconventional monetary policy shocks, since (i) it captures both dynamic and static interdependencies, (ii) easily incorporates time variations in the coefficients and in the variance of the shocks, (iii) treats the links across units in an unrestricted fashion, and (iv) accounts for cross sectional dynamic heterogeneities (Canova and Ciccarelli, 2013).

A panel VAR model is regarded as superior to the VAR model since it does not waste the degrees of freedom (Seleteng and Motelle, 2016). Similar to the VAR model a panel VAR also does not have theoretical background. Following the work of Dajcman (2013), the control variables used in this analysis include the central bank policy rate (SR), equity prices (BA), the nominal exchange rate (EXC), the Federal reserve rate (FDR) and the dummy for the US unconventional monetary policy (UNCOV). The PVAR model is specified as follows:

$$Z_{it} = \Psi_0 + \Psi_1 Z_{i,t-1} + \Psi_2 Z_{i,t-2} + \dots + \Psi_p Z_{i,t-p} + \varepsilon_{it} \quad (1)$$

Where  $Z_{it}$  represents a (5×1) vector of system variables (SR, BA, EXC, FDR, and UNCOV),  $\Psi_0$  is a (5×1) vector of constants,  $\Psi_{(1,2,\dots,s)}$  is a (5×5) matrix of coefficient estimates,  $\varepsilon$  is a (5×1) vector of the white noise error term, whereas  $i$  is a cross-sectional identifier and  $s$  is the maximum lag length of each variable selected in accordance with the Schwarz Bayesian Criterion (SBC) and the Akaike Information Criterion (AIC).

## ESTIMATION RESULTS

This section begins by discussing the estimation results of the inflation targeting panel VAR model followed by the results of the non-inflation targeting emerging markets panel VAR model since it is a comparative study. Lastly, the conclusion and policy recommendations are discussed. In the following two subsections the impulse

response functions (IRFs) and the forward error variance decomposition (FEVD) of the non-inflation targeting (Mode 2) and the inflation targeting (Model 1) model are presented.

### Model 1: Inflation targeting EMEs panel VAR estimation results

The panel VAR is estimated for inflation targeting emerging markets (Brazil, Chile, Indonesia, Philippines, South Korea, South Africa Thailand, and Turkey) over a period of 2000q1 to 2020q4. Prior to the estimation we have undertaken a preliminary analysis. Descriptive statistics were performed. The degree of correlation was tested among the variables, and it is below 50% among all variables.

### The stationarity tests

The study applies the first-generation Fisher-type Philips-Perron and the second-generation Im Pesaran and shin panel unit root tests. The null hypothesis of the present of panel unit root is accepted at level form for all variables. However, at first difference all the variables are stationary hence a panel VAR is estimated as it is shown in Table 1.

**Table 1 Panel unit roots tests**

Variables	Im-Pesaran-Shin		Fisher-type Phillips-Perron		
	Levels	1 <sup>st</sup> Diff	Levels	1 <sup>st</sup> Diff	Conclusion
$SR^{\tau}$	-1.3662	-6.5876***	-0.7405	265.0515***	I(1)
$FDR^{\tau}$	-1.3807	-6.1305***	2.2927	218.6295***	I(1)
$BA^{\tau}$	-1.3662	-7.5961***	12.4087	339.5783***	I(1)
$EXC^{\tau}$	-1.3070	-6.8178***	3.6987	280.1253***	I(1)

**Notes:** Asterisks \*\*\*, \*\*, and \*, denotes the statistical level of significance at 1%, 5% and 10% respectively.  $\tau$  refers to inclusion of a time trend.

### Lag selection criterion

After testing the data for stationarity, the lag selection criterion was determined by the Akaike information criterion. According to the Bayesian Information criteria, the Akaike Information criterion and the Hannan-Quinn Information criterion, by Andrews and Lu (2001), the selected minimum lag is one. All the three lag length selection criteria (MBIC, MAIC, and MQIC) suggest that a first order panel VAR is preferred. The MBIC,

MIC, and MQIC minimize the lag order at -369.279, -58.787, and -181.008 respectively according to Table 2.

**Table 2. Panel VAR lag order selection criteria**

Lag	CD	J-sta	J-pvalue	MBIC	MAIC	MQIC
1	-4.591	91.213	0.098	-369.279	-58.787	-181.008
2	0.409	48.061	0.552	-258.933	-51.939	-133.419
3	0.814	21.971	0.637	-131.526	-28.029	-68.770

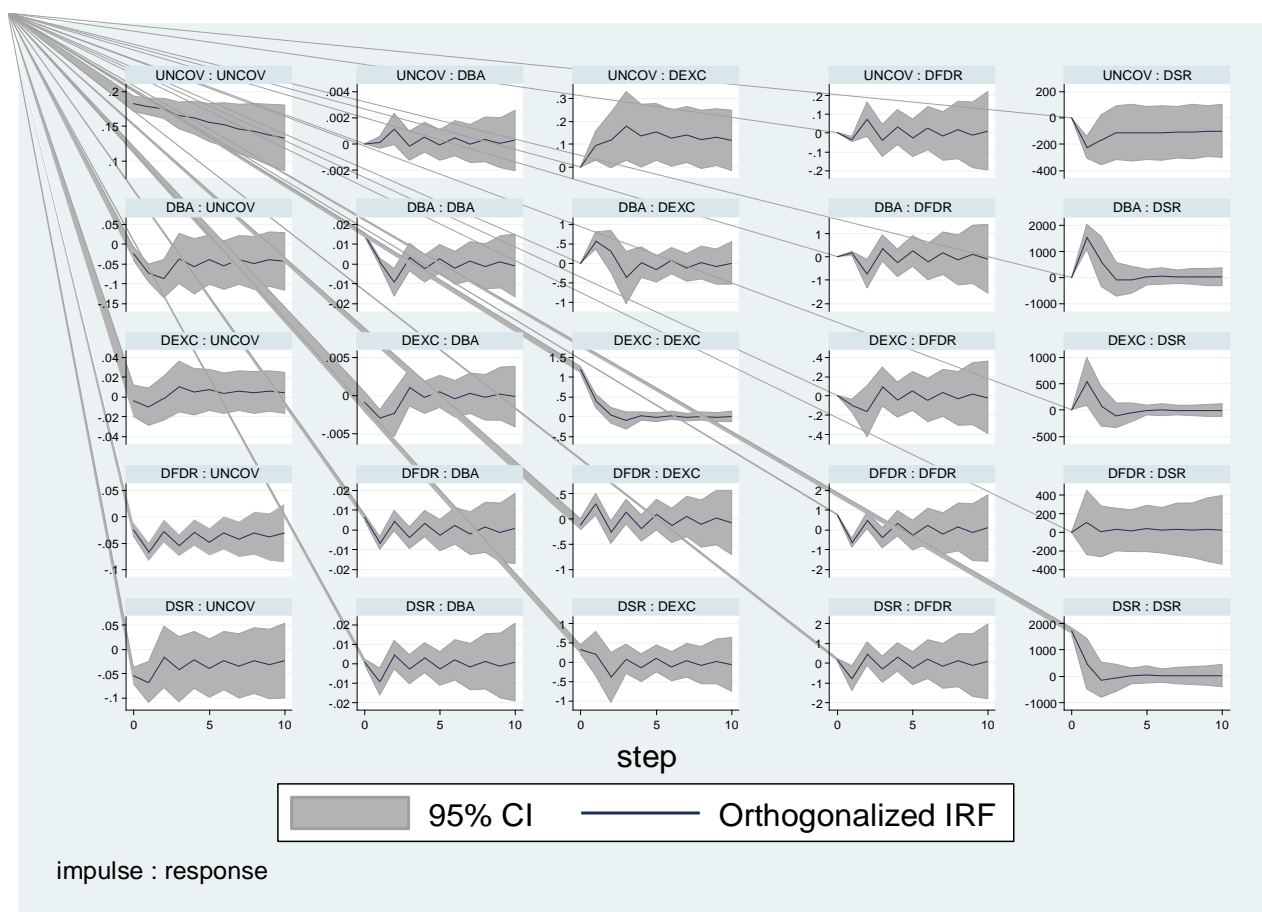
**Source:** author estimation

### **The stability tests**

The panel VAR model satisfied the stability condition as all modulus lied inside the unit root circle and the eigenvalue is less than one as shown in Table 1A in the Appendix. Model 1 comprises of I(1) variables DSR, DFDR, DBA, DEXC, and UNCOV which is a dummy variable for a period of 2000Q1 to 2020Q4. The lag order of one is utilized, as suggested by the lag selection criterion. The study continues to estimate a panel VAR model comprising of I(0) variables and it passes the diagnostic tests. The coefficients and signs of variables conform to theory and are statistically significant.

### **The impulse response function**

The study's main objective is to employ the impulse response function to examine the response of the policy rate and other macroeconomic variables to the US unconventional monetary policy shocks. This section begins by discussing the response of the selected macroeconomic variables to a 1 standard deviation shock of the US unconventional monetary policy (UNCOV). According to Gambacorta et al. (2014) and Glick and Leduc (2013) a one standard deviation shock on US unconventional monetary policy shock results in the decline of the policy rate for emerging markets. The first row of Figure 2 shows the response of other variables to the US unconventional monetary shocks. The impulse response function derived from the panel VAR are shown in Figure 1 below.



**Figure 1: Impulse Response Function**

**Source:** estimated by researcher

According to Figure 1, a positive shock in US unconventional monetary policy shock results in the significant appreciation of the nominal exchange rate according to theory and other empirical literature (Vermeulen, 2019). This was caused by the surge in capital inflows from developed economies to emerging markets in search for higher yields. Investors were attracted by the high rate of returns in inflation targeting emerging markets as the interest rates in developed markets were at the zero lower bound Rogers et al. (2014). In the long run the nominal exchange rate decreases and reverts to its equilibrium, this was caused by the reversal of quantitative easing by the developed economies Kim and Yang (2011). A one standard deviation shock in the UNCOV induced a dampening of the central policy rate of the inflation targeting emerging markets. The response of the SR to a shock of UNCOV is in line with Meinus and Tillmann (2016).

The equity prices surge in response to the shocks of US unconventional monetary policy. These results are in line with other studies who found a surge in equity prices because of the US unconventional monetary spillover effects on emerging economies (Bhattarai and Chatterjee, 2018; Sugimoto and Matsuki, 2019; Tillmann, 2016). Most studies found a surge in equity prices in response to a one standard deviation shock to US unconventional monetary policy shocks.

## **Model 2: non-inflation targeting EMEs panel VAR estimation results**

Firstly, descriptive statistics of the variables were performed. Before the stationarity test the variables were tested for the degree of stationarity. According to correlation matrix the coefficients of all the variables is less than 60% hence the variables are not correlated and can be employed in the panel VAR without producing biased estimates (Gujarati and Gunasekar, 2012). UNCOV and FDR coefficients have the highest negative correlation of 60% which is highly possible since both represent the unconventional and the traditional monetary policy of the US respectively.

### **Stationarity tests**

One of the essential assumptions in time-series analysis is stationarity. To avoid biased coefficients estimated results, we evaluate all variables for stationarity before performing panel VAR analysis. SR, FDR, BA, and nominal exchange rate reject the null hypothesis at 1%. According to Table 2 all variables are stationary at levels form, thus a panel VAR may be estimated.

**Table 3: Summary of panel unit root tests**

Variables	Im-Pesaran-Shin (time trend)		Fisher-type Phillips-Perron (time trend)	
	Statistics	p-value	Statistics	p-value
SR	-4.9780	0.000***	47.4447	0.000***
FDR	-7.9160	0.000***	166.6233	0.000***
EXC	-4.3892	0.000***	50.2780	0.000***
BA	-4.1554	0.000***	29.1304	0.000***



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**Notes:** Asterisks \*\*\*, \*\*, and \*, denotes the statistical level of significance at 1%, 5% and 10% respectively.

### Lag selection criterion

According to the Bayesian Information criteria, the Akaike Information criterion and the Hannan-Quinn Information criterion by Andrews and Lu (2001), the selected minimum lag is one. All the three lag length selection criteria (MBIC, MAIC, and MQIC) suggest that a first order panel VAR is preferred. The study uses the panel VAR lag order 1 as automatically selected by all the three tests (Akaike Information Criterion (AIC), Hannan–Quinn Criterion (HQC) and the Bayesian Information Criterion (BIC) as the minimum lag.

**Table 4: Panel VAR lag order selection criteria**

Lag	CD	J-sta	J-pvalue	MBIC	MAIC	MQIC
1	0.995	114.781	0.081	-340.031	-75.219	-182.760
2	0.996	102.722	0.007	-232.403	-37.278	-116.519
3	0.997	61.455	0.052	-153.982	-28.545	-79.486

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**Source:** researcher's estimation

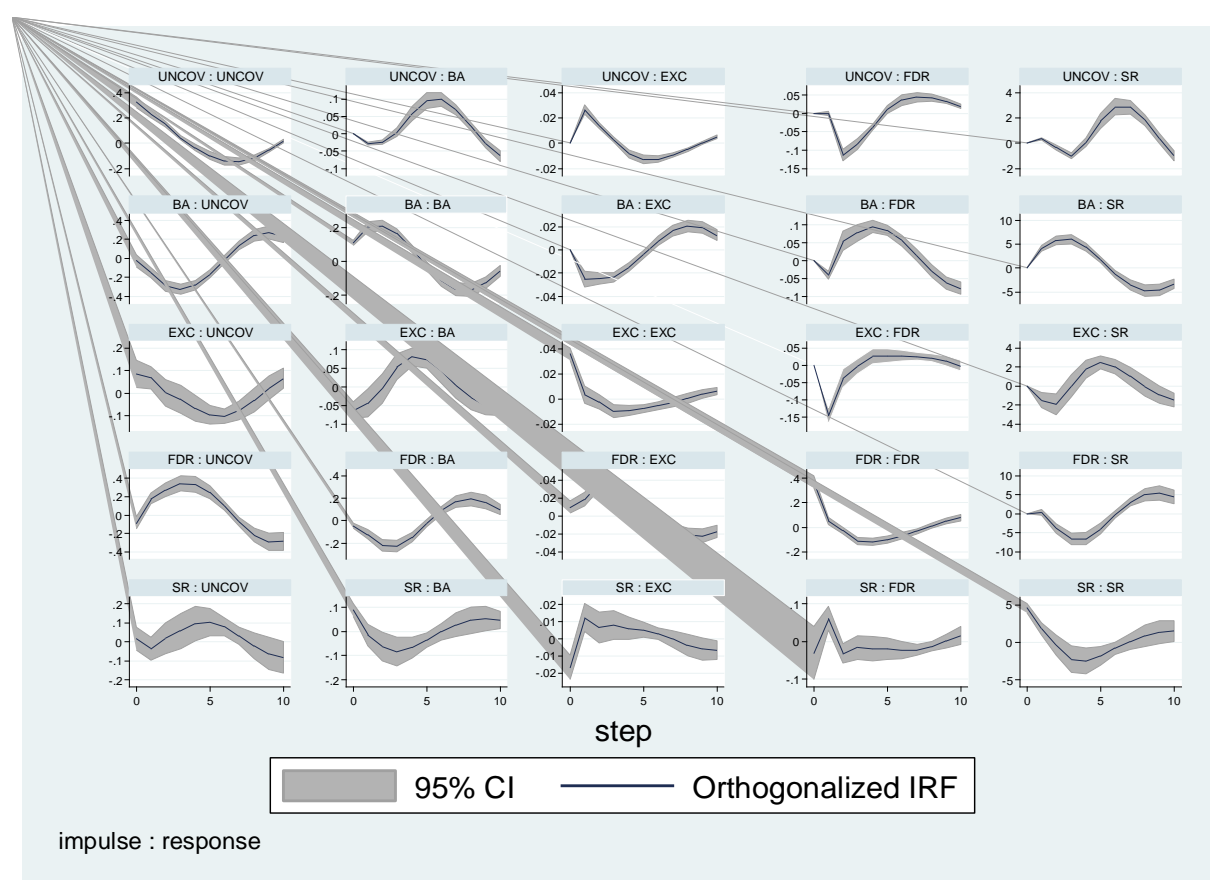
The panel VAR was estimated, and it passed the diagnosis test as all the moduli were less than one and lie within the circle.

### The stability tests

Before the computation of the impulse response function the panel VAR model must satisfy the stability conditions. An unstable panel VAR model results in biased impulse response and variance decomposition. Table A2 in the Appendix shows the results of the stability of the estimated panel VAR. The panel VAR model satisfies the stability condition, as all the eigenvalues lie inside the unit circle. Hence, the impulse response and variance decomposition will be significant and robust. The moduli in Table 5 are all less than one, and hence satisfy the stability of the panel VAR model. Eigen values greater than one implies that one of the variables consist of a unit root and it will lie along the circle or outside the circle (Johnston and Dinardo, 1997).

## Impulse response function

This section begins by discussing the response of the selected macroeconomic variables to a 1 standard deviation shock of the US unconventional monetary policy (UNCOV). According to Gambacorta et al. (2014) and Glick and Leduc (2013) a one standard deviation shock on US unconventional monetary policy shock results in the decline of the policy rate for emerging markets. The first row datum of Figure 2 shows the response of other variables to the US unconventional monetary shocks. A positive shock in US unconventional monetary policy shock results in the appreciation of the nominal exchange rate which is according to theory and other empirical literature.



**Figure 2: The Impulse Response Function**

**Source:** estimated by author

In the long run the nominal exchange rate decreases and reverts to its equilibrium. This was caused by the reversal of quantitative easing by the developed economies. A one standard deviation shock on US unconventional monetary policy resulted in a decline in the policy rate of non-inflation targeting emerging markets. The decline of

the policy rate of the non-inflation emerging markets is consistent with existing literature (Meinusch and Tillmann, 2015).

The equity prices decrease in the short-run and increase in the long-run in response to the shocks of US unconventional monetary policy. These results are in contrast to other studies which found a surge in equity prices as a result of the US unconventional monetary spillover effects on emerging economies (Bhattarai and Chatterjee, 2018; Sugimoto and Matsuki, 2019; Tillmann, 2016). More studies with high frequency data must be conducted in order to determine the real effectiveness of US unconventional monetary policy on equity prices in exchange rate targeting emerging markets. Most studies found a surge in equity prices in response to a one standard deviation shock to US unconventional monetary policy shocks. There, a decline in the equity prices may be as a result of the spiralling of inflation and stagnant economic growth in the selected exchange rate targeters.

## **CONCLUSION AND POLICY RECOMMENDATION**

The empirical results suggest that there is a significant positive spillover effect of the US unconventional monetary policy on the domestic currency of both the inflation targeters and non-targeters of the selected emerging markets. Although, a surge in the domestic currency is good for the economy, a rapid appreciation may cause an increase in domestic export, economic uncertainty, and inflationary pressure. Hence monetary policy makers must be able to steer the economy towards sustainable economic growth during a rapid surge in the domestic currency. As expected, there is a surge in the equity prices (DBA) of inflation targeting in response to a one percent increase in the US unconventional monetary policy (Abdullah and Hassanien, 2022; Hofman, 2020; Ahmed et al., 2021). However, there is a temporary decline in the equity prices of non-targeters and a surge in the long run. This may be due to the fact that all the non-targeters use the exchange rate regime which results in minimum confidence of international investors.

The equity prices responded with a slump to the federal reserve rate during the credit crunch in both inflation and non-targeting emerging markets. This is consistent with existing literature as US tightening monetary policy shocks decrease the equity prices of emerging economies (Ono, 2020; Fratto et al. 2021; Yildirim and Ivrendi, 2021). The federal reserve rate did not have a significant impact on the policy rate of emerging

economies. This is due to the fact that the federal reserve rate was at its zero lower bound. In future, studies must attempt to employ low frequency data through the global vector autoregressive model which has an advantage of linking countries through financial or trade weights, and it also accommodates regions.

Based on the findings of this research, emerging nations can use a variety of strategies to lessen the negative effects of U.S. monetary policy. The oversight of global capital flows should be strengthened when targeting emerging nations without inflation. Changes to the federal balance sheet will fundamentally alter international capital flows and create uncertainty in the economies of developing economies in the context of the adjustment of U.S. monetary policy. The BRICS nations should use their foreign exchange reserves wisely to control exchange rates and enhance macroeconomic fundamentals like economic growth to lessen exchange rate volatility.

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## Appendix A: Estimation Results

**Table A1. Model 1: The stability tests**

Eigenvalue Modulus	Roots of companion matrix
<pre> +-----+   Eigenvalue       Real  Imaginary   Modulus   +-----+-----+   .9688422    0   .9688422     -.8128709    0   .8128709     .133365  -.4038111   .4252642     .133365   .4038111   .4252642     .1842444    0   .1842444   +-----+ </pre>	

**Table A2. Module 2: The stability tests**

Modulus	Roots of the companion matrix
<pre> +-----+   Eigenvalue       Real  Imaginary   Modulus   +-----+-----+   .8345989  -.4845198   .9650465     .8345989   .4845198   .9650465     .3681874   .553842    .6650586     .3681874  -.553842    .6650586     -.3488169    0   .3488169   +-----+ </pre>	

# **Maximising the effectiveness of diversity and inclusion to drive the public sector's performance in Nigeria**

Oluwaseun Temitope Ojogiwa and Bongani Reginald Qwabe

Dr O.T. Ojogiwa, School of Management, I.T. and Governance, University of KwaZulu-Natal, South Africa.

Dr B.R. Qwabe, School of Management, I.T. and Governance, University of KwaZulu-Natal, South Africa.

## **ABSTRACT**

The climate fostering diversity and inclusion (D&I) has been advocated as a necessity for both individual and organisational development. The prospective value of diversity has been stimulated and there are implications on how it could improve work practices and organisational operations. Personnel inclusion, which involves the fulfilment of the prerequisites of uniqueness and belongingness is allegedly viable and linked to turnover targets and employee job satisfaction. Regardless of its many benefits that are often emphasised outside the public sector context, its challenges, which are related to its complexity demand an examination into how its effectiveness could be maximised and its challenges minimised particularly in the public sector. This article critically examined the effectiveness of D&I and how its prospective benefits could be harnessed from the perspective of the Nigerian public sector. The study adopted a qualitative approach in gathering secondary data that was analysed thematically. The study found that D&I could be maximised through constant and effective communication skills, conflict management abilities, envisioning and servant leadership. Doing so is important to evade the many challenges that D&I pose and to spark innovation, creativity and collaboration, which are considered vital requirements to improve the effectiveness of the public sector. The study recommended that the public sector should exploit inclusive practices and strategies, which are to be driven by strategic HR leaders to nurture an environment that embraces D&I and eliminates unfair practices. This is greatly necessary lest the benefits of D&I are hampered by

disrespect, hostility and discrimination from diverse ethnicity and background experiences.

**Keywords:** diversity and inclusion, management, public sector, HR leadership and organisational effectiveness.

## INTRODUCTION

The burgeoning literature with interest in diversity and inclusion (D&I) has been driven by varying demographics of labour markets and the globalisation of businesses (Olsen & Martins, 2012). In many countries, the management and development of diversity in organisations have become a corporate and political agenda (Klarsfeld et al., 2012). According to Nair and Vohra (2015), a diverse workforce should not be ignored by organisations as its contribution to the improvement of the organisation's performance is highly recognised. Kaur & Arora (2020) assert that diversity means the co-existence of personnel with varied demographic, socio-economic and socio-cultural characteristics. It refers to observable differences like race, gender, ethnicity and age, and the non-observable differences such as technical and cultural attributes of personnel (O'Mara & Richter, 2014). On the other hand, inclusion denotes the best possible utilisation of diverse personnel, regardless of their difference for the growth and achievement of organisational objectives. This involves creating a sense of recognition, involvement, empowerment and integration with diverse personnel in the place of work (Daya, 2013; O'Mara & Richter, 2014). Rohwerder (2017) acknowledged that the cultivation of a diverse mindset and the development of an environment for inclusion is capable to enhance organisational commitment, building trust in the organisation's management, and developing employee satisfaction and organisational effectiveness. However, a climate that does not promote D&I would permit discrimination and bias, which could result in lesser organisational commitment, loss of capable personnel, job dissatisfaction, absenteeism, high work tension and bad publicity thus adversely affecting organisational development.

Despite the acclaimed relevance of D&I, most academic literature and research conducted on the subject is focused on the western context, largely because the construct emerged from the United States of America. However, as the field expands beyond the borders of the western countries, it is imperative to understand the

management of D&I from different national perspectives to harness the benefits and circumvent some of the negative outcomes. This is especially because the positive outcomes of diversity have, since its inception, been discussed (Klarsfeld et al., 2012; Klarsfeld et al., 2014). This study seeks to explore the constructs of D&I in one of the under-researched countries that is Nigeria.

The worldwide diffusion of the management of diversity has compelled the need to study the institutional national context where organisations are embedded (Klarsfeld et al., 2012; Adeleye et al., 2019). Moreover, most literature has concentrated on the benefits of diversity in private organisations. As a result, there are limited studies on the effectiveness of D&I in public organisations (Rohwerder, 2017). Also, scholars have recognised issues in managing diversity to promote inclusion in a variety of public sectors such as health and sports, among others (Appiah et al., 2018).

According to Adeleye et al. (2019), the Nigerian context is an interesting one, being a nation that is highly diverse and ranked the fifth most diverse in the world and the most diverse country in Africa (Ohunakin et al., 2019). With a population of over 185 million, the country has three major ethnic groups (Igbo, Hausa and Yoruba) and close to 400 diverse ethno-linguistic groups. The country has a weak nationwide anti-discrimination legal framework, which permits ample administrative autonomy on issues related to diversity and its management (Ohunakin et al., 2019; Adeleye et al., 2019). The study seeks to explore how the effectiveness of D&I could be maximised to drive the public sector's performance in the unique context of Nigeria.

## **DIVERSITY AND INCLUSION FRAMEWORK**

Diversity is defined in different ways. According to Rohwerder (2017), defining and measuring the construct of diversity with consistency across organisations has been a difficult task. It is defined as a combination of the diverse attributes of the workforce that influence reasoning, feeling and behaviour at work, work performance and satisfaction (Hays-Thomas & Bendick, 2013). It is also described as the diverse approaches and perceptions to workforces that different identity groups have. Originally, diversity was more focused on minorities and women. It has, however, been extended to include demographics like nationality, educational background, sexual orientation, beliefs or religious practices and visual uniqueness such as disability, age

and race as imperatives to support inclusiveness (Rohwerder, 2017; Kaur & Arora, 2020). According to Nair & Vohra (2015), some of the different perspectives on diversity, especially those from a positive view, include the fairness and discrimination viewpoint. This perspective focuses on the fair management and justice for all as an ethical imperative, legitimacy and access viewpoint; emphasises the opportunities (such as new consumers) that personnel differences could generate in an organisation, in an integration and learning viewpoint. This is based on the conviction that a diverse workforce is a resource that is potentially valuable for change and learning.

Although diversity is focused on the demographic characteristics of groups or organisations, inclusion accentuates the encouragement of an individual or group's participation. This is a movement beyond simply appreciating diversity to integrating and leveraging diversity in the organisation. While diversity underscores the demographic composition of groups or organisations in relation to their differences, inclusion highlights involvement and how it could be increased in the organisation (Kaur & Arora, 2020). Inclusion is defined as the level at which personnel are recognised and accepted by others in an organisation. It describes the feeling of belonging individuals have towards the organisation and its processes, such as relationships with co-workers and superiors, the ability to influence and participate in decision-making and access to resources and information. Inclusion, therefore, requires the elimination of hindrances to personnel participation and contribution to organisations (Bourke & Dillon, 2018). In addition, inclusion practice is the extent to which organisations employ their efforts to ensure all personnel are involved in the operation and mission of the organisation in relation to their individual talents. Hence, when individuals or personnel have a sense of belonging, inclusive behaviours that translate to providing valuable recommendations become a routine (Larson, 2017). Inclusion is perceived as a condition and a process of integrating the satisfaction of the needs of uniqueness and belongingness of personnel. While inclusion could be identified as a dynamic process of change, the feelings of inclusion are considered to be driven by sensitivities with regard to respect and fairness (Ohunakin, 2019).

Diversity and inclusion have been characterised by challenges related to affirmative action, discrimination, bias and tokenism. Also, it has underscored concerns about

segregation and difference, especially with respect to minority groups (Ohunakin, 2019). This has fuelled ethnicity among diverse societies. There are reports of the negative effect of D&I on individuals and job-related outcomes. Moreover, the major constituent of diversity management to guarantee inclusion has been a tough target, especially in the public sector (Rohwerder, 2017). The challenge of marginalisation of sectional or minority groups is a common concern in the management of D&I (Tamunomiebi & Ehior, 2019). This common challenge defeats the essence of D&I because uniqueness is not respected, and inclusivity is unachievable. In addition, this describes the characteristics of inclusion to promote quality collaborations among members of a group, which could lead to social conflict when some parties feel neglected (Kaur & Arora, 2020; Ohunakin, 2019).

## **METHODOLOGY**

The interpretative approach was employed to understand how D&I could be useful for public organisation. This approach is customarily qualitative with the aim of understanding and interpreting reasons for, implications of human actions in a context and subjective experience (Saunders et al., 2019). Therefore, this study embraces the qualitative research approach, which encompasses gathering and analysing data that are non-numerical to gain better insight into concepts, experiences or views on a subject matter (Cresswell, 2009). Using secondary data, the study investigated the essence of D&I noting its potential benefits and how it could be harnessed in the unique context of Nigeria. Therefore, a desk review method was adopted to collect, organise and synthesise relevant documents (Terrell, 2012; Chitongo & Ojogiwa, 2021). Furthermore, documents were reviewed from sources such as academic journals, newspaper articles and the Nigerian constitution using keywords like diversity management, D&I, affirmative action and the Federal Character Principle. The primary criteria established to direct the inclusion of the articles were based on the keywords and articles published between 2012 and the present. The goal is to give a summary of the body of existing research on the topic. The data was presented and analysed using thematic analysis.

### **Managing D&I in the African context**

The Sub-Saharan region of Africa is diverse, but typically in terms of race, gender, culture, religion and others. As a result of these factors, integration has been

underscored as a necessity for African countries to fully benefit from their diversities. This appeal follows the discussion of diversity's crucial role in growth and development. The most notable of these factors of diversity is ethnicity, which occasionally causes predicaments for the continent in the form of ethnic clashes, among other things (Mashau et al., 2015; Chigudu, 2018). Due to the diversity of Sub-Saharan Africa (SSA), cities, villages and neighbourhoods typically have their unique traditions and beliefs. SSA societies prioritise the needs of the group as a whole over the demands of the individual (Shin & Park, 2013). Ethnicity is very prevalent in SSA, which emphasises the importance for D&I. The promotion of a sense of belonging and inclusion results from acknowledging one's ethnicity as a vital aspect of every individual. Hence, if ethnicity is not given the necessary consideration, the appreciation of D&I in the society under consideration may be a fruitless exercise (Appiah et al., 2018).

The definition of D&I emphasises how crucially important it is to societies and organisations. D&I are crucial components of any group of people, including SSA, because the effectiveness and productivity of societies and organisations mostly depend on the amity among its members. For instance, studies found the increased productivity of some organisations at Kenya and Botswana to be associated with their effective management of D&I (Appiah et al., 2018; Chigudu, 2018). As much as they are attempting to do with gender equality at the moment, African institutions need to incorporate diversity at their executive levels and in their strategic plans. This has to incorporate diversity management monitoring and assessment. In order to use cultural diversity as a resource for the continent's advancement, Africa must make it an integral element of its institutional value system (Chigudu, 2018; Mashau et al., 2015).

The sub-region of Africa requires strong economic management strategies to reduce poverty and sustain the economic prospects of its many nations. The perception of the sub-region as a high-risk area brought on by conflicts on the continent has prevented necessary international investments (Chigudu, 2018). For example, the political unrest that followed in Zambia and Cote d'Ivoire highlights the significance of ethnicity in SSA with regard to the goal of fostering inclusiveness. It would be only fair to capitalise on the region's diversity by effectively handling D&I as an essential skill. It is asserted that economic problems may be resolved by effective management of D&I. For instance,

the global recession, which has been discovered to be the cause of substantial turbulence in numerous African economies, may be handled by using excellent diversity management since it produces quality decisions, creativity, and increases productivity (Appiah et al., 2018; World Bank, 2013). Therefore, Institutions need to learn how to adapt if they are to succeed because the majority of African workplaces are made up of multiple cultures. For instance, the use of Fanagalo, a pidgin mostly based on Zulu as well as Portuguese, English, and other African languages like Xhosa by South African mines to improve communication in a multi-ethnic setting demonstrates the relationship between socioeconomics and D&I (Chigudu, 2018).

### **The necessity for D&I: Overview of Nigeria's context**

Organisations ideally reflect the country in which they operate and this is not exclusive to Nigeria (George et al., 2017). The concept of D&I has experienced growing challenges and there is relatively scarce literature on the subject matter in Sub-Saharan Africa (Appiah et al., 2018). Notwithstanding the global swing in response to diversity, Nigeria with its unique ethnic structure and cultural spread responded a bit slowly. Although Nigeria is ranked among the top five countries in the world as most diverse, the country is ranked as the 45<sup>th</sup> out of 47<sup>th</sup> countries that sustain national diversity (with indices of government inclusion, social inclusion and legal framework) worldwide (Adeleye et al., 2014). This depicts an absurdity between the diversity potentials of the country and the tangible harnessing. The explanations for this disparity are associated with the fragile government framework (The Federal Character Principle) and existing weak institutions. Hence, Nigeria has continually struggled to achieve an unbiased D&I representation in the public sector that requires an administration that is truly representative of the survival and socio-economic development of the country (George et al., 2017).

The Federal Character Principle (FCP) is under the management of the Federal Character Commission (FCC) and it is aimed at solving the glitches generated by the forceful unification of diverse (over 300) ethnic groups. The FCP is currently considered to be controversial and counterproductive and an alteration to one that prioritises continuous national integration, effective and communal benefits and unity in diversity (Adeleye et al., 2014; George et al., 2017). The FCP has been criticised for its failure to recognise the country's exact cultural actualities. Nevertheless,



diversity and its management are thought to surpass the emotive and political policies such as the FCP (Adeleye et al., 2019).

Diversity in Nigeria is aimed at realising an identical and unbiased representation with no compromise for merit. The concept of diversity and its management has experienced many developmental phases such as the encouragement of minorities, elimination of discriminatory factors and appreciation of an egalitarian society. Diversity is, however, understood as a model that values variety for utilitarian/effective benefits and solicits for some disadvantaged individuals slightly. D&I have experienced a mediocre performance because regardless of the anti-discriminatory clause in the 1999 Constitution, which disallows discrimination based on ethnicity, religious practices, place of origin, bases of association and gender, the proof of predominant discrimination and inequities in organisations reflect an existing inactive approach to managing D&I (Adeleye et al., 2019). According to Adeleye et al. (2014), the government's narrow efforts have been towards subduing religious and ethnic inequities as these are the dimensions where the country is mostly polarised. Therefore, the mainstream of the efforts targeted at realising ethnic equality is on the political institutions, public sector and public education. However, most of the efforts have been ineffective and disproportionate to realise a working D&I.

The practical application and monitoring of the FCP, which is only applicable to public administration, raises some overwhelming challenges. Therefore, the FCP has a limited scope by primarily focusing on public services, which include the Ministries, Departments and Agencies (MDAs) that are controlled by the national government. From the sectorial perspective, the FCP is applicable in all sectors and notably the education and armed forces. It is aimed at solving wide-ranging issues of recruitment, appointment and admission. A reason attributed to the ineffectiveness of the FCP, which has been enshrined in the Constitution since 1979 is the fact that achieving diversity is considered a difficult mission. In addition, the political root of the formation of FCP makes its motive to be politically driven (Adeleye et al., 2014).

The FCP is a way of contextualising D&I to suit Nigerians, however, it is similar to the diversity agenda in the private sector, which may not be sustainable considering the dissimilar socio-cultural values in the country. Hence, the benefits of FCP have been limited and not sustainable. Studies have criticised the operational results of the FCP

(Adeleye et al., 2014) The FCP has been variously labelled (as tribal character, representative bureaucracies, geographical apartheid, confused balancing of the merit principle and federal discrimination at best) for its ineffectiveness. Personnel are for instance appointed to the MDAs based on the principle of their states of origin and not by merit. Some authors acknowledged that the moribund outcome of the principle is connected to the political antecedents of the country. A concern was raised about the danger of using people's linguistic or ethnic affiliation as the key benchmark for evaluating competence and quality while shelving the standard of merit (Adeleye et al., 2019; George et al., 2017).

Another concern was with regards to commending the standard of attributing much value to the condition of regional affiliation or state of origin in the management of the state MDAs in a bid to instil equity in the process of recruiting, appointing and electing public servants. Despite several constitutional amendments in 1989 and 1999, and with the awareness of its meagre performance, the clause that promotes the act of suppressing merit over the state of origin has remained as it is. Although the FCP is hailed for the existing unity in the country, it is also criticised for generating and posing more problems than it has solved. The problems of demotivation, operational inefficiency and ineffectiveness and extensive records of indiscipline are some of the consequential challenges of the FCP (Idike et al., 2019). These challenges have resulted in mutual mistrust, tribalism, socio-ethnic conflicts, social injustice, enhancement of mediocrity over meritocracy, the establishment of the elite class, nepotism, perceived inequity and differences in educational and economic status. In view of the uniqueness of the country, it is recommended for diversity as a concept to be contextualised with its dimensions to reflect the realities (both institutional and socio-cultural) of the country (Mashau et al., 2015; Hasan, 2022).

### **Benefits of diversity and inclusion with reference to the public sector**

The following are some of the benefits of embracing and practising D&I for the personnel, the organisation and the society.

#### **Significance of D&I to public servants**

Studies (Allen, 2017; Saberi, 2017; Otike, 2019) have attested to the influence of D&I on employee commitment, motivation, effectiveness and emotional intelligence.

Chaudhuri (2022) indicated that D&I are capable of unlocking a ground-breaking level of output as they contributed to the willingness and contentment of personnel. Akintayo et al. (2020) observed that regardless of gender, the practice of D&I could enhance the creativity of personnel. Therefore, as individuals in the organisation, irrespective of the managerial level, D&I is potentially capable of increasing confidence, reducing stress, building working relationships and ensuring the successful accomplishment of tasks (Osibanjo et al., 2016). Managers' or leaders' shortfall in emotional deficit could lead to the meagre performance of diversity and consequently discrimination at work, loss of organisational reputation, poor social relations, failure to attract quality talents and ultimately poor performance outcomes (Akintayo et al., 2020). These underscored benefits would impact the Nigerian public servants' engagement and consequent performance improvement.

### **Significance of D&I to public organisations**

It is acknowledged that a diverse organisation constitutes creative personnel or workforce (Farndale et al., 2015). Organisations and society build their competitiveness based on the creative capability of the workforce (O'Mara & Richter, 2014; Daya, 2013). Farndale et al. (2015) observed that the benefit of diversity is best harnessed when it is translated into inclusion, thereby forming a competitive societal environment and workplace. Owing to the competitive advantage of diversity, managing diversity has become essential for global businesses and public organisations such as the Nigerian public sector and it is to be attributed the appropriate value. Moreover, organisations that embrace the principles of D&I are well placed to achieve greater effectiveness that should be maximised as it means access to a wider talent pool (Chaudhuri, 2022).

### **Significance of D&I to the citizens**

According to Rohwerder (2017), some of the highlighted advantages of D&I include enhanced decision making, greater flexibility, better services and products, innovation, better resourcing of talented workforces, boosted corporate image, reduced costs, enhanced organisational performance, development of personnel commitment and satisfaction which relates to enhanced service delivery and customer relations. In addition, the unbiased representation of minorities and vulnerable people has been beneficial to social justice. This highlights the potential to represent the Nigerian

masses. According to Akintayo et al. (2020), when individual difference is not valued, the absence of trust and a feeling of insecurity could be perceived by the people. The insecurity is particularly heightened when there is no sense of belonging, that is inclusion, amidst people of different gender, religion, age, ethnicity and social class.

In view of the benefits of D&I, managing it effectively is a principle of maximising its competitive potential (Appiah et al., 2018). The implication of diversity management is to create an environment that is inclusive to advance the feeling of belonging, which is greatly desired by Nigerian citizens. Thus, inclusion appreciates the unique characteristics of individuals in a diverse organisation or society (Daya, 2013). It could be affirmed that the objective of managing diversity in a society ultimately seeks to advance inclusion to realise organisational or societal goals. Appiah et al. (2018) noted that the aspect of ethnicity with regards to the construct of diversity is vital to attain its comprehensive benefit as its precursors on social psychology. It is recommended that emotional intelligence is required in response to different emotional reactions that could be triggered when diversity exists in organisations. Organisational leaders are advised to employ emotional intelligence to deliberately leverage diversity and facilitate relationships (Akintayo et al. 2020).

### **Capitalising on the potential of D&I**

To realise the benefits of D&I, the following are suggested, according to Tamunomiebi and Ehior (2019).

- Individual cultures and differences should be acknowledged (Tamunomiebi & Ehior, 2019). According to Syed and Ozbilgin (2019), to improve corporate outcomes and foster an inclusive workplace in a socially responsible way, it is necessary to comprehend and manage workforce diversity efficiently. According to Appiah et al. (2018), the solution to societal conflict in this regard is to value people from diverse backgrounds. Clearly, individuals' sense of inclusivity and individuality depends on their social identity, which is derived from their ethnicity and culture.
- Different qualities that personnel bring to work should be valued. Preference should not be given for group differences but for individual differences and contribution (Tamunomiebi & Ehior, 2019). The marginalisation of minority groups from diverse backgrounds is a problem that frequently arises in

environments where D&I are managed. The difficulty of marginalisation undermines D&I because uniqueness or individuality is not valued and inclusivity is not fulfilled. Therefore, it follows that the definition of inclusion implies that the value ascribed to individuals translates to the effectiveness of group interactions and has a direct impact on group performance (Appiah et al., 2018). Bias and discrimination with respect to personnel recruitment, performance assessment, selection, promotion, pay and learning opportunities should be eliminated.

- There is a need for strong leadership with a commitment to managing diversity towards inclusion in organisations (Farndale et al., 2015; Hasan, 2022). In a diverse workforce, management must be used to educate everyone on diversity, its problems, and related rules and regulations. Diversity management helps employees by maintaining a fair and secure workplace where everyone has access to the same challenges and opportunities. (Chigudu, 2018).
- Institutional and organisational culture and strategy must be developed in order to facilitate employee inclusion in the workplace, which involves meeting their demands for individuality and belonging (Syed & Ozbilgin, 2019). Moreover, in order to avert social conflict, it is vital to have an effective strategy for managing diversity. This is especially necessary because of the rapid increase in the fluidity of national borders brought on by globalisation.

Therefore, the management of D&I should be supported with an effective and efficient strategy that recognises the volatility of people and appreciates the diverse backgrounds of individuals. This is anticipated to provide a remedy to possible social conflict that could be instigated by an individual's uniqueness, sense of inclusiveness and prevailing culture and ethnicity (Hays-Thomas & Bendick, 2013). Hence, in managing D&I in the public sector, the prominence of ethnicity should not be disregarded. Besides, it is acknowledged that ethnicity determines an individual's reasoning for the association because it forms the values that are perceived by groups and necessitates the pursuit of an environment that is inclusive (Nair & Vohra, 2015). Ultimately, fostering the individuals' integration regardless of their diverse backgrounds would result in the realisation of an inclusive society. To achieve the

effective management of D&I, institutions should support different structures in society that encourages the participation of groups and individuals in the process. The mutual effect of D&I is a potent element in determining the competitiveness of organisations and nations (Appiah et al., 2018; Hays-Thomas & Bendick, 2013; Nair & Vohra, 2015).

## **CONCLUSION**

The discourse of diversity in the Nigerian public sector provides particular insights into the differentiated representation of the construct. The national and the legal context are very important when discussing policies that are diversity-related in the sector. Moreover, in the public sector in Nigeria, ethnicity is viewed from the dimensions of educational background and socio-economic status other than the commonly identified dimensions of gender, age, ethnicity or race, religion, disability and sexual orientation that are not considered relevant in profit-making organisations. Thus, information about structural inequalities and social exclusion are developed and built in the discourse of diversity in public organisations. Following the reviewed literature, effective implementation and management of D&I are able to ensure job satisfaction, which impacts positively on their job outcome and service delivery.

### **Implications on policy**

Indeed, the actuality of diversity presages several potential advantages, however, Nigeria had experienced difficulties in the implementation and management of diversity with diverse employees with their distinctive yet varied linguistic, socio-cultural and biological personalities as a workforce. Nevertheless, if personnel appointments and recruitment are based on merit and not on the FCP that has entrenched mediocrity, the best public institutions and their personnel could be capitalised on. The FCP has been engaged as a policy to achieve workforce diversity and sustain national integration. However, it has created an unfair balance such that many personnel are subsequently demotivated, uncommitted and not fully engaged in public services.

The FCP regulated by the FCC (Federal Character Commission) has encouraged the weakness of the public sector owing to so many highlighted factors. For instance, the decision of employing an indigene with an assured quota system regardless of the educational experience speaks to the underperformance of the public sector. This

again highlights the fact that efforts at managing diversity in Nigeria have interlaced the unqualified, moderately qualified and extremely qualified individuals from their diverse cultural and social backgrounds in the country and in organisations. While some unqualified individuals have been qualified by the current system, the extremely qualified in the system have been weakened. This calls for an overhauling of the system to abolish the existing unfair structure or framework by strategic and patriotic leaders. This is anticipated to infuse sturdy work ethics and consequently lead to economic, political, social and educational development nation-wide. The act of prioritising merits over ethnicity or religion will induce positive values in all public servants and sustain unity in diversity. Moreover, receptivity to employee and citizen feedback is an opportunity to capture progress of how D&I has been incorporated into the public sector's practices besides leveraging on tools to assess D&I.

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# **Empowering rural women entrepreneurs: A critical study on the intervention of fintech platforms in India**

Rabinarayan Patnaik and Sukanta Kumar Baral

Prof. R. Patnaik, Institute of Management and Information Science, Bhubaneswar, Odisha, India.

Prof. S.K. Baral, Department of Commerce, Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh, India.

## **ABSTRACT**

The contribution of rural-based occupations to the global economy has been immense for a long time. In spite of a visible portion of rural people migrating to urban areas for different occupations and professions, traditional livelihoods and ways of earning money still play a significant role in the rural and national economies at large. In recent years, women in different rural areas of India have been encouraged to become self-reliant and nurture an intention of being entrepreneurs. In this regard, the technology-backed processes have started enabling these women access to the benefits of various programs as well as connecting them with appropriate stakeholders. Owing to the development of banking systems in India and the penetration of major banks (both private and government) to previously considered remote zones, the individuals are now able to upgrade themselves and find avenues for a better lifestyle. The current study attempts to understand the different gaps between the women entrepreneurs in rural India reaching their community with services and other benefits. A conceptual model has been proposed to understand the role of fintech platforms in effectively overcoming the challenges women entrepreneurs face.

**Keywords:** Entrepreneurs, Financial Services, Fintech, GDP, Networking, Rural Economy.

## **INTRODUCTION**

During the initial years of the twenty-first century in different countries, more frequent shifts of rural population towards the urban areas were observed. The common reason

behind that was because of rapid urbanisation leading to the creation of jobs and professions in cities and adjacent areas (Gries and Grundmann, 2018). However, there are still certain occupations and sectors typical to rural areas which until now have remained untouched, e.g. agriculture and traditional skill-based livelihoods etc. which contribute a major share to the global economy (Ebner *et al.*, 2020). In addition to this, the clean and green landscapes as well as climates in rural areas offer a healthy lifestyle which in turn attracts tourists from various places to spend some quality time in these areas. Also, because of their ancient characteristics, the rural areas of a country hold the heritage, traditions and culture of a country, thereby naturally creating an interest and fascination among the outsiders to explore the former and have a better knowledge about the exoticness of the place. This exclusivity of the rural economy can be more visible in developing economies like India than in the industrialised nations across the globe (An & Alarcón, 2020).

There has been a visible shift in the approach towards rural-based economies typically in emerging economies like India. While the older process focused more on farming and farm-based occupations as well as farmers, the recent approach has been creating competition among the rural mass in discovering their true potential while also becoming self-reliant (Easton-Calabria & Omata, 2018). The focus has been consistently on exploring those untapped resources which remained in the rural backyard for years and enabling them to cater to the growth of the rural economy and subsequently becoming a part of the growth story of the nation. Instead of focusing on one kind of occupation, i.e. on farming, the Government of India, with real time engagement and support of various stakeholders at different levels, like national, regional as well as local, has been reconfiguring the opportunities at the rural level, e.g. exotic rural tourism, ICT industry, place specific manufacturing and so on (Shahraki & Heydari, 2019). Earlier provision of subsidies to rural economic activities is being replaced by investment from different organisations to a larger extent. This has been enabled by exponential growth, supported by technology-based financial services reaching out to the enthusiastic rural population (Greenberg *et al.*, 2018).

However, for centuries together, the entrepreneurial orientation in the rural economy has been confined to the male segment of the population for various reasons. In the last few decades, as the world has been witnessing increasing participation and

contribution of women in economic activities, emerging and rapidly developing economies, like India, are in no way laggards. Women entrepreneurs have been encouraged to exploit their inherent and acquired skills to create scope for growth (Salehi Kakhki *et al.*, 2019). Due to certain socio-economic challenges, though the entry of women entrepreneurs in India has been delayed, it is promising to see the speed at which women entrepreneurship has been increasing for the last one decade or so. Owing to the fact that the business processes in India have been seriously and sometimes solely supported by technological developments, women entrepreneurs at different levels are encouraged to have enough skill as well as be immensely informed to take the benefits of technologically-backed solutions from time to time (Aklin *et al.*, 2018). To overcome the earlier challenges in the form of access to investment, finance, loan, market connects etc. faced by women entrepreneurs typically in the rural bases of India, government as well as private organisations have started developing technology-based financial services as well as extending the scope of including the benefits.

## **FINTECH AND FINANCIAL INCLUSION**

In the simplest terms, fintech is considered solutions based on the use of information technology for various financial services. There is always a scope for incorporating emerging technologies in different financial services and thus the acceptance of this popular business supporting tool has been immense. The financial service based organisations across the globe have started infusing fintech, as provided by different vendors, thereby almost replacing traditional ways of connecting the beneficiaries (Bhasin and Rajesh, 2021). Fintech per say does not operate in a single dimension or confined business process. Due to the adaptability of innovations, there are numerous sub-areas where fintech has been successfully implemented by different organisations around the globe (Fig. 1).

**Fig. 1: Scope of fintech innovations in different areas**

<b>Sub-areas of financial services</b>	<b>Technology enabled helping tools</b>
Payments, clearance etc.	<ul style="list-style-type: none"><li>- Payment on mobile as well as internet</li><li>- Digital currencies</li><li>- Mass ledger</li></ul>
Capital, deposit and lending	<ul style="list-style-type: none"><li>- Crowd funding</li><li>- Customised lending</li><li>- Cloud computing</li><li>- Digital aggregation</li></ul>
Managing investment	<ul style="list-style-type: none"><li>- Robotics</li><li>- Digital trading</li><li>- Smart contracts</li></ul>
Business analytics and managing data	<ul style="list-style-type: none"><li>- Big Data</li><li>- AI (Artificial Intelligence)</li></ul>

*Source: compiled by the authors*

Coming to Indian market for fintech solution providers and their development, the growth story of the former is phenomenal. Fintech market in India is considered to be developing at a rate faster than any other country in the world. With an expected CAGR growth of more than 22% by 2023, the adoption of digital payments and its value are in upswing. Six of the 100 leading fintech cities in the world are from India alone (Derudder and Taylor, 2020). The emergence and development of various fintech hubs in different countries like US, Israel etc. can provide benchmarking insights to the fintech market in India. The increasing uses of fintech in different banks and other financial companies of India, has remarkably been changing the traditional process of cash transaction. It has been acting as a change agent in the regular and day-to-day monetary transactions of Indians at large. The introduction of start-ups and the encouragement of the Government of India to these typically in the fintech sector has paved the way for growth in certain segments like wealth management, banks etc. including financial inclusion (Al-Mudimigh and Anshari, 2020). Instead of backend solutions, the majority of the start-ups in the Indian fintech industry are providing consumer-oriented solutions apps, mobile wallets etc. With a great deal of support from the Government of India agencies like SEBI (Securities and Exchange Board of India) and RBI (Reserve Bank of India), the fintech industry has produced some of the most successful start-ups like PhonePe, Paytm, MobiKwik etc. successfully catering to the needs of Indian consumers at large.

Complementing the success of the fintech industry in India, government support in financial inclusions has been enabled by various schemes like *Jan Dhan Yojana* (connecting individuals without any prior banking connections to the banking sector),

successfully creating more than 300 million customers for banks. The benefits for the customers because of this financial inclusion are in terms of on-time access to financial services; one platform covering inclusion of customers of different segments; inclusion of the underprivileged and neglected groups of society etc. Besides banking, various other modules under financial inclusion keep on expanding over the years and currently cover areas like pensions, microfinance, loans, financial aid and so on (Razzaque and Hamdan, 2020). The government's role in connecting the distant consumers to these solutions can be visible with setting up centres nearby the consumer base; providing infrastructure support to the start-ups entering into this sector; providing tax rebates to the merchants; enabling trademark initiatives and filing patents etc.

However, in comparison to the developed economies, rural entrepreneurs, typically the women segment, in swiftly developing economies like India, are yet to pick up speed while receiving the benefits and growing in their occupation and venture. The financial inclusion structure though, contains some substantial beneficiaries like women entrepreneurs, the rural base is still lagging behind (Rosca *et al.*, 2020). There are different visible reasons like no-need specific financial solution structures reaching the rural entrepreneurs; the prevailing legal structure (e.g. ancestral property) preventing the women to have a sound financial back up; inability to access financial solution providers as frequently as their male counter parts and so on, which act as hindrances in the development of rural women entrepreneurs. Therefore, it is necessary to understand the gaps between the solution providers, more specifically the fintech and the rural entrepreneurship. It is also required to bring out those parameters which if put into a systematic framework might encourage self-reliance and self-sustainability of the women entrepreneurship in rural bases at large (Lai and Samers, 2021).

## **LITERATURE REVIEW**

In the pursuance to focus on rural entrepreneurship, the countries consider the alternatives to agriculture which traditionally remain the mainstay of rural economy. This is also done seriously to reduce the migration of rural inhabitants to urban areas in the search of jobs and secure livelihoods. In other words, it helps by utilising the natural and using the skills of village people to thus create an ecosystem of urban and

rural opportunities (Lagakos, 2020). It is also required to bring in the necessary dimensions of entrepreneurial abilities among the rural mass to tackle potential challenges, while making them promising entrepreneurs. The reason behind this orientation is because of the very nature of entrepreneurship; i.e. the risk-taking abilities and innovativeness. Being innovative, entrepreneurs take the challenge of introducing new products and services with an objective of acceptance by the potential customers of his/her offerings (Toms *et al.*, 2020). The scope of entrepreneurship is never region-centric, rather it can well cover every nook and cranny of a country including the rural bases. In addition to make the real development of rural bases and community, there is a need to enhance the quality of life of the people residing there. In this process, rural entrepreneurship is constantly encouraged by the respective governments (Oranburg, 2020). The continuous upgradation and improvement of rural entrepreneurs can only be possible when different stakeholders at various levels will take the responsibility of understanding the challenges the former group faces and formulating ways to counter and resolve the issues. There needs to be an ecosystem which calls for non-discrimination among the entrepreneurs related to gender, background, as well as influence in the region (Ughetto *et al.*, 2020). In addition to the consideration of creating multiple options for growing rural economies, it should not be forgotten that the prime means of agriculture remains intact. The development of other entrepreneurs and the opportunities must supplement the agro-economy, development of production quality and quantity, thus preventing the inadequacy of food grains etc. (Akhmadeev *et al.*, 2019).

The prevailing and traditional mindset related to engagement of women in entrepreneurial activity remains a concern for the development of the latter. In a fast-moving economy like India, the opportunities and scope of women entrepreneurship are infinite provided the socio-economic issues can be addressed in proper forums and by proper means. Introduced far back in the 1980s, the DWCRA (Development of Women and Children in Rural Areas) considers various dimensions of women entrepreneurship in rural India related to the problems and opportunities for them (Datta and Sahu, 2021). Then comes the real challenge to the women entrepreneurs in terms of limited access to customers, market place or community engagement. Even at the age of technological advancements across the globe in terms of financial perspectives like lending, credits, borrowings, financial aids and so on, the female rural



entrepreneurs are still struggling to get proportionate benefits like their male counterparts (Hechavarría *et al.*, 2018). The reasons behind this are many and include the high illiteracy rate among the women population in rural areas; ignorance about the recent developments occurring across the globe; inaccessibility to various schemes, time and again floated by the government and so on. At times, the inability to express their identity to the banking and other financial institutions deprive women in rural bases from starting a venture and striving to succeed (Radović-Marković and Achakpa, 2018).

In order to overcome these decade-long challenges, the financial companies and fintech industries have come a long way on the lines of government initiatives to improve the fortunes of women entrepreneurs in India. One of such endeavours is financial inclusion which specifically considers the needs of women entrepreneurs, giving them access to financial products and services at their convenience, creating subsidised accounts for controlling household expenses and thereby preventing poverty (Jones, 2018). There is invariably a necessity of creating women-specific financial infrastructure to boost the rural economy and to encourage aspiring rural women entrepreneurs in developing economies like India. Financial inclusion must take into consideration the existing rules of land which create a disparity between the male and female inheritance rights of property and make way for registration and other formalities to access financial support meant for the women entrepreneurs (Park and Mercado, 2021).

## **OBJECTIVES OF THE STUDY**

With the underlying reality of untapped skills and opportunities stemming out of rural women entrepreneurship, the current study aims at exploring the following issues.

- i) The current states of technological, societal and regulatory developments encouraging aspiring rural entrepreneurs of India.
- ii) An insight into the various schemes by Government of India promoting entrepreneurship and connecting the stakeholders at large.
- iii) Formulating a multi-dimensional conceptual model which can be helpful to the rural women entrepreneurs to rip off the benefits provided by fintech companies with the scope of financial inclusion of the former.

## **FINDINGS AND OBSERVATIONS**

In a bid to understand the different factors which can be responsible for upliftment of rural women entrepreneurs in a fast moving economy like India, the following areas are analysed with due inputs from recent reports on the former.

### **Growth of internet and mobile phone usage**

As a technological helping tool, the internet acts as a facilitator while providing connectivity between financial organisations and concerned beneficiaries. Currently in India, the internet penetration is about 300 million and expected to touch 500 million by 2024, the majority of which will be the users from Tier- II cities and rural areas. The increased use of the internet has been complimented by the rapid penetration of mobile phones into the rural bases (Agrawal, 2021). This has enabled the women entrepreneurs to identify and mobilise the resources as well as prevent shortcomings in terms of connecting to the consumers and market place. However, the challenges of connectivity will be in terms of focusing on high coverage rural networks, data rates, energy efficiency and certain other requirements of license provisions at the local spectrum and so on (Thakur and Chander, 2018). Another factor will be the medium of communication. Instead of English being the language, the local and vernacular dialect needs to be the facilitator while understanding and addressing the concerns of beneficiaries. With a major focus still on agro-business, there will be huge opportunities for fintech companies in the field of vertical e-commerce. Internet as a last mile facilitator can be useful for the aspiring entrepreneurs (NITI Ayog Report, 2021). For example,

### **Problem area**

Most of the farmers, including the women in rural areas, are having problems in not being properly informed about packaging, fertilizers, soil testing, availing the right kind of machineries, as well as an inability to connect to the market place.

**Possible solution:** there can be training sessions provided online with ease to the aspirants who in turn will become information providers and addressing their concerns to a great extent.

### **Initiatives by the Government of India**

Over the last few years, the Indian Government has created several group schemes which complement the financial inclusions, extended to women entrepreneurs at rural bases, with total direct benefit transfer amounting to more than 2000 billion Indian rupees (Fig. 2).

**Fig. 2: Rural Empowerment Schemes by Government of India**

Sl. No.	The Scheme Group Name	Total Direct Benefit Transfer (in billion ₹)
1	PAHAL	46.81
2	NSAP	51.80
3	SCHOLARSHIP SCHEME	11.80
4	PMAYG	261.37
5	PDS	506.95
6	FERTILIZER	547.63
7	OTHERS	691.01
<b>Grand Total</b>		<b>= 2117. 37 Billion Rupees</b>

*Source: compiled by the authors*

Alongside these group schemes, there are various schemes launched with the support of banks and other financial institutions for supporting the causes of rural entrepreneurship in India. For example, Stree Shakti Package launched by the State Bank of India provides concessions to the entrepreneurs for availing loans between ₹2 lakhs to 5 lakhs, Mahila Udyam Nidhi Scheme by Punjab National Bank providing grants upto ₹10 lakhs to name a few.

## ACHIEVEMENTS AND CHALLENGES

With all these initiatives and technology-backed processes, the government of India along with various banks and fintech companies, there has been some visible results which are noteworthy. For example, the reach and penetration to different remote areas has been more than before. Almost more than 30% of villages are already covered in the last five years. The amount of benefits provided because of these efforts has been to the tune of more than ₹41 crores. The major challenges for fintech companies to reach the beneficiaries like the women entrepreneurs were found to be as follows:

- i) High investment required by the companies to set up its establishment typically in the form of rural branches, e.g. bank branches
- ii) The agents appointed were mostly dormant over a period of time
- iii) The accounts of beneficiaries were found to be inactive in most cases
- iv) The dependency of people over the banks has been traditionally excessive

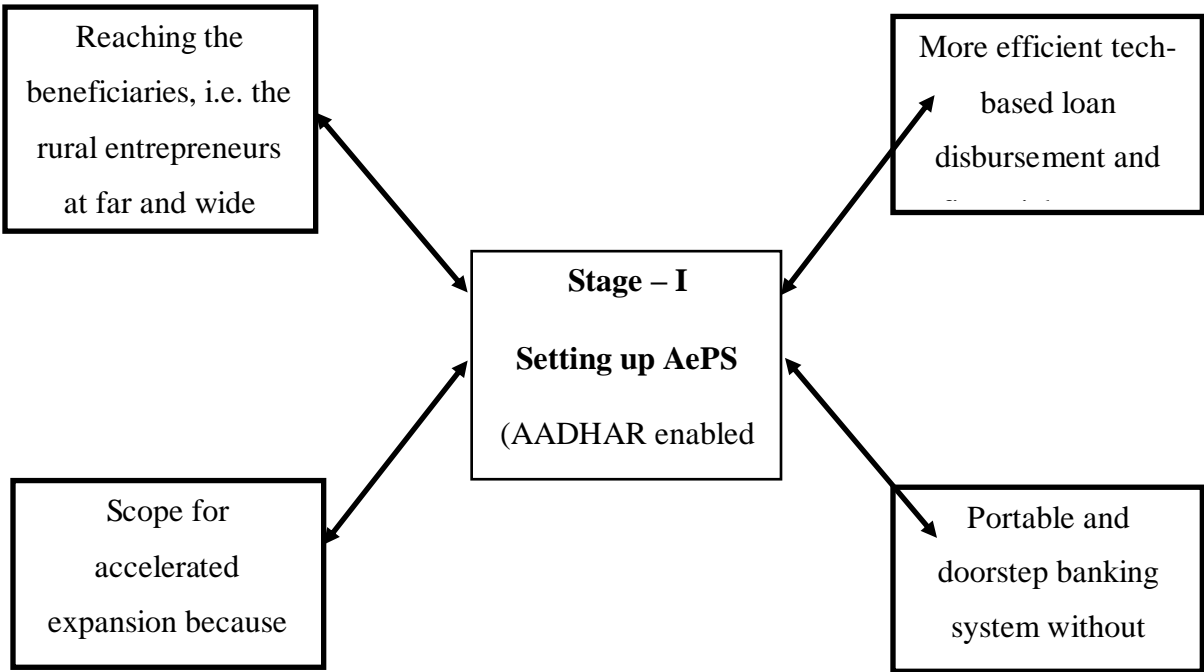
## SUGGESTED FRAMEWORK

In order to support the beneficiaries particularly to help the rural women to become successful entrepreneurs, it is required to cover the aforesaid challenges and come up with an alternative strategic model constituting three stages; an SIE Model, (i.e. **Setting – Inception - Execution Model**) as proposed in this study (Fig. 3).

This model typically considers the shortcomings banks face while reaching the customers and helping the latter to reduce their dependency on the branches of banks. The helping tool is to create a fintech platform for women entrepreneurs using technology to deliver financial services and products to their community. AePS permits and enables online interoperable financial inclusion transaction at PoS (in this case a MicroATM) through the correspondent bank using the *Aadhaar* (which is a 12-digit identification number issued by the government of India free of charge to the citizens of India) authentication.

The objective of this model lies in aggregation of all financial products and services through a technology-based and low-cost fintech model, operated by identified women change agents, who will be trained, and subsequently these trainees will assist their community in accessing financial products and services and enhance financial education and literacy in villages. The only inputs required for a customer to do a transaction under this scenario are IIN – Issuer Identification Number (identifying the bank to which the customer is associated), *Aadhaar* Number and fingerprint captured during their enrollment. This will cover various services like cash withdrawal, money transfer, balance enquiry and mini statement.

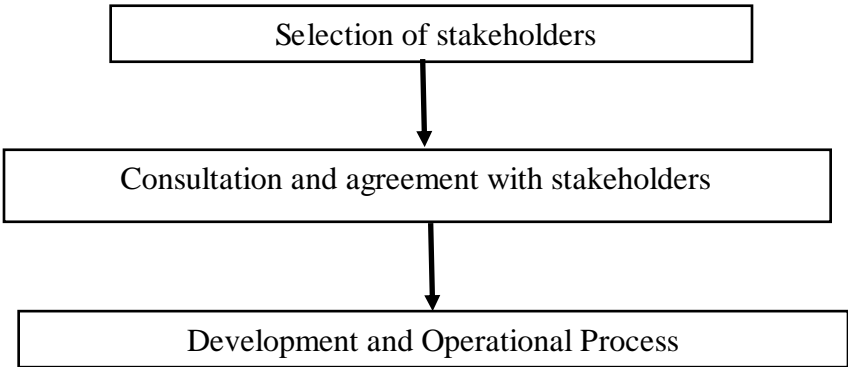
**Fig. 3: SIE Model - An alternative framework to bank branch**



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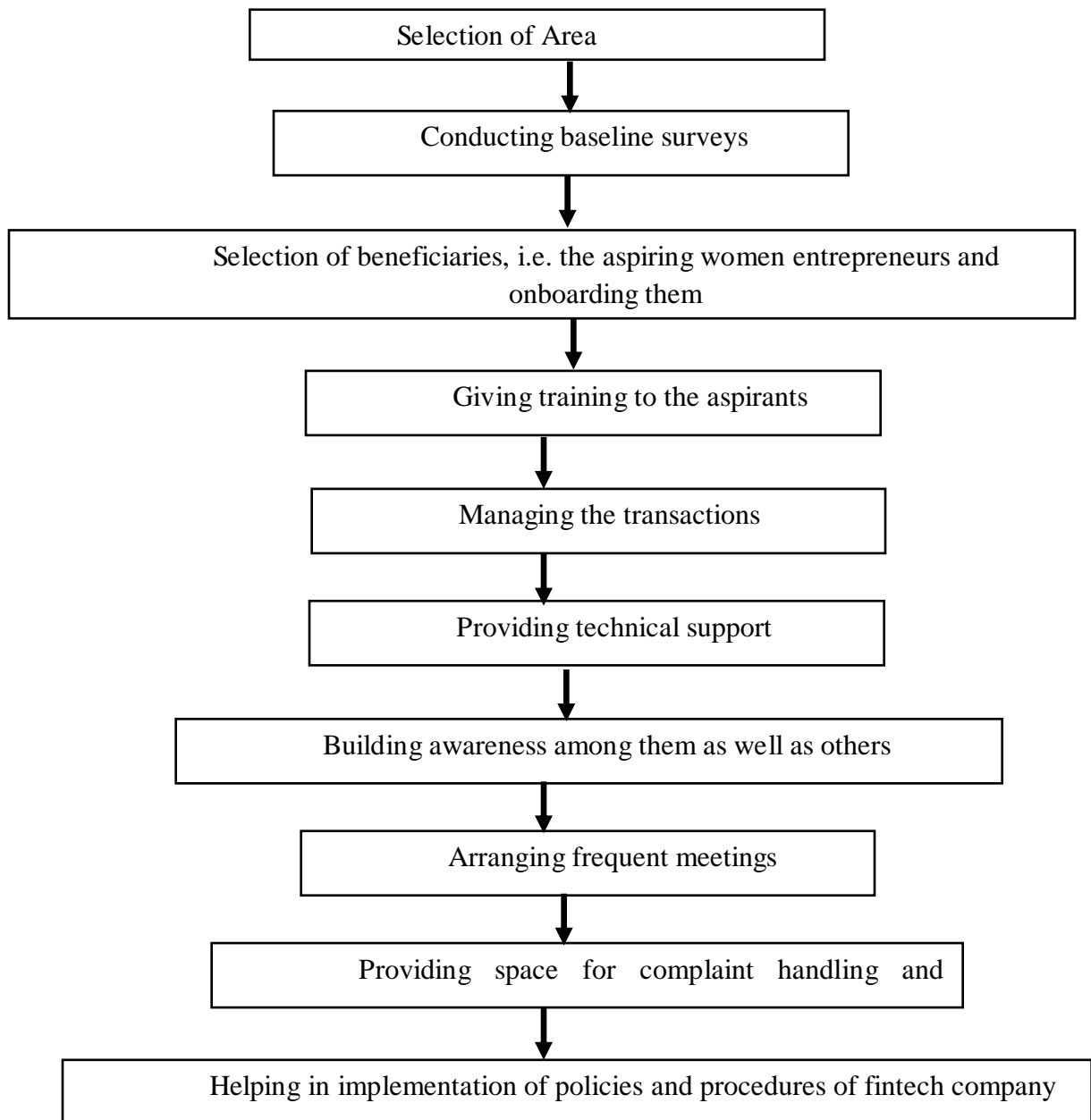
**Stage – II**

***(Inception of ICT- Information and Communication Technology based financial service process)***



.....

**Stage – III**  
**(Execution Process Flow)**



**CONCLUSION AND SCOPE OF FUTURE STUDY**

In contrast to the male dominated agro economy, the participation of women in the same has started showing great results in different countries, including India, in the last few years. It seems like the common problems and challenges faced by the women entrepreneurs in the rural bases mostly becomes aggravated because of

inadequate financial support and infrastructure. However, with the advancement of the fintech industry, these challenges ought to be declining to a greater extent in the years to come. Financial inclusion, with a focus on women entrepreneurs in rural areas, is going to the order of the future. The prime occupation of firm-based units and ancillary business processes are going to benefit immensely because of the intervention of fintech processes. The research and developments happening in fintech across the globe will surely help to make this cause in the favour of growing the economy at large. With that said, the time has come to improve the understanding about cultural diversity in different regions so that it might help the companies to set up their technical hubs properly and therefore successfully support the cause of entrepreneurs. It is also required to make further studies to understand the limits and expansion of the scope in terms of technical and managerial support to innovations in these regions to come.

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# **The role of entrepreneurial education and training on small, medium and micro enterprises' performance in the Eastern Cape Province**

Ellen Chenesai Rungani and Yanga Klaas

Dr E.C. Rungani, Senior lecturer, Business Management Department, University of Fort Hare, South Africa.

Ms. Y. Klaas, University of Fort Hare, South Africa.

## **ABSTRACT**

**Purpose:** In South Africa, many small businesses struggle during their first three years of inception. As a way of finding ways to improve the success rate of these businesses, both the public and private sector offer a variety of entrepreneurial education and training support activities. However, the return on investment is very low as most small businesses continue to fail despite receiving education and training. This is a cause for concern across all sectors in South Africa; as such, this research examined the role of entrepreneurial education and training on SMME performance in the Eastern Cape Province. The research further examined the impact of entrepreneurial education and training received by SMMEs on the success of their businesses.

**Design/methodology/approach:** A quantitative research design was adopted, and primary data was collected from 30 respondents through a survey method. The researcher utilised the Statistical Package for Social Sciences (SPSS) version 24 for data analysis. To analyze the data, descriptive statistics and inferential statistics tests were done such as T-test, Correlation and Chi-square test.

**Findings/results:** The findings of this research indicated a significant positive impact between entrepreneurship training and education and SMME performance. The results further point out that entrepreneurial education and training plays a significant

part in improving the owner/manager knowledge and entrepreneurial skills. In addition, entrepreneurial education and training were also highlighted as key factors during the establishment and survival of the small businesses.

**Practical implications:** The findings of this study will help in assisting the development of the SMME sector, which is one of the fundamental priorities of the government in their bid to solve the socio-economic challenges in South Africa.

**Originality/value:** New SMME success strategies were indicated and recommended for implementation to enhance improvement of SMME performance and survival in South Africa.

## **INTRODUCTION AND PROBLEM DESCRIPTION**

In any nation, the creation of a strong and sustainable SMME sector is critical to every progressive economy across the globe, and one of the ways of improving the competitiveness of the SMME sector is through the development of human capital (Abor and Quartey, 2010; Chimucheka and Mandipaka, 2015; Bhorat, Asmal, Lilenstein and van der Zee, 2018).

Many authors believe that for SMMEs to expand successfully owners need to encourage their employees to acquire the needed new skills in order to successfully compete in the industry (Chimucheka and Mandipaka, 2015; Fanta, 2015; Dladla and Mutambara, 2018; Majukwa, Fan and Dwyer, 2020).

Due to the fast-growing nature of businesses across all sectors, the management team also needs to constantly develop required skills to keep abreast of the ever-changing business environment. Given the skills and practical knowledge needed by owner/managers as the business grows the need for continuous management training and development becomes more apparent, which proves the importance of entrepreneurship education and training. When looking across both high and secondary educational institutions entrepreneurship education has been rapidly endorsed (Bae et al., 2014; Chimucheka and Mandipaka, 2015; Turner and Gianiodis, 2018; Liguori and Winkler, 2020).

Various authors also argue that entrepreneurship is something that you are not born with, but it is an ability that one acquires through learning. They view these two

elements as some of the important components in fostering the entrepreneur (Timmons et al., 2017; Jena, 2020; Ratten and Usmanij, 2021).

In South Africa, it is evident that the government has developed various SME support and development initiatives, yet these businesses continue to struggle with their performance, with only a few businesses continuing to thrive after the phasing out of the business support. Many scholars indicate that one of the main challenges facing the SMME sector in South Africa is the reported low rate of entrepreneurial activity (Ranyane, 2014; Albuquerque et al., 2016; Bhorat et al., 2018; Bell and Bell, 2020; Liguori and Winkler, 2020).

Thus, developing a well-structured entrepreneurship education and training strategy may improve the SMME performance and entrepreneurial activity. In addition, other scholars restate the same, indicating that the effect stemming from entrepreneurship education remains to be inadequately understood. Evidence in literature also shows some intriguing insights, on entrepreneurship education research, which shows that there are still significant research gaps in this field which this study tries to contribute and assist in closing part of this gap (Thomassen et al., 2019; Boldureanu et al., 2020; Liguori and Winkler, 2020; Ratten and Usmanij, 2021).

In order to provide more practical and evidence-based recommendations to policy makers it is therefore imperative to examine the role of entrepreneurial education and training in SMME performance. The research will further assist the policymakers and all stakeholders in determining the SMME success priority areas as well as toughening current and developing new entrepreneurship education and training programs. xxx

## **LITERATURE REVIEW**

### **Human Capital Theory**

This theory focuses on how expertise and abilities brought in by individuals bring about high profits in the labour market. The two main forms of human capital are education and work experience, and individuals accumulate these during their careers. It is noted that even though in many instances a negative correlation is predicted between work experience and academic level. It is imperative to note that those individuals who spend relatively more years in schools may have less time to accumulate work experience whereas on the other hand those individuals who enter the labour market

earlier generally also accumulate less formal education. (Thomassen et al., 2019; Boldureanu et al., 2020; Liguori and Winkler, 2020; Ratten and Usmanij, 2021). This theory is relevant for this study as entrepreneurship education is a key component of human capital development and entrepreneurial success.

Thomassen et al., 2019 argues entrepreneurship education must be looked at across three levels: micro, meso and macro. In addition, they believe that it is imperative to consider context through four framing questions: who, what, where and when. This provides a guideline on the influence of context during the process of designing entrepreneurship education.

In support of this notion Welter *et al.*, 2016, further indicated that when supporting the development of entrepreneurial competence it is key to have an understanding on the effect of context. This view is also in line with Neergaard and Christensen (2017) who indicated that it is very unusual to note that little attention is given to context during the designing and development of the entrepreneurial teaching pedagogy.

Some scholars point out that substantial contributions have been made to the pedagogy and scholarship of entrepreneurship education. They further indicate that over the last 20 years the field of entrepreneurship has matured significantly. However, in terms of teaching practices there are still some gaps, which shows that there are still opportunities for development and improvement (Snuggs and Jevons, 2018; Turner and Gianiodis, 2018; Ratten and Usmanij, 2021).

Scholars such as Ranyane (2014) indicate a positive relationship between business performance and training among micro-enterprises. This study therefore emphasised the significant role played by training in relation to business performance.

Diadla and Mutambara (2018) revealed that the training and support interventions provided by government programs, such as the Expanded Public Works Programme (EPWP), to small businesses had a positive impact and were effective in the development of SMEs. However, their study further indicated that during the delivery of these training programs there were some areas that needed improvement, such as after service support in the form of follows ups for SMES to ensure sustainability and all-inclusive small business support.

From the literature review, it is evident that many scholars highlight the significant role of entrepreneurial education and training on the success and performance of the business.

## **RESEARCH METHODOLOGY**

For this research, a population of formal SMMEs was obtained from a sample frame using database of SMMEs registered by Eastern Cape Development Corporation (ECDC). Stratified sampling was utilised to select 30 SMMEs from the sampling frame. The SMMEs were grouped according to location, gender, firm, size, industry and age of the business. To collect data from the SMMEs the research instrument used was a self-administered questionnaire. The questionnaire had the following sections;

### **Section A: Demographic information**

This section includes: the age of the business, gender of respondents, industry, level of education and position in business.

### **Section B: Entrepreneurship education**

This section focused on the entrepreneurship education that was received by the SMMEs. The question helped to obtain information that addressed the primary objective of the research.

### **Section C: Training and the performance of SMMEs**

In this section, SMMEs were asked ranking questions that explored the influence of entrepreneurship education on SMME performance.

### **Section D: Improving entrepreneurship skills and performance of SMMEs**

This section was necessary to address the impact of entrepreneurship education on improving the skills of SMME owners and managers.

### **Section E: Entrepreneurship education and training as a solution**

This section addressed the role of entrepreneurship education and training in different economic areas. These questions addressed the secondary objectives of the study.

The researcher utilised the Statistical Package for Social Sciences (SPSS) version 24 for data analysis. Descriptive statistics was used for summarising of data. To test the

skewness and strength of the relationship between variables the Pearson correlation test was used. Inferential statistics were used for testing hypotheses.

All ethical considerations were observed in this research and no identities of respondents were revealed when reporting or publishing the study to ensure confidentiality. Furthermore, all respondents through a cover letter were informed about the aim of the research and the processes that would be used to collect the data. A written ethical clearance was attained from the University of Fort Hare. The researchers provided all respondents with a cover later that requested consent from respondents before participating in the survey and permission was sought from all participating SMME owners and/or managers.

The analysis and interpretation was based on the main goal of investigating the role of entrepreneurship education and training on SMME performance. The researcher used self-administered questionnaires to collect primary data for this research. All items in the research instrument were tested for reliability and Table 1.1 provides a summary of the reliability results.

**Table 1.1: Reliability test of the questionnaire**

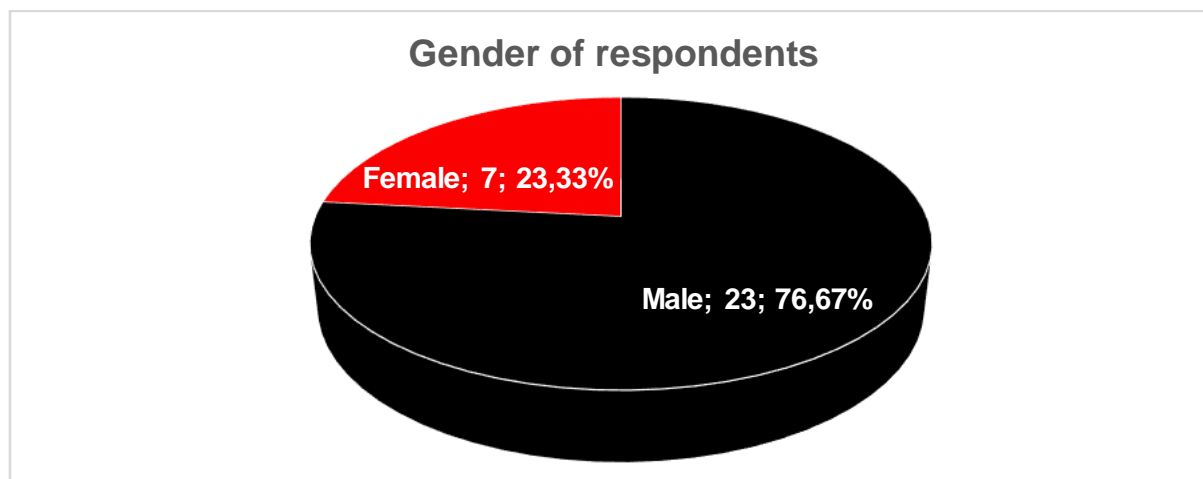
<b>Variables</b>	<b>Cronbach's Alpha</b>	<b>Cronbach's Alpha Based on</b>	<b>N of Items</b>
Entrepreneurship Education	0.786	0.782	10
Attitude to Training	0.770	0.769	7
Improving Skills	0.788	0.788	9
SMMEs Support Structures	0.837	0.841	7

Relating the results presented in Table 1.1 with the standard measure of internal consistent ( $P \geq 0.70$ ), the results of alpha is clearly higher than 0.70 (Entrepreneurship Education "0.786"; Attitude to Training "0.770"; Improving Skills "0.788"; SMMEs Support Structures "0.837"), indicating that the questionnaire scales were reliable. In essence, the questionnaire can be trusted as an objective data collection instrument.



## DEMOGRAPHIC DATA

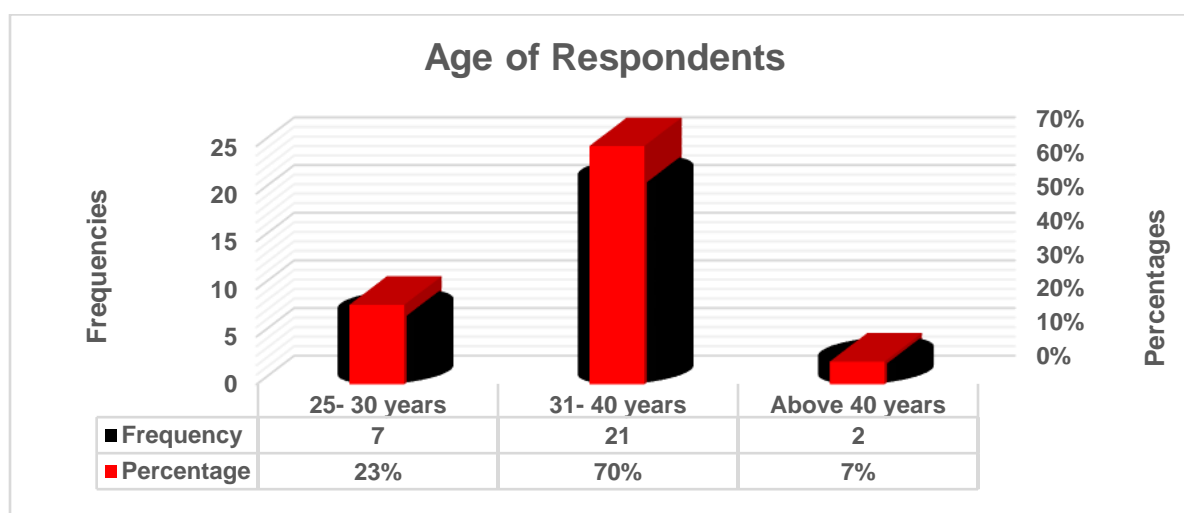
Figure 1.1 provides a distribution of respondents by gender. The results show that of the respondents, 76.67 % were male, while 23.33% were female. This indicates that males own and manage most of the small businesses around King William's Town and East London.



**Figure 1.1 gender of respondents**

**Source:** Data analysis

The age of participants was analysed, and Figure 1.2 shows the age categories of respondents.



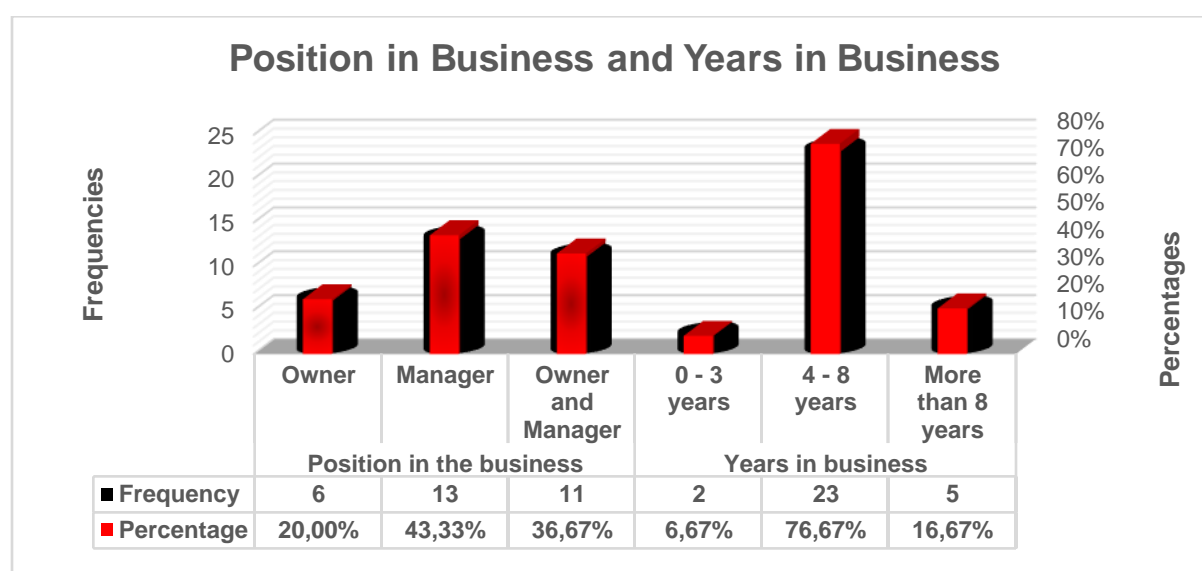
**Figure 1.2 Age of respondents**

**Source:** Data analysis

As per the results, respondents between 31 to 40 years old made 70% of the respondents, followed by the age group 25 to 30 years at 23%, which was the second largest, while the smallest was the above 40+ age group at 7%. These results indicate that most youths in South Africa are not yet actively involved in entrepreneurial activities, as compared with the middle age category. This is in line with studies such as that of Chimucheka and Mandipaka (2015).

### Position in Business and Years in Business

In order to establish the relative proportion of respondents with regard to their positions in the business they represent as well as the number of years they were actively participating in the business figure 1.3 presents the results.

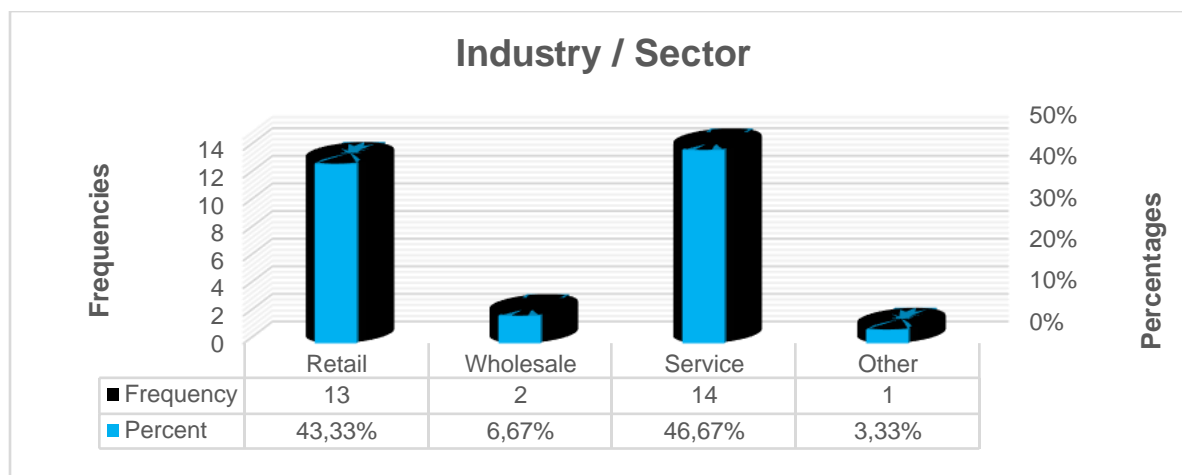


**Figure 1.3 Position in Business and Years in Business**

**Source:** Data analysis

The findings show that 20% of the respondents were owners, 43.33% of the respondents were managers and 36.67% were serving as both the owners/managers.

The distribution of respondents by the sector or industry in which it operates helps to see whether the research was able to capture opinions of owners and managers from all sectors. This means their perception may be influenced by exposure to a specific business industry or sector.

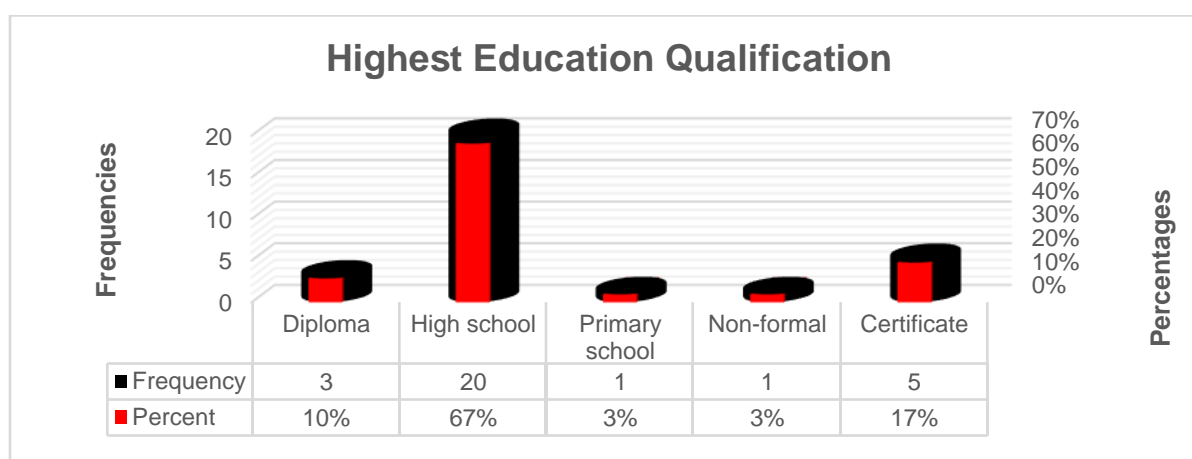


**Figure 1.4 Industry / Sector**

**Source:** Data analysis

Figure 1.4 above shows the distribution of respondents by industry or sector of the business. The service industry was significantly represented in this research (46.67%). The retail sector had the second highest proportion of respondents (43.33%). In addition, the wholesale industry showed a proportion of 6.67%, while the sector or industry with the least number of responses showed 3.33%.

Education plays an important role, especially in the way people respond to different circumstances. As a result, this research sought to capture opinions from all respondents factoring in the highest level of education as a control variable.



**Figure 1.5 Highest Education Qualification**

**Source:** Data analysis

According to the findings, 67% of the respondents have high school qualifications, which constitutes the highest proportion and the lowest is primary and non-formal with 3%.

Table 1.2 presents findings of varying importance to entrepreneurship education. The variables with the highest mean values are the most significant predictors of entrepreneurship education. The variables: size of the business (4.30), success and management (4.27), and sales growth (4.13) have the highest mean values. On the other end of the spectrum, creditors' management (3.77) and debtors' management (3.67) have the lowest mean values. None of the variables have a mean value of less than 2.5. They are all important variables that contribute to entrepreneurship education.

**Table 1.2: Descriptive Statistics: Entrepreneurship Education**

	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>St. Dev</b>
Size of business	30	3	5	4.30	.535
Success and management	30	3	5	4.27	.583
Sales growth	30	3	5	4.13	.434
Competitiveness	30	3	5	4.07	.365
Cash management	30	3	5	4.03	.320
Stock management	30	3	5	3.90	.403
Employment growth	30	3	5	3.83	.531
Market share	30	3	4	3.80	.407
Creditors' management	30	3	4	3.77	.430
Debtors' management	30	3	4	3.67	.479
Valid N (listwise)	30				

**Source:** Data analysis

Table 1.3 presents findings with respect to relative importance of the attitude towards training. None of the variables have a mean of less than 2.5 and are therefore all important variables that explain the attitude towards training.

**Table 1.3: Descriptive Statistics: Attitude to Training**

	N	Min	Max	Mean	St. Dev
Training is provided as an incentive for increased work performance	30	4	5	4.40	.498
Training courses are evaluated in terms of improved work performance	30	4	5	4.23	.430
My career goals coincide with 533rganizational goals and my training opportunities have been determined accordingly	30	4	5	4.03	.183
Departmental training courses culminate in formal qualifications	30	4	5	4.03	.183
Departmental training courses are aligned with departmental objectives and goals	30	4	5	4.03	.183
I have been given the opportunities that would realise my career goals	30	4	4	4.00	.000
Departmental training courses are evaluated against departmental objectives and goals	30	1	5	3.93	.583
Departmental training courses are evaluated against individual objectives and goals	30	1	5	3.93	.583
Valid N (listwise)	30				

**Source:** Data analysis

Table 1.4 presents findings with respect to relative importance of improving skills. The variables with the highest mean are the most significant predictors of performance. The variables business skills, personal skills and creativity and innovation have the highest means. On the other end, flexibility, gathering of resources and risk taking has the lowest means. None of the variables have a mean of less than 2.5; therefore they are all important variables that explain the improvement of performance.

**Table 1.4: Descriptive Statistics: Improving Skills (Performance)**

	N	Min	Max	Mean	St. Dev
Business skills	30	4	5	4.40	.498
Personal skills	30	4	5	4.30	.466
Creativity and innovation	30	4	5	4.23	.430
Market awareness	30	4	5	4.03	.183
Problem solving	30	3	5	3.87	.507
Technical skills	30	3	5	3.73	.640
Flexibility	30	3	5	3.50	.682
Gathering of resources	30	3	5	3.33	.547

Risk taking	30	2	5	3.23	.626
Valid N (listwise)	30				

Source: Data analysis

Table 1.5 presents findings regarding the relative importance of SMME support structures. The variables with the highest mean values are the most significant predictors of SMME support structures. The variables entrepreneurship education, SEDA and ECDC have the highest means. On the other end of the spectrum, universities and other private companies have the lowest means. None of the variables have a mean of less than 2.5 and are therefore all important variables that explain SMME support structures.

**Table 1.5: Descriptive Statistics: SMMEs Support Structures**

	N	Min	Max	Mean	St. Dev
Entrepreneurship Education	30	4	5	4.05	.201
Small Enterprise Development Agency (SEDA)	30	2	4	2.30	.535
Eastern Cape Development Corporation (ECDC)	30	2	4	2.30	.535
Khula Enterprise Finance (Khula)	30	2	3	2.23	.430
The Government	30	2	3	2.17	.379
Universities	30	1	3	2.13	.434
Other private companies	30	1	3	2.13	.434
Valid N (listwise)	30				

Source: Data analysis

### **T-test: Gender and Level of Education**

This analysis was done to determine if there were any significant mean differences in opinion of respondents who are males and/or females, and the responses of respondents who are owners and managers with regard to variables of entrepreneurship education.

**Table 1.6: T-test for Gender and Received Entrepreneurship Education**

Entrepreneurial education, training and performance	Gender		Entrepreneurship education received	
	t	P – Value	T	P – Value
Training	-1.892	0.069	-0.328	0.745
Entrepreneurship Skills	-0.418	0.679	-0.592	0.559
SMMEs Support	0.629	0.535	0.418	0.679
SMME Performance	-2.930	0.007	2.018	0.053
Entrepreneurship Education	2.930	0.007	-7.099	0.000

**Source:** Data analysis

The two-tailed test revealed that there was no significant difference between the respondents' position in terms of gender and entrepreneurial education received on entrepreneurial education, training and performance variables. Table 1.6 indicated that the P-Value ("Sig. (2-tailed)") was greater than 0.05 on all occasions except for entrepreneurship education on gender ( $p=0.007$ ) and entrepreneurship education received ( $p=0.000$ ) as well as SMME performance on gender ( $p=0.007$ ). This suggests that female and male business managers and owners have a different perspective on entrepreneurship education and the performance of SMMEs. Also, business managers and owners who received entrepreneurship education value its importance differently compared to those who did not receive entrepreneurship education before.

### **Analysis of Variance**

In order to compare the demographic variables (such as: number of employees, age, gender, position in the business, years in business, industry or sector of the business, education qualification and entrepreneurship education) with regard to their knowledge and experience of entrepreneurial education, training and performance of SMMEs analysis of variance was used. The detailed results are summarised in table 1.7 and table 1.8.

**Table 1.7: ANOVA: Age and Qualification**

Entrepreneurial Learning Type	Age		Qualification	
	F	P Value	F	P Value
SMME Performance	4.140	0.027	1.705	0.181
Training	1.725	0.197	1.302	0.296
Entrepreneurship Skills	0.169	0.846	1.599	0.206
SMMEs Support	1.129	0.338	1.344	0.281
Entrepreneurship Education	0.426	0.657	0.966	0.443

**Source:** Data analysis

From Table 1.7, the results show the significance level in each group the “sig” is greater than 0.05 except for SMME Performance between categories of age. In terms of differences in mean scores within groups of Age, the highest are (“Entrepreneurship Skills” (P=0.846) and “entrepreneurship education” (P=0.657)) and the lowest are (“SMME Performance” (P=0.027) and “training” (P=0.197)). In terms of differences in mean scores within groups of qualification, the highest are (“Entrepreneurship Education” (P=0.443) and “training” (P=0.296)) and the lowest are (“SMME Performance” (P=0.181), “entrepreneurship skills” (P=0.206) and “SMMEs support” (0.281)).

**Table 1.8: ANOVA: Years in business and position in business**

Entrepreneurial Learning Type	Years in Business		Position in Business	
	F	P Value	F	P – Value
SMME Performance	0.254	0.777	0.300	0.743
Training	0.637	0.536	0.143	0.867
Entrepreneurship Skills	0.932	0.406	0.472	0.628
SMMEs Support	0.111	0.895	1.378	0.269
Entrepreneurship Education	0.254	0.777	0.300	0.743

**Source:** Data analysis



The results indicate that the significance level in each group the “sig” is greater than 0.05. In terms of differences in mean scores within groups of Years in Business, the highest are (“SMMEs support” (P=0.895), “SMME performance” (P=0.777) and “Entrepreneurship education” (P=0.777)) and the lowest are (“entrepreneurship skills” (P=0.406) and “Training” (P=0.536)). In terms of differences in mean scores within groups of position in business, the highest are (“Training” (P=0.867), “SMME performance” (P=0.743) and “Entrepreneurship education” (0.743)) and the lowest are (“SMMEs support” (P=0.269), “Entrepreneurship skills” (P=0.628).

### Hypothesis 1: Entrepreneurship education and performance of SMMEs

According to the results in Table 1.9 we can observe that there is an association between entrepreneurship education and performance of SMMEs. Pearson Chi-Square is significant at ( $p < 0.05$ ). We can see here that  $\chi(1) = 6.467$ ,  $p = 0.011$ . In order to confirm the significance and strength of the relationship the symmetric measure from Pearson’s correlation “r” and Spearman Correlation were considered. This is in line with studies such as Dladla and Mutambara (2018); and Boldureanu et al., (2020).

**Table 1.9: Chi-Square Tests: Entrepreneurship education and performance of SMMEs**

	Value	df	Asymptotic Sig (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.467 <sup>a</sup>	1	<b>0.011</b>		
Continuity Correction <sup>b</sup>	1.158	1	0.282		
Likelihood Ratio	3.295	1	0.069		
Fisher’s Exact Test				0.131	0.131
Linear-by-Linear Association	6.251	1	0.012		
N of Valid Cases	30				

**Source:** Data analysis

The Results presented in table 1.10 shows a positive Pearson’s correlation which is significant at  $p \leq 0.05$  ( $r = 0.464$ ,  $n = 30$ ,  $p = 0.010$ ). The results of the Pearson’s

correlation are also confirmed by spearman ( $r_s(8) = 0.464, n=30, p = 0.010$ ). These results are consistent with the results of symmetric measures. As a result, we can conclude that education has a significant influence on performance of SMMEs. Therefore, we reject the following null hypotheses; ***H<sub>01</sub>: There is no significant relationship between education and performance of SMMEs.***

**Table 1.10: Symmetric Measures**

	Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Pearson's R	0.464	0.321	2.774	0.010 <sup>c</sup>
Spearman Correlation	0.464	0.321	2.774	0.010 <sup>c</sup>
N of Valid Cases	30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

## Hypothesis 2: Training and the performance of SMMEs

Table 1.11 presents cross tabulation results which test the association of training and performance.

**Table 1.11: Chi-Square Tests: Training and the performance of SMMEs**

	Value	df	Asymptotic Sig (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	14.483 <sup>a</sup>	1	<b>0.000</b>		
Continuity Correction <sup>b</sup>	3.122	1	0.077		
Likelihood Ratio	5.996	1	0.014		
Fisher's Exact Test				0.067	0.067
Linear-by-Linear Association	14.000	1	0.000		
N of Valid Cases	30				

Source: Data analysis

According to the reading from table 1.11 above, we can observe that there is an association between training and the performance of SMMEs. Pearson Chi-Square” is significant at ( $p < 0.05$ ). We can see here that  $\chi(1) = 14.483$ ,  $p = 0.000$ . To further confirm the significance and strength of the association the symmetric measure from Pearson’s correlation “ $r$ ” and Spearman Correlation were considered. This is in line with studies such as Turner and Gianiodis (2018). Bell and Bell (2020); Ratten and Usmanij (2021).

**Table 1.12: Symmetric Measures**

	Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Pearson’s R	0.695	0.254	5.112	0.000 <sup>c</sup>
Spearman Correlation	0.695	0.254	5.112	0.000 <sup>c</sup>
N of Valid Cases	30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

The Results presented in Table 1.12 shows a positive Pearson’s correlation which is significant at  $p \leq 0.05$  ( $r = 0.695$ ,  $n = 30$ ,  $p = 0.000$ ). The results of the Pearson’s correlation are also confirmed by Spearman ( $r_s(8) = 0.695$ ,  $n=30$ ,  $p = 0.000$ ). These results are in line with the results of symmetric measures. As a result, we can conclude that training has a significant influence on the performance of SMMEs. As such, the study rejects the following null hypotheses;  **$H_{02}$ : There is no relationship between training and the performance of SMMEs.**

### Summary of the key research findings

The main purpose the research was to identify the role of education and training on the performance of SMMEs and this objective was attained through the gathering and analysis of primary data findings.

The objectives were used to guide the research and were achieved accordingly. The objectives were used to derive the hypotheses for this study and were statistically tested using the SPSS package.

### **Hypothesis 1: Entrepreneurship education and performance of SMMEs**

The research rejected all the null hypotheses of the study, leading to the conclusion that education has a significant influence on SMME performance. This is line with studies such as Bae, Qian, Miao and Fiet (2014); Chimucheka and Mandipaka (2015); Turner and Gianiodis (2018); Liguori and Winkler (2020), who highlighted entrepreneurship education as a key factor in business performance.

### **Hypothesis 2: Training and the performance of SMMEs**

The research further concluded that training has a significant influence on the performance of SMMEs. The findings show that entrepreneurship education and training improve the entrepreneurial skills of SMME operators, and hence the performance of SMMEs. This is in line with studies such as Turner and Gianiodis, (2018); Bell and Bell (2020); Ratten and Usmanij (2021). The findings also support the notion that says in South Africa, many small businesses struggle during their first three years of inception. As a way of finding ways to improve the success rate of these businesses both the public and private sector offer a variety of entrepreneurial education and training support activities (Bvuma and Marnewick, 2020).

This is also in line with Dladla and Mutambara (2018) who revealed that the training and support interventions provided by government programs, such as the Expanded Public Works Programme (EPWP), to small businesses had a positive impact and were effective to the development of SMEs. However, their study further indicated that during the delivery of these training programs there are some areas that need improvement, such as after service support in the form of follows ups to those SMES, to ensure sustainability and all-inclusive small business support.

Scholars such as Ranyane (2014) also indicated a positive relationship between business performance and training among micro-enterprises. This study therefore emphasised the significant role played by training in relation to business performance. Table 1.13 below shows the summary of hypotheses and their results.

**Table 1.13 Summary of results**

<b>Hypothesis</b>	<b>Result</b>
There is no significant relationship between education and performance of SMMEs	Rejected null hypothesis
There is no significant relationship between training and the performance of SMMEs	Rejected null hypothesis

Evidence in literature also show some intriguing insights on entrepreneurship education research, which shows that there are still significant research gaps in this field which this study tries to contribute to and assist in closing part of this gap (Thomassen et al., 2019; Boldureanu et al., 2020; Liguori and Winkler, 2020; Ratten and Usmanij, 2021).

## **RECOMMENDATIONS AND CONCLUSION**

The two-tailed test showed that there were no significant differences between the respondents' positions in terms of gender and entrepreneurial education received on entrepreneurial education, training and performance variables. Furthermore, significant differences between the respondents' position in terms of age, years in business and qualification were noted. It is imperative to note that formal entrepreneurship education has a key role to play in reaching out especially to those individuals and students who assume that entrepreneurship is not for them.

### **Government**

The department of Small Business management should identify new ways of funding and encouraging development of entrepreneurial skills through their innovation infrastructure. In addition, the department may encourage those entrepreneurs who have previously benefited from publicly funded government initiatives to plough back by volunteering their expertise at universities and other training and learning programs. EDHE to have higher education entrepreneurial activities statistics, which provides information on those students who started innovative driven businesses as well as assessing whether those individuals and graduates who participate in the formal or informal entrepreneurship education programmes proceed to establish new enterprises as well as seek employment in early growth businesses.

This provides the government with an opportunity to work with universities and other institutions in evaluating the impact of the various forms of entrepreneurship education as a way to better understand the effectiveness of these initiatives as well as allowing for richer comparison of data over time.

### **Private sector**

The private sector can assist by building business networks and expanding existing initiatives in South Africa as well as expanding their links with the SMME sector and Department of Small Business Development:

- to provide opportunities for students and other potential entrepreneurs through internships.
- to encourage successful entrepreneurs to contribute in the teaching of entrepreneurship at universities together with academics.
- to encourage researchers and academics with funding that assists them in building entrepreneurship skills on those projects which have the potential to be commercialised.

### **Institutions of high learning**

Encouraging graduates who have done entrepreneurship related degrees to participate in entrepreneurial activities. This is because these individuals are more likely to have more sustainable and innovative business ideas. There is need to inspire STEM graduates to participate in entrepreneurial activities as well as encouraging other individuals to take up formal entrepreneurship education.

In addition, universities may also continue to develop and design entrepreneurial education programs to assist students to develop an entrepreneurial mindset and provide them with practical skills that are needed when developing business ideas. These programs will teach undergraduate students who are still forming their career ambitions and plans. Universities must incorporate credit bearing entrepreneurship education in their core curriculum especially in those faculties with low entrepreneurial participation rate. These measures will compliment other informal and extra-curricular activities at universities. Many South African universities already offer students with opportunities to participate in extra-curricular societies as well as entrepreneurial related competitions funded by the EDHE. To sum up: the government, educators and

the entrepreneurship communities must work together in developing metrics that reflect the career benefits of entrepreneurship.

### **LIMITATIONS OF THE STUDY**

This study only focused on SMMEs in the Buffalo city municipality, and as such the results cannot be generalised but can be used as a basis to test across the province.

### **AREAS OF FURTHER RESEARCH**

There are still significant research gaps in this field, which calls for more studies to be done to contribute and assist in closing part of this gap. As such, this study can be carried out across the country to check if similar results can be found as well as identifying any differences.

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# **Striking a balance between the employee's refusal to vaccinate and the employer's duty to provide a safe working environment**

Mlungisi Tenza

Dr M. Tenza, School of Law, University of KwaZulu-Natal, South Africa.

## **ABSTRACT**

The issue of mandatory vaccination in the fight against the spread of Covid-19 has become a contentious issue in South Africa. Vaccination of people, and employees in particular, is voluntary in South Africa. However, the government and other stakeholders are mooted a move towards compelling all people to vaccinate. This is one of the attempts to strengthen their measures to reduce the spread of the virus and prevent the death of people. Some employers have adopted policies or rules on Covid-19 measures, including compelling employees to vaccinate. This is believed to be in line with the employer's duty to provide a safe and healthy working environment in terms of the law. If compulsory vaccination has been made a policy or rule that regulates the conduct of employees in the workplace and employees fail to comply with such rule or policy, the article argues that the employees will be committing misconduct. In this regard, employees who refuse to vaccinate in terms of a rule or policy adopted by the employer in consultation with trade unions or employee representatives may face dismissal. On the other hand, it is clear that compelling employees to vaccinate and the consequent sanction of dismissal for refusal to vaccinate may infringe on the employee's rights guaranteed in the Bill of Rights. Some of the rights that may be infringed through compulsory vaccination include the right to bodily and psychological integrity, conscience, religion, and beliefs. It is believed that a balance needs to be struck between the employer's right to take action against an employee who refuses to comply with a policy applicable in the workplace and the rights entrenched in the Bill of Rights. In this regard, the article investigates whether the limitation of the right to bodily and psychological integrity through compulsory vaccination will be in line with the limitation clause in section 36 of the Constitution. It

argues that legislation needs to be enacted to regulate this issue in line with the law of general application.

## **INTRODUCTION**

The issue of mandatory vaccination in the fight against the spread of Covid-19 has become a thorny issue in South Africa. Currently, there is no legislation that compels people or employees to be vaccinated prior to entering the workplace. This means that vaccination of people and employees is voluntary in South Africa. However, the government and other stakeholders are mooting a move towards compelling people to vaccinate. The vaccination of employees is believed to be one of the attempts aimed at strengthening measures that will reduce the spread of the virus and prevent the loss of life. Some employers have adopted policies or rules on Covid-19 measures, including those compelling employees to vaccinate. These measures are believed to be in line with the employer's duty to provide a safe and healthy working environment, as required by law. The article argues that the introduction of compulsory vaccination may have negative effects on some employees as they may argue that this move may affect their rights in the Bill of Rights and as result refuse to be vaccinated. Some of the rights that may be infringed through compulsory vaccination include the rights to bodily and psychological integrity; and the right to conscience, religion, thought, belief and opinion. The paper argues that if compulsory vaccination has been made a policy or rule that regulates the conduct of employees in the workplace and employees fail to adhere to this policy, they will be committing misconduct. As a rule, employers are not expected to tolerate any form of misconduct. This paper will attempt to address the question of how to strike a balance between the employer's duty to provide safe working conditions by taking precautionary measures such as vaccination against Covid-19 and the employee's rights in the Bill of Rights. In this regard, the article will investigate whether the limitation of the rights in the Bill of Rights by the employer's internal policy does meet the requirement of a law of general application as required by the Constitution.

## **THE DUTY TO PROVIDE A SAFE WORKING ENVIRONMENT IN TERMS OF THE LAW**

The duty to provide safe working conditions is derived from the Constitution of South Africa<sup>1</sup> (the Constitution). Section 24 of the Constitution provides that “everyone has the right to an environment that is not harmful to their health or wellbeing.”<sup>2</sup> This is further strengthened by the common law, the Occupational Health and Safety Act<sup>3</sup> (OHSA) and other legislation.<sup>4</sup> According to Mischke and Garbers, the concept or phrase “working environment” needs to be given a broad meaning to include the physical place of work, and entrances to and exits from the premises.<sup>5</sup> All these platforms must be safe and secure. Mischke and Garbers further stress the employer’s responsibility in terms of section 8(2)(e) of the OHSA to ensure that employees are trained in what they must do to reduce potential risks of hazards attributable to a lack of knowledge or inexperience.<sup>6</sup> The training should be extended to include public relations officers and other employees responsible for issuing crisis risk communications.<sup>7</sup>

The common law requires the employer to provide a safe place of work, safe machinery, and tools to ensure that safety procedures and processes are followed.<sup>8</sup> The employer will be in breach of their duties if they fail to meet these obligations.<sup>9</sup> Due to the shortfalls in the common law, the legislature adopted various pieces of legislation to supplement the common law on the provision of a safe and healthy working environment.<sup>10</sup> These include the OHSA, Mines Health and Safety Act<sup>11</sup> (MHSA), the Compensation for Occupational Injuries and Diseases Act<sup>12</sup> (COIDA), and the Occupational Diseases in Mines and Works Act<sup>13</sup> (ODMWA). Among these pieces of legislation, the OHSA is the primary legislation when it comes to the safety

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<sup>1</sup> Constitution of the Republic of South Africa, 1996.

<sup>2</sup> Section 24(a) of the Constitution.

<sup>3</sup> Act 85 of 1993.

<sup>4</sup> Occupational Health and Safety Act 85 of 1993; Mines Health and Safety Act 29 of 1996; Compensation for Occupational Injuries and Diseases Act 130 of 1993; and Occupational Diseases in Mines and Works Act 78 of 1973.

<sup>5</sup> C Mischke and C Garbers *Safety at Work: A Guide to Occupational Health, Safety and Accident Compensation Legislation* (1994) 2.

<sup>6</sup> Mischke and Garbers (1994) 3.

<sup>7</sup> As illustrated by the crisis communications issued by one of the institutions examined – although crisis communication directives were available, the content of the data messages sent were confusing and counterproductive.

<sup>8</sup> *Van Deventer v Workmen’s Compensation Commissioner* 1962 (4) SA 28T.

<sup>9</sup> *NUM & others v Chrober Sate (Pty) Ltd* 2008 3 BLLR 287 (LC); *Oosthuizen v Homegas* 1992 3 SA 463 (O).

<sup>10</sup> J Grogan *Workplace law* 10<sup>th</sup> edition (2009) 53-57.

<sup>11</sup> Act 29 of 1996.

<sup>12</sup> Act 130 of 1993.

<sup>13</sup> Act 78 of 1973.

of employees in the workplace. It provides a detailed account of the duties of the employer in providing safety to employees while performing their contractual obligations. Section 8 of the OHSA provides that all employers have a duty to provide and maintain, as far as reasonably practicable, a safe working environment that is free of risk to the health of their employees. The duties include, inter alia:

- “(a) the provision and maintenance of systems of work, plant and machinery that, as far as is reasonably practicable, are safe and without risks to health;*
- (b) taking such steps as may be reasonably practicable to eliminate or mitigate any hazard or potential hazard to the safety or health of employees, before resorting to personal protective equipment;*
- (c) making arrangements for ensuring, as far as reasonably practicable, the safety and absence of risks to health in connection with the production, processing, use, handling, storage or transport of articles or substances; and*
- (d) establishing, as far as is reasonably practicable, what hazards to the health or safety of persons are attached to any work which is performed, any articles or substance which are produced, processed, used, handled, stored or transported and any plant or machinery .....*”

In addition to section 9 of the OHSA provides that employers are obliged to conduct their activities in such a manner as to reasonably ensure that the conduct of their activities does not expose people other than their employees, who are directly affected by the employer’s activities, to any hazards to their health and safety. This means that the duty of an employer to provide safe working conditions is not limited to his or her workers – but extends to third parties.<sup>14</sup> The preamble to the OHSA refers to the protection of persons other than persons at work against hazards to their health and safety arising out of or in connection with activities of persons at work. The obligation to exercise proper care may be extended to situations where employees become vulnerable to criminal misconduct, should the circumstances call for it.<sup>15</sup> Section 32(1) of the OHSA provides that:

*“The chief inspector may, and he shall when so requested by a person producing prima facie evidence of an offence, direct an inspector to conduct a*

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<sup>14</sup> S 9 of the OHSA. This confirms the position in section 24 of the Constitution, where it stated that “every person has the right to an environment which is not harmful to their health and well-being”.

<sup>15</sup> S 32(11) of the OHSA.

*formal inquiry into any incident which has occurred at or originated from a workplace or in connection with the use of plant or machinery which has resulted, or in the opinion of the chief inspector could have resulted, in injury, illness, or death of any person.”*

The purpose of section 32(1) of the OHSA inquiry is to determine whether any duties imposed on employers and manufacturers have been breached and whether any party ought to be held criminally liable.<sup>16</sup> Furthermore, section 26 of the OHSA forbids the victimisation of employees who give information to the Minister “or any other person charged with the administration” for refusing to comply with the Act. Together, sections 26 and 32(1) serve as safety frameworks for health and safety in the workplace to protect and control potential dangers befalling employees and any other person(s) who may be affected while workers perform their duties.

In *NEHAWU obo Members Providing Essential Health Services v Minister of Health & others*,<sup>17</sup> NEHAWU brought an urgent application concerning alleged obligations and omissions of the Minister of Health in relation to the provision of personal protective equipment (PPE) to health workers in the fight against Covid-19. The union claimed that the minister failed to ensure that health workers were provided with adequate PPE and failed to issue guidelines for the use of such PPE. The union requested the court to direct the Minister of Labour to exercise his powers in terms of section 21 of the OHSA to prohibit the performance of duties that endanger the health and safety of employees. The court held that it is clear from the reading of the provisions of the OHSA that the powers of the Minister can only be exercised in circumstances where the Minister is advised of hazards that threaten the health and safety of employees, through complaints that would have been registered with inspectors designed by the minister in terms of section 28 of the OHSA, and once all interested and affected parties have been given an opportunity to make representations in writing.<sup>18</sup> It was further held that the union failed to adduce evidence that the Minister was failing to

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<sup>16</sup> *Industrial Health Resources Group & others v Minister of Labour & others* 2015 36 ILJ 2547 (GP) para 40.

<sup>17</sup> 2020 41 ILJ 1724 (LC).

<sup>18</sup> *NEHAWU obo Members Providing Essential Health Services v Minister of Health & others* (2020) para 51.

take reasonable steps to minimise the risk of infection of health workers and support staff working on the frontline against the coronavirus.<sup>19</sup>

In accordance with the OHSA, an employer has a duty to take further steps that might be expected in the ordinary course of duty to prevent harm to its employees.<sup>20</sup> For example, the International Labour Organisation (ILO) provides that in the mines, workers can refuse to perform dangerous work if they consider working under such conditions may be harmful to their health or expose their lives to danger.<sup>21</sup> This is echoed by the Mine, Health and Safety Act<sup>22</sup> (MHSA), which grants workers the right to remove themselves from any location at a mine when circumstances arise which appear, with reasonable justification, to pose a danger to their health or safety.<sup>23</sup> Section 23 of the MHSA<sup>24</sup> states that an employee has the right to leave any working place whenever:

“(a) circumstances arise at that working place which with reasonable justification, appear to pose a serious danger to the health or safety of that employee; or

(b) the health and safety representative responsible for that working place directs that employee to leave that working place.”

Under these conditions, the provisions of the MHSA protect mineworkers by permitting them to refuse to do work they consider to be dangerous. In addition, the Minister of Labour may declare, in terms of section 21 of the OHSA, through the Government Gazette, a notice to prohibit the performance of those duties that endanger employees' health and safety. Section 9(1) of the MHSA provides that “any employer may prepare and implement a code of practice on any matter affecting the health or safety of employees and other persons who may be directly affected by activities at the mine.” The MHSA further obliges employers to prepare and implement a code of good practice “if the Chief Inspector of Mines requires it”.<sup>25</sup> If the Chief Inspector of Mines requires a code of good practice, the code prepared by the employer must comply with

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<sup>19</sup> Para 54.

<sup>20</sup> S 13 of the OHSA.

<sup>21</sup> Article 13 ILO Convention Safety and Health in Mines 176 of 1995.

<sup>22</sup> Act 29 of 1996.

<sup>23</sup> S 23 of the Mine, Health and Safety Act. See, also, P Masilo and G Rautenbach *Commentary on the Mine Health and Safety Act and Regulations* (2010).

<sup>24</sup> Act 29 of 1996.

<sup>25</sup> S 9(2) of the MHSA.

guidelines issued by the Chief Inspector of Mines.<sup>26</sup> However, before the Chief Inspector issues such guidelines, he or she must consult with the Mine Health and Safety Council. Such guidelines must be published in the Government Gazette.<sup>27</sup> A contravention of or failure to comply with any standard in any code of practice prepared in terms of section 9(2) of the MHSA, renders the employer liable to an administrative fine.<sup>28</sup> However, non-compliance will not amount to an offence if the standard exceeds the compulsory standards set out in the Chief Inspector's guidelines.<sup>29</sup>

In *AMCU v Minister of Mineral Resources and Energy*,<sup>30</sup> the court held that section 9 of the MHSA provides a flexible method of enabling the Chief Inspector to take measures in the interests of the health and safety of employees, and other persons who may be directly affected by mining activities and operations. The court observed that it is self-evident that a code of practice under section 9, and the enforcement measures established by the MHSA, provide an appropriate mechanism to address Covid-19 hazards effectively – with due deference to the position of particular mines and with appropriate degrees of flexibility.<sup>31</sup>

In *National Union of Metalworkers of South Africa obo Goliath and others / CRH Africa (Pty) Ltd*.<sup>32</sup> Three employees were dismissed for removing their face masks for an extended period while in the workplace and they were dismissed for failure to comply with safety rules or regulations. They contended that their dismissals were unfair because they should have been charged for not wearing protective clothing rather than with the more serious offence of ignoring health and safety standards and that, they had otherwise followed social distancing rules. The Commissioner accepted that the employees' misconduct fell within the category of failing to comply with health and safety measures. The employees had removed their face coverings for more than 30 minutes. Employees had been warned for good reason that not wearing masks would be treated as serious misconduct. The sanction of dismissal was, accordingly, operationally justified and appropriate.

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<sup>26</sup> S 9(3).

<sup>27</sup> S 49(5).

<sup>28</sup> S 91(1)(c).

<sup>29</sup> S 91(1B)(c) read with s 91(1C) and s 55.

<sup>30</sup> 2020 41 ILJ 1705 (LC) at 1718.

<sup>31</sup> *AMCU v Minister of Mineral Resources and Energy* (2020) at 1718.

<sup>32</sup> [2022] 5 BALR 475 (MIBC).



The coming into effect of Covid-19 changed the way businesses are operated. The application of safety rules in terms of the common law and legislation has had the effect of limiting the constitutional rights of employees.<sup>33</sup> With this, some employers have resorted to compulsory vaccination of employees to ensure compliance with safety laws.

## **COMPELLING EMPLOYEES TO VACCINATE AS A MEANS OF ENSURING THE SAFETY OF EMPLOYEES AND OTHER PEOPLE IN THE WORKPLACE**

Compelling employees, and people in general, to vaccinate will not be unique to South Africa as some other countries have adopted this approach. These include France, Australia, Greece, the Netherlands and the United States of America. Science has proved that unvaccinated workers are at risk.<sup>34</sup> To kick-start compulsory vaccination, the government in South Africa has appointed a task team to look into the feasibility of mandatory vaccinations. This is informed by the fact that the government as a protector of the citizenry is bound by the Constitution to protect the right to health.<sup>35</sup>

Currently, there is no protection against Covid-19, except if people are vaccinated. If people are vaccinated, it is believed that the effects of the virus may not be as severe as they would be to a non-vaccinated individual. It may constitute an offence if an employee intentionally disregards the safety rules and procedures thereby endangering the health and safety of others.<sup>36</sup> Actual injury to others is not a requirement: an act that could reasonably have resulted in injury will suffice.<sup>37</sup> Therefore, the state must fulfill its obligation of providing safety to citizens and inhabitants by rolling out vaccines widely. However, people have become resistant to vaccination and this compels the government to consider making vaccination compulsory. The proposal by the government to implement compulsory vaccination has been welcomed by business organisations such as B4SA, Busa and others – including trade union federation COSATU and the National Taxi Alliance. In addition, the National Economic Development and Labour Advisory Council (Nedlac) has

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<sup>33</sup> See section 12(2) and 15(1) of the Constitution.

<sup>34</sup> S Dladla 'NEDLAC eyes the court over compulsory Covid-19 vaccination' (8 December 2021) *The Mercury* at 11.

<sup>35</sup> Section 27(1) and (2) of the Constitution.

<sup>36</sup> *Harmony Gold Mining Co Ltd v CCMA* (2013) 34 ILJ 912 (LC).

<sup>37</sup> *MEWUSA obo Sibisi v Pressure Die Casting (Pty) Ltd* [2003] 8 BALR 842 (MEIBC).

approved the move to implement compulsory vaccination to fight Covid-19.<sup>38</sup> Companies such as Discovery, Sanlam, Old Mutual and MTN, and universities such as Wits and Stellenbosch, have also proposed mandatory vaccination from the beginning of 2022.

The adoption and implementation of internal safety rules is the first line of protection that employers and employees may adopt or invoke to ensure the safety of all people in the workplace or on the employer's premises. This will include protection against the risk of being infected by Covid-19. The aim of vaccination of employees is to ensure the continued operation of business without being affected by transmission of the virus and subsequent temporary closure of business while the cleaning process takes place. Science has confirmed that if more people are vaccinated, the likelihood of infecting each other is reduced. COSATU has said that the economy and workers cannot afford continued lockdowns and vaccines are effective and safe.<sup>39</sup> The need for employees to follow healthy protocols that are in place is thus critical to achieving and maintaining their well-being.<sup>40</sup> In this regard, all employers are mandated by the legislation<sup>41</sup> and common law to ensure that the working environment in which workers work is safe and healthy. As stated above, this duty is derived from the Constitution,<sup>42</sup> the common law and various pieces of legislation.<sup>43</sup> However, all these pieces of legislation do not include the protection of employees from the risk of contracting Covid-19, and hence this article argues that specific rules or a code of conduct should be adopted by employers and trade unions to regulate the conduct of employees in relation to the pandemic.

The provision of a safe working environment includes a guarantee that employees and other people in the workplace will not get infected by Covid-19. This entails that employers will, in addition to non-pharmaceutical measures such as the regular washing of hands, sanitisation, safe distancing and the use of a mask, adopt further

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<sup>38</sup> S Feketha 'Nedlac backs call for mandatory vaccination' (7 December 2021 Sowetan online) available at <https://www.sowetanlive.co.za/news/south-africa/2021-12-07-nedlac-backs-call-for-mandatory-workplace-jabs/> accessed on 09 December 2021.

<sup>39</sup> N Wilson 'Forced vaccination pan divides business organisations' at 6.

<sup>40</sup> M Botha 'Mandatory vaccinations in the workplace: Lessons from Covid-19' (2021) 42 ILJ 2066 at 2074.

<sup>41</sup> Section 8(1) of the Occupational Health & Safety Act 85 of 1993.

<sup>42</sup> Section 12 of the Constitution of South Africa, 1996.

<sup>43</sup> See note 4 above.

measures to curb the spread of Covid-19 in the workplace. One of these measures is to allow employees and other people to come to the workplace or work only if they are vaccinated. Currently, vaccination against Covid-19 is not required by law in South Africa.

The employer's duty to provide a safe and healthy working environment is one of the cornerstones of the contractual relations between an organisation and its staff. In *NUM & others v Chrober Sate (Pty) Ltd*,<sup>44</sup> the court held that the employer would be in breach of this duty if it failed to meet these obligations. An employer, in accordance with OHSA and the common law, has a duty to take further steps than might be expected to prevent harm to its employees. Further, an employer who takes an employee into its service and whose duties will involve working with a dangerous substance has a duty to place that person on his/her guard against the dangers involved and should give such general safety instructions as a reasonably careful employer who has considered the problem presented by their work, would give to workmen.<sup>45</sup>

With regard to the right to a healthy and safe working environment during Covid-19, the Department of Labour introduced a Covid-19 Occupational Health and Safety Directive.<sup>46</sup> The Directive strives to ensure that measures taken by employers under OHSA and MHSA are consistent with the overall national strategies and policies to minimise the spread of Covid-19. This means that the Directive should be read and applied together with the provisions of the OHSA and MHSA. The Directive requires, among other things, the eradication of the spread of the virus through the implementation of health and safety standards – such as the decontamination of the workplace, the tracing, tracking, and isolating persons or workers who have contracted the virus. In terms of these Directives, employers have the discretion to consider whether mandatory vaccination may be appropriate for some or all employees in the workplace based on employer operational requirements. The Directives gave employers a strict deadline to implement a vaccination policy in which they detail the circumstances in which employees may be required to be vaccinated and the

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<sup>44</sup> [2008] 3 BLLR 287 (LC).

<sup>45</sup> *General Cleaning Contractors Ltd v Christmas* [1952] 2 All ER 1110 (HL) at 1114e-g.

<sup>46</sup> Covid-19 Occupational Health and Safety Measures in the Workplace, Directive 19 of 2020 GG 43126 GN 193 of 23 March 2020.

consequences of deciding against vaccination.<sup>47</sup> Employers were given 21 days from the date the OHS Directives came into operation to implement a vaccination policy detailing the circumstances in which employees may be required to be vaccinated and the consequences of deciding against vaccination.<sup>48</sup> Section 3(1)(a)(ii) of the OHS Directives provided that every employer who employs ten or more employees must undertake a risk assessment. The risk assessment required the employer to determine if it intends to make vaccination mandatory, taking into account operational requirements. The section further identified the categories of employees who are at risk of transmission of Covid-19 through their work, their risk of severe Covid-19 disease or death due to their age or co-morbidities, or circumstances where these employees interact with members of the public at their workplace.

The OHS Directives also provide guidelines with which employers must comply. These include the provision that every employee identified had to be notified of the obligation to be vaccinated; the employee's right to refuse vaccination on constitutional or medical grounds; and the opportunity for the employee, at the employee's request, to consult a health and safety representative, a worker representative, or a trade union official.<sup>49</sup> Should an employee refuse to be vaccinated on constitutional or medical grounds, the employer should provide counseling to the employee, if requested, and allow the employee to seek guidance from a health and safety representative, a worker representative or a trade union official; refer the employee for further medical evaluation if there is a medical contraindication for vaccination; and if necessary, take steps to reasonably accommodate the employee in a position that does not require them to be vaccinated.<sup>50</sup>

## **REMEDIES AVAILABLE TO THE EMPLOYER AGAINST REFUSAL TO VACCINATE**

### **Dismissal**

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<sup>47</sup> See GG No. 44700 of 11 June 2021.

<sup>48</sup> Ibid.

<sup>49</sup> Section 3(1)(a)(ii) of the OHS Directives issued in terms of s 27 of the Disaster Management Act 27 of 2002 as amended – GG No. 44700 of 11 June 2021.

<sup>50</sup> Reasonable accommodation means any modification or adjustment to a job or to the working environment that will allow an employee who fails or refuses to be vaccinated to remain in their employment. This will include an opportunity for the employer to allow the employee to work from home or in isolation in the workplace.

Many employers have resorted to the dismissal of employees who refuse to vaccinate where vaccination has been made a policy in the workplace. Before resorting to dismissal, employers have a duty to make sure that all employees are aware of the policy and the consequences for failure to adhere to its provisions. Many cases have come before the Labour Court where employers have dismissed employees for refusal to vaccinate. In *NUMSA obo Manyika and Wenzane Consulting & Construction*,<sup>51</sup> the employee was dismissed for failure to comply with Covid-19 rules. The evidence led before the CCMA Commissioner revealed that the employee was seen on CCTV footage entering the premises with his face mask hanging around his neck and engaging in conversation with a security guard. The employer stated that training had been conducted on Covid-19 management, which the employee attended, and on various workplace rules, toolbox talks, signs and policies, and which clarified that employees had to wear a face mask on the premises. In addition, the disciplinary code in the workplace made it an offence to endanger the lives of other employees by failing to comply with the employer's health and safety policies.<sup>52</sup> It is clear from this decision that if there is a violation of workplace rules or the code of conduct by employees, this will cause the employer to implement relevant disciplinary measures – including the harsh sanction of dismissal.<sup>53</sup> The President of the Republic of South Africa also insisted on this point when he stated that 'any person who is not wearing a face mask properly covering his nose and mouth could be charged with a criminal offence'.<sup>54</sup>

In *Eskort Ltd v Mogotsi & others*,<sup>55</sup> the employee was dismissed after he reported for duty knowing that he had tested positive for Covid-19 – thereby allegedly exposing other employees to the risk of contracting the virus. The court held that the employee's conduct was extremely irresponsible and grossly negligent in the context of the pandemic. His dismissal was held to be an appropriate sanction.<sup>56</sup> In *NUM obo Masha & others v Samancor Ltd (Eastern Cape Chrome Mines) & others*,<sup>57</sup> employees were dismissed for failure to follow a safety instruction from the mine overseer. The court

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<sup>51</sup> (2021) 42 ILJ 2341 (MEIBC).

<sup>52</sup> *Manyika and Wenzane Consulting & Construction* at 2344.

<sup>53</sup> *Eskort Ltd v Mogotsi* (2021) 42 ILJ 1201 (LC) para 20.

<sup>54</sup> See *NUMSA obo Manyika and Wenzane Consulting & Construction* (2021) 42 ILJ 1818 (CC) at 2341-2342.

<sup>55</sup> *Eskort Ltd v Mogotsi* note 27.

<sup>56</sup> *Ibid* at 1208.

<sup>57</sup> *NUMSA obo Manyika and Wenzane Consulting & Construction* at 1767.

held that employees allowed themselves to work in an area that was clearly not safe – after they were instructed not to work under such conditions.<sup>58</sup> It further held that where clear instructions were issued to the employees, both verbally and in writing, to comply with safety requirements which they disregarded, a dismissal could be considered to be one that a reasonable decision maker would have made in the circumstances.<sup>59</sup> Relying on *Impala Platinum v Jansen & others*,<sup>60</sup> the court held that the employees undermined their supervisor and therefore their dismissal for misconduct was justified as they put their lives and those of other workers at risk.<sup>61</sup> The court explicated the degree of seriousness which accompanies a failure to observe safety regulations in the mining context as follows:

*[I]t is clear that the mining industry has been under tremendous scrutiny regarding safety measures due to the high risk in the nature of the work done. In order to have a safe mining environment, the regulations which were contravened by Jansen were promulgated to ensure that workers doing underground work underwent competency training and were declared competent before being allowed to do underground work. By his actions Jansen did not only undermine the regulatory framework and put in danger life and limb, he also placed his employer at risk of sanction for contravening the statutory regulations.*<sup>62</sup>

## **COMPULSORY VACCINATION AND POSSIBLE CONTRAVENTION OF CONSTITUTIONAL RIGHTS**

The Constitution guarantees everyone the right to fair labour practices.<sup>63</sup> There is no right not to be dismissed in the Constitution. However, the LRA takes this further and provides that an employee may be dismissed for a fair reason.<sup>64</sup> This means that an employee may not be dismissed for a reason that is not fair. Echoing the language of section 23 of the Constitution, section 185(5) of the LRA provides that “every employee

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<sup>58</sup> Ibid at 1890.

<sup>59</sup> Ibid para [27].

<sup>60</sup> (2017) 38 ILJ 896 (LAC).

<sup>61</sup> Ibid. See, also, *Samancor Ltd (Eastern Cape Chrome Mines) v CCMA & Others* (2020) 41 ILJ 2135 (LAC).

<sup>62</sup> *Samancor Ltd (Eastern Chrome Mines) v CCMA*, note 35 para 26

<sup>63</sup> Section 23(1)(a) of the Constitution.

<sup>64</sup> Section 188 of the LRA.

has the right not to be unfairly dismissed”.<sup>65</sup> The inclusion of this provision in the LRA does not, however, mean that the employee cannot be dismissed for a fair reason and if a fair procedure has been followed in effecting such dismissal. This means that if the employer decides to dismiss an employee, such dismissal must be fair. A dismissal will be fair if the reasons for the dismissal and the procedure followed to effect such a dismissal are fair.

On the other hand, employees may argue that their dismissal for refusing to take vaccination infringes their rights to bodily and psychological integrity,<sup>66</sup> and the right to freedom of religion<sup>67</sup> and other associated rights in terms of the Constitution. The question that arises is whether the infringement of these rights through compulsory vaccination would be in line with the Constitution.

The Constitution states that the rights in the Bill of Rights are not absolute as they can be limited in terms of the law of general application to the extent that the limitation is reasonable and justifiable in an open democratic society based on human dignity, equality and freedom taking into account certain factors.<sup>68</sup> These factors are the nature of the right; the importance of the purpose of the limitation; the nature and extent of the limitation; the relation between the limitation and its purpose; and less restrictive means to achieve the purpose. In this regard, the determination of whether the limitation of a right in the Bill of Rights is reasonable and justifiable is not an easy exercise, since it requires the determinant to look into various factors in order to get an indication of which side weighs heavily when applying the principle of proportionality in two competing interests.<sup>69</sup> The courts have developed and followed a two-stage inquiry.<sup>70</sup> The first stage involves the determination of whether a right in the Bill of Rights has been infringed. The second phase involves the determination of whether such limitation is justifiable in an open democratic society based on human dignity, equality and freedom.<sup>71</sup> These two phases are now determined:

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<sup>65</sup> Section 185(1)(a) of the LRA.

<sup>66</sup> Section 12(2) of the Constitution.

<sup>67</sup> Section 15(1) of the Constitution.

<sup>68</sup> Section 36(1) of the Constitution.

<sup>69</sup> *S v Makwanyane* 1995 (3) SA 391 (CC) para 103.

<sup>70</sup> *S v Makwanyane*; *Harksen v Lane* 1998 (1) SA 300 (CC); *S v Zuma & others* 1995 (2) SA 642 (CC) para 21; and *S v Williams and Others* 1995 (3) SA 632 (CC) para 54.

<sup>71</sup> See *S v Makwanyane* note 69; *S v Zuma* 1995 (2) SA 642 (CC); and *National Coalition for Gays and Lesbian Equality and Another v Minister of Justice and others* 1999 (1) SA 6 (CC).

(a) Is there a limitation of a right in the Bill of Rights?

During this phase, the question that the determinant has to ask is whether there is a right entrenched in the Bill of Rights that has been infringed by the conduct of the employer. The answer is clear: compulsory vaccination has the potential to infringe on the right to bodily and psychological integrity. In *Christian Education SA v Minister of Education*<sup>72</sup> the appellant argued that its member schools operated within an active Christian ethos and that corporal punishment was an important part of that ethos. The court found that section 10 of the South African Schools Act<sup>73</sup> did limit the appellant's right to freedom of religion but that the limitation was justified. The court held that corporal punishment, which was a religious belief of the appellant, violated the right to human dignity and the right to security of the person as embraced in the Bill of Rights.<sup>74</sup> The right to psychological and bodily integrity is listed in the Constitution as one of the grounds upon which no one should be discriminated against.<sup>75</sup>

The Constitution in section 12(2) provides that every individual has the right to bodily and psychological integrity which includes the right to security in and control over their body, and the right not to be subjected to medical or scientific experiments without their informed consent.<sup>76</sup> When restrictions are placed on what decisions a person is permitted to make about their own body, or a person is stifled in making other important decisions about their life such as whether they wish to disclose an illness or not, section 12(2) is implicated. Section 9(3) of the Constitution further provides that discrimination based on one or more of the grounds listed in subsection (3) is unfair – unless it is established that the discrimination is fair.<sup>77</sup> So, it is clear that an employee may raise bodily and psychological integrity or any other medical ground as reasons for the refusal to be vaccinated. The employer will be infringing on this right if she or he allows only vaccinated employees into his or her workplace. The next question would be whether such an infringement could be justified in terms of the Constitution. In answering this question, the employer will have to demonstrate that the infringement

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<sup>72</sup> 2004 BCLR 757 (CC). See also *Christian Education SA v Minister of Education* 1999 9 BCLR 951 (SE).

<sup>73</sup> Act 84 of 1996.

<sup>74</sup> Smith N "Freedom of Religion in the Constitutional Court" (2001) 118 *The South African Law Journal* 1.

<sup>75</sup> Section 9(3) of the Constitution.

<sup>76</sup> Section 12(1)(b) and (c) of the Constitution.

<sup>77</sup> The word discrimination is synonymous with infringement or limitation of a right.



of the right(s) is permissible in terms of a legitimate criterion laid down in section 36(1) of the Constitution.

If it is established at this stage that there is no limitation of a right in the Bill of Rights, the investigation stops and there will be no need to proceed to the next phase of the inquiry. However, if the answer is in the affirmative, as it is clear that the right to bodily and psychological integrity including religion will be infringed by compulsory vaccination, the investigation proceeds to determine whether such limitation will be “reasonable and justifiable in an open society based on human dignity and freedom”. To provide an answer to the question of whether limitation will be reasonable and justifiable in an open and democratic society, the paper analyses the factors listed in section 36(1)(a) – (e) of the Constitution. These factors were developed by Chaskalson P in *S v Makwanyane*.<sup>78</sup> The court emphasised that these factors are not exhaustive as there are other factors that may be taken into account when determining whether the limitation is reasonable or justifiable based on human dignity and freedom.<sup>79</sup>

(i) In terms of the law of general application

Section 36(1) of the Constitution provides that “any limitation of a right in the Bill of Rights must be in terms of the law of general application.” The question that arises is what constitutes a “law of general application”? This phrase is not defined in the Constitution. However, it is through case law and academic texts that one gets an indication of what constitutes a “law of general application”. The Constitutional Court, in its earlier decisions, has given the phrase a wide interpretation to mean “law” elsewhere in the Bill of Rights. This means that all forms of law or legislation whether delegated or original will qualify as a law that is referred to in s 36(1) of the Constitution.<sup>80</sup> Examples of law recognised in the Republic include the provisions of the Constitution,<sup>81</sup> common law, legislation, customary law, international law,<sup>82</sup> and

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<sup>78</sup> *S v Makwanyane* note 69.

<sup>79</sup> *Ibid* para 104.

<sup>80</sup> In *Larbi-Odam v MEC for Education (North-West Province)* 1998 (1) SA 745 (CC) para 27, the Constitutional Court held that subordinate legislation applying to all educators in South Africa was a law of general application.

<sup>81</sup> *Midi Television (Pty) Ltd v Director of Public Prosecutions (WC)* 2007 (9) BCLR 958 (SCA) para 8.

<sup>82</sup> Section 232 of the Constitution. See, also, *Khala v Minister of Safety and Security* 1994 (2) BCLR 89 (W); 1994 (4) SA 218 (W); and *Shabalala v Attorney-General, Transvaal* 1995 (12) BCLR 1593 (CC); 1996 (1) SA 725 (CC) paras 60 - 61.

the legal rules developed by the courts.<sup>83</sup> A law is regarded as of “general application” if it applies to all the rights in the Bill of Rights and provides that all the rights may be limited according to the same set criteria.<sup>84</sup> This means that the limitation must be authorised by law and such law must be general in its application. The phrase further entails that the law must be clear, accessible and precise for those who are affected by it and can ascertain the extent of their rights and obligations imposed by the rights.<sup>85</sup> The article argues that it may also depend on the context in which determination of the law of general application is conducted. For example, a policy agreed to by all parties in the workplace or employment may be a law of general application for that particular workplace. In *Masiya v Director of Public Prosecutions, Pretoria*,<sup>86</sup> it was held that the requirement of accessibility requires that laws should be prospective in their operation. Such laws must apply impersonally and not to particular people or groups of people. It must not be arbitrary or unequal in its application. In *S v Makwanyane*, it was held that section 277 of the Criminal Procedure Act<sup>87</sup> in terms of which a person could be sentenced to death, did not constitute a law of general application because it did not apply uniformly throughout South Africa. The law of general application requirement is the expression of a basic principle of liberal political philosophy and constitutional law known as the rule of law.<sup>88</sup> The rule of law is the foundation upon which South African society is based.<sup>89</sup> In the absence of a law that authorises the limitation of a right in the Bill of Rights, such limitation would be unconstitutional.

## (ii) Nature of the right

It has been stated above that the taking of vaccination in the work place is sourced from the Covid-19 Occupational Health and Safety Directive<sup>90</sup> introduced by the Department of Labour.<sup>91</sup> The Department of Employment and Labour has published

<sup>83</sup> *Anglo Operations Ltd v Sandhurst Estates (Pty) Ltd* 2006 (4) BCLR 492 (T). See, also, *Du Plessis v De Klerk* 1996 (3) S 850 (CC) para 44; and *Shabalala v Attorney-General, Transvaal* 1995 (12) BCLR 1593 (CC); 1996 (1) SA 725 (CC) paras 60 - 61

<sup>84</sup> De Waal J & Currie I *The Bill of Rights Handbook* (6<sup>th</sup> edition 2013) at 152.

<sup>85</sup> See *Dawood v Minister of Home Affairs* 2000 (3) SA 936 (CC) para 47; *South African Liquor Traders Association v Chairperson, Gambling Liquor Board* 2009 (1) SA 565 (CC) paras 25-28; *Affordable Medicines Trust v Minister of Health* 2006 (2) SA 247 (CC).

<sup>86</sup> 2007 (5) SA 30 (CC) para 52.

<sup>87</sup> Act 51 of 1977.

<sup>88</sup> *S v Makwanyane* note 69 para 155.

<sup>89</sup> S 1(c) of the Constitution.

<sup>90</sup> COVID-19 Occupational Health and Safety Measures in the Workplace, Directive 19 of 2020 GG 43126 GN 193 of 23 March 2020.

<sup>91</sup> GG 43126 GN 193 of 23 March 2020

an updated Covid-19 Consolidated Direction on Occupational Health and Safety measures (OHS Directives).<sup>92</sup> The question that arises is whether the OHS Directive qualifies as a law of general application? The paper argues that the OHS Directives may not qualify as a law of general application since it gives more powers to the employer to exercise discretion on who should be vaccinated. Therefore, it is argued that since employers have a discretion to implement vaccination to willing employees only, those who do not want to be vaccinated will remain unvaccinated, keeping the *status quo* with the possibility of cross-infection among employees in the workplace. In this regard, it does not apply to all employees uniformly and impersonally as required by the law of general application in terms of section 36(1) of the Constitution.

Since the limitation of the right to bodily and psychological integrity can be raised by employees who are opposed to vaccination or may have been dismissed for refusing to take vaccination is not catered for in any legislation, this paper article argues that such a policy will fail to meet the requirements of the law of general application. The fact is that South Africa recognises the common law, customary law and legislation. This means that if the authority upon which the employer derives his or her power to dismiss an employee for refusing vaccination is not sourced from any of the above categories of law, such dismissal may not be in line with section 36(1) of the Constitution. This was emphasised in *Hoffman v SAA*<sup>93</sup> where the court held that a mere policy or practice cannot qualify as a law and it will also not qualify as law of general application. Again, a contractual provision does not qualify as law of general application.<sup>94</sup> For a law to be recognised as law in the Republic, it must derive from the legislature – except if it is common law or customary law.

With regard to dismissal for refusal to accept Covid-19 vaccination, the employer will be enforcing the rules as stated in his or her policy regulating the conduct of employees vis-vis Covid-19 – which includes mandatory vaccination. So, in terms of the discussion above, the policy upon which the employer will base his or her decision to force the vaccination of employees and their eventual dismissal, will not qualify as a law of general application since it is neither legislation nor customary or common law. However, the article argues that the prevalence of Covid-19 and its effect on the way

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<sup>92</sup> See GG No. 44700 of 11 June 2021.

<sup>93</sup> 2001 (1) SA 1 (CC) para 41.

<sup>94</sup> *Barkhuizen v Napier* 2007 (5) SA 323 (CC) para 26.

that businesses conduct their operations calls for the legislature to create legislation that will make vaccination mandatory for all workers. Scientific evidence that vaccines reduce the chances of spreading a deadly virus to other people who share the same space, proves that making vaccination compulsory would be a viable option and perhaps justified – as this will protect lives, and save the economy from the negative effects of multiple lock-downs with consequential loss of employment to many people. If this is made law by Parliament, it will qualify as the law of general application as it will apply uniformly to all inhabitants or employees in the Republic.

This paper assumes a hypothetical situation where a law compelling employers to vaccinate employees is adopted in the Republic. It then attempts to address the question of whether in terms of the hypothetical legislation will the limitation be reasonable and justified as required by section 36(1) of the Constitution. It is clear that the rights that will be infringed by compulsory vaccination are the right to bodily and psychological integrity and the right to religion. The determination of the law that infringes any of these rights will require one to weigh up the harm done by the law compared to the benefits that the law intends to achieve. In *S v Solberg*, the Constitutional Court had to consider whether certain provisions of the Liquor Act 27 of 1989, which prohibits the sale of liquor on Sundays, were unconstitutional. It was argued on behalf of Solberg that the purpose of the prohibition to sell liquor on Sunday was to “induce submissions to a sectarian Christian conception of the proper observance to the Christian Sabbath and Christian holidays”. The court found that such purpose was not consistent with the right to freedom of religion and was therefore unconstitutional. In *Prince v President of the Law of Society of the Cape of Good Hope*<sup>95</sup> the issue was whether section 4(b) of the Drugs and Trafficking Act<sup>96</sup> and section 22A(10) of the Medicines and Related Substances Control Act<sup>97</sup> were inconsistent with the Constitution because they did not grant an exemption to Rastafarians to possess and use cannabis for religious purposes. Although the court declined to declare section 4(b) of the Drugs and Drug Trafficking Act and section 22A(10) of the Medicines and Related Substances Control Act unconstitutional on the grounds that they infringed the right to religious freedom, it eventually declared section

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<sup>95</sup> 2002 (2) SA 794 (CC).

<sup>96</sup> Act 140 of 1992.

<sup>97</sup> Act 101 of 1965.

4(b) and section 5(b) of the Drugs and Drug Trafficking Act as well as section 22A(9) of the Medicines and Related Substances Control Act to be unconstitutional on the grounds that they infringed the right to privacy.<sup>98</sup>

With regard to Covid-19 vaccinations, the article argues that once the hypothetical law has been legislated, it will infringe the abovementioned rights (bodily and psychological integrity and religion). The infringement of one or all of these rights will be balanced with the advantages and benefits of having all employees vaccinated in the employer's workplace. According to science, there is less risk of cross-infections if people have been vaccinated. In this regard, there will be more advantages or benefits to vaccinating employees than in a situation where they are not vaccinated – as other employees will be protected from the risk of being infected while at work.

(iii) The importance of the limitation

The limitation of a right must not be a blanket infringement, but must serve a particular purpose and such purpose must feed into the bigger scheme of democratic principles of fairness and justice. In this regard, a limitation of a right that does not serve a purpose that contributes to an open and democratic society based on human dignity, equality and freedom, cannot, therefore, be justifiable. In *S v Makwanyane*, it was held that retribution, which was the purpose served by the death penalty, was not considered to be a purpose fitting the type of society that the Constitution wished South Africa to be. The Constitution envisaged a society based on reconciliation and Ubuntu and not vengeance and retaliation.<sup>99</sup> Science has proved that the aim of vaccinating employees, perhaps against their will, will prevent the spread of the virus and the eventual loss of lives.<sup>100</sup> Therefore, the limitation of the right to bodily and psychological integrity including religion will serve a bigger purpose of protecting the lives of people and preventing the spread of Covid-19. The advantage of having mandatory vaccination in South Africa is that it will save the economy from further crippling lockdowns and avoid the ever-increasing unemployment rate which is now at a record 46.6%, according to the Quarterly Labour Force Survey – Q3:2021.<sup>101</sup> It is

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<sup>98</sup> See *Minister of Justice and Constitutional Development and Others v Prince and Others* 2018 (6) SA 393; 2018 (10) BCLR 1220 (CC).

<sup>99</sup> *S v Makwanyane* note 69 para 185.

<sup>100</sup> Anonymous author 'Protecting workers: Guidance on mitigating and preventing the spread of Covid-19 in the workplace' available at <https://www.osha.gov/coronavirus/safework> accessed on 2 December 2021.

<sup>101</sup> Available at <http://www.statssa.gov.za/?p=14957> accessed on 09 December 2021.

argued that compulsory vaccination will protect health and the health system; and it will allow the economy to revive and stay open. With all these advantages, it is clear that mandatory vaccination in the workplace will serve a justified purpose that an open and democratic society based on freedom and equality would consider worthwhile and important, that is, protecting citizenry from the effects of infectious disease and the eventual loss of life.

(iv) The relation between the limitation and its purpose

This subsection of section 36(1) addresses the question of whether the law that limits the right is legitimate. A law will be legitimate if it is reasonable and justifiable. In the language of administrative law, this means that there must be a rational connection between the right that has been infringed and the reason for such infringement. This is referred to as the principle of rationality.<sup>102</sup> De Waal argues that there must be proportionality between the harm caused by the infringement and the beneficial purpose that the law is meant to achieve.<sup>103</sup> The law must serve the purpose for which it was created or designed to serve or protect. When limiting a right that is protected in the Constitution, the aim will be to achieve a legitimate purpose that advances the values of an open and democratic society based on human dignity, freedom and equality.<sup>104</sup> This means that in the absence of this connection, the limitation may not be imposed, as it cannot contribute to the achievement of a democratic society based on human dignity, equality and freedom.<sup>105</sup> A limitation of that nature will also not be reasonable and justifiable and in the end it will not pass constitutional muster.<sup>106</sup> The rights mentioned in sections 12(2) and 15(1) of the Constitution are important as they are aiming to accommodate and carefully manage diversity in South African society.

(v) The less restrictive means to achieve the purpose

This factor entails that the proportion between the costs of limiting the right must not exceed the benefit of limiting the same right.<sup>107</sup> The limitation will not be reasonable if

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<sup>102</sup> Y Burns *Administrative Law in South Africa* (5<sup>th</sup> edition 2020).

<sup>103</sup> De Waal *The Bill of Rights Handbook* at 169.

<sup>104</sup> *Richter v Minister of Home Affairs* 2009 (3) SA 615 (CC) at 640.

<sup>105</sup> M Tenza 'An evaluation of the limitation of the right to strike in terms of the law of general application in South Africa' (2018) 29(3) *Stell LR* 471 at 490.

<sup>106</sup> *Law Society of South Africa v Minister for Transport* 2011 (1) SA 400 (CC) at 417.

<sup>107</sup> M Tenza 'Bypassing unions during collective bargaining and the right to freedom of expression' (2017) 29(1) *SA Merc LJ* 66 at 91. See, also, M Tenza 'An evaluation of the limitation of the right to strike in terms of the law of general application in South Africa' note 107 at 490.

other means can be used to achieve the same result that will either not limit the right or limit the right to a lesser extent than the current act will do. This means that if there is a less restrictive method that could be employed and which produces the same results, then such a method has to be employed. In assessing whether less restrictive means existed to achieve the purpose of the Criminal Procedure Act, the court stated the following in *S v Mamabolo*:

*“Where section 36(1)(e) speaks of less restrictive means it does not postulate an unattainable norm of perfection. The standard is reasonableness. And, in any event, in their less restrictive means can almost invariably be imagined without necessarily precluding a finding of justification under the section. It is but one of the enumerated considerations which have to be weighed in conjunction with one another, and with any others that may be relevant.”*<sup>108</sup>

In *S v Manamela*,<sup>109</sup> the court emphasised that the legislative choice concerning the best means of limiting the right is influenced by consideration of cost, implementation priorities of social demands, and the need to reconcile conflicting interests, and that, giving appropriate effect to the factor of “less restrictive means” the court must not limit the range legitimate legislative choice in a specific area.<sup>110</sup> Therefore, if an employee alleges that mandatory vaccination will infringe one or more of his or her rights, it would be advisable for the employer to first take reasonable steps to accommodate such an employee. For example, if an employee objects to being vaccinated, the employer needs to evaluate the risk that such objection poses to the employee himself or herself, the business, as well as to other employees in the workplace. If the employer believes that further steps need to be taken or should there be medical contra-indication for vaccination in connection with the risk, she or he should refer the employee for medical evaluation.<sup>111</sup> The Employment Equity Act<sup>112</sup> (EEA) prohibits the medical testing of an applicant for employment unless (a) legislation permits or requires the testing; or (b) it is justifiable in the light of medical facts, employment conditions, social policy, the fair distribution of employee benefits, or the inherent requirements of the job.<sup>113</sup> Medical

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<sup>108</sup> 2001 (3) SA 409 (CC) para 49.

<sup>109</sup> 2000 (5) BCLR 491 (CC), 2000 (3) SA 1 (CC).

<sup>110</sup> Ibid para 36.

<sup>111</sup> M Botha ‘Mandatory vaccination in the workplace: Lessons from Covid-19’ (2021) 42 ILJ 2065 at 2071.

<sup>112</sup> Act 55 of 1998.

<sup>113</sup> Section 7(1) of the EEA.

testing is defined in the EEA as any test, question, inquiry or other means designed to ascertain, or which has the effect of enabling the employer to ascertain, whether an employee has any medical condition.<sup>114</sup> It, therefore, appears that an employer may validly require testing for the further evaluation of a medical condition for vaccination purposes in terms of the legislation in the form of the June 2021 OHSA Directives. This, however, does not address the question of whether this may bring the same result in a situation where an employee has been vaccinated. The article submits that, other than non-pharmaceutical measures, mandatory vaccination of employees remains the only method available to employers to prevent the spread of Covid-19 in employment and to ensure the safety and protection of all people in the workplace in relation to infectious diseases such as Covid-19. The employer will do this in line with his or her duties to provide a safe working environment for people in their workplace.<sup>115</sup>

## **CONCLUSION**

Vaccinating employees and any other person in South Africa is still voluntary. In compliance with the duty to provide safe and healthy working conditions in employment, a number of companies in South Africa have proposed a move towards making vaccination for Covid-19 mandatory – with dismissal being the possible sanction for a refusal to vaccinate. Compelling employees to vaccinate may limit the number of rights guaranteed in the Bill of Rights. The question that arises is whether the sanction of dismissal limiting a constitutional right can be justified in terms of the limitation clause of the Constitution. It has been argued that the employer may dismiss an employee for failure to comply with a policy that regulates the health and safety of employees in the workplace. However, such a policy does not qualify to be a law of general application as envisaged by the Constitution. The article has argued that in order to meet the criteria in section 36(1) of the Constitution, Parliament must adopt legislation that will authorise employers to compel employees to come to work if they have been vaccinated. In this regard, the limitation of the rights to psychological and bodily integrity, conscience, beliefs, pregnancy and/or religion, will pass constitutional muster.

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<sup>114</sup> Section 1 of the EEA.

<sup>115</sup> Section 8 of the OHSA.



# **The legislative roles of the National Home Builders Registration Council in South Africa**

Salphinah Vuloyimuni Ubisi

Dr S.V. Ubisi, Department of Public Administration and Local Government, North-West University

## **ABSTRACT**

Many beneficiaries of public housing in South Africa complain that their allocated houses have defects. There are different housing entities that report to the minister of the Department of Human Settlements. One of these entities is the National Home Builders Registration Council (NHBRC). Section 2 of the Housing Consumers Protection Measures Act (95 of 1998) establishes the NHBRC. One of the objectives of this council is to protect housing consumers against housing defects caused by the failure of builders to comply with the agreed upon obligations and also hold them (builders) accountable. This paper is based on the research study that was conducted in 2017 in Bushbuckridge Local Municipality (BLM), Mpumalanga Province. A mixed methods approach was employed. The results revealed that the provided public houses had both elements of adequate and inadequate housing. This paper focuses on the elements of inadequate housing coined as defects.

**Keywords:** adequate housing, democracy, defects, human settlements, National Home Builders Registration Council, inspection

## **INTRODUCTION**

The democratic government has promulgated housing legislative frameworks since its inception in 1994 with the aim of ensuring that citizens have access to adequate housing. One of these legislative frameworks is the Housing Consumers Protection Measures Act (95 of 1998) which established the NHBRC. The NHBRC reports to the Minister of the Department of Human Settlements. This paper is a by-product of a

research study which was conducted in 2017 for my doctorate degree in Bushbuckridge Local Municipality (BLM), Mpumalanga Province. The results revealed that the houses provided had elements of both adequate and inadequate housing. Based on the elements of inadequate housing, as revealed by the results, this paper argues that the NHBRC does not play its legislative roles efficiently and effectively. This paper focuses on the provisions of the 2021 Housing Consumers Protection Bill which is called the Bill in this paper. The aim and purpose of this paper is to determine the effectiveness of the NHBRC in playing its legislative roles as provided by the Bill. Due to the fact that this paper was produced by an academic research study, a brief background of this paper is provided below.

## **BACKGROUND OF THIS PAPER**

I conducted a research study for my doctorate degree in 2017 in Bushbuckridge Local Municipality (BLM), Mpumalanga Province which focussed on the provision of adequate housing through cooperative government and intergovernmental relations. The delivery of basic services, including housing services such as water, electricity, sanitation, waste removal services and waste disposal systems, is constitutionally vested in the local government due to its proximity to communities as well as the fact that it is the lowest sphere in the government hierarchy (Nemutanzhele and Nkuna, 2012). This is attested by Ndevu and Muller (2017) by stating that the local government sphere is closest to the people and provides basic services to the communities. A mixed methods approach was employed. Semi-structured questionnaires containing closed and open-ended questions were used to conduct face-to-face interviews with the sampled participants. A combination of open and closed questions yields the best results in an interview (Bone and Griffin 2014). The reasons for using a mixed methods approach included collecting both qualitative and quantitative data, allowing the qualitative and quantitative research methods to complement each other; qualitative research uses words while quantitative research uses numbers, which assists in the interpretation of the data analysed; mixed methods are complementary and mixed methods integrate qualitative and quantitative data, as stated by Garry (2009); Bless, Higson-Smith and Sithole (2013); Hlongwana (2020); and Hands (2022). In addition, it is important to use mixed methods when dealing with issues that are related to social problems and governance (Tzagkarakis and Kritas (2022). The Statistical Package for

Social Sciences (SPSS) version 23 was used to analyse the data collected. The SPSS software requires that entered responses of open-ended questions be codified because it (SPSS software) recognises numerical data. The collected qualitative data were codified numerically in order for the SPSS software to produce quality results. Coding involves assigning numerical codes to items, groups and responses etc. and replacing characteristics such as age or sex by numbers in order to simplify the collected data for analytical purposes (Gerring, 2012). The results revealed both elements of adequate and inadequate housing. Based on the elements of inadequate housing, the legislative roles of NHBRC are questionable because the legal requirement is that houses be inspected, with the objective of protecting housing consumers against poor workmanship during housing construction. However, many beneficiaries of public housing complain that their allocated houses have defects. The research study conducted has been compiled into an academic book. I'm currently addressing the comments which were provided by the language editor and the editor of Unisa Press.

## **THEORETICAL FRAMEWORK**

According to Adom, Hussein and Adu (2018), a theoretical framework serves as the foundation upon which a research study is constructed. It guides the paths of a research and offers the foundation for establishing its (research) credibility. It is often borrowed by the researchers to build their own research inquiries. Theoretical frameworks serve as the focus for the research and it is linked to the research problem under study. In South Africa, public houses are provided by housing service providers who are contracted by government housing institutions. Contracting out government services is one of the root causes of housing defects experienced by housing beneficiaries. In view of this, the principal-agent theory (PAT) was adopted for the conducted doctoral research study. The approach to principal-agent theory is a useful framework for understanding the relationship between government and private sector (Gordon, Morris and Steiford, 2019). Contracting out is a major trend in public service reforms when the government (principal) hires private employment agencies (agents) to perform service delivery, however, accountability to the public remains with the government (Bruno, 2019). The major challenges facing government departments in their dealing with agents (contracted public service providers) include ensuring the

achievement of contracted goals in order to improve service delivery and accountability (Leland, Smirnova and Yusuf, 2016).

Accountability is one of the basic values and principles governing public administration provided by section 195(1)(e) of the Constitution of the Republic of South Africa, 1996. This section states that public administration must be accountable. In the context of the PAT employed, accountability simply means that all executors of government functions/services should be accountable for their actions. Accountability helps to alleviate the silo-approach to executing government tasks and when budgets are allocated for the funding of program activities, including housing (Khosrow-Pour 2005:98). This is affirmed by Rulashe and Ijeoma (2022) who state that accountability means that public officials and government entities should be custodians of state resources and must be answerable and responsible for their actions. For accountability purposes, the principal must transfer resources or responsibilities with expectations on actions, activities etc. to the agent. The agent must provide the principal with accurate information on the executed activities. This will ensure the establishment of a two-way relationship between the principal and the agent. This two-way relationship, see figure 1, will help citizens determine the actual responsibilities of both agents and principals. In addition, the chances of achieving the contracted goals (contracted services) can be enhanced. Furthermore, service delivery can be improved, and accountability promoted.

The results of the doctoral study revealed that 97.1% of beneficiaries consulted the ward councilor for all housing defects encountered. This is a clear indication that the beneficiaries were unaware of the legislative roles of the NHBRC, how the South African government operates and how the housing officials from the three government spheres execute their housing responsibilities. However, the human settlements unit of the BLM indicated, during a meeting held on 29 March 2021, that the housing contractors were on site to fix all identified defects. Based on these results, a citizen report card (CRC) survey questionnaire was developed as an accountability tool for the BLM citizens in order to hold the principals (government officials) and agents (government service providers) accountable for their actions. By so doing, service delivery, including housing, can be improved. It should be noted that the new knowledge, which was derived from the doctoral research study, was used to produce

the developed accountability tool. I suggested that the developed accountability tool be piloted using the studied housing project. Principals and agents should be involved in the pilot study in order to modify the developed accountability tool according to services rendered.



**Figure 1: Two-way relationship between the principal and the agent that can promote accountability**

Adopted from Randa and Tangke (2015) and adjusted by the author, 2022

## RESEARCH METHODOLOGY

According to Ningi (2022:196), a research methodology refers to the design and theory that underpins research. A case study design was employed for the doctoral study and the PAT underpinned the research study conducted, as discussed in section 3. The research methodology employed and how the collected data were analysed is discussed in section 2. The housing project studied was implemented at Thulamahashe A, B and C, ward 31 in BLM. Fifty houses were built and allocated to beneficiaries during the 2012/2013 financial year. The population size of the study was one hundred participants. This population size consisted of: thirty-eight ward councilors from BLM, eight ward committee members from ward 31, fifty beneficiaries of the studied housing project and four human settlements officials from BLM. Given the manageable population size, I intended to interview all the members. This implies that every member of the population was a sampled participant. However, the sample consisted of sixty participants (fifteen ward councillors, thirty-five beneficiaries, eight ward committee members and two housing officials of the BLM human settlements

unit. Twenty three of the ward councillors did not participate in the study for various reasons, including: those that were in hiding due to community threats; unethical behaviour such as refusing to allow me in their offices after we had jointly scheduled a meeting; turning off their cell phones when I was at the gates of their premises; claiming to be prohibited from talking or allowing anyone including researchers to talk or interview them; instructing me to go and interview the people who gave me their contact details; repeated postponement of scheduled meetings; being sick and in no state to be interviewed, among other things.

I arranged meetings with some of the ward councillors in March 2021 with the aim of observing their behaviour. When I called them on the dates scheduled, their cell phones were off. I returned to Gauteng Province without conducting a single interview with the sampled ward councillors. I regarded their behaviour as unethical and against the provision of section 195(1)(a) of the Constitution. Only thirty-five beneficiaries were interviewed due to reaching data saturation point. Data saturation is reached when no new information is provided by the participants (Croker and Heigham 2009). All eight ward committee members were interviewed, as initially planned. Only two human settlements officials from BLM were interviewed, the other two had other work commitments during the data collection period. Housing officials from the Mpumalanga Provincial Department of Human Settlements did not participate in the study, although permission to conduct face-to-face interviews was granted by two acting heads of the department. None of the housing officials contacted confirmed availability or showed any signs of being willing to participate in the study. I communicated telephonically with some of them in March 2021 with the aim of collecting data for the book. None of them showed any interest in being interviewed.

The types of sampling used in the study were purposeful, systematic and probability sampling. A purposeful sampling was used because all participants had the required knowledge and were in a good position to provide the required data. Probability sampling was used because it provides an equal and independent chance for every participant in the population to be included in the sample (Kumar, 2011). Researchers must rely on a wide range of sources of data that would help to provide an in-depth and holistic portrait of the participants' experiences (Ningi, 2022). Documents, semi-structured questionnaires, semi-structured interviews, observation, probing and field

notes were used to collect data. Probing produces follow-up questions which emanate during interviews (Faroog, Khawaja, Muhammad and Siddiqui, 2022).

## **DISCUSSION OF RESULTS**

### **The elements of inadequate housing**

The results of the research study conducted revealed that 68.6% of the beneficiaries did not have adequate space, while 77.1% of the beneficiaries indicated that the allocated houses did not meet their housing needs. 51.4% indicated that the houses provided did not adequately protect them (beneficiaries) from cold and heat. 57.1% of the housing beneficiaries were not adequately protected from rain because of leaking roofs and open spaces at the top and bottom of entrance doors and 85.7% were not adequately protected from damp. When I revisited the beneficiaries in March 2021, I observed that some of the housing defects revealed by the results in 2017 were not yet fixed. The housing project studied provided stand-alone houses. The then Minister of the Department of Housing had introduced national norms and standards for the construction of stand-alone houses in 2009. The introduced national norms and standards came into effect on 1 April 2009. All houses constructed through the application of the national housing programmes must comply with the set national norms and standards. These set national norms and standards are applied in addition to the national building regulations and the house-building prescripts of the NHBRC. Each stand-alone house constructed through the national housing programmes must meet the following set national norms and standards:

- Gross floor area of at least forty square metres.
- Two bedrooms.
- A separate bathroom with a toilet, a shower and hand basin.
- A combined living area and kitchen with a wash basin.
- A ready board electrical installation if electricity is available in the project area (Department of Housing, 2009).

The human settlements unit of the BLM confirmed on 30 March 2021 that the houses provided were constructed according to these set national norms and standards. I observed that the living area, kitchen and basin were combined.

## **The purposes of the 2021 Housing Consumer Protection Bill**

The Housing Consumers Protection Measures Act (95 of 1998) had been amended by the Housing Consumers Protection Measures Amendment Act (27 of 1999); Housing Amendment Act (4 of 2001), the Housing Consumers Protection Measures Amendment Act (17 of 2007), previous bills and currently the Housing Consumer Protection Bill of 2021 which is called the Bill in the context of this study. Mmabara (2019) mentioned earlier that the intention to repeal the Consumer Protection Measures Act yearly, was to respond to the challenges that were experienced by the home building industry and address the concerns of the housing consumers. This intention was achieved by the promulgation of the Bill which is the focus of this paper. This Bill came into effect on 11 May 2021. The purposes of this Bill are to provide for: the protection of housing consumers; continuance of the NHBRC; registration of homebuilders; enrolment of homes in order to be covered by the home warranty fund; regulation of the conduct of homebuilders; continuance of the home warranty fund; claims against the warranty fund; the funds of the NHBRC and management of the provided funds; procurement and contractual matters in relation to the building of a home and enforcement of the provisions of this Bill. Public hearings on the Housing Consumer Protection Bill of 2022 are currently held by the Portfolio Committee on Human Settlements. On 11 September 2022, this committee held a public hearing in Ermelo under Gert Sibande District Municipality, Mpumalanga Province. The residents requested the Portfolio Committee on Human Settlements to urgently pass the Housing Consumer Protection Bill 2022 in order to end the unacceptable trend of the delivery of deficient houses to the people by unscrupulous building contractors.

The residents believe that one of the key reasons for construction companies to act unethically is profit. They (residents) further requested the committee to add a clause in the 2022 Bill stipulating the appointment of the locally based service providers to build public houses to ensure that they are easily reachable and be held accountable for defects in the houses they build (Parliamentary Communication Services, 2022). In view of this, it can be concluded that the housing defects revealed by the conducted study in 2017 are currently experienced by other housing beneficiaries of subsidised housing projects in Mpumalanga Province albeit the provided purposes of the 2021 Housing Consumer Protection Bill. In addition, section 5(1)(a)-(e) of the Bill provides



for the objectives of the NHBRC. These objectives are to: represent the interests of all housing consumers; regulate the home building industry; ensure structural quality of homes in the interests of housing consumers and the home building industry; promote the rights of housing consumers and provide information relevant to stakeholders in the home building industry. The NHBRC appears to be failing to achieve its legal objectives as provided by the 2021 Bill. I'm not convinced that the issues raised by the residents of Ermelo would be addressed by the 2022 Bill. This is because the results of housing studies conducted by other scholars also revealed housing defects and Housing Consumer Protection Bills are promulgated yearly.

### **The functions of the National Home Builders Registration Council**

Section 14(1) of the Bill provides for the functions of the NHBRC which are regarded as legislative roles in this paper. Only selected relevant functions are mentioned in this section. These functions include to: establish and maintain an integrated database which consists of homebuilders and developers; register the enrolment of homes; maintain and administer the warranty fund as provided by sections 35 and additional fund as provided by section 36 of this Bill; register and deregister homebuilders in accordance with the registration requirements and procedures; enroll homes in accordance with the categories prescribed by the NHBRC; enter into agreements with a Member of the Executive Council (MEC) for human settlements regarding services to be rendered in respect of projects for the construction of homes acquired from the state housing subsidy; inspect or ensure the inspection of homes in the prescribed manner; provide training to homebuilders in order to achieve and maintain satisfactory technical standards in the home building industry; provide information to financial institutions, conveyancers, property practitioners, social housing institutions, delivery agents, stakeholders and any other interested person in order to assist them to comply with their obligations in terms of this Bill; advice the Minister of the Department of Human Settlements on any matter referred to the NHBRC by the Minister in respect of the protection of housing consumers or the objectives of this Bill; engage in undertakings to promote improved structural quality of homes; engage in undertakings to improve ethical and technical standards in the home building industry; prescribe the requirements for the approval of a certification body and the listing of a competent person and determine the minimum level of indemnity insurance required to be held

by a certification body or a competent person in the circumstances contemplated in section 50(1) (b). According to Ngquba (2017), the NHBRC has identified quality concerns that are commonly experienced in the housing construction industry. These quality concerns include: poor quality bricks; insufficient cement in mortar mix; poor plaster application to exterior walls; poor storm-water management; structural failure due to poor founding conditions; incorrect use of brick enforcement; incorrect or no brick bonding; vertical cracks in plaster; poor quality sand and mix; not built to plan; poor workmanship; structural deficits; use of substandard building material; lack of general maintenance; non-existent storm-water management control and no on-site quality control and supervision.

A study conducted by Nyakala, Ramoroka and Ramdass (2021), revealed that poor-quality and low-income housing projects are perceived to be related to the contractors, builders and construction practitioners who do not comply with the housing standards and insufficient training on these housing standards and other housing construction information. This training should be provided to the public officials and housing beneficiaries. By so doing, accountability might be enhanced. The Portfolio Committee on Human Settlements was informed by the residents of Ermelo in September 2022 that their greatest concern is the continuation of building houses using poor building material and building houses in wetlands and flood lines by the construction companies (agents in the context of PAT). The above-mentioned housing defects, concerns and other housing challenges should be mitigated by the NHBRC. This council reports to the Minister of Human Settlements and it is legally required by this Bill to regulate the building or construction industry.

### **The effectiveness of the NHBRC in regulating the building industry**

Home enrolment allows the NHBRC to conduct quality home inspections at various stages of the construction and provides housing consumers with warranty cover for minor defects, roof leaks and major structural defects. The main objective of inspections is to protect housing consumers against poor workmanship during construction. If the builder is unable or unwilling to rectify the housing defects, the NHBRC must stop construction and institute disciplinary process. The NHBRC has a Corporate Legal Services Interdicts section. This section is tasked with, amongst others, the responsibility to facilitate the interdict processes against home builders or

housing developers who carry on the business of a home builders without being registered; commence with construction of a home without enrolment with the NHBRC and prevent officials or agents of the NHBRC from carrying out their functions (NHBRC, 2020a).

Section 30(1) of the Bill states that a homebuilder or developer, as the case may be; may not commence with the construction of a home unless that home is enrolled with the NHBRC in the manner and on the conditions prescribed by the NHBRC in consultation with the Minister of the Department of Human Settlements. According to the NHBRC (2020a), enrolment of a home refers to an application submitted by a home builder or developer for a particular home to be captured into the NHBRC's records. Homeowners must receive enrolment certificates confirming that their homes are enrolled with the NHBRC. Home enrolment insures homeowners against poor building practices and permits the NHBRC to conduct quality home inspections at four key stages of the housing construction. The four key stages are as follows:

1<sup>st</sup> stage: Excavation and foundation

2<sup>nd</sup> stage: Floor slab (sub-structure)

3<sup>rd</sup> stage: Walls (super structure)

4<sup>th</sup> stage: Roofing and finishing

These four key stages are confirmed by AfriSam (2021) by stating that during building of the house, the NHBRC conducts a minimum of four inspections on a house to verify if the construction is done properly and deals with complaints of non-compliance during the construction process. According to section 29(1) of the Bill, the NHBRC must establish and maintain a register of enrolment of homes. The register of enrolment of homes must be accessible to the public and must reflect: the geographical location of every enrolled home; the homebuilder who enrolled the home; if applicable, the developer in relation to an enrolled home; any finalised claim against the home warranty fund that has been instituted in relation to an enrolled home and any other information that is reasonably necessary in relation to the purpose of this Bill as provided by section 29(3)(a)-(e) of the Bill. In view of the housing defects revealed by housing research studies, the NHBRC seems to be ineffective in regulating the building industry.

## **The weaknesses of the NHBRC in regulating the building industry**

According to Mmbara (2019), many people who are in the business of building homes are not registered with the NHBRC. Section 25(1) of the Bill requires a homebuilder or developer who intends to undertake or to commission the building of a home to apply for registration as a homebuilder or a developer. Section 25(3) clearly states that a homebuilder or developer may not commence, allow or instruct the commencement of the building of a home if that homebuilder or developer is not registered with the NHBRC. This implies that any person who is a home builder or developer in the home building industry must register with the NHBRC. These registered people must renew their membership annually on the date of anniversary of the registration as required by section 25(6) of this Bill. Non-registration with the NHBRC might be catalysed by the alleged criminal gangs in the construction industry and a lack of knowledge on the registration process by some home builders or housing developers. These criminal gangs are referred to as “construction mafia”. They use the provisions of the 2017 Treasury Procurement Regulations. Section 9(1) of the 2017 Preferential Procurement Regulations states that if feasible to subcontract for a contract above R30 million, an organ of state must apply subcontracting to advance designated groups. Section 9(2) of these regulations requires an organ of state to advertise a tender with a specific tendering condition that the successful tenderer with a contract above R30 million to subcontract a minimum of thirty percent (30%) of the value of the contract. The provision of section 9(2) is deliberately misinterpreted by mafia construction gangs. They demand a thirty percent share of state and non-state construction projects from home builders and housing developers.

Cash payments are sometimes claimed from home builders and housing developers not for subcontracted work but to protect the housing development sites from disruption caused by service delivery protests among other things. The allegations are supported by Mfebe (2020) who states that the South African construction industry has become a new battlefield for the implementation of a fake radical economic transformation (RET) intended to benefit some people who are in the inner circle of emerging business leaders who propagate RET for their own benefits. RET established itself as a national representative body for business forums (Donnelly, 2019). This is confirmed by Mulaudzi and Lancaster (2021), who state that many

business forums claim to be part of the RET. RET has rebranded itself as Federation for Radical Economic Transformation. The behaviour of the alleged gangs is unethical and one of the roles of the NHBRC is to engage in undertakings to improve ethical and technical standards in the home building industry as discussed in section 6. People see housing as a vehicle for wealth accumulation rather than a social goal (Leijten and de Bel, 2020). The members of the construction mafia gangs can be regarded as people who see housing this way, and the NHBRC is well placed to mitigate this behaviour because it reports to the minister who is a cabinet member. However, building of defective houses still continues.

A broad range of low-income houses recently built in South African municipalities are reportedly defective due to poor building and construction quality (Nyakala, Ramoroka and Ramdass 2021). Some business forums expect ward councilors in local government sphere to give them access to municipal government contracts including housing, posing this mammoth challenge that is experienced by municipalities. It is alleged that ward councilors who refuse to provide access to municipal government contracts are attacked or killed (Mulaudzi and Lancaster, 2021). The NHBRC should work with the South African Forum of Civil Engineering Contractors and other stakeholders in the construction industry to mitigate the actions of the construction mafia gangs. The construction mafia gangs appear to be transgressing the provisions of section 9 of the 2017 Treasury Procurement Regulations. I'm not convinced that the forums represented by RET accommodate all designated groups as required by section 217 of the Constitution. Designated groups in the context of the 2017 regulations means black designated groups, black people, women, people with disabilities and small enterprises. However, discrimination and sexual harassment are some of the common barriers that hinder women's participation in the construction industry (Motsei, 2020). This simply means that some members of the designated groups, such as women, are not fully catered for as provided by section 9 the 2017 Treasury Procurement Regulations and section 217 of the Constitution, while the NHBRC is required to establish and maintain an integrated database which consists of homebuilders and developers as discussed in section 6.

The Department of National Treasury confirmed its awareness of the people who demand to be paid 30% of the value of each contract awarded in other provinces and

municipalities. These people threaten to interrupt or stop the implementation of housing projects if their demands are not met. According to the Department of National Treasury, such practices are illegal, defeat the objective of the democratic government of transforming through equal opportunities for all and the advancement of historically disadvantaged individuals, small, medium and micro enterprises (SMMEs) (Department of National Treasury, 2018). This is confirmed by Mulaudzi and Lancaster (2021), who state that the 2017 Treasury Procurement Regulations provide directives with the aim of transforming the economy by empowering the historically disadvantaged individuals (HDIs) and small, medium and micro enterprises. When an organ of state in the national, provincial or local sphere of government, or any other institution identified in national legislation, contracts for goods or services, it must do so in accordance with a system which is fair, equitable, transparent, competitive and cost-effective as provided by section 217(1) of the Constitution. Section 217(2) allows any organ of state in the national, provincial or local sphere of government, or any other institution identified in national legislation to contract for goods or services to implement a procurement policy which provides for setting categories of preference in the allocation of contracts and protection or advancement of persons, or categories of persons who are disadvantaged by unfair discrimination. The NHBRC has an authority to inform the African Legal Practice Council as discussed in section 8 of the illegal practices in the building industry which were identified by the Department of National Treasury.

### **The quality of subsidised housing**

There is a high level of homelessness in South Africa (Adetooto and Windapo, 2022). Provision of access to adequate housing is a constitutional requirement. Section 26(1) of the Constitution provides for access to adequate housing for citizens. Section 26(2) states that the state must take reasonable legislative and other measures within its available resources to achieve the progressive realisation of the right to access to adequate housing by the citizens. According to Farha (2020), the right of access to housing should be defined as the right to live in a home in peace and dignity; including security of tenure, availability of services, affordability, habitability, accessibility, appropriate location and cultural adequacy. The democratic government provides subsidised houses to beneficiaries. Subsidised housing in the context of this paper

referred to houses that are produced by housing projects and programmes which are funded by the democratic government. However, the results of many scholars who conducted their research studies on subsidised housing revealed housing defects.

A study conducted by Manomano and Tanga in 2018 at Amathole district in the Eastern Cape Province, revealed that the roofing, windows, doors, walls and floors were very poor. In addition, the spacing of the houses were inadequate and the size of the provided houses was very small (Manomano and Tanga, 2018). The materials used to construct the provided houses were of poor quality (Manomano and Tanga, 2018). These authors are of the view that a lack of active participation in housing projects by the targeted beneficiaries contributes significantly to substandard houses. Another study was conducted by Mchunu and Nkambule at eZamokuhle Township, Mpumalanga Province in 2019. The results revealed that the houses provided had cracks, were hot in summer and very cold in winter. According to these authors, the material used was of poor quality and the building construction was compromised to save costs (Mchunu and Nkambule, 2019). Madikane (2019) states that beneficiaries in Velwano, Mdantsane are living in incomplete houses which are in appalling conditions. Based on the elements of inadequate housing that were revealed by the results of the above-mentioned studies. I'm of the view that many housing beneficiaries are not fully knowledgeable on the legislative roles of the NHBRC.

According to Leijten and de Bel (2020), the social function of housing is to provide homes to people. A home is defined by the Department of Human Settlements (2019) as a permanent structure that is intended to provide protection against the natural elements including rain, storm, wind, floods and should be suitable for residential occupation purposes. Adetooto and Windapo (2022) state that humans have a desire for shelter because it meets their basic security, protection and shelter requirements. The results of a study conducted by Nyakala, Ramoroka and Ramdass (2021) in Polokwane Local Municipality, Limpopo Province revealed housing defects which include the use of low quality materials and equipment, unskilled or incompetent site workers, inappropriate modes of financing projects, poor contract administration, poor quality control, a lack of cooperation from local authorities, difficulties in design and construction, unclear lines of responsibility and authority and high accident rates. These authors are of the view that the implementation of measures such as effective

planning and scheduling by contractors, time-cost trade-offs, selecting the right suppliers, budget control and good communication can improve the quality of housing projects.

Section 46(2)(a)(i) of the Bill states that an employer may not award a home building contract that forms part of a subsidy or social housing project to a homebuilder who at the date of the commencement of the evaluation of a bid is not already registered as a homebuilder. Section 46(2)(a)(ii) states that an employer may not award a home building contract that forms part of a subsidy or social housing project to a homebuilder who at the date of the commencement of the evaluation of a bid relies on experience of built homes which were not enrolled. An employer in the context of this Bill means a developer or a person or organ of state that enters into a home building contract with a homebuilder. According to section 139(a) of the Constitution a state organ means any department of state or administration in the national, provincial and local sphere of government. Subsidy or social housing projects are implemented by state organs within the three government spheres. In view of the housing defects revealed by other studies, how does the NHBRC equip all housing officials among the three government spheres on how it operates?

### **The importance of collaboration in the provision of housing**

Collaboration can be regarded as a joint effort by people or organisations with the aim of achieving a certain goal or set objective (Emanuel, Omeregile, Ohis and Nteboheng, 2018). The provision of housing is one of the concurrent functions that are executed by the national and provincial government spheres as provided by Schedule 4, Part A of the Constitution. The NHBRC is one of the entities that reports to the Minister of Human Settlements (national government sphere). NHBRC has branches in all provinces (Motsei, 2020). According to section 30(6) of the Bill, a homebuilder or housing developer must notify the NHBRC of the date of commencement of the construction of a home. Section 32(1) of this Bill states that the member of the executive council (MEC) for human settlements in a province (provincial government sphere) or member of mayoral committee (MMC) responsible for human settlements in a municipality (local government sphere) or his or her delegate may not release any funds in relation to any housing project, unless the requirements of this Bill have been met.



The Provincial Departments of Human Settlements should submit applications for the enrolment of homes to the NHBRC fifteen days before the commencement of construction (NHBRC, 2020a). Insofar as subsidy or social housing projects are concerned, section 32(2) of the Bill requires the developer or organ of state in relation to a subsidy or social housing project to inform the NHBRC of the appointment of a homebuilder in the manner prescribed by the NHBRC. The NHBRC must update the register of homebuilders accordingly. When the NHBRC becomes aware that the MEC or MMC failed to comply with the provisions of this Bill in relation to appointing only registered homebuilders or ensuring that every home forming part of a subsidy housing or social housing project is enrolled, section 33(1) of the Bill mandates the NHBRC to report the failure to the Minister of the Department of Human Settlements. Section 33(2) of the Bill, states that the NHBRC must notify the MEC or MMC of its intention to report him or her to the Minister. This promotes transparency. If the MEC or MMC does not address his/her failures, the NHBRC must report him or her to the Minister.

At a local government level, municipalities have inspectorate units. The inspectors work closely with housing officials in their municipalities. The inspectorate has a significant role from the inception to completion of housing projects to guide the work as it progresses and pressurise contractor efficiency to deliver the acceptable product (Ngquba, 2017). Housing projects are implemented at the local government sphere by contracted government service providers (agents) contracted by government institutions (principals) as discussed in section 3. The prerequisite for any housing development initiative is land (Madisha and Khumalo, 2021). In most rural areas, land belongs to traditional leaders/authorities. Section 212(1) states that any national legislation may fulfill the role of traditional leadership as an institution at the local government sphere that deals with matters that affect local communities. Local communities are the end-users or beneficiaries of housing projects. A conveyancer must determine whether a home is enrolled or not before its transfer is finalized, as provided by section 84(1) of the Bill. If the home is not enrolled, the conveyancer must immediately inform the NHBRC accordingly as required by section 84(3) of the Bill. Section 84(4) mandates the NHBRC to report a conveyancer who does not comply with the provisions of this section to the South African Legal Practice Council. The South African Legal Practice Council was established by section 4 of the Legal

Practice Act (28 of 2014). Based on the discussion of this section, it can be concluded that a housing project involves various activities that are executed by various institutions and housing officials from the three government spheres. This reveals the need for effective collaboration in the provision of housing.

## CONCLUSION

Many homebuilders and developers built defective houses. The NHBRC is legally required to inspect houses through all stages of the construction of houses. All houses built must be enrolled with the NHBRC. Enrolment of the houses built is beneficial to homeowners because the NHBRC is mandated to fix identified defects using the warrant fund should a home builder or developer fail to address them. The corrupt activities of mafia gangs hamper the construction industry and should be mitigated. Home builders and developers should not pay some members of the mafia gangs. The Department of National Treasury should apply harsh measures on transgressors of the provisions of the 2017 Procurement Preferential Regulations. The NHBRC should conduct inspections to ensure that home builders and house developers build quality houses and mitigate the delays in completing subsidy houses. Housing officials from various housing institutions should collaborate their housing activities in order to improve the quality of houses provided.

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# **Local Economic Development (LED) & Covid-19: A systematic literature review**

Marius Venter and Chané de Bruyn

Prof M. Venter, Associate Professor, School of Economics, University of Johannesburg, South Africa.

Dr C. de Bruyn, University of Johannesburg, South Africa.

## **ABSTRACT**

Local economic development (LED) is advocated globally as one of the most effective ways of developing an inclusive and sustainable local economy. By ensuring that growth is inclusive, sustainable and enhancing local competitiveness, LED can be used as a catalyst for reducing poverty, inequality and unemployment. There is no doubt that the COVID-19 pandemic has presented global economies, governments and policymakers with unprecedented challenges. Quite arguably, now more than ever, the effective pursuit of LED will be instrumental in aiding economic recovery and ensuring sustainable development. This study aims to shed light on the road ahead by conducting a systematic literature review on the recent trends and developments in research relating to LED and the COVID-19 outbreak. Articles published on Scopus using the keywords 'local economic development', 'regional development' and 'COVID-19' were retrieved where after the top 20 cited articles were analysed. This enables other researchers to gain a better understanding of the current research trends and possible areas for future research, all with the aim of promoting sustainable LED following a global pandemic.

## **INTRODUCTION**

It goes without saying that the Covid-19 pandemic has had detrimental effects on the global economy. The pandemic saw the implementation of local and international travel restrictions, which restricted the movement of people and certain industries and businesses came to a halt (Zambrano-Monserrate *et al.*, 2020). In accordance with the OECD (2020:3), the Covid-19 pandemic has brought about a change for local



economic development (LED), including the businesses and communities. A global pandemic brings an entirely different challenge to local economies, as it presents significant social and economic impacts that linger over both the short and long run (UNDP, 2020:38). Authors such as Bloom and Canning (2006:10) opine that epidemics have the most substantial impact on the economy in the short run. This view is also supported by the UNDP (2020:32), which goes on to state that empirical evidence surrounding the impact of disease outbreaks over the long run is still inconclusive. The World Bank (2020:2) states that no single policy intervention would suffice in mitigating and aiding economic recovery following the dismal impact of the pandemic on economies and societies.

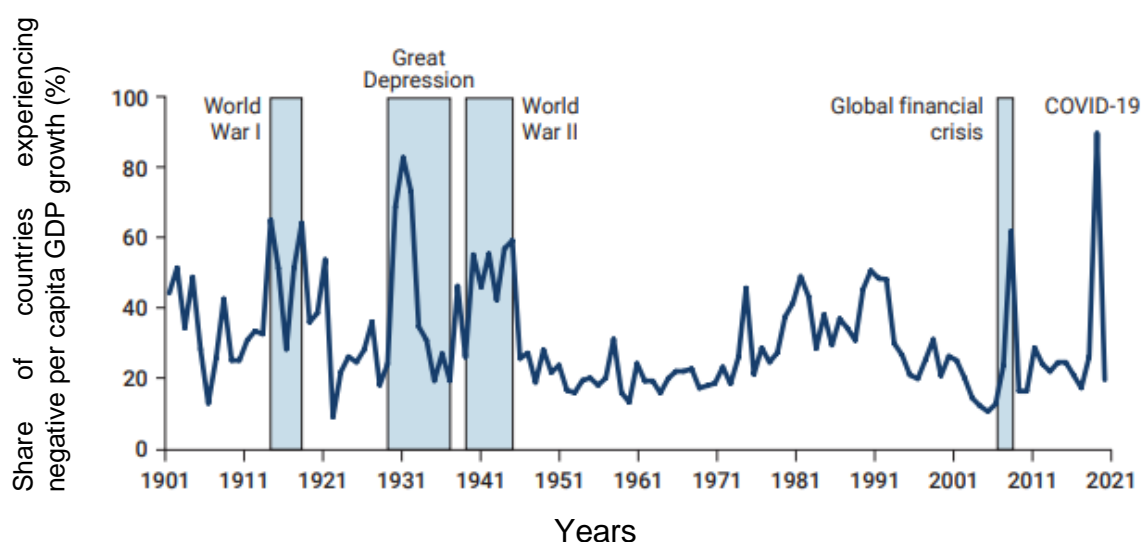
Although studies incorporating bibliometrics or systematic reviews relating to the Covid-19 outbreak have been on the increase, the majority of these studies have a medical (Hatmi, 2021) or therapeutic (Chahrour *et al.*, 2020; Park *et al.*, 2020) focus point. A similar study by Verma and Gustafsson (2020) used a bibliometric analysis of literature on Covid-19 to identify the current trends and propose future areas for research. This study however only focussed on the area of business and management and covered a time span of January 2020 to May 2020. It is for this reason that a study such as this could aid in providing other researchers with insight into the current global trends and research themes surrounding Covid-19 and its impact on LED. Not only will it provide information on what the leading studies are investigating and the possible suggestions for recovery that might arise, but it also allows for the possible identification of research gaps requiring further examination. Therefore, the main objective of this study is to contribute to the current lack of knowledge on the recent trends and developments in research relating to LED and the COVID-19 outbreak.

## **LITERATURE REVIEW**

The Covid-19 pandemic not only triggered a global health crisis but also left global economies in disarray. Extreme emergency response measurements were implemented by governments from across the world. These measures included travel restrictions, lockdowns, restricted public gatherings and closures of nonessential businesses which affected all sections of the population; particularly marginalised communities, disabled individuals and the elderly (Leite *et al.*, 2020:2; Verma & Gustafsson, 2020:253). Developing countries were particularly hard hit (Ahmed,

2020:1) and the efforts made towards achieving the Sustainable Development Goals has almost certainly been pushed back substantially. This is due to the fact that global poverty has increased for the first time in a generation (Mahler *et al.*, 2021).

Additionally, the global economy contracted around 3 per cent in 2020 and over 90 per cent of countries saw their economic output contracted in 2019 (World Bank, 2022:26). As the World Bank (2022:26) writes, the pandemic quite rapidly led to one of the largest global economic crisis in over a century. Over this last century the UNDP (2020:31) indicates that Covid-19 has reached similar levels of concern with regards to the impact on economic growth as some of the other major historic events and outbreaks, such as World War I and II and the global financial crisis. This is illustrated in Figure 1.



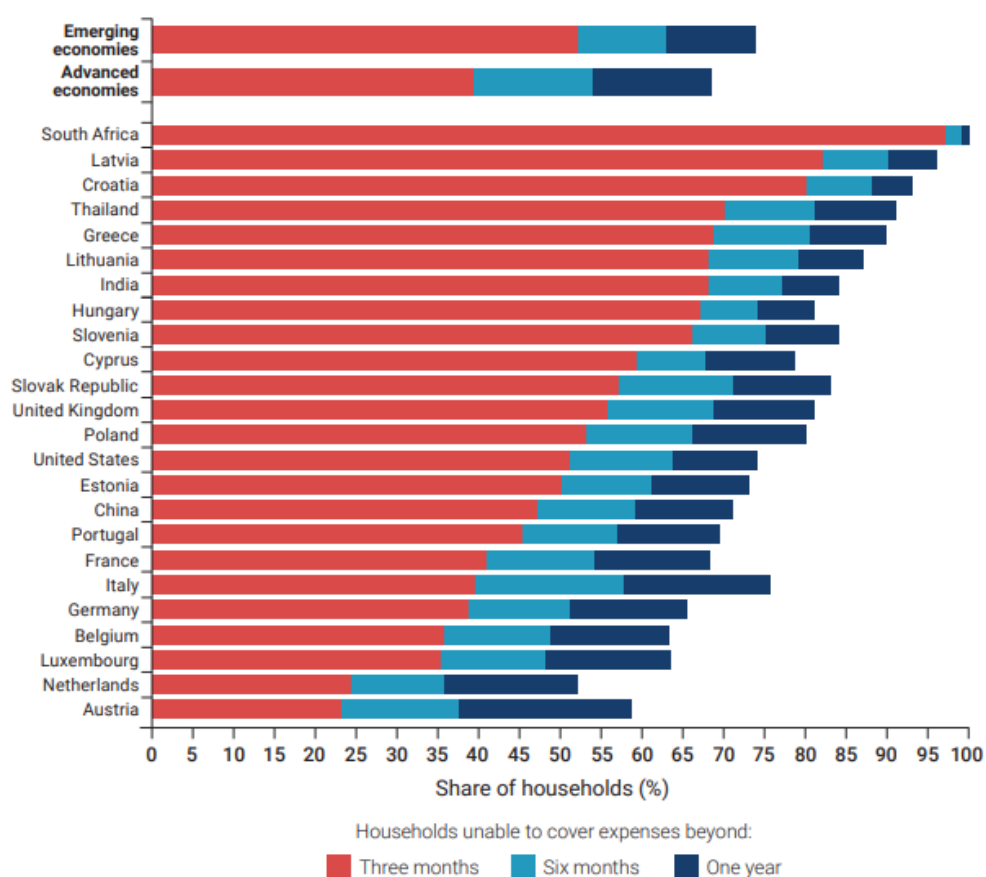
Source: World Bank (2022)

**Figure 1: The magnitude of the Covid-19 pandemic compared to major historic events**

As can be seen in Figure 1, the effects of Covid-19 have exceeded that of World War I, the Great Depression, World War II and the global financial crisis. However, as Baker *et al.* (2020) states, Covid-19 brings with it an entirely new set of challenges and has caused a surge in uncertainty, therefore analysis and comparisons might not be entirely based on historical data. The impact of outbreaks over the short and long run still varies significantly between regions and industries. A study by Haacker (2002) found that AIDS had a substantial adverse impact on per capita income and economic growth. In contrast, the UNDP (2020:34) indicates that several industries have profited

from the pandemic, which include medical and health services as well as cleaning companies.

Researchers such as Coibion *et al.* (2020) have found that it is not the infection of the virus itself that instigated decreased employment and consumption spending, rather it was due to the lockdowns imposed. As businesses had to cease with their operations, many employees, especially those falling under the low-income bracket, lost their full incomes and consumption levels further declined (Brodeur, 2021:1021). Stable incomes are a key factor in realising economic stability (Schotte *et al.*, 2018:90) thus without incomes, it is nearly impossible to create a stable local economy. Figure 2 illustrates the resilience of households to a loss of income in selected advanced and emerging economies.



Source: Badarinza *et al.* (2021)

**Figure 2: Households resilience to loss of income**

As can be seen in Figure 2, there are not many households from both advanced and emerging economies that have sufficient resources to sustain them in the event of

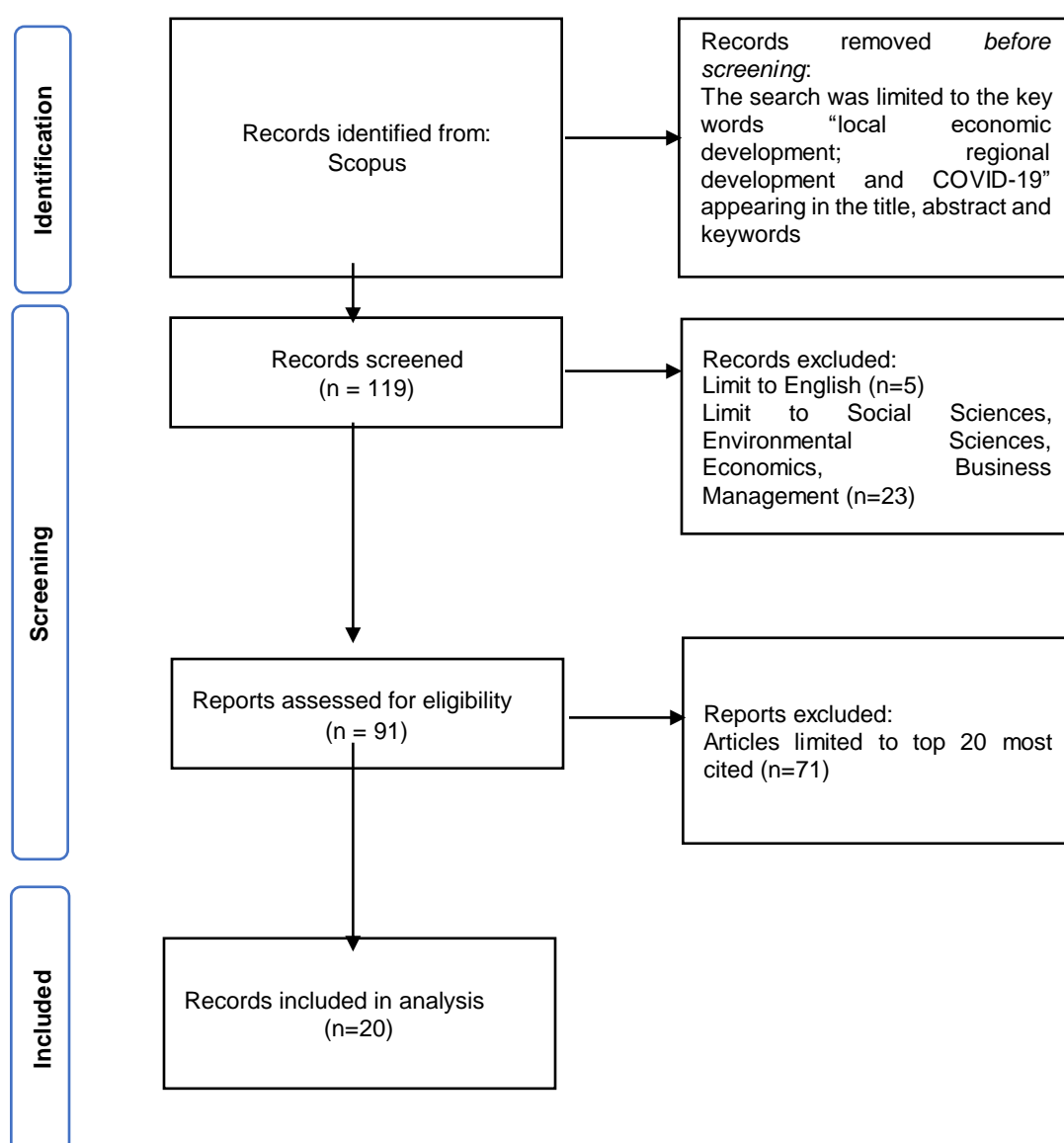
income losses of more than 3 to 6 months. This is in accordance with Gomes (2021:950) who writes that the majority of households from across the world will not be able to withstand income shocks. Looking at Figure 2, over 90 per cent of South African households will not be able to sustain their livelihoods after 3 months following a loss of income. This is a rather troublesome figure for the country as it suggests that in the event of economic shocks more people are likely to fall into poverty. This is in stark contrast to Austria, where less than a quarter of the country's households would not be able to sustain their livelihoods after 3 months with a loss of income. Interestingly, in accordance with the World Bank report (2022:32), even though there are significant differences amongst emerging and advanced economies with regards to households' resilience in times of income losses, only a handful of countries show strong enough resilience to endure economic hardships.

This points to the importance of utilising LED practices in rebuilding and redesigning local economic policies in order to develop more resilient and sustainable economies. Liu *et al.* (2022) emphasise that local economies with high levels of community capabilities, economic diversification and innovation are better equipped to withstand and recover from economic setbacks. When providing support to communities, especially in times of economic crisis, resources need to be distributed to those who need it the most in the timeliest and most effective manner. By having well established LED practices, there would be a better understanding of the region's capabilities and marginalised groups could be identified timeously and efficiently, ensuring that support is provided where it is required the most (World Bank, 2020:8).

## **METHODOLOGY**

In an effort to shed light on the recent trends and developments in research relating to LED and the COVID-19 outbreak, this study employs a systematic literature review. A systematic review could be described as the synthesising of scientific research evidence, where all published results covering the specific topic are taken into account in an effort to answer the research question in a reproducible and transparent manner (Lame, 2019: 1635). In order to extract the relevant documents, the Scopus database was used, as it is one of the largest academic literature databases with a very broad coverage (Shakil *et al.*, 2020:2; Sharifi & Khavarian-Garmsir, 2020:3).

This systematic review utilised the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guiding principle. PRISMA is a framework to aid authors in improving their reporting of systematic reviews (Moher *et al.*, 2009:2). The use of PRISMA helps to ensure that the review process is replicable and more transparent (Lame, 2019: 1636). The search string limited the initial results to documents that included the keywords 'local economic development' or 'regional development' and 'Covid-19' in their title, abstract or keywords. This is illustrated in Figure 3.



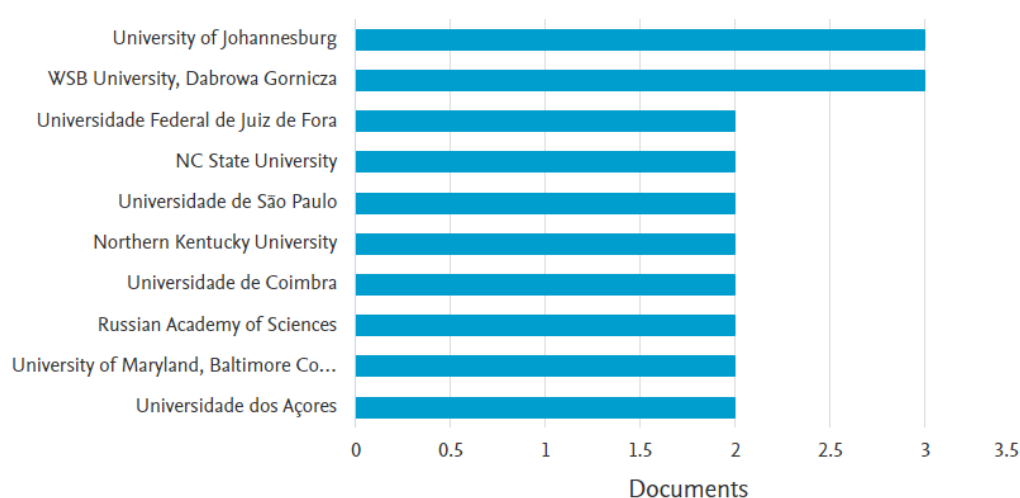
**Figure 3: PRISMA flow chart for the study selection**

The search on 15 June 2022 revealed 119 documents were eligible based on the initial limitations set. Subsequently, according to the exclusion criteria, 91 documents were

eligible for further evaluation. Finally, for the purpose of this study, the documents used for the in-depth review, were limited to the top 20 documents with the most citations according to the Scopus database.

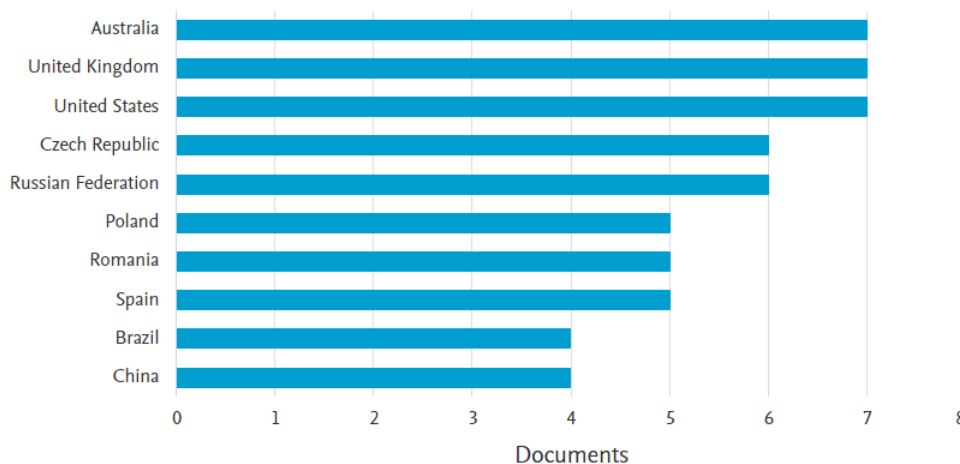
## RESULTS AND DISCUSSION

Before commencing with the analysis of the top twenty cited articles, it was worth looking at where the majority of the research (91 document results) relating to the impact of the Covid-19 pandemic on LED originates from. Figure 4 illustrates the leading institutions and the number of documents published during the study period.



**Figure 4: The top 15 institutions and number of documents published**

As can be seen from Figure 4 the institutions with the leading number of published documents relating to Covid-19 and LED are the University of Johannesburg in South Africa and WSB University in Poland. Figure 5 illustrates the 15 leading countries with documents published relating to research on Covid-19 and LED.



**Figure 5: Countries leading the research on Covid-19 and LED**

Looking at Figure 5, the countries with the most published documents relating to research on Covid-19 and LED are Australia, the United Kingdom and the United States. These countries are followed by the Czech Republic and Russia. As could be expected from a global pandemic, research on ways forward in economic recovery, are relative spread across all corners of the globe.

**Table 1: Summary of findings from the top 20 research documents**

Document title	Author(s)	Study area	Key findings	Emerging themes
COVID-19 and the case for global development	Oldekop <i>et al.</i> (2020)	Global	<ul style="list-style-type: none"> <li>• There is a need for multi-directional transformation and learning across all countries in order to develop a more equitable and sustainable world.</li> <li>• An international development approach is needed which has potential for greater attention to problems of underdevelopment in the global North.</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation/ new technology</li> <li>• New development approach</li> <li>• Sustainable development</li> </ul>
The impact of COVID-19 on tourism sector in India	Jaipuria <i>et al.</i> (2021)	India	<ul style="list-style-type: none"> <li>• Promote tourism, ease visa regulations, look at better financing options that may support demand and sustainably increase the international flow of tourists.</li> <li>• If the tourism sector and policies are not restructured, then the foreign exchange earnings may be entirely lost.</li> <li>• Policymakers and stakeholders should use existing resources more effectively and efficiently instead of building new resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Promote the tourism industry</li> <li>• Develop local region's existing resources</li> <li>• Sustainable development</li> <li>• Regional/ local economy focus</li> </ul>

Sustainable wine tourism development: Case studies from the Greek Region of Peloponnese	Karagian -nis & Metaxas (2020)	Greece	<ul style="list-style-type: none"> <li>• Tourists prefer less crowded destinations.</li> <li>• An opportunity for the local region to develop a very sustainable wine tourism industry.</li> </ul>	<ul style="list-style-type: none"> <li>• Promote local tourism</li> <li>• Develop local resources and potential</li> <li>• Sustainability</li> <li>• Regional/local economy focus</li> </ul>
The impacts of COVID-19 crisis over the tourism expectations of the Azores Archipelago residents	Couto <i>et al.</i> (2020)	Azores	<ul style="list-style-type: none"> <li>• Domestic tourism should be enhanced in order to relaunch the regional economy and development.</li> <li>• A window of opportunity to invest new models of tourism activities in the Archipelago.</li> </ul>	<ul style="list-style-type: none"> <li>• Promote local tourism</li> <li>• Develop local region's existing resources</li> <li>• Regional/local economy focus</li> </ul>
Regional economic impact of COVID-19 in Colombia: An input–output approach	Bonet-Morón <i>et al.</i> (2020)	Colombia	<ul style="list-style-type: none"> <li>• Accommodation, food services, real estate, administrative services, construction and trade were the most affected sectors by the pandemic.</li> <li>• Policy-makers should take into account not only economic activities directly affected by isolation measures, but also consider those that experience indirect effects because of their economic linkages with other sectors.</li> </ul>	<ul style="list-style-type: none"> <li>• Economic linkages</li> </ul>
Creative tourism development models towards sustainable and regenerative tourism	Duxbury <i>et al.</i> (2021)	Portugal	<ul style="list-style-type: none"> <li>• A shift towards endogenous processes, bottom-up approaches, and locally rooted development models to stimulate innovative, sustainable local development.</li> <li>• The community needs to be included in development plans and policies.</li> <li>• Policy makers and local stakeholders should be committed in the development of strategies that clearly considers and promotes the welfare and sustainability of the local community.</li> </ul>	<ul style="list-style-type: none"> <li>• New development approach</li> <li>• Sustainable development</li> <li>• Community involvement</li> <li>• Regional/local economy focus</li> </ul>
Building resilient, smart communities in a post-COVID Era: Insights from Ireland	Doyle <i>et al.</i> (2021)	Ireland	<ul style="list-style-type: none"> <li>• More transformative societal change.</li> <li>• Regions have to develop recovery strategies to adapt to a new reality.</li> <li>• New policies/strategies to enable opportunities for more sustainable and resilient growth.</li> <li>• New technology/ smarter cities.</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable development</li> <li>• New development approach</li> <li>• Innovation/ new technology</li> <li>• Regional/ local economy focus</li> </ul>
Institutional Collective Action During COVID-19: Lessons in Local Economic Development	Wilson <i>et al.</i> (2020)	America	<ul style="list-style-type: none"> <li>• Build on institutional relationships and partnerships.</li> <li>• Webinars, mapping systems and websites, were utilised to rapidly respond and cooperate during the pandemic.</li> <li>• The pandemic saw cooperative relationships emerging that</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperation</li> <li>• Innovation/ new technology</li> <li>• Regional/local economy focus</li> </ul>



			reinforced embedded social networks.	
How would the COVID-19 pandemic reshape retail real estate and high streets through acceleration of E-commerce and digitalization?	Nanda <i>et al.</i> (2021)	United Kingdom	<ul style="list-style-type: none"> <li>• There is an urgent need to embrace digital platforms and use the various modes of new business functions of multi-channel retail business.</li> <li>• New technology and urban regeneration bring new strategies and policy considerations for property owners, retailers and policy makers involved in local economic development.</li> </ul>	<ul style="list-style-type: none"> <li>• New development approach</li> <li>• Innovation/ new technology</li> <li>• Regional/ local economy focus</li> </ul>
The influence of the Covid-19 pandemic on Czech-Polish cross-border cooperation: From debordering to re-bordering?	Böhm (2021)	Czech Republic	<ul style="list-style-type: none"> <li>• Regional development has been impacted by the pandemic and cross-border cooperation needs to be improved.</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperation</li> <li>• Regional/local economy focus</li> </ul>
GIS distance learning during the covid-19 pandemic (Students' perception)	Vojteková <i>et al.</i> 2021	Slovakia	<ul style="list-style-type: none"> <li>• New technology needs to be implemented to allow for quality distance learning and teaching.</li> <li>• Institutions will need to adapt to new methods of learning and teaching with new technologies.</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation/ new technology</li> </ul>
Challenges for innovation and sustainable development in Latin America: The significance of institutions and human capital	Zapata-cantu & González (2021)	Latin America	<ul style="list-style-type: none"> <li>• Innovation plays a critical role in ensuring a more sustainable world.</li> <li>• Public sector should take a leading and active role in promoting the development and transmission of pertinent technologies that form part of a smart, effective and innovation led growth strategy.</li> <li>• An innovation system established by top global universities, researchers and businesses needs to be considered.</li> <li>• Coordination and policy alignment is vital.</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable development</li> <li>• Innovation/ new technology</li> <li>• Cooperation and coordination</li> </ul>
New Architectural Viewpoint for Enhancing Society's Resilience for Multiple Risks Including Emerging COVID-19	Takewaki (2020)	Global	<ul style="list-style-type: none"> <li>• Architectural engineering plays a key role in using new technologies and knowledge to create infection free spaces in architectural and regional planning.</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation/ new technology</li> </ul>
Limited tourism: travel bubbles for a sustainable future	Fusté-Forné & Michael (2021)	Global	<ul style="list-style-type: none"> <li>• A cooperative regional approach can promote sustainability.</li> <li>• Promote joint regional destinations that create safe and reliable environments that allow sustainable mobility.</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperation and Coordination</li> <li>• Sustainable development</li> <li>• Regional/ local economy focus</li> </ul>
Fire, pestilence and the extractive economy: cultural policy after cultural policy	Pacella <i>et al.</i> (2021)	Australia	<ul style="list-style-type: none"> <li>• Lack of government support for all industries especially arts and culture.</li> </ul>	<ul style="list-style-type: none"> <li>• Government support</li> <li>• Tourism development</li> </ul>
Regional resilience redefinition: Post pandemic challenge	Žitěk & Klímová (2020)	South Moravian region	<ul style="list-style-type: none"> <li>• Regions are moving its functioning to the internet, technical equipment and human skills are pivotal.</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation/ new technology</li> </ul>

			<ul style="list-style-type: none"> <li>• The health care systems must to be adapted to ensure that health services are accessible and available to local regions.</li> </ul>	<ul style="list-style-type: none"> <li>• Improved healthcare</li> <li>• Regional/local economy focus</li> </ul>
Reforming the UK financial system to promote regional development in post-COVID Britain	Collier & Mayer (2020)	Britain	<ul style="list-style-type: none"> <li>• The link between government and the private sector needs to be improved as it could encourage financing and support for small and medium-sized enterprises (SMEs).</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperation</li> <li>• Regional/ local economy focus</li> </ul>
Indoor environmental quality and consumption patterns before and during the COVID-19 lockdown in Twelve social dwellings in Madrid, Spain	de Frutos <i>et al.</i> (2021)	Spain	<ul style="list-style-type: none"> <li>• Consider digitization and user engagement proactively.</li> <li>• Support and consideration is needed for households' adequate energy and digital transitions.</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation/ new technology</li> </ul>
Innovations in the management of e-commerce: analysis of customer interactions during the covid-19 pandemic	Pollák <i>et al.</i> (2021)	Central and Eastern Europe	<ul style="list-style-type: none"> <li>• Although digital transactions are becoming the norm, there is still a degree of regional specificity for users, irrespective of the removal of physical barriers.</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation/ new technology</li> <li>• Regional/ local economy focus</li> </ul>
A transformation of the approach to evaluating a region's investment attractiveness as a consequence of the COVID-19 pandemic	Rodionov <i>et al.</i> (2021)	Russia	<ul style="list-style-type: none"> <li>• To enable economic recovery, the sustainable development of a region, efficient infrastructure and quality of the social environment is paramount.</li> <li>• A shift towards innovative development is required.</li> <li>• Develop policies/strategies based on the region's social and economic environment, along with the innovative and natural environment.</li> <li>• Increase the region's innovative attractiveness.</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable development</li> <li>• Innovation/ new technology</li> <li>• Regional/ local economy focus</li> </ul>

Looking at the results presented in Table 1, there are a few emerging themes from the current research relating to LED and the pandemic. One of the leading themes arising from the research is the importance of innovation and new knowledge creation. Innovation is known to be a key driver in job creation and economic development (RTI, 2021). This result is similar to a study by Verma and Gustafsson (2020) who found in their bibliometric study of COVID-19 literature, in the business and management fields, that the relevance of innovation is an emerging theme. In their study of Ireland, Doyle *et al.* (2021) expresses that new technology and the creation of smarter cities will be a key determinant in the recovery of economies worldwide. UNDP (2022) writes that this pandemic has made clear how deeply affected those individuals without access to digital devices and the internet are, as it limits their ability in work opportunities, education and services. As digital technology is being integrated into practically all

levels of business operations, an entire shift in global economies and how they operate is expected (Dmitriy, 2021:2). Furthermore, Matteucci (2015:580) opines that individuals will become less dependent on their regional boundaries as the ability to work remotely is becoming more common.

The second major emerging theme is that of sustainable development. As the BRICS Business Council (2021:12) states, the pandemic has had a dire impact on the efforts made by countries in achieving the SDGs, especially in the areas of poverty and inequality. The study by Rodionov *et al.* (2021) states that if policymakers and local government wishes to enable economic recovery, the promotion of sustainable development in a region is paramount. Barbier and Burgess (2020:2) express the importance of developing innovative local policy measures to enable sustainable development in the most cost-effective manner, in order to aid post pandemic recovery of regions. The authors further note that this could be made possible through identifying the most effective and efficient policies based on specific regions and ensuring that these policies are aligned to yield sustainable long-term returns.

Another two closely related themes emerging from Table 1 is the view that regions need to focus on developing and utilising the resources (natural, social and economic) already available in their regions and adopt a regional, local economic developmental focus. This implies that local governments and policymakers should turn to LED practices in aiding economic recovery, where the welfare and sustainable development of the regions should be placed at the forefront of their strategies (Fusté-Forné & Michael, 2021; Jaipuria *et al.* 2021; Rodionov *et al.* 2021). A study by Eissa (2020) found that regions will have to evaluate the capabilities and resources at their disposal to ensure that resources are allocated for sustainable investment. Bačlija (2013:31) states that policies and strategies need to be tailor-made to the specific area as no region is alike. Moreover, the manner in which it is managed and governed should be in accordance with the distinctive features of the region.

The effective use and development of a region's resources ties in with another emerging theme which is that of promoting and considering the economic linkages that are present in the local economy. As the study from Bonet-Morón *et al.* (2020) highlights, the importance of local governments to not only take into account the industries hardest hit by the pandemic, but also the indirect effects experienced by

other industries due to their economic linkages. This might also point to the creation of clusters, which is one of the most effective means of fostering local growth and development (Borkova *et al.* 2019; Kudryavtseva & Skhvediani, 2020). Clusters occur when entrepreneurs and various businesses within a locality engage in similar economic activities, cooperating to add economic value and advance economic opportunities (UN-HABITAT & EPI, 2005:16). Clusters could positively impact companies in supply chains, researchers, entrepreneurs and innovators within the local economy by way of cooperation, transfer of skills and new technology, as it is nearly impossible for a single industry or business to carry a local economy through stages of new transformative growth (RTI, 2021).

Throughout the analysis of the documents presented in Table 1, cooperation and coordination amongst the various stakeholders of a local economy are listed as key features required for economic recovery in local economies. The studies by Collier and Mayer (2020); Wilson *et al.* (2020); Böhm (2021); Fusté-Forné and Michael (2021) and Zapata-cantu and González (2021) all share the common view that cooperation amongst private and public stakeholders as well as coordinated policies are instrumental in fostering sustainable economic recovery. Looking at the main findings from the studies in Table 1, numerous researchers advocate that policies should be aligned and aimed at improving the welfare of the community in a sustainable manner. According to the World Bank (2020:2), improved partnerships between the private sector, community and local governments could mitigate the impact of Covid-19 and enable economic recovery in the long run. Enhanced partnerships not only lead to more investment opportunities, but also the share of skills, knowledge, information and support, all aiding in more rapid responses and a more resilient economy (World Bank, 2020:2). Researchers such as Duggal (2020) and Sharifi and Khavarian-Garmsir (2020) state that the coordination and cooperation amongst stakeholders and their activities are more conducive to the effective and timely response to disasters and pandemic outbreaks.

Current research is also pointing towards the utilisation of tourism in aiding local economic recovery (Couto *et al.*, 2020; Karagiannis & Metaxas, 2020; Jaipuria *et al.*, 2021; Pacella *et al.*, 2021). The tourism industry is advocated globally as a key driver of LED as the industry holds potential for reducing unemployment, inequality and

poverty (Shahbaz *et al.*, 2021). According to the WTTC (2021:3) the industry was accountable for 10.6 per cent of global employment before the Covid-19 pandemic crippled the industry. The industry is particularly vulnerable to external shocks such as pandemics and natural disasters, and how the industry is able to respond will vary greatly from region to region. Despite this, the industry could prove instrumental in economic recovery due to its multiplier effect, and the industry has been known to recover relatively quickly following external shocks (Lagos, 2021:820). Some researchers (Gössling *et al.*, 2020) suggest that the pandemic is most likely to lead to a reconfiguration of tourism policies as the notion moves more towards the alignment with the SDGs, to create a more thriving, resilient and sustainable industry.

The role of local communities within the development of recovery policies and plans is gaining more attention as expressed by the study of Duxbury *et al.* (2021). By leveraging the linkages and skills of a local community, the sustainable development of the region could be increased. The World Bank (2020:11) states that local governments should implement measures that support local livelihoods and employment, encourage sustainable, inclusive economic recovery plans and provide assistance to small and micro-enterprises. This ties in with another emerging theme, namely the importance of government support across all industries as expressed by Collier and Mayer (2020) and Pacella *et al.* (2021). These studies indicate that government support in arts and culture, which relates to tourism, was not adequate and local governments need to promote their relationship with the private sector as this increases the support for SMEs. Local government is at the forefront of LED and will have to respond swiftly and accurately to the changes in local economies brought on by the pandemic in order to enable economic recovery in the long run. As the World Bank (2022:44) points out, local governments and policymakers need to ensure that monetary and fiscal policies are coordinated if economic growth and development are to be realised.

The last major emerging theme from the documents in Table 1 is the notion that the pandemic will require local regions to create and implement new development approaches (Oldekop *et al.*, 2020; Doyle *et al.*, 2021; Duxbury *et al.*, 2021; Nanda *et al.*, 2021). The research by Doyle *et al.* (2021) and Duxbury *et al.* (2021) opine that more transformative changes, which includes bottom-up approaches, endogenous

processes and locally imbedded development methods, will be required to stimulate sustainable local development and innovation. The study of Žítek and Klímová (2020) explain that local governments, especially in developing nations, have to adapt their current healthcare systems and policies to ensure that health services are accessible and available to all individuals in local regions. Local governments and policymakers need to adapt to a forward-thinking approach, with a focus on systematic change, resilience and inclusiveness (Mattos, 2020:3). As the World Bank (2020:5) states due to the severe impact on low- and middle-income countries, people not previously classified as “poor” are now being pushed into poverty. Therefore, they are excluded from the current government assistant programmes.

## **CONCLUSION**

This study set out to provide an overview of the recent trends and developments in research relating to the pandemic and LED through conducting a systematic literature review. Through the analysis of the research documents, it became evident that there are a few emerging themes that serve as focus points for researchers, in finding a way forward for local economic recovery. Local governments will need to re-evaluate their policies and action plans to ensure that the welfare of the community and sustainable economic development and growth are at the core of their recovery framework. Technology and innovation are at the head of new development approaches, and will reshape the traditional manner in which localities operated. The pandemic further placed emphasis on the importance of diversification, where the overreliance on a select few economies will lead to greater economic shocks in times of pandemics. Cooperation and coordination amongst all of the stakeholders in a local economy is a prerequisite for sustainable development and recovery across all industries within a region. Although the tourism industry was amongst the hardest hit, scholars are advocating that the industry, with the correct policies and support, could prove instrumental in the recovery of local economies. As with all studies there are limitations. This study only used the Scopus database to retrieve the relevant documents and only the top 20 cited documents were analysed. Future studies could include the use of other databases such as Web of Science and include a broader range of documents in their analysis. Similar systematic reviews or the use of bibliometric analysis should be conducted and updated on a regular basis as new information on the effects of the pandemic on local economies will continue to emerge.

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# **Exploring a decolonial approach to statehood and recognition in international law**

Nontobeko N. Zulu and Mafuku Tholaine Matadi

Ms. N.N. Zulu, Master of Laws Candidate, University of Zululand, South Africa

Dr M.T. Matadi: Senior lecturer, University of Zululand, South Africa

## **ABSTRACT**

It is without a doubt that modern international legal practice is centred around colonial prescriptions. This reveals the extent to which state recognition has been compromised and deduced to banal practice. Notwithstanding existing contentions, a decolonial approach gives in to the prevailing reality of states and their existence. It is worth noting that just as with any other component of jurisprudence, state recognition should subject itself to (re)formative consideration to reflect the social, economic, and political organisation of the modern state framework. Accordingly, a decolonial approach to statehood challenges the assertions made by the Charter of the United Nations, in favour of self-governing states and their claim to political, cultural, social, and economic advancement in exploring alternative forms of statehood. A decolonial approach appreciates the fact that the practice of state recognition places certain states in predetermined impeding positions and the wider impact that has had on the concept of statehood in international law.

The discussion calls for the conceptual and practical reformation of statehood and recognition. To this end, this paper explores de-centralised views of statehood and, in turn, the interpretation of recognition by probing whether statehood and recognition enable restorative sovereignty and self-determination. The research is qualitative in nature and uses document analysis in reviewing both local and international documents, and other legal sources. Arguably, this study intends on contributing to the local and international perspective of state recognition using a decolonial approach. As a result, the research encourages forms of statehood that enable justice

and freedom, while working towards the expansion of both pedagogical and pragmatic nodes of statehood through dislodging the assimilation into existing practices of recognition.

**Keywords:** Decolonisation, international law, state sovereignty, statehood, recognition, self-determination.

## INTRODUCTION, BACKGROUND, AND THEORETICAL FRAMEWORK

In today's world, international law can be seen as a delimiting force to the exercise of authority, that operates amongst sovereign states to establish (international) legal order.<sup>1</sup> This shows that no matter how developed international law has become, and how integrated the global community seems to be, the centrality of states as subjects of international law is continuously maintained. The emergence of international law remains integral to the development of states as they are now known. International law was established on the premise that 'independent and sovereign statehood was and still is the central organising idea behind international relations; and that it is the source of the legal power that creates international law'.<sup>2</sup> The concept of state sovereignty has had an imperial effect on the centrality of states as subjects of international law, and in recent years has even been viewed as prime in shaping international law.<sup>3</sup>

In as much as it has been generally accepted that states are primarily the subjects of international law, what remains a point of contention is what constitutes a state. As a means of working towards a definitive idea of statehood, scholars have instead developed criteria for statehood.<sup>4</sup> The Montevideo Convention on the Rights and Duties of States provides that, to be recognised as a state with legal personality, states must possess (a) a permanent population; (b) a defined territory; (c) government; and (d) capacity to enter into relations with other states.<sup>5</sup> Notwithstanding the reality that

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<sup>1</sup> H Strydom & L Juma 'The Fundamental Principles of the International Legal Order' in Strydom (ed) *International Law* (2016).

<sup>2</sup> Strydom & Juma (n1) 30.

<sup>3</sup> H Strydom & C Gevers 'Statehood and Recognition' in Strydom (ed) *International Law* (2016) at 66.

<sup>4</sup> Strydom & Gevers (n3).

<sup>5</sup> International Conference of American States 'Montevideo Convention on the Rights and Duties of States' (1933). The Montevideo Convention was largely a proponent of Latin American states, who sought legal legitimacy against political tenements – by attempting to 'distinguish the legal theory of statehood from political influences of powerful states, by defining statehood in purely legal terms which

modern states are a political formation, statehood concerns itself more with empowering states as legal personalities.<sup>6</sup> This will, in turn, guarantee states' rights and duties, some of which are crucial in capacitating the individual state. As with general legal personality, states are not only accorded rights and obligations. Instead, states must further satisfy the requirements for subjects of international law to be able to gain and exercise the fullness of such legal personality.<sup>7</sup>

Recognition is a practice of diplomacy that can be traced back to the colonial era; where the laws of nations required non-Europeans to adhere to a 'civilisation process' before becoming members of international society.<sup>8</sup> The critique of statehood (in its current and unreformed state) and recognition stems from the view that:

often the epistemic community (especially legal, positivist, and comparatist researchers) arbitrarily defend the exclusionary norms and practices of the international society and seek, through pseudo-intelligent arguments, to retain the boundaries of the status and entitlements of existing dominant states in global politics.<sup>9</sup>

This contention not only challenges the practice of recognition within the bounds of statehood, but it aligns such practice to the deliberate subjugation of emerging states. Challenging the political geography of the world as we know it forces us to unravel the significance that territorial borders have on the idea of state formation.<sup>10</sup> The modern legal system is still reflective of the concentration of power under which sovereignty is determined by western standards and centric bureaucracy in the determination of

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left out any requirement of recognition.' This contention is based on the notion that the recognition of one state by another is a political act that is dependent on external actors. See M Sterio 'A Grotian Moment: Changes in the Legal Theory of Statehood' (2011) Cleveland State University Law Faculty Articles and Essays; JL Dunoff, SR Ranter & D Wippman 'International Law: Norms, Actors, Process' (2010) 138.

<sup>6</sup> GD Dayananda 'State Legitimacy and the Criteria for Statehood' (2020) 13<sup>th</sup> International Research Conference General Sir John Kotelawala Defence University.

<sup>7</sup> Dayananda (n6) 411.

<sup>8</sup> G Visoka 'Statehood and Recognition in World Politics: Towards a Critical Research Agenda' (2021); E Tourme-Jouannet 'The International Law of Recognition' (2013) *European Journal of International Law* at 667–690.

<sup>9</sup> Visoka (n8) 7.

<sup>10</sup> RS Parfitt & M Craven 'Statehood, Self-Determination and Recognition' (2018) MD Evans (ed) *International Law*. Oxford University Press, Oxford.

statehood.<sup>11</sup> So much so that even the contentions of various theories of statehood subscribe to the same principles.

A decolonial approach, as an alternative to the dominantly competing theories of statehood and recognition, offers transformative insight into the link between sovereignty, self-determination, and statehood in the practice of international law.<sup>12</sup> Essentially, this approach seeks to de-centralise competing views of statehood and in turn the interpretation of recognition. The imitative practice of recognition, concerning statehood, remains primarily conjoined to western practices and determination.<sup>13</sup> Notwithstanding these contentions, this approach gives in to the prevailing reality of states and their existence. A decolonial approach appreciates the fact that the history of state recognition places certain states in predetermined positions, and the wider impact that that has on the practice of statehood in international law.<sup>14</sup>

While there are numerous approaches to theorising concepts in law, this paper relies on postcolonial theory. Postcolonial theory is concerned with the impact of colonial history on informing thought and discourse that is heavily influenced by western and imperial thinking, often to the detriment of marginalized people.<sup>15</sup> The focus of this theory in inter-state relations is 'concerned with the disparities in global power and wealth accumulation and why some states and groups exercise so much power over others.'<sup>16</sup> Postcolonialism is relevant to decolonial discourse because it extends the notion of decolonisation to include plural nodes of legal culture, and disassociates pragmatic and theoretical principles of law from the hegemony of the West.<sup>17</sup> As an interdisciplinary, postcolonialism challenges the homogeneous characteristics of colonial perspectives by setting 'theoretical and methodological tools for deconstructing the colonial foundations of contemporary power structures - including legal ones.'<sup>18</sup>

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<sup>11</sup> Parfitt & Craven (n10).

<sup>12</sup> Visoka (n8) 7-8.

<sup>13</sup> Ibid, 8.

<sup>14</sup> Visoka (n8) 12-13.

<sup>15</sup> S Nair 'Introducing Postcolonialism in International Relations Theory' (2017).

<sup>16</sup> Nair (n15) 1.

<sup>17</sup> C Himonga & F Diallo 'Decolonisation and Teaching Law in Africa with Special Reference to Living Customary Law' (2017) 20 *Potchefstroom Electronic Law Journal*.

<sup>18</sup> A Roy 'Postcolonial Theory and Law: A Critical Introduction' (2008) 29 *Adelaide Law Review* at 315.



Against this backdrop, it is worth noting that this paper firstly offers a critique of legal recognition; by analysing the prevailing practice and the impact it has had on the interpretation of international law in determining the statehood of former colonies as sovereign states. This analogy determines whether international law, in its current form, allows for the expansive ideological reform of the concept of statehood. Secondly, the discourse of this paper centres on self-determination as a collective right, central to the entire framework of human rights law, and an extension of sovereignty – in support of a decolonial approach to statehood and recognition as well as the inevitable nuance of international law.<sup>19</sup> Lastly, the paper concludes by providing recommendations that the expansion of statehood should promote self-determination as a remedial tool for the decolonisation of statehood and recognition, as well as rethinking the plurality of international law.

## **A CRITICAL ANALYSIS OF STATEHOOD AND RECOGNITION IN INTERNATIONAL LAW**

Insofar as it relates to states, legal recognition was not meant to de-politicise the authority and power that states yield domestically and internationally, nor the inherent right to establish individual states as legal entities.<sup>20</sup> Article 3 of the Montevideo Convention provides the ‘political existence of the state is independent of recognition by the other states.’<sup>21</sup> Effectively, this provision recognises the (legal) existence of a state, which in most instances is as a result of political processes –should not lean on the recognition of a state by another. This, therefore, means that statehood, as a legal theory, can be seen as independent of political qualifiers and reliant solely on the set criteria.<sup>22</sup> This contention is based on the notion that the recognition of one state by another is a political act that is dependent on external actors.<sup>23</sup> Arguably, If it is accepted that a state is a political institution that serves the advancement of interests of those persons with which it has entered into a social contract, to be guaranteed certain liberties – then the subjectivity of recognition cannot be discarded.

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<sup>19</sup> A Maguire ‘Contemporary Anti-Colonial Self-Determination Claims and the Decolonisation of International Law’ (2013) 22 *Griffith Law Review* at 238.

<sup>20</sup> Dayananda (n6) 412.

<sup>21</sup> International Conference of American States (n5).

<sup>22</sup> M Sterio ‘A Grotian Moment: Changes in the Legal Theory of Statehood’ (2011) Cleveland State University Law Faculty Articles and Essays.

<sup>23</sup> Sterio (n21) 215.

Nonetheless, states cannot exist in a silo. States have become increasingly reliant on each other to fully enjoy the exercise of their sovereignty – making it nearly impossible to exist independent of interstate relations.<sup>24</sup> Statehood then serves to safeguard state sovereignty; by allowing individual states to self-determine and to equally participate in key international functions.<sup>25</sup> Such participation is not only beneficial to the communal interests of international actors, but it further provides states with plausible involvement. This is mainly because whenever states actively participate in and contribute to the development of international law they insulate themselves against the interests of external actors.<sup>26</sup> Furthermore, some scholars locate recognition as an act of international involvement that propels states towards meeting the criteria of statehood.<sup>27</sup> International involvement is commonly linked to recognition in the emergence of a new state – by fortifying political circumstances under which territorial integrity may be claimed.<sup>28</sup>

Article 3 of the Montevideo Convention provides that even without legal recognition, states have the inherent right to the defence of their independence to:

provide for its conservation and prosperity, and consequently organize itself as it sees fit, to legislate upon its interests, administer its services, and to define the jurisdiction and competence of its courts.<sup>29</sup>

The provisions made by the Montevideo Convention, along with what has since become common practice, have not necessarily brought us any closer to determining statehood. Instead, questions on the finality of the criteria set out in the Montevideo Convention have unravelled statehood even further.<sup>30</sup> This is because some scholars have held that referring to set criteria pre-empts one of the most crucial questions in the discussion of statehood – that is whether states are created or come to exist.<sup>31</sup> Thus implying that statehood is determined as a result of the objective application of such criteria, which would then result in the assumption that there exists a competent

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<sup>24</sup> Ibid, 216.

<sup>25</sup> Ibid, 216 - 217.

<sup>26</sup> Ibid, 219.

<sup>27</sup> J Vidmar 'Explaining the Legal Effects of Recognition' (2012) 61 *International and Comparative Law Quarterly* at 361.

<sup>28</sup> Vidmar (n26) 370.

<sup>29</sup> International Conference of American States (n5).

<sup>30</sup> Dayananda (n6).

<sup>31</sup> Strydom & Gevers (n3) 68.

authority that applies such criteria.<sup>32</sup> Strydom and Gevers, in a successful attempt to bat away contentions against the criteria found in the Montevideo Convention, held that:

the ‘marks’ of statehood are used to describe what states in broad terms look like, so that we can discuss them further – and not to prescribe what a state must be in order to be recognised as such (that is, not as criteria for statehood).<sup>33</sup>

The employ of postcolonial theory in the law requires that both legal and political perceptions be interrogated with the aim of opposing the assertion that laws are a noble model for development and the advancement of human interests.<sup>34</sup> This means that when considering a forward-thinking approach to legal norms and standards, the point of departure should be unearthing the effects of existing legal orders. Nair points out that ‘in analysing how key concepts such as power, the state and security serve to reproduce the status quo, postcolonialism proposes a more complex view of such concepts than is characteristic of traditional theories.’<sup>35</sup> Put differently, postcolonialism provides an intricate examination of concepts by looking beyond the normative understanding of such concepts, as is maintained by existing conditions founded on colonialism.

Tackling the default existing inquisitions into the concept of statehood and recognition applies the application of two components borrowed from the disciplines of social sciences – which require: the ‘(a) deconstruction of existing discourse and practices to reveal their anomalies, flaws, and inconsistencies, and (b) reconstruction of alternative possibilities which would contribute to emancipatory outcomes.’<sup>36</sup> The purpose of these is to probe into the continued standards of practice of the international community; which is often informed by existing international legal norms and their said interpretation and application. The typology of state recognition, according to Visoka, is steeped in:

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<sup>32</sup> Ibid.

<sup>33</sup> Ibid.

<sup>34</sup> Roy (n18).

<sup>35</sup> Nair (n15).

<sup>36</sup> Visoka (n9) 7; M Kurki ‘Democratic Futures: Re-visioning Democracy Promotion’ (2013) London: *Routledge*; A Ní Mhurchú and R Shindo (eds) ‘Critical Imaginations in International Relations’ (2016) London: *Routledge*.

the dominance of positivist and problem-solving orientations has prevented the consolidation of a critical research programme on state recognition. Robert W Cox (1981: 128) maintains that the problem-solving approaches takes 'the world as it finds, with the prevailing social and power relationships and the institutions into which they are organised, as the given framework for action'. To resolve problems, for positivist traditions to consider knowledge to be valid and objective it needs to be generalized, categorized, quantified, and simplified (see Smith et al., 1996). For example, international lawyers take a dogmatic view and follow only legal narratives and norms, omitting broader socio-political dynamics and practices that underpin state recognition in world politics (see Singh and Mayer, 2014). Legal debates are still embedded in fruitless discussions of the criteria of statehood; the competing constitutive and declarative character of recognition; global norms of sovereignty statehood; denial of the duty of states to recognize new states and the obsession with the obligation of states with non-recognition of states emerging in breach of fundamental norms of international law; the congruence of scholars' policy and legal opinions with their government's foreign policy objectives; and the dominance of Western perspectives on state recognition.<sup>37</sup>

This then limits legal and conceptual analysis of statehood and recognition, and in turn perpetuates unilateral practices. A decolonial approach assumes the stance that theorising concepts of law should be a conscious and critical endeavour in favour of post-coloniality.<sup>38</sup>

A broadened and inclusive approach to recognition would not only reverse the effects that colonialism has had on statehood but would further disband the hierarchal order that has been imposed by states who hold themselves as superpowers. This is important to the decolonisation of statehood because stripping authority from colonial powers means returning to the will of societies that were once deprived of their freedom to exist as self-determining states.<sup>39</sup>

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<sup>37</sup> Visoka (n8); RW Cox 'Social forces, states and world orders: Beyond international relations theory' (1981) *Millennium: Journal of International Studies* 10(2): 126–155; S Smith, K Booth & M Zalewski (eds) 'International Theory: Positivism and Beyond. Cambridge' (1996) *Cambridge University Press*; P Singh & B Mayer (eds) 'Critical International Law: Postrealism, Postcolonialism, and Transnationalism' (2014) *Oxford: Oxford University Press*.

<sup>38</sup> Roy (n18).

<sup>39</sup> Visoka (n8) 11.

## SELF-DETERMINATION AS AN EXTENSION OF SOVEREIGNTY AND ASSERTION OF STATEHOOD

If international law is a result of the coming together of individual states, whether expressly through legal instruments or tacitly as a matter of practice – then the acknowledgement that the international rule of law is a culmination of state consent would be just. Viewing states as subjects of international law, able to be custodians of rights and duties, and international law as regulating the relations amongst states – reinforces state sovereignty.<sup>40</sup> International law then becomes means ‘for the attainment of goals which were decided on by political processes’ instead of acting as an external framework to the guarantees offered by states’ functions.<sup>41</sup> To illustrate the development of state sovereignty as a foundational concept in modern international law, Gevorgyan borrows from the consideration that:

sovereignty as the property and the state's ability to independently, without external interference, determine its internal and external policies provided the respect for the civil and human rights, protection of minority rights and respect for international law.<sup>42</sup>

This expanded definition of state sovereignty is a striking contrast to what the concept of state sovereignty had been considered at its inception. What can be inferred from the expansion and development of the concept of state sovereignty is the direct reference to international norms and standards. In the same vein, international law, as an extension of the mandate provided to states by their subjects – relies intricately on state sovereignty.

The exercise of state sovereignty is incredibly important in the determination of statehood, as it particularly informs the implication that the interpretation of international law could have on the population and territory of those very states. This is because sovereignty, insofar as it relates to states, can be seen as a concentrated exercise of self-determination in favour of the collective interests of the people.<sup>43</sup> Self-

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<sup>40</sup> SC Neff ‘A short history of international law’ in MD Evans (ed) *International Law* 4th ed Oxford: Oxford University Press (2014) at 3.15.

<sup>41</sup> Neff (n39) 15.

<sup>42</sup> K Gevorgyan ‘Concept of state sovereignty: modern attitudes’ (2014) Proceedings of Yerevan State University at.

<sup>43</sup> R Araujo ‘Sovereignty, Human Rights, and Self-Determination: The Meaning of International Law’ (2000) *Fordham International Law Journal*.

determination, as a legal principle, was reinforced in the pedagogy of public international law when Professor Brownlie notably asserted that:

The present position is that self-determination is a legal principle, and the United Nations' organs do not permit Article 2, paragraph 7, to impede discussion and decision when the principle is in the issue. Its precise ramifications in other contexts are not yet worked out, and it is difficult to do justice to the problems in a small compass. The subject has three aspects. First, the principle informs and complements other general principles of international law, viz., of state sovereignty, the equality of states, and the equality of peoples within a state. Thus, self-determination is employed in conjunction with the principle of non-intervention in relation to the use of force and otherwise. Secondly, the concept of self-determination has been applied in the different contexts of economic self-determination. Lastly, the principle appears to have corollaries which may include [territorial sovereignty, considerations involving statehood and its recognition, legitimacy of certain liberation movements, and establishment of new sovereign territories].<sup>44</sup>

The reinforcement of self-determination as a legal principle is important to the international legal order because it speaks directly to the rights of persons, most often belonging to marginalised groups – to choose not only how they organise but also how they relate to the groups with which they belong.

In as much as recognition is a widely accepted practice and a necessary restriction to statehood, it cannot be the sole determination of statehood.<sup>45</sup> It would be an inapt interpretation of what is constituent of statehood to limit it exceptionally to recognition – whether such recognition is constitutive or declaratory. Worster contends that the classification of theories has very little impact on the holistic practice of statehood and legal recognition.<sup>46</sup> This is largely since the existing competing theories of statehood are in fact strained by reality. Instead, an assessment of the practice of statehood should be based on:

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<sup>44</sup> I Brownlie *Principles of International Law* (1998) 574-575.

<sup>45</sup> Visoka (n8) 11.

<sup>46</sup> WT Worster 'Law, politics, and the conception of the state in state recognition theory' (2009) *Boston University International Law Journal* at 124.

[the] two arguments being pursued concurrently: first, how the very status of statehood is conceived in different ways, and second, how the role of state discretion and consent in forming legitimate international law is also differently conceived.<sup>47</sup>

The practice of statehood then renders the question of whether the state exists in law or is in fact moot. If one accepts that the existence of a state precedes recognition – that a state may have rights and duties regardless of the acquisition of such rights – then one should be able to see the state as a self-determining entity.<sup>48</sup> This interpretation supports the notion to decolonise statehood and recognition by inferring directly the will of the state and the perpetual exercise of its will.

The will of the state is essential to a decolonial interpretation of international law because it not only resolves the participation of the state – but it further reasserts the sovereignty of the state thereby making it possible for the state to uphold (and be bound by) international law.<sup>49</sup> The legal personality of a state remains intricately tied to recognition. The existence of this practice, which Visoka describes as a ‘segment of power’ – creates a sense of co-dependency between states which are recognised and those which aspire to recognition.<sup>50</sup> This power play could be interpreted as a necessary affirmation not only of the sovereignty of the recognising state but an affirmation of the recognition of that state by the recognition-seeking state.<sup>51</sup> On the opposite end of the spectrum, recognition could create a sense of servitude. Where the aspirant state is placed in a compromised position by having its self-determination undermined under the guise of recognition.<sup>52</sup> However, somewhere in the spectrum, there is a quid pro quo analogy where the ‘existing sovereign states become self-determining states by the practice of granting, withholding or rescinding recognition of aspirant states.’<sup>53</sup>

A decolonial approach to statehood should not only probe the effects of all scenarios played out as a result of recognition but should investigate why and how a particular

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<sup>47</sup> Worster (n45) 123.

<sup>48</sup> Ibid, 124.

<sup>49</sup> Gevorgyan (n41) 444.

<sup>50</sup> Visoka (n8) 13.

<sup>51</sup> Visoka (n8) 13-14.

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

state finds itself in a particular position – no matter the position of the spectrum. Doing so will disclose the location of the power behind the practice of state recognition. Further to that, a decolonial approach would be an end to the means of asserting the undisputable need for international law to be responsive to both past and contemporary injustices.<sup>54</sup> This could be achieved by dismantling existing epistemic standards and practices and instead replacing them with those that seek to ‘serve justice and legitimacy for contemporary self-determination’.<sup>55</sup>

Focusing on the role played by the legal order in the subjugation of certain people reveals the direct effect the law has had in the colonial process, as well as its continued influence.<sup>56</sup> A decolonial approach, at foremost, demonstrates the continued relegation of the (formerly) colonised and emphasises the reversal of colonially steeped knowledge and its validation to enable a society where many worlds exist.<sup>57</sup> Borrowing from Mathebula’s definition of decolonisation as ‘a deliberate, explicit and individual activity, decolonisation is part and parcel of philosophy as a science of questioning—including itself through analysis, synthesis and improvement’, Sindane asserts decolonisation as an answer to the need to pluralise epistemological practices.<sup>58</sup> In the international legal order, this would mean that legal standards should not be decided by whether they were unintelligible to west-leaning ideologies, but instead by the extension of sovereignty and self-determination to the international legal order. Recognising that current legal standards are built on unilateral interests that deny the lived experiences of many people makes the call for a decolonial approach an undeniably legitimate one.<sup>59</sup> The effects of this would be an international legal order that promotes freedom, inclusivity and restorative social justice instead of the politically tainted hegemonic powers that be.<sup>60</sup>

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<sup>54</sup> E Tshivase ‘Principles and Ideas for the Decolonisation and Africanisation of Legal Education’ in E Tshivase, G Mpedi, & M Reddi (eds) *Decolonisation and Africanisation of Legal Education in South Africa* (2019) at 5.

<sup>55</sup> Maguire (n18).

<sup>56</sup> Roy (n18) 319.

<sup>57</sup> N Sindane ‘Why Decolonisation and not Transformative Constitutionalism’ (2021) 15 *Pretoria Student Law Review* at 236.

<sup>58</sup> Sindane (n56) 245-247.

<sup>59</sup> Ibid; A Escobar ‘Transiciones: A space for research and design for transitions to the pluriverse’ (2015) 13 *Design Philosophy Papers* at 5.

<sup>60</sup> Visoka (n8) 8-10.



A decolonial approach to statehood and the practice of recognition represents the ethos of self-determination as it empowers people by recognising their lived experiences over external insinuations.<sup>61</sup> Reforming international law would deal directly with 'structural and ideational factors that reproduce the existing discriminatory and exclusionary order.'<sup>62</sup> Countering the hegemonic notion of international law is a conscious attempt at diversifying discourse, to fortify space for indigenous people and their inherent claim to self-determination.<sup>63</sup> The impasse that is territorial integrity and stability should not be placed above the claims of self-determining people.<sup>64</sup> Instead, an inclusive legal order must be established to not only debunk the current hierarchic approach to statehood and recognition – but to further enable marginalised people to participate in the international legal dialogue.<sup>65</sup>

## CONCLUSION

Primarily, the existence of states remains based on the progressing contention of the Constitutive and Declaratory theory, leaning on 'a textually constructed social fact that is articulated through everyday acts of writing, talking and performing recognition of others and the self.'<sup>66</sup> The critique provided by this paper demonstrates the prevailing systematic injustice brought about and maintained by the disjointed perceptions of knowledge, and practice which has displaced people, societies, and states, leaving them outside the frontier of recognised states.<sup>67</sup> This paper reveals how existing ideas of statehood impair the exercise of individual state sovereignty.

Postcolonialism, as an appropriate methodological theory, is 'critical of the colonial and imperial projects, and the continuing hegemonic position of Western economies and cultures, it actively engages in the formation of positive new political identities.'<sup>68</sup> The inference of which is, at a conceptual level, sovereign equality and the acceptance of the existence of vast irritancies to statehood warrant the need for 'exploring plural modes of recognition, diplomatic agency, and interaction between different subjects in

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<sup>61</sup> Ibid, 10.

<sup>62</sup> Ibid, 10.

<sup>63</sup> Maguire (n18) 257.

<sup>64</sup> Ibid, 257-258.

<sup>65</sup> Ibid, 263.

<sup>66</sup> A Galbin 'An Introduction to Social Constructionism' (2014) 26 *Social Research Reports*.

<sup>67</sup> Visoka (n8) 2.

<sup>68</sup> Roy (n18) 320.

international affairs – and at a pragmatic level the unassailable decolonisation of the practice of recognition and statehood alike'.<sup>69</sup>

This requires a conscious appreciation of how the purported practice and standards of statehood and recognition continue to reinforce interpretations of international law that are a hegemonic signifier of colonialism. Doing so will then lead to solutions that are opposed to the notion that the international legal order, in its current form, is the sole determination for statehood – offering an analogy based on 'emancipatory forms of statehood that enable individual and collective freedoms as well as promote global justice'.<sup>70</sup> A decolonial approach seeks to challenge static perceptions of statehood and the practice of state recognition as the means of pluralising international law and the subsequent application of international law principles to the end that is realising the varying forms of statehood.

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<sup>69</sup> Ibid, 12.

<sup>70</sup> Visoka (n8) 8.

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