The relationship between digital transformation strategy and the performance of SMMEs in South Africa

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ABSTRACT

Small business growth is in the best interest of every nation as they are meant to contribute to employment creation, poverty alleviation, in turn one of the drivers of economic growth, therefore a study on SMMEs digital transformation is vital, especially in the 4th industrial revolution era. This study is set out to review the factors that affect digital transformation strategies of SMMEs, as well as the opportunities that are at SMMEs disposal to achieve digital transformation. This research is underpinned by Rogers's theory (2016), which posits that digital transformation is not about updating technology but about the progression of strategic rationale to operate a business. This objective was achieved through qualitative data analysis, by interviewing and analysing data from selected SMMEs within the Gauteng province of South Africa.

This study found that the factors that affect a digital transformation in SMMEs include; internet connectivity, technology applications, electricity and outdated skills of some officials. This study also found that opportunities available for SMMEs to deploy digital transformation are inherent in data usage, competition within the SMMEs cycle, business value, innovation and creativity as well as integrating customers into the business. Therefore, this study adds to the literature by proving that in order for SMMEs in South Africa to improve on performance, they need to enhance their business strategy by incorporating a digital transformation strategy. It is recommended that the government should step up in providing some of those factors identified by SMMEs, also that SMMEs should apply performance metrics, incentivize employees, collaborate with clients, and prioritise customers over profits to ensure effective performance and growth, especially in this digital era.

KEY WORDS

i) Digital transformation

ii) Digital transformation strategy

iii) Performance

iv) Small business

v) SMME

vi) Strategy

DECLARATION

I, Dieketseng Rasenyalo, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: Dieketseng Rasenyalo Signature: 

Signed at Midrand, Waterfall

On the 18th day of November 2021

DEDICATION

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4IR	Fourth Industrial Revolution
BASA	Banking Association of South Africa
COVID-19	COVID-19 is a disease caused by a new strain of coronavirus. 'CO' stands for corona, 'VI' for virus, and 'D' for disease (Bender, 2020)
GEM	Global Entrepreneurship Monitor
R&D	Research and development
SEDA	Small Enterprise Development Agency
SME	Small and medium-sized enterprises
SMME	Small Medium and Micro enterprises

CHAPTER 1. Introduction

1.1 Purpose

The purpose of this study was two-fold: first, it explored opportunities at the small and medium-sized enterprises' (SMMEs) disposal as a result of the digital revolution, which will necessitate digital transformation. Secondly, it investigated factors that make a digital transformation strategy suitable for SMMEs in the South African context. In so doing, this research aimed to argue and show that adaptation and implementation of a digital transformation strategy will positively affect performance of SMMEs in South Africa, Gauteng.

1.2 Context of the study

In light of the recent world pandemic due to COVID-19, which resulted in a lock down, all sectors were greatly affected (Channing Arndt, 2020). During these pandemic times, businesses had to embrace digitizing more than ever for survival.

A small business is defined as a separate distinct business entity, non-government organization which operates in any economic sector or subsector normally owned or managed by one person together with its subsidiaries (National Small Business Act, 1996). It can be micro, a very small, a small or a medium enterprise. Based on that act, small businesses are categorised and referred to as Small Medium and Micro enterprises (SMMEs) and not just small and medium enterprises (SMEs). This research focused on SMMEs in the Gauteng province. An SMME is defined as small, medium and macro enterprise, the category is defined by the annual turnover, total full time employees and the gross asset value (Chiromo et al., 2014)

There are other definitions derived from the Act, such as the following: Survivalist, it is defined as an informal business conducted with minimal skills and capital and commonly operated for income. Microenterprises have a turnover below R150 000 and employ a maximum of four employees, with no growth traits (National Small Business Act, 1996). Lastly, we looked at the formal Small and Medium Enterprises who employ from 5 to 200 employees respectively, the owner still largely manages the

business which meets all the definitions of a formal business (The Banking Association South Africa, 2019).

Furthermore, in 2018, the Minister of Small Business Development introduced an amendment government Gazette that redefines SMMEs. The aim of the amendment is to ensure that the definition of the Small Business Enterprises is up-to-date, and appropriate and to the arrangement and nature of SMMEs (The Banking Association South Africa, 2019). These amendments have been argued to position the small businesses advantageously in accessing government support, sustenance and programmes, while strengthening their economic sustainability as well as ability to stimulate and provide employment over the medium or long term of their existence (Galawe, 2017).

The amendment gave birth to agencies focused on uplifting SMMEs, such as the Small Enterprise Development Agency (SEDA). SEDA's mandate is to implement the government strategy on small business, design and assimilate government-funded SMMEs support agencies across all tiers of government and implement a customary and shared national delivery network for small enterprise development (Bureau for Economic Research Note, 2016)

SEDA identified the challenges and risks faced by SMMES (Bureau for Economic Research Note, 2016). The challenges are as following: access to finance and credit, poor infrastructure, low levels of research and development (R&D), onerous labour laws, an inadequately educated workforce, inefficient government bureaucracy, high levels of crime and a lack of access to markets (Bureau for Economic Research Note, 2016). These risks were further categorised by SEDA as internal and external forces that directly affect the growth and sustainability (Department of Trade and Industry Annual Report, 2008). Risks, as stated in the Bureau Economic Research Note (2016) for SMMEs refer to forces internal or external to the small business sector that threaten their existence as a going concern. SMMEs in South Africa rarely survive or last an average of less than 3.5 years (Department of Trade and Industry Annual Report, 2008). According to Global Entrepreneurship Monitor developing countries have a low survival rate for start-ups (*Gauteng Enterprise Propeller Annual Performance Plan 2019/20*, 2019).

The Banking Association of South Africa (BASA) posits that SMMEs contribute to the economy of South Africa positively by having an inclusive economic growth that makes up about 60% of the employment force (The Banking Association South Africa, 2019). BASA further illuminates the prominence of SMMEs in the South African economy by stating that they make up about 34% of the countries' GDP with the economic output, due to making up 91% of the countries' formal businesses.

Mitroulis and Kitsios (2019) bring into context the importance of the role new digital technologies plays in the performance and development of small businesses. The authors argue that digital transformation strategy adapted by SMMEs should not only be about technology but also the right approach to a customer centric and data focused organisational culture. A successful adaptation and implementation of the digital transformation strategy by SMMEs is vital to the changes needed to augment structural changes, customer experience, changes in value creation and organisational performance (Kitsios, 2019).

Also according to Rogers's theory (2016), digital transformation is not about updating technology but about the progression of strategic rationale to operate a business. The author further states that there are five domains that describe the landscape of digital transformation for business today, such domains include; customers, competition, data, innovation, and value. These domains are illustrated in figure 1.1. These domains imply that performance should not only be limited to the financial statements, but should include customer satisfaction, number of new customers, innovations, employee's performance, relevance in the market and measure the SMME expectations (Rogers, 2016).

Figure 1.1: Five (5) Domains of Digital Transformation Source: Rogers, (2016)

In this study, the researcher argued that in order for SMMEs in South Africa to improve on performance, they need to enhance their business strategy by incorporating a digital transformation strategy.

1.3 Research problem

It is well known that Small business growth is in the best interest of the nation as they are meant to contribute to employment creation, poverty alleviation, in turn one of the drivers of economic growth (Levin, Makgetla, Philip & Fotoyi, 2019) However, small businesses are faced with a high failure rate of success in South Africa, especially newly established small businesses (Fatoki, 2014). This high rate of failure hinders some of the contributions of small businesses to the economy. The failure of SMMEs in South Africa is caused by both internal and external factors. These factors are elaborated further in the study.

The fourth industrial revolution (4IR) is quickly and significantly influencing how business is conducted and operated (Muhammad Faraz Mubarak, 2019). According to Spil et al., (2016) there is no well-defined business model for 4IR in research nor agreed best practice definitions. The assumption is very few companies have a thorough understanding of what digital transformation entails. Most companies still think digital maturity is about technology.

According to Kane et al., (2015) lesser digitally mature companies focus on technological solutions to specific problems, whereas digitally maturing companies are able to reimagine the entire business supported by a digital strategy. Therefore, the lack of adaptation could be limited to the understanding of what digital transformation is.

Several literatures have researched on this, and yet little is more focused on SMMEs in Gauteng. Against this background, this study has addressed the role of a digital transformation strategy on performance of South African small businesses, focusing on SMMEs in Johannesburg.

1.4 Research objectives

This study sets to achieve the following objectives

a. To establish the opportunities inherent in digital transformation that can be useful to aid performance of SMMEs in Johannesburg, South Africa
b. To identify specific factors that affect digital transformation strategy implementation in SMMEs.

1.5 Research questions

To achieve the objectives, this study tends to address the following questions

a. What opportunities are at SMMEs disposal as a result of the digital revolution, which will necessitate digital transformation in these entities?
b. What factors affect deployment of digital transformation strategy in SMMEs' business models?

1.6 Significance of the study

SMMEs form a great deal of the South African economy as the key drivers of economic growth, job creation and innovation (Bureau for Economic Research Note, 2016). The impact brought upon by the COVID-19 pandemic can be argued to have fast tracked adoption of the digital strategies for businesses not only to stay afloat but also to accelerate world economies. These times present an opportunity for businesses to bridge the gap between what consumers expect and the services and products offered. The companies that embrace change and new technology and are able to plan the best way to navigate through and will have a competitive edge over their competitors (Kane et al., 2019).

This study identified how opportunities in digital transformation strategy will enhance organisational performance, hence the success of SMMEs in Johannesburg. The findings of this study provides a holistic understanding of effects of digital transformation strategy in the fourth industrial revolution on SMMEs' performance. The study contributes to the body of knowledge on how SMMEs can make use of digital transformation in business models, so as to thrive in the fourth industrial revolution,

sustain their business and remain competitive in challenging times. The importance of the study is summarised as below;

- Theoretical significance: This study contributes towards ongoing efforts to expand the scope of digital transformation to smaller entities and harness the embedded benefits traditionally thought to be for larger enterprises.

- Practical significance: Provides insights for policy makers and capacitates entrepreneurs with knowledge to embrace digital transformation.

1.7 Delimitations of the study

This research is limited to registered SMMEs in South Africa, which have been operating for at least more than a year. The SMMEs of focus were in Gauteng province, focusing on Johannesburg city. This research excludes small businesses which are survivalists in nature and have been operating for less than a year. It is difficult to collect formal data from the survivalist type of the SMME sector which therefore makes it difficult to measure their performance (Galawe, 2017).

1.8 Definitions of terms

Digital transformation:

This is the process of pervasive digitisation and digitalisation, as well as the exploitation of the full spectrum of technological advances to identify, create and capture new sources of business value (Rogers, 2016).

Digital strategy:

The collective view of those elements of group strategy which are enabled, supported or delivered by “digital” means; the means by which the organisation delivers its digital aspirations and transformation objectives, and the means by which the organisation attains its desired level of digital maturity Kane et al., (2015)

SMMEs:

This refers to a small, medium and macro enterprise, which means a separate distinct business entity predominantly carried on in any sector, the categories are defined by the annual turnover, total full time employees and the gross asset value (Chiromo et al., 2014).

Performance:

A wide range of indicators which include, but not limited to - profitability, growth, or social performance of companies (Yakira Fernández-Torres, 2017).

Success:

Success defined for SMMEs in this context, means reduced cost, increase in productivity, employee's performance referring to positive growth on production and services, increases in performance and reliance in the market (Mubarak, 2019).

1.9 Assumption

The research assumes that

- The digital transformation domains outlined in figure 1.1 for main focus, are similar to the ones aimed at by the SMMEs, as well as the performance indicators.
- The study also assumes that the research participants answered the questions truthfully and in no way were pressured or unduly influenced to participate in this study.

Chapter 2 LITERATURE REVIEW

2.1 Introduction

The literature review focuses on outlining the status of SMMEs in South Africa. Provides background on digital transformation, strategy, the effect and deployment of a digital transformation strategy. The relationship between digital transformation strategy and the companies' performance is argued. Factors that affect digital transformation in SMMEs are also discussed in this section.

2.2 Background

Schwab, K. (2017) breaks down the industrial revolution journey as follows: First, the industrial revolution which has since been witnessed 10 000 years ago with the transition from foraging to farming. The second industrial revolution brought about mass production by machine power nurtured by electricity. The third industrial revolution introduced the computer age known as the first leg of the digital age empowered by the development of semiconductors, mainframe computers, personal computers and the internet. As it stands, the world is transitioning to the second leg of the digital age, the era of more powerful but small and cheap sensors enabling artificial intelligence and machine learning. These technological disruptions prompt economic sectors to digitally transform to respond to the market need, this is what would be known as the fourth industrial revolution (Schwab, (2017).

Significant dimensions in digital transformation comprise of the assembling, digitizing and analyses of large amounts of data known as big data, Internet of Things which is the internet representation of computing devices and technical platforms acting as intermediaries of information (Schwab, 2017). The potential embedded in digital disruption can overturn market giants and reshape markets faster than conceivably any force in history. Digital disruption has an effect on business models and digital technologies of a company's current value proposition, and its resulting market position (Bradley, 2015).

2.3 Definition of key Constructs

2.3.1 Small and medium enterprise (SME)

Various countries occasionally classify small and medium-sized enterprises in a different form. White (2005) states that Brazil as a developing country achieves the classification of SMMEs by differentiating each by ownership, size, function, sector of operation and level of development. Each of these features provides a distinct characteristic, therefore a different definition (White, 2005). This study follows a classification of SMMEs provided by South Africa as taken from the South African Small Business Act 102 of 1996 which defined small businesses in the previous chapter. It is classified, based on the number of employees, sector, asset value, total gross, and turnover (National Small Business Act, 1996). See the detailed classification criteria in image in Appendix 1.

2.3.2 Strategy

Strategy is the process and methods by which organizations achieve their objectives (Grant, 2017). Grant (2017) further alludes the key components that make up a strategy which involves setting objectives, allocating resources, establishing consistency and soundness among decisions and actions. A strategy aims to achieve benefits for the organisation through its alignment of resources within a changing environment to meet the needs of markets, customers or clients and to fulfil stakeholder expectations (Johnson et. al, 2011).

2.3.3 Digitization

It is the process of converting analogue or physical assets into digital form. In the context of this study, digitization is about having the relevant technologies to carry out manual work activities into digital work. It is beneficial for a company to digitize their work as powerful new digital technologies motivate passionate changes in customer behaviour, once it is put in place, the digitization of a product, interaction, or medium becomes irresistible (Rogers,2016). Digitization of products, services, and business processes allows disruptive players to deliver the same value a traditional competitor

provides (Joseph Bradley, 2015). Digitization challenges old business models which in turn prompts changes in business processes and this requires digitalization.

2.3.4 Digitalization

Digitalization has stretched out and touched all industries and all sectors of society (Andersson et al., 2018). The effect digitalization has on companies and industries brings about challenges that require a transition of processes. For most companies across all industries the future appears to be harder to forecast, which threatens existing competitive positions (Andersson et al., 2018). Digitalization is also influencing value creation activities on different levels, which means it disperses the limitations of the organizations even on the more basic process level. Digitalization prompts organizations to reposition their business and operations (Rogers, 2016).

2.3.5 Digital transformation

Digital business transformation is a continuous venture, which is made up of adoption and deploying digital technologies and business models to advance performance quantifiably (Bradley et al., 2015). Digital transformation depends upon the Internet of Things: a diffusion of smartphones and apps, digital payment solutions, and the potential of big data for planning and operating business processes, as well as the development of a technical platform (Andersson, 2018).

2.3.6 Digital Transformation Strategy

With all the above mentioned key dimensions of the background of the study, it is fair to conclude the introduction of a digital transformation strategy (DTS) is an actual reaction to the challenges of managing the growing scenery of digital initiatives and related infrastructures (Chaniasa, 2019). The aim of the DTS is to prioritize, coordinate and implement a pre-digital organization’s transformation efforts and, as a long-term objective, to govern its journey to achieve the desired future state of being digitally transformed (Simon Chaniasa, 2019). However, although DTS formulation and implementation is a key concern for many pre-digital organizations, it remains an open question how such a strategy can be developed (Rogers, 2016)

2.3.7 Digital maturity

Kane et al., (2017) has identified 3 levels to digital maturity as early, developing and maturing. An early stage of digital maturity is explained as when the organisation talks more about digital business than doing anything about it. Developing stage has to do with when the digital initiatives support certain business objectives, but are not core to the business strategy. The last stage, maturity is when Digital initiatives are a core part of our organisation's business strategy (Kane et al., 2017). The term maturing is preferred because even though the digital strategy may be at the core of the organisation, digital heights are still a great exploratory journey.

2.4. Domains of Digital transformation strategy

2.4.1 Rogers's Theory

This research is underpinned by Rogers's theory. According to Rogers (2016), there are domains of digital transformation that make up a business strategy. These domains have been greatly impacted by the fourth industrial revolution. Digital transformation has significantly changed the restrictions under which essentially every domain of business strategy operates. The five domains of digital transformation identified by Rogers include:

Customer: Before the digital age, the relationship between customers and organizations was about customers being persuaded by marketing to have interest in products or services. The digital age has since turned the wheel and gave customers more power by enabling customer networks. The five customer network behaviours are; Access; Engage; Customize, Connect and Collaborate. This means customers are more connected to each other. A positive feedback made by customers about an organization, could have positive results which may results in more sales for the organisation around its network

Competition: In a traditional world, an organization had one well-known and possibly long standing competitor. However, in a digital world with lesser boundaries, a competitor can be just about anyone from across all industries. An organization can either be disruptive by starting a new division that has nothing to do with the existing

model and compete in new platforms and dominate. The two biggest concepts with competition revolve around platforms and co-opetition. With a platform it is a winner takes all game and with co-opetition it is about collaborating with the companies that offer the same value as your company.

Data: Digital technologies have changed how the world perceives data. It has become cheaper and easier to obtain, store, analyse and put to good use favourable to the organization. The collection of data is in the most unprecedented methods and quantities from various sources.

Innovation: Most at times, innovation is associated with big corporations that had enough budget for research and development. However, digital transformation has enabled the creation and development to be quick within reach, as the markets are flexible enough for an idea to be innovated in an agile format.

Value: Digital technologies force organizations to perceive value creation differently. Customers continuously need change, therefore an organization needs to have a flexible strategy to move and change with the needs of the customer.

This study explores digital transformation through the above outlined five domains and determines if the transformation of SMMEs strategies can be achieved through them. Also to explore the effect of the transformation on the performance of the SMMEs. The adoption of Rogers's Theory forms an important part of the study because the interview questions are guided by his assessment.

2.5 SMME Ecosystem

Kelly, 2015 suggests that an organization should not be constrained to a single sector but rather as part of an ecosystem that extends over to other sectors. This suggests that organizations can work cooperatively to evolve and to satisfy customer needs, support new products, and ultimately progress together to the next level of innovations. (Yaribeigi et al., 2014) breaks down the entrepreneurship ecosystem into six general domains: a culture that is conducive, policies that enable leadership, accessibility to financing, venture-friendly markets for products, quality human capital, and a range of institutional and infrastructural support. Developing countries have adopted these six domains to ensure their SMMEs flourish (Yaribeigi et al, 2014). The United States as

a developed country enables a conducive business ecosystem for its entrepreneurs. Hence the start-ups in Silicon Valley flourish due to the resources available to them (Armstrong, 2015).

South Africa as a developing country has a start-up ecosystem that is vigorous and growing, however, the entrepreneurs and investors still haven't developed a global mind-set to take advantage of the global opportunities (Buckland, 2018). Cape Town is one of the leading cities in South Africa with a growing entrepreneurial ecosystem, it is home to the most active tech start-ups ("The start-up ecosystem in South Africa — The Small Business Site", 2020). According to the Small Business Site (2020), Cape Town has the most mature local ecosystem due to its angel investors that promote seeding funding. Cape Town is even nicknamed Silicon Cape. The city of focus for the study was Johannesburg, which has some challenges due to lack of experience in relation to start-ups, lack of funding, and global networks. However, the average valuation of start-ups in Johannesburg is still outperforming these challenges ("The start-up ecosystem in South Africa — The Small Business Site", 2020). The study suggests there are opportunities available in the business ecosystem that can assist SMMEs to digitally transform their businesses.

2.6 Factors that affect deployment of digital transformation strategy in SMMEs' business models

Since 1994, with the birth of the new government in South Africa, some of the great challenges the country was faced with amongst many, was to reintegrate into the global economy. In the efforts to address the above-mentioned challenge, one of the areas of focus was to empower the SMME economy based on international standards by forming organizations and policies to support SMMEs (Rogerson, 2004). Post-apartheid reconstruction introduced policies whose objective was to elevate SMMEs to excel as poverty alleviation, job creation and enhancement of national economic growth drivers.

The policy objectives could potentially have been argued to all be of equal importance for eradicating poverty and enhancing growth (Rogerson 2004). However, a

prioritization of significance amongst the objectives needed to be put in place to allow for adequate allocation of resources. For the first 10 years post-1994, the unclear hierarchy of importance in policy objectives led to unclear guidelines in resource allocation objectives (Dorfling, 2001). The consequences of this confusion affected the country's SMME strategy which resulted in a lack of growth of SMMEs and a high rate of failure.

2.6.1 Factors related to failure

The failure rate of small to micro and medium enterprises in South Africa is above 70% and this is most likely to happen within the first 5–7 years of commencement (Bushe, 2019). The failure of SMMEs in South Africa is caused by both internal and external factors (Fatoki, 2014). According to Galawe (2017), the failure rate of SMMEs can be associated with exogenous and endogenous risk factors, which can be drilled down further to 3 lower levels that are: the organization, the entrepreneur, and the environment The external factors include competition, lack of funding, and constantly rising costs of running a business. The SMMEs do not have control over what happens with external factors that affect their businesses.

Governmental foundations play an essential role in creating an environment in which small businesses operate (Fatoki, 2014). Governmental institutions' main focus is to ensure SMMEs operate within a steady and foreseeable environment essential for the growth of economic activity and this is accomplished through the enactment of laws (Fatoki, 2014). In 2018, the South African government amended the small business Act. The amended Act positioned the SMMEs in a more advantageous state to access government support for sustainability and stimulated growth (Galawe, 2017). The internal factors come in two-fold; organization and the entrepreneur.

The internal issues stem from lack of managerial skills, financial incompetence, lack of expertise in functional areas such as human resource management and marketing, (Brink, A., Cant, M., & Ligthelm A, 2003). A limited family business South African cultural aspect is introduced as one of the factors affecting entrepreneurial skills, in

addition to that, it's the incapacity to set strategic goals, unwillingness to seek advice, accelerative planning and reluctance to adapt to change (Brink et al., 2003).

2.6.2 Factors related to success

Now that we have discussed the reasons for failure in SMMEs, it is imperative to look at what successful SMMEs are doing differently. SMMEs in their nature are more advantaged compared to large companies regarding flexibility and the ability to innovate. China has the world's second-largest economy and has seen an increase in the number of SMMEs which now generate more than 60% of the GDP (Tang et al., 2020). According to (Tang et al., 2020), there are three factors that appear to be related to the success of SMMES namely; technological capability, innovation, and organization size. Past studies have argued that the success of SMMEs lies entirely on the internal factors, based solely on the decisions made by management (Galawe, 2017).

Another factor to bring into the study that has been argued to increase the likelihood of an organization to survive and thrive is digital transformation (Kane et al., 2017). For an organization to grow and evolve, it has to undertake an on-going process to achieve digital maturity which focuses on; new business models, technology shifts and advancements, and changing market demands (Kane et al., 2017). Digitally maturing companies are known to do the following; ensuring digital transformation is part of the strategy, defining sources of financial support for innovation, creating a culture that supports digital transformation, and developing a competent workforce that drives profits. The study suggests factors that affect the deployment of digital transformation in SMMEs lies within the control and decisions made by the entrepreneur.

2.5 Conclusion of the literature

The literature review presented in this chapter began with providing the background of the study and what has prompted businesses to digitalize their business models. The key constructs of the topic were defined. In this study, the researcher argues that in order for SMMEs in South Africa to improve on performance, they need to enhance their business strategy by incorporating a digital transformation strategy that follows

these five domains, namely; customer, competition, innovation, value and data. The five domains adopted are from Rogers's theory, therefore the research interview questions are guided by the assessment from theory. The South African ecosystem is also discussed in this section, which has shown that it is stronger in Cape Town than it is in Johannesburg. The study suggests there are opportunities available in the business ecosystem that can assist SMMEs in Johannesburg to digitally transform their businesses. The last part of the literature review focused on factors that affect SMMEs. The study suggests factors that affect the deployment of digital transformation in SMMEs lies within the control and decisions made by the entrepreneur.

CHAPTER 3: RESEARCH METHODOLOGY

The aim of this section is to focus and deliberate the methodological approach taken during the research process in order to answer the research questions. This chapter covers the following key methodological concepts: research approach, research design, data collection methods, data analysis, limitations of the study, validity and reliability, as well as the ethical considerations.

3.1 Research approach

Research approach refers to the set of beliefs that guide the researcher's actions (Lincoln, 2011). This research is qualitative in nature and was conducted using a mixture of desktop research and informal interviews. The research process was appropriate for the study as it qualifies it to collect the essential data in a manner that is efficient. This research was guided by the conceptual principles and philosophical assumptions that are based on post-positivist orientation of which it is reasonable for a qualitative methodology (Cohen, 2006).

3.2. Research Design

This qualitative study made use of interviews to gather information on the effect of digital transformation of performance of SMMEs and the factors that drive these transformation strategies. The most common methods of qualitative data collection are observations, focus groups and interviews, these methods inherently allow for the qualitative research to use innovative methods to gain an insight into the participants' world which allows for complex questions to be answered (Halcomb, 2016). This study adopted interviews as it is considered most flexible compared to observation and focus group discussion. Moreover, the objectives of this study, which include exploration of factors that affect deployment of digital transformation in SMMEs, was achieved through interviews rather than observation and focus group.

In addition, information concerning the adoption of digital transformation was also gathered through desktop study. This approach enabled the researcher to identify from

literature the effect of digital transformation on SMMEs performance, as well as the factors that affect deployment of digital transformation by SMMEs. The desktop approach assisted in learning how these factors are handled, especially on SMMEs outside the context of South Africa, and other countries. The information from desktop analysis was combined with information from the interview to make inference, conclusion and recommendation on digital transformation and performance of SMMEs in South Africa.

3.3 Data collection methods

Data collection is comprehended as an interrelated set of actions to gather information to answer the research question (Creswell, 2014). The primary data for this study was collected through interviews using online platforms. This approach was adopted to adhere to the recent social distancing policy to combat the spread of the Covid-19. The interview questions were in the form of open-ended questions to allow participants enough avenue to air their views and elaborate further in-depth details when answering the questions on digital transformation strategies, as well as on the factors assumed to be affecting its adoption by SMMEs. Secondly, for the desktop review, information was collected from existing literature, publicly available gazette and other publications on SMMEs and digital strategies.

3.4 Population and sample

3.4.1. Population

This section describes the study population and sampling techniques. A population is deemed as the overall sum of components about which findings can be made and theories can be developed (Cooper & Schindler, 2014). The population targeted for this study was all small, micro and medium enterprises operating in South Africa. There is no specific sector of focus, the population involves enterprises across all the sectors of the economy.

3.4.2. Sample and sampling method

For the purpose of this research, the focus was on Gauteng province, specifically in Johannesburg. The focus on Johannesburg Gauteng is because Johannesburg is the major business district of Gauteng, therefore, more SMMEs were available for participation within the Sandton area for the research. Non-probability sampling, using a purposive sampling method was adopted. This method was mainly preferred because it allowed the researcher to have access to available SMMEs in the position to accept the proposal to participate in the research. SMMEs are still relatively small in number, some are still in the infant stage, therefore some of them had not been exposed to the concepts of digital transformation strategies. Based on that, a purposive sampling technique is best suitable for this study.

For the purpose of this study, ten SMMEs were interviewed. For an SMME to be suitable to participate in this study, it had to be a formal business that has been in operation for over one year. Most importantly, the business had to fit into the definition of SMME as elaborated in Chapter 1 of this research report.

The non-probability purposive sampling technique was used both in the selecting institutions and individuals based on the specific purpose linked to answering the research questions (Naderifar, 2017). The preferred individuals for the interviews from each SMME were the owners of the business. However, some of the businesses had grown to the extent of employing managers and senior managers. Therefore, managers were included in the participation, in the cases where the owners of the business were not accessible, or where the owners granted permission to the manager to attend the interview.

Various organisations which deal directly with SMMEs in Johannesburg were contacted to help identify SMMEs in their networks. The companies that were interviewed were identified through LinkedIn, the world's largest professional network on the internet. LinkedIn is used for job hunting, creating and strengthening professional relationships, as well as learning the skills needed to succeed in a career. The aim was to interview a minimum of 20 participants to reach an in-depth understanding of a phenomenon (Dworkin, 2012). However due to the recent

pandemic, most organizations were reluctant to partake in the study. And the study ended up with 10 participants.

3.5 The research instrument

The research instrument of choice for this study was an interview which had semi-structured questions and structured questions adopted from the David L. Rogers (2016) assessment scale. Interview questions were designed to cover the 2 objectives explored in the literature review section, the responses from the interview assisted the researcher to identify the current stance of SMMES on digital transformation. Sample of the proposed interview questions are presented in Appendix 2.

The open ended questions followed the themes below:

- SECTION A: Profiling – The first section of the interview focused on the demographics and categorization of the SMME the interviewee represents.
- SECTION B: Factors Affecting Digital Transformation – The questions in this section were designed to determine the factors affecting a digital transformation at SMME level (Vogelsang, 2019).

SECTION C: Strategic Thinking - The questions under this section were designed to explore the degree to which an organization has adapted its strategic thinking to the digital reality (Rogers, 2016)

SECTION D: Organizational Agility - These questions were designed to explore an organization's ability to put into practice these new strategic principles and successfully drive change in your business (Rogers, 2016).

3.6 Procedure for data collection

Respondents

The participants that were interviewed in this research include the entrepreneurs, owners, directors, CEOs and managers of the SMMEs to be in the sample. The research was conducted through the interview sessions utilizing available on-line meetings platforms. The researcher informed the respondents about the purpose of the study and attained written consent from the respondent. The researcher recorded

the interviews with the permission of the interviewees in order to not disrupt the flow of the interview. All interviews were recorded to ensure no data is lost during the collection process. It was also imperative for the researcher to avoid agreeing or disagreeing with the subjects or influencing the respondent in any manner.

3.7 Data analysis and interpretation

The analysis of qualitative research aims to discover and comprehend the big picture by using the data to describe the phenomenon and what it means (Halcomb, 2016). Analysis of data collected through qualitative research has been identified as a complex phase of the research where the researcher is expected to analyse, categorise and test information in order to respond to the research questions (Bengtsson, 2016). Content analysis was used to identify the themes present in the narrative and textual data (Mayring, 2004). The aim is to narrate the meaning expressed in the data collected.

3.8 Limitations of the study

This study only focused on the SMMEs in the Gauteng province, specifically Johannesburg. Johannesburg is known to be the economic driving force of the African continent; it is even referred to as the New York of Africa (Callaghan, 2011). Therefore, there was an expectation to find a satisfactory number of SMMEs that are willing to move towards a digital transformation journey.

For the purpose of this research, the focus was on the formal registered SMMEs that have been in operation for over a year and meet the criteria set out in the government gazette for SMMEs. Formal registered SMMEs with over a year's existence are believed to have enough data for analyses (Galawe, 2017). Therefore, small businesses that are survivalist in nature were excluded from the study.

3.9 Transferability and Dependability

3.9.1 Transferability

To ensure transferability of this study, the researcher thoroughly noted the exact details of the research situation and methods (Poole et al., 2015). To ensure transferability in this research, the method that was applied and the findings were presented in a way that they will be compared to related situations of SMMEs in other provinces of South Africa.

3.9.2 Credibility

The credibility of this study was ensured by choosing participants through the purposive sampling approach which guaranteed that those SMMEs are able to sufficiently serve the objectives of the research (Poole et al., 2015).

3.9.3 Dependability

Dependability refers to how precisely the researcher can substantiate their findings with the method used to arrive at the conclusions from a social context (Poole et al., 2015). The researcher ensured the findings of the study are consistent with the data collected through the practice of an enquiry audit which was conducted on the research study.

3.9.4 Conformability

Conformability refers to the neutrality of the research throughout the data collecting stage to the data analysis stage (Mandal, 2018). Conformability also designates the need for quality to be shown from the findings derived from the study. The researcher demonstrated the quality and objectivity of the research, through the techniques and tools used to collect and analyse the data. The researcher kept an audit trail of the data collection, analysis and interpretation of data. Furthermore, recorded the themes and topics of interest and the coding to ensure a reasonable explanation of the rationale.

3.10 Ethical considerations

Ethics are apprehensive of the behaviour in relation to others (Saunders et al., 2016). This study utilized the internet to find available contacts of SMMEs. A standard ethical procedure and guidelines of the Wits Business School was followed. Relevant artefacts were provided to the participant's prior commencement, such as an email of permission to conduct research, a consent form for questionnaires and a clearance certificate from the ethical department of the University of Witwatersrand. The researcher ensured that the respondents' rights were protected at all times. The researcher explained the significance of the study to the respondents. The researcher asked for consent from the individual respondent to take part in the study. Confidentiality was maintained by keeping the participants anonymous. Data obtained from the respondents was stored electronically and kept in a safe place.

3.11 Consistency Matrix

Table 3.1: Consistency Matrix

Consistency Matrix					
Sub Problem	Literature review	Research questions	Source of data	Type of data	Analysis
SMME Ecosystem	(Kelly, 2015) (Yaribeigi et al., 2014) (Armstrong, 2015). (Buckland, 2018). (National Small Business Chamber, 2020)	What opportunities are at SMMEs disposal as a result of the digital revolution, which will necessitate digital transformation in these entities?	Respondents in semi-structured interviews Company documents	Qualitative data	Content analysis and data analysis
To identify specific factors that affect digital transformation strategy implementation in SMMEs?	(Fatoki, 2014). (Jabulile, 2017) (Brink et al., 2003) (Tang et al., 2020) (Kane et al., 2017)	What factors affect deployment of digital transformation strategy in SMMEs' business models?	Full interview data Governments documents Private/public agency documents	Qualitative data	Content analysis and data analysis

CHAPTER 4: PRESENTATION OF FINDINGS

In this chapter, the research outcomes are summarised in the light of the research objectives/questions as follows: 1) What factors affect deployment of digital transformation strategy in SMMEs' business models? 2) What opportunities are at SMMEs disposal as a result of the digital revolution, which will necessitate digital transformation in these entities? The findings were conducted through a series of face to face and online informal interviews together with the desktop research component of the study. These results are discussed in chapter 5.

4.1 Sample Characteristics

The sample characteristics are in three parts. The first part focuses on the participants' characteristics, and in this case, the participants are the owners, co-owners and senior managers in the SMME companies interviewed. The second part describes the company's characteristics referred to as the SMMEs in this study. The last part presents the environmental characteristics.

4.1.1 Participant's Characteristics

There were 10 participants interviewed. All companies that participated in this study met the characteristics of an SMME. Some of the participants were uncomfortable with responding to some questions however, the information provided was sufficient to proceed with the participant. Table 4.1 shows the sectors the companies represent:

Table 4.2: Sectors of the participants

Total Number of companies interviewed	Sectors
2	IT
1	Construction
4	Professional Services
1	Finance and business services
1	Trade
1	Agriculture

4.1.1.1 Gender and Race

Sample characteristics results reveal that males were more than willing to participate in the study than females. Of all the respondents approached with the proposal to be part of the study, and the attempt by the researcher to have a fair representation of genders, only male participants responded making the study to be 100% of the sample. Most of the participants were black (80%). Followed by (10%) Indian and (10%) Chinese. Figure 4.1 shows the race representation.

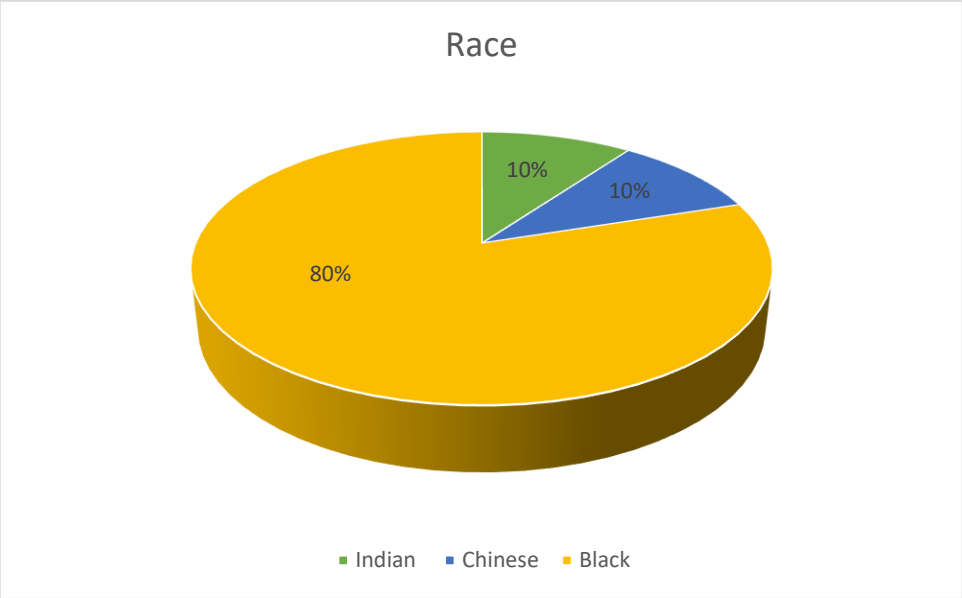

Figure 4.1: Participant's Race

4.1.1.2 Age Group

Most of the participants of the study were in the 36-40 (70%) age group. Followed by the 41-45 (30%) age group. According to (Bosma et al., 2016) in the Global Entrepreneur Monitor (GEM) report, the age group of 36-45 is considered as the most economically active group. The entire sample participants fall within the age groups 36-45. From the results revealed, there is great need to instil entrepreneurship skills in the younger generation. Figure 4.2 shows the age representation of the sample.

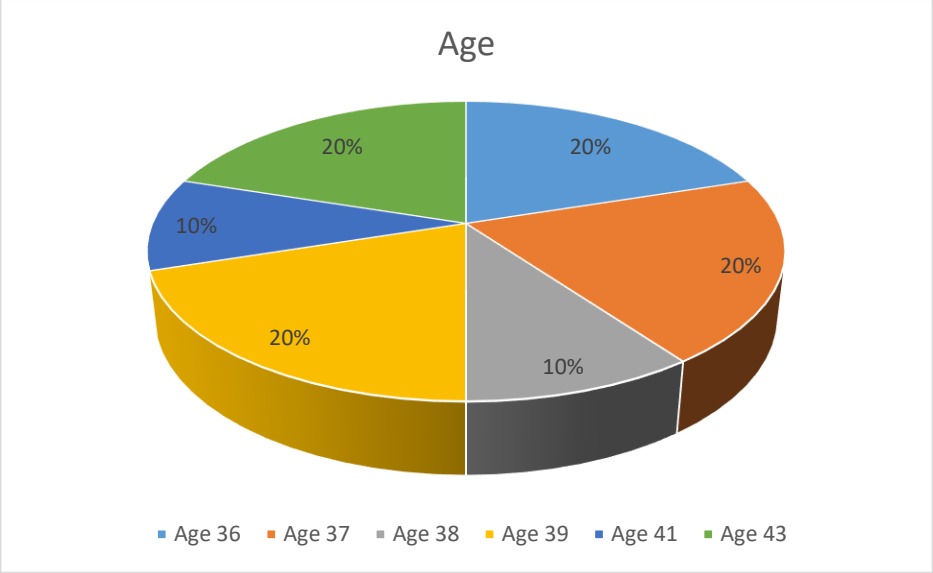

Figure 4.2: Participant's Age

4.1.1.3 Time spent in Business

The time spent in business refers to entrepreneurs that devote their time to their businesses. The sample reveals that 100% of the participants run their companies on a full time and on a day to day basis. All participants have been in operation for over 2 years. The results reveal that the participant's livelihood depends on their businesses. This further proves the importance of SMMEs in the South African economy.

4.1.1.4 Education

Regarding education, 40% of participants have a university degree as a highest qualification. 10% have a post degree, followed by 40% of a Master's degree. 10% of the sample population is a PHD candidate in the same field as that of the company. This sample was highly educated and contradicts Bosma et al., (2016) findings that sub-Saharan entrepreneurs are not highly educated. The high education of the sample is an advantage to this study as it made it easier to get hold of the participants. Due to the COVID-19 lockdown restrictions, most of the interviews had to be conducted online and some of the participants were contacted on LinkedIn, a professional platform for professionals. Figure 4.3 shows the level of education amongst the participants. Their level of education made the virtual interview more successful and easy to conduct.

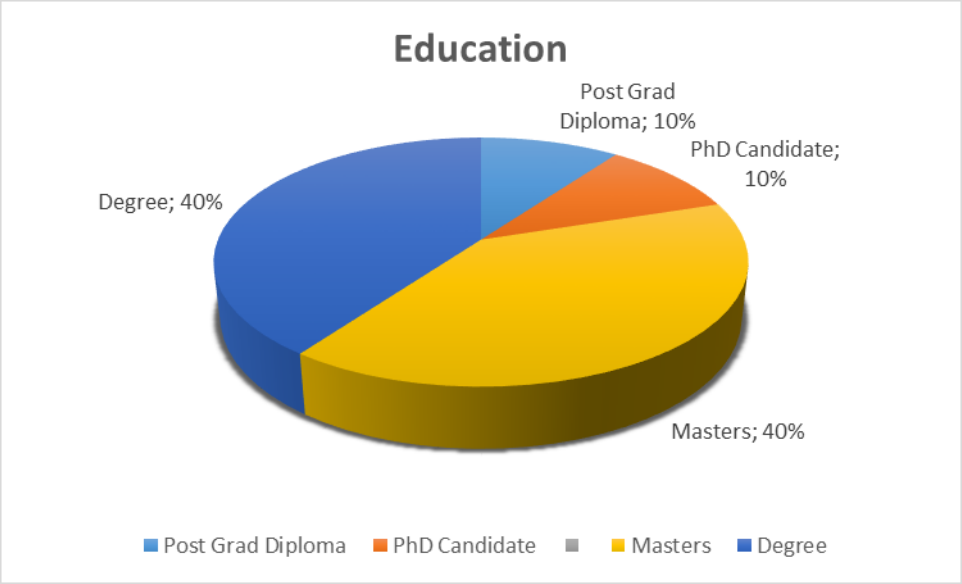

Figure 4.3: Education Level

4.1.2 Company's Characteristics/Positions

One of the findings that stood out was the positions held versus the level of education and age. From our sample, CEO positions are held by participants from 35 years of age and above. Out of the 4 CEOs in the sample, 3 of them have Master's degrees and one is a PHD candidate. Figure 4.4 represents the number of participants that hold the same position in their respective companies.

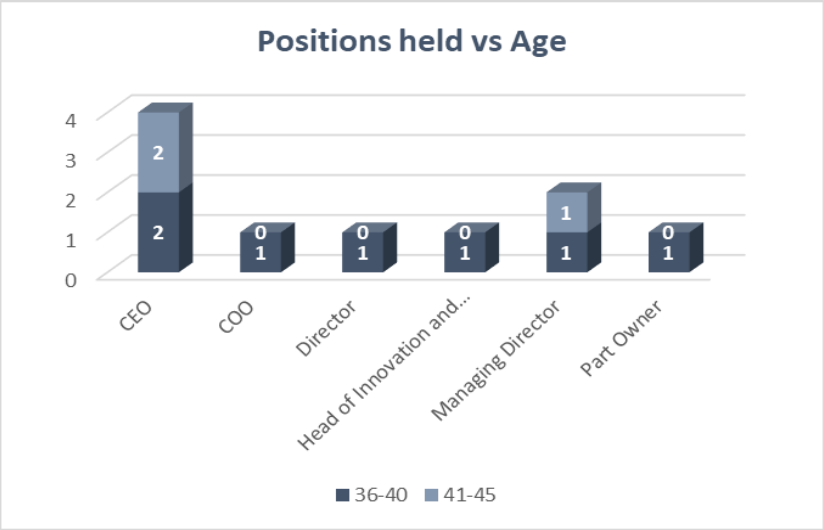

Figure 4.4: Participant's Positions

4.1.2.1 Location

Some of the companies have business that requires them to operate across various provinces while others only operate in one province. This means that some of the participants have offices across various provinces while others have offices in only one province, with Gauteng operating as the head office. Most companies sampled are located in what has been referred to as the economic hub of Gauteng, Sandton (Economic Hub, 2021). The distribution of the sample is consistent with the status quo in the country because Sandton in Gauteng province is the economic hub of South Africa thus expected to have more representation in a sample for Johannesburg small businesses. Figure 4.5 shows the areas of the participants.

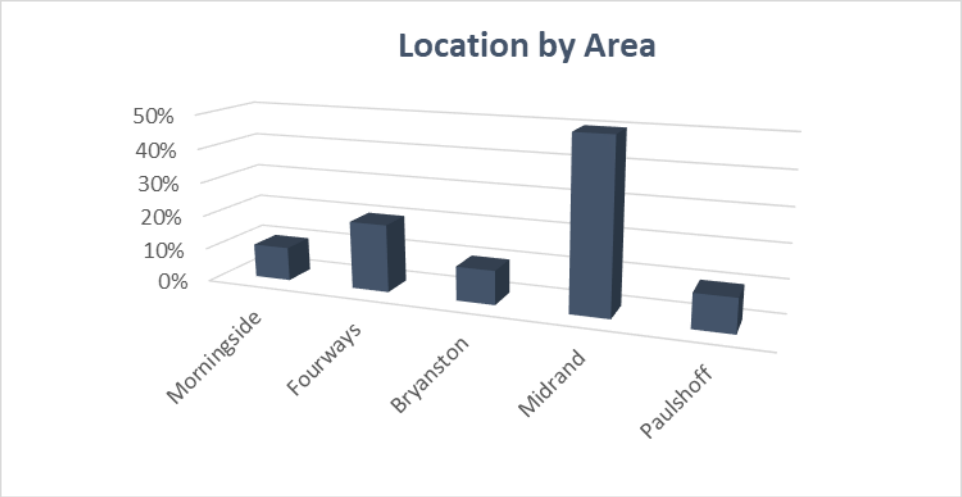

Figure 4.5: Location by Area

4.1.2.2 Technology used

The participants have various technologies used for daily operations. The technology used differs from participant to participant according to the varying industries. Participant 1 mentioned that the company makes use of “Candy”, which is used for supplier project management. They also make use of the Zoom app for meetings. Participant 2 indicated that they make use of Shared drive, Microsoft teams and Slack, which is corporate WhatsApp for phone and laptops. They also make use of a software called 3CX. Participant 3 said that they use ICAM technical assessment and talent link to optimize search CVs and use data functionality to drill down.

Participant 4 mentioned that they had internal software for meetings, but due to the covid-19, they resorted to the use of Microsoft teams and Zoom apps. Participant 5 said they use Microsoft Teams and Zoom for meetings. They also have an in-house built sales funnels and project dashboards for analytics. They also utilize WhatsApp for quick and effective communication. Participants 6 shared with the researcher that they use a Geographic information system that is able to support all their operational duties. Participant 7 mentioned they use Microsoft D36, a relationship management intelligent business application. They also use Auto Cat which is a mapping software. Participant 8 stated that they use an accounting and inventory management system which is plugged to an e-commerce website. They use social media for marketing and WhatsApp and emails for communication with clients. Participant 9 said for fruitful crop production they use the internet of things; therefore, their plants are embedded with sensors. The company relies a lot on WI-FI for instant data feed. Participant 10 said they use Microsoft Infrastructure to provide Cloud technology to their clients. They use the architecture mapping tools for mapping business processes.

4.1.2.3 Impact of COVID-19

The COVID-19 lockdown rules and restrictions had a great impact on the economy. The lockdown has led to foremost revenue declines for most and the endurance of many companies are at risk (International Trade Centre (ITC), 2021). The report further infers that globally employment is dependent on the strength of SMMEs. Only 20% of this study sample reduced their staff during global lock down and 10% increased their staff during lockdown. The rest of the participants' companies managed to keep the same number of employees before and during COVID-19 pandemic.

4.1.2.4 Turnover

All the companies interviewed exceeded the turnover benchmark. Not all the participants were comfortable to respond to this question, therefore, figure 9 below is made up of nine out of 10 responses. All participants reported over a million rands worth of turnover. The rand is a South African currency globally recognised as ZAR (Information of South Africa currency| Global Exchange - Currency exchange services,

2021). This research reports all amounts in rands as the research was conducted in South Africa. 33% of the participants are in the R1 – R10 million turnover. From figure 4.6, 22% of the participants are in the R11 – R20 million rands turnover. Followed by another 20% of the sample in the R40 – R50 million rands turnover. 11% made the R30 – R40 million turnover and the last 11% was in the R60 - R70 million turnover.

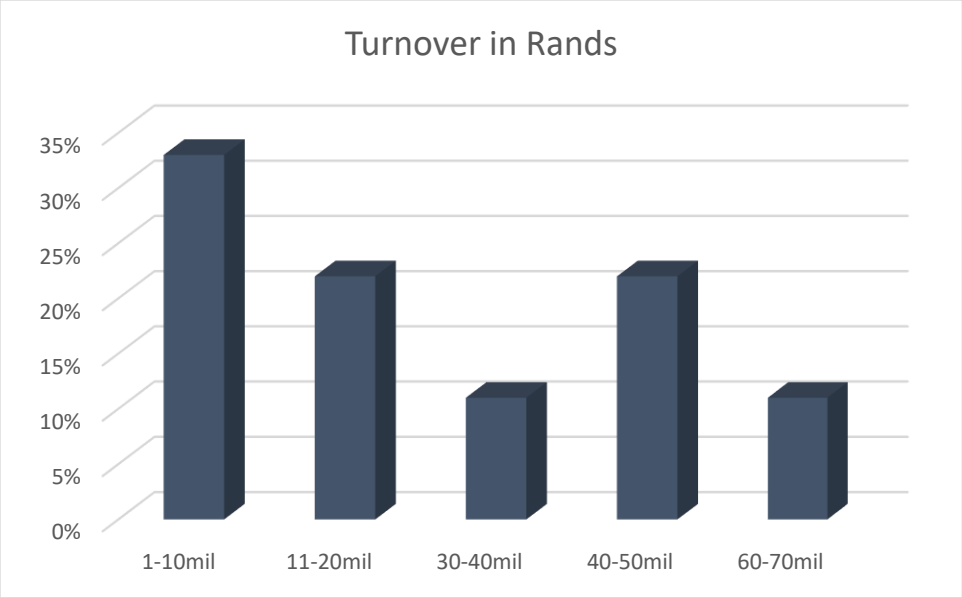

Figure 4.6: Turnover

4.1.3 Environment Characteristics

South Africa is a dynamic country, made up of both developed and underdeveloped provinces. The focus of the study was on the Gauteng province, specifically the Johannesburg city. Although Gauteng is the smallest province, it consists of the cities of Pretoria, Johannesburg, Germiston, and Vereeniging and their surrounding metropolitan areas. Johannesburg is known to be the country's chief financial and industrial metropolis (Campbell, 2021). The initial aim of the study was to get participants from all around Johannesburg to present a fair picture of the state of SMMEs within the city. However, due to the COVID-19 restrictions, it became harder for other businesses to show interest in the study except for those around the Sandton and Midrand suburbs.

60% of the sample came from Sandton and 40% of the sample was from Midrand. The willingness from the sample could possibly be because it is the economic hub of South Africa (Sandton Gauteng Tourism Authority, 2021), whilst, Midrand is relatively

modern and has experienced a great deal of growth in the last decade and is, therefore, an accurate reflection of current economic expansion of Gauteng (MIDRAND, Johannesburg, 2021).

4.2. The Research Findings

This section presents the responses from the interviews and some elements of the desktop research conducted. The objective of the interview questions (based on these research questions), were meant to offer prudent evidence that a digital strategy can be applied at SMME level based on Roger's theory and also bring forth the challenges that delay digitalization of their businesses.

The findings of this research study are presented based on the two broad research objectives/questions, which includes: to identify factors/challenges that affect deployment of digital transformation strategy in SMMEs' business models. Secondly, to ascertain opportunities that are at SMMEs disposal as a result of the digital revolution, which will necessitate digital transformation in these entities.

4.2.1 Factors that affect deployment of digital transformation strategy in SMMEs

The first objective of this study is to investigate the factors that affect deployment of digital transformation strategy in SMMEs' business models. The participants were asked questions about the challenges they face as SMMEs. The answers to the questions are presented below.

Participant 1's response is as follows: "We have put in a lot of effort to ensure we digitize our communication methods. We got a domain for our company so that we have branded email addresses instead of using the likes of Gmail. The aim was to be as professional as we can get. However, the people we work with still want face to face discussions. I am not sure if the nature of the industry or the culture of the areas we deliver our services in".

Participant 2 responded as follows: “We use cell phones a lot for communication, which need battery power. The main issue is electricity cuts usually known as load shedding. Electricity is a serious issue for us because we are unable to charge our phones as and when it is needed. Spending hours with a flat phone battery sometimes makes us lose out on potential business. We really need the government to solve electricity problems in our country”.

Participant 3’s response is as follows: “As our way of going over and beyond for our clients, we sometimes offer our services to help them apply and get work visas. And we have noticed that the on-line systems available for users are not as efficient and responsive as they should be. The other issue is the government turn-around time, sometimes is way too long. This has proven to be a tedious exercise for individuals and hence we offer it a service to relief our clients off this stress”.

Participant 4 stated the following: “As a technology company, we tend to use a lot of software not only to deliver our products but to run our in-house operations as well. The issue we face with these softwares and applications is the lack of integration. There are no applications available as SMME level size that can be integrated into one operational system. Applications and or softwares that integrate into one system are only at a big enterprise level. This is serious for us because we end up having to use a lot of applications that don’t even talk to each other”.

Participant 5 replied to the question as follows: “A lot of the time we struggle with appropriate applications and software packages relevant for our small business. What we have realised is that these technology service providers do not cater for small businesses. They do not customize the packages they offer at SMME level; their packages are only meant to cater for large enterprises. What is sad for us is that we end up spending too much on a software or application and yet we don’t even use half of what is offered in the package”.

Participant 6 responded as follows: “Majority of our clients are Government departments. We have since learned that they lack a lot of digital skills. Even before the lockdown restrictions due to the COVID-19 pandemic that forced ways of working to be digital, we had always been aware of government official’s lack of digital skills. In that case we then started to plan on how we can have a training division that can focus on assisting government officials to be more digital.

Another factor we have noticed within our own company that delays digital adoption is the fear of the unknown and cultural factor. We don't have the most tech savvy employees and therefore they are more reliant on the CEO leading abilities in new ways of working, than taking the lead themselves".

Participant 7 replied as follows: "When the COVID-19 pandemic hit, we were forced to work from home according to the lockdown restrictions by the president. The only way we could continue working was to work from home by being online. We had an issue with the employee's internet access at home. Our employees are from the townships, and do not have fibre or WI-FI hotspots nearby their homes. Therefore, we had to take the extra revenue we had to re-invest in their home internet packages so that they continue to work from home. The other problem with working from home is electricity cuts. The office spaces have generators as backup for electricity cuts. When we work from home, our working hours are affected by the electricity cuts".

Participant 8 responded as follows: "We have opened a new business of dealcoholized wine. Although we are a family business and a lot of the time it is easy for us to carry out the administration side of the business manually. It would be easier if we had enough technology to assist and make the work effective. We have since realised that there are very few applications available to SMMEs. The ones that are there are not even easy to find and not exactly affordable for a small business".

Participant 9 replied to the question stating the following: "Our work is mainly made up of exporting our products to international clients. The production process of our products requires a lot of advanced technology such as sensors for monitoring the growth. We have attempted to ask for assistance from the government with funding but there has not been any success. The technology we use is too advanced and too costly because we have to import it from china. We still don't have any assistance from the government with that".

Participant 10 responded as follows: "In the beginning we used to do some work for the government, but we then moved to the private sector. What we realized with the government is that they lack a lot of efficiency. Their internal processes are not designed to be helpful to SMMEs. The Government doesn't help the SMMES to have a seamless process, therefore we have very little work with the Government. We are mainly in the private corporate".

4.2.2 Opportunities at SMMEs disposal

The second objective of this study tends to find the opportunities that are at SMMEs disposal as a result of the digital revolution, which will necessitate digital transformation in these entities. In chapter 2, the approach for measuring digital transformation within SMMEs is explained, which mainly focused on the five factors adopted from the Digital Transformation Playbook by David L. Rogers (2016). This study focused on the participants' view on these core five factors around a digital transformation strategy, namely: Data, Competition, Value, Innovation and Customers. The participants were asked questions based on these core five factors that affect digital transformation strategy.

Data

The participants were asked to explain what they use data for. The responses from each participant are detailed below. Participant 1 answered that "There is data collection but only to send it to the government, no data collection for the company itself, we still have a long way to go". Participant 2 answered as follows: "We use data Insights from research data and secondary data. For understanding our clients and how to drive our business. Furthermore, we use it to measure how impactful the campaign we ran was".

Participant 3 replied to the question as follows: "We use data to measure our efficiencies, trends and success rates and know which client needs more information". Participant 4 stated the following: "Our use of data is for collecting market trends data. We then analyse the data and make changes to our company by adapting to what the trends are, based on the data". Participant 5's response is as follows: "We use data to apply analytics for clients. As an asset management company, data is the integral part of our company".

Participant 6 responded as follows: "Data is very important for us. We use our data for demonstrations to clients. We use it for Proof of concept". Participant 7 answered the question as follows: "We use data to shape our market approach. And to guide us on which direction our company should go. Others call it Artificial Intelligence but we call it predictor models". Participant 8 responded by stating the following: "The only data

we have is just customer data. But we haven't done any analyses on it. We actually haven't used it for any purposes as yet".

Participant 9's response is as follows: "We use data primarily for regulatory purposes. We also use it for monitoring and remedial actions for other plants and how to maximise the yield of plants". Participant 10 responded as follows: "We bring solutions to clients based on the client products. We build processes based on the data from the research".

Competition

The participants were asked about how they handle the relationships with their competitors and partners. The responses to the question are presented below.

Participant 1 responded as follows: "Yes, in construction there is a lot of collaboration with other companies. Sometimes the same companies we compete with for the same contracts, we sometimes partner with them to work on some projects or we subcontract them". Participant 2's response was as follows: "We collaborate a lot with our competitors and we refer to them as frenemies, we believe in punching amongst the best". Participant 3 responded by saying: "When a client requires something that we don't have. We get our rivals to collaborate with and deliver the solution to the client".

Participant 4's response is as follows: "We do a lot of collaboration with our rivals because they are mainly well established than we are. To ensure that we deliver quality, we collaborate with those that can assist''. Participant 5 answered the question by stating the following: "We work a lot with our rivals to complete projects. Most of the projects we get are huge in scope. We are fortunate to get this because of the skills we provide. Therefore, we collaborate with our rivals for capacity and resources''.

Participant 6 responded by saying: "We do partner with our rivals at times to deliver big projects. Sometimes we get projects that have a tight schedule, as a small business we don't always have the capacity to reach the goal unless we collaborate with other companies". Participant 7 responded as follows: "We collaborate with some of our rivals on complex assignments and international projects to deliver to clients". Participant 8 responded by saying: "Our wine is new in the market and we are still trying to differentiate ourselves from the rest".

Participant 9 responded as follows: “We do collaborate with our rivals who are more established. We do compete with partners for resources and time”. Participant 10 answered the question by saying: “We don’t trust our competitors as yet but we work very good with our partners”.

Value

The participants were asked about the number of value streams they have. The responses to the question are detailed as follows; Participant 1’s response is as follows: “As an entrepreneur I am involved in other businesses. That is not related to this current business”. Participant 2’s response is as follows: “As black SMMEs we struggle to have divided attention from our core business”. Participant 3’s response was recorded as: “We look into taking away our client's pain. Beyond recruitment we also assist our clients in getting VISAS for abroad work applications”.

Participant 4 responded by saying: “Besides software development to enable people to work remotely and students for learning. We also implement IT Strategies and frameworks for our clients. In that we utilize our existing networks for new types of work”. Participant 5’s response is as follows: “The company has other divisions that are fully operational. But the most recent one was making sanitizers during lock down. We used the same networks to sell sanitizers. This new value stream came as a result of the COVID-19 pandemic”.

Participant 6 responded to the question by saying: “We deal with the science of where. So our main part is about Geographic Information System (GIS). But we are now planning to get into training. We have noticed a gap in government. We noticed they lack a lot of skills in administering the work we do for them”. Participant 7’s response is as follows: “Our key success factor is ability to deliver on a larger scale. Rendering services at a break-in point”.

Participant 8 answered the question by saying: “We started as a distribution company and now we are making dealcoholized wines. And we use social media to market our product. So yes, we have created a new value stream”. Participant 9 responded as follows: “At the moment our only focus is on the core business but we do lookout for other opportunities”. Participant 10’s response is as follows: “We just stick to our market and current services”.

Innovation

The participants were asked about how they handle innovation within their companies. The responses to the question are presented below. Participant 1's response is as follows: "We are still using old traditional ways of delivery. We are not open to new ideas, there is no room". Participant 2 responded by saying: "We are open to new technologies for doing business and we aim to move with how things are done. We move away from strict barriers and we ensure our turn-around times are agile. We welcome ideas from all levels of hierarchy".

Participant 3 responded as follows: "We continue to think of new concepts, although it takes longer to go to market. We have a champion for dealing with new ideas, then a case is created for it, have a trial run and approve if successful". Participant 4 provided the following response "Our business relies on innovation; we do prototypes before producing mass. Any idea is welcomed at any time". Participant 5 responded by saying the following: "We are agile in a sense that we prototype our products. We embrace innovations and new ideas and explore them and anyone can suggest".

Participant 6's response was recorded as: "Our company is flexible enough to make changes as needed. With the Government it's about what the department and owners need. We have started an innovate and Research Department to focus on such. Now that we have the Research and innovation department, new ideas can be taken there, and also the CEOs office is always open to discuss new ideas". Participant 7 responded as follows: "We have a fluid strategic document, there are mega shifts which we respond to in the market. We are constantly aiming to stay ahead. We have Informal Research and Development. In terms of new ideas, we have an idea meeting for the whole staff and pick the best times".

Participant 8's response is as follows: "We are agile wherever the money is. In terms of new ideas, if It's a good idea we implement. There is no hierarchy. Participant 9's response is as follows: "We have to be innovative as a start-up. In terms of new ideas, it depends on the type of idea and how far it is from current business. We assign a dedicated team to look into it not to comprise the actual work of the day". Participant 10 responded as follows: "The world is Agile, we are always agile in our delivery to manage the time and risks. Agility for us is the way to go. For new ideas, we discuss and move with the idea. We are agile enough to not block new idea".

Customers

The participants were asked about the type of relationship they have with their customers. Participant 1 responded as follows: “The construction industry is sensitive. We don’t market to our customers. It’s only at the beginning of the work when you introduce your company to the industry. From there we just bid for tenders to get projects”. Participant 2’s response is as follows: “As a marketing company we influence the marketing collaboration with customers. Influencer marketing has taken over the digital space. Collaborating with customers is very good for a company’s brand. We also collaborate with our customers for corporate social investment (CSI) events”.

Participant 3 responded as follows: “We do our marketing to customers for more brand awareness. In addition to that, there is a collaboration we do with our customers from time to time”. Participant 4 responded by saying: “Our business model requires us to work with our customers because they are our re-sellers. So yes, we collaborate with our clients to advance our business”. Participant 5 responded as follows: “We don’t do marketing at all, we work on referrals. We use networks to gain more customers”.

Participant 6’s response was as follows: “The only marketing we do is on the company website with a corporate identity. But we intend on going the UX (user experience design) and SEO (search engine optimization) route once we have enough capacity”. Participant 7 responded by saying: “We don’t do formal marketing to customers, we just do periodic radio participation in said topics such as the state of water in South Africa. By offering our expert opinion on topics of interest, is how we get our business known”.

Participant 8 responded to the question by saying: “We use social media to market to customers. And to sell, to promote and collaborate with Instagram users. Sometimes we also run competitions online”.

Participant 9 responded as follows: “We operate on a business to business level. So we get our customers through networks”. Participant 10 provided the following feedback: “We have a business development person that speaks to all potential clients”.

4.3 Performance of SMMEs

During the interview process, the participants were asked questions on their Key Performance Metrics. The participants that applied performance metrics are just 70% of the sample, and 30% do not have performance metrics. Figure 4.7 represents the number of companies that have key performance metrics and those that do not have.

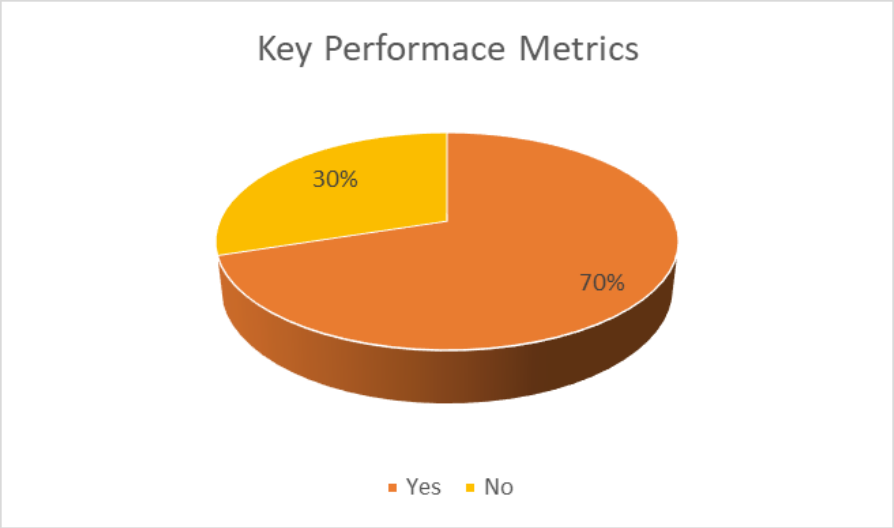

Figure 4.7: Key Performance metrics availability

Participant 1 responded as follows: “Our key performance measures can’t adapt; at the moment we only want to stabilize the business and deal with the after effects of COVID-19”. Participant 2’s response is as follows: “Our key performance measures can adapt to changes in strategy”. Participant 3’s response to the question was: “We have structured our performance measures in such a way that they can adapt to changes in strategy”.

Participant 4 responded as follows: “Our performance measures are structured in a way that allows for them to still apply with the new strategy. For instance, we have moved from assembly to manufacturing”. Participant 5’s feedback to the question was: We don’t have metrics set, we operate on trust and excellence”.

Participant 6 responded by saying: “We don’t even have key performance indicators”. Participant 7’s response was as follows: “Our performance measures are meant to be adaptive to changes in strategy”. Participant 8 responded as follows: “We operate on short term goals for our strategy”. Participant 9 Most of our key performance measures

are financial in nature. So they can adapt to changes in strategy. Participant 10's response was as follows: "The agility comes in this form. We approach every work stream with agility and we adapt with changes to the strategy".

Rewards

The participants were asked about how they reward the managers within their companies. The responses are presented as follows: Participant 1 responded as follows: "Our rule is simple and straight; our rewards are objective based". Participant 2 mentioned that: "The rewards are only given for the end product". Participant 3 responded to the question by saying: "The managers are only rewarded for long term strategies".

Participant 4's response was as follows: "When it comes to rewarding managers on projects, we wait for the end of the project. But we intend to change this approach and provide motivation along the way". Participant 5 responded as follows: "We would like to incentivise managers on projects as and when they are still in progress. But for now we only reward for money in the bank". Participant 6 responded to the question as follows: "We provide bonuses annually for everyone. When it comes to projects, we only reward on achieved objectives".

Participant 7 provided the following answer: "When it comes to rewarding our managers, there are two things for us; their ability to gain a client and client retention". Participant 8's response was as follows: "Rewards for us are different. It's a family business, the reward is more on us achieving our business goals". Participant 9 provided the following feedback: "Our reward system only focuses on long term strategies, we do not have short term incentives to offer while projects are still in progress". Participant 10 responded as follows: "Our current model doesn't allow us for long term strategies. We focus more on the short term projects we have to keep us going. We can only afford salaries and bonuses. Nothing beyond that".

New ideas

The participants were asked about how they handle the proposal of new ideas in their companies. Participant 1 responded as follows: "We are not open to new ideas, there is no room for new ideas. Our business is straight and forward on what needs to be done. There are industry frameworks we follow to ensure quality and safe delivery.

Therefore, we cannot afford to be innovative in how to deliver what is expected of us". Participant 2 said: "We welcome ideas from all levels of hierarchy. We encourage the entire staff to be innovative. Once in a while we have brainstorming meetings to come up with new ideas".

Participant 3's response is as follows: "We have a champion for new ideas. All new ideas are channelled through the champion, who then creates a case for it. The follow up steps are to have a trial run and if the idea passes this stage then it goes for approval". Participant 4's response is as follows: "Any idea is welcomed at any time. As a technology company we need to keep innovating ourselves. We have a very technology advanced team, so therefore we trust their ideas can take us forward". Participant 5 said: "We embrace innovations and new ideas. All new proposed ideas are explored in full. In our company anyone can suggest a new idea at any time. Sometimes we make it more fun by having brainstorming sessions that are more playful, and relaxed so that ideas can flow easier."

Participant 6 provided the following response: "We have recently created a research and innovation department. Before then ideas were suggested but there wasn't a formalized way to follow through and see them succeed. Now that we have the research and innovation department all new ideas by everyone in the company can be taken there. Even though we have this process, the CEOs office is also always open to new ideas". Participant 7 said: "We have an informal research and development process. We normally have an ideas meeting for the whole staff where we bounce off ideas. We prioritise the ones that seem more likely to work. We run with them and see where they take us".

Participant 8 responded to the question by saying: "Our company is very flexible with new ideas. We welcome all ideas. If It's a good idea, then we implement it. There is no hierarchy of how ideas are treated". Participant 9 provided the following response: "It depends on the type of idea and how far it is from current business. We assign a dedicated team to look into it not to comprise the actual work of the day". Participant 10 responded as follows: "for any new idea brought forward, we discuss and move with the idea if it's good. We are agile enough to not block new idea"

4.4 Business Focus of the SMMEs

The last interview question asked to all participants was based on their business focus, focusing on if their focus is on profit or customers. Participant 1 responded that “The nature of the work requires us to be profit based”. Participant 2 said “Our business rule is to make money but in the process of doing so, we know it is right to prioritize customers”. Participant 3 responded by saying: “Our business is customer focused and we know in that way, profits will follow”.

Participant 4’s response is as follows: “At the moment our primary focus is on customers first because we intend to create a capacity around the country. Once we have a well-established client base then we will start making profits”. Participant 5 responded as follows: “Our focus is on both customers and profits. Because it is nice to see the value you add to the clients. If you add value to clients, you will get your reward. There is money to plough back”. Participant 6 provided the following response: “Our primary focus is a mixture of both customers and profits. For customers it’s about going the extra mile for them because in the long run it will return profits”.

Participant 7 said “Our focus is on sustainability, the fewer the clients the better. We believe in a niche market”. Participant 8’s response is as follows: “The main goal is to make profit. But to get there we need to grow organically and have the right structures. Customers and structure and good services then we know money will come”. Participant 9 provided the following feedback: “Our business focus is usually on both the customer and profit. You have to do both. We separate the client facing and the product delivery team”. Participant 10 responded as follows: “Our business focus is on both the profit and the customer. We know if we manage to satisfy the customer we will make profits and get more referrals. We work hard and stay ahead of the competition”.

4.5 Chapter Summary

The study started with an initial sample size of 10, characterized as 100% male. The sample consisted of 80% Blacks, 10% Indian and 10% Chinese who were between the ages of 30 and 40. This sample revealed that the respondents were well educated with 100% of the entrepreneurs having post matriculation qualifications, of the 100%

post matriculation, 40% of them have post-graduate degrees including a PHD. Candidate. All the entrepreneurs (100%) work in their businesses full time.

The questions posed to the participants in relation to opportunities at SMMEs disposal due to digital revolution were guided by five core factors adopted from the Digital Transformation Playbook by David L. Rogers (2016). The factors are namely: Data, Competition, Value, Innovation and Customers. The factors affecting deployment of digital transformation strategy in SMMEs' business models research question was guided by the challenges participants felt strongly about.

The 70% of the sampled participants applied performance metrics, while 30% do not have performance metrics. One of the direct quotes taken from the participant that does apply metrics is "We don't have metrics set, we operate on trust and excellence". Of the 70% that apply performance metrics, 29% of them said their performance metrics cannot adapt to changes in strategy. 80% of the participants expressed how their focus is on achieved goals. The other 20% rewards based on the business model. The rewards are only given out when the goal is achieved.

90% of the participants said they allow new ideas to be shared without any hierarchy. And only 10% said they do not have room for any new ideas. Although the participants had one focus, which is profit. Interestingly, they have mentioned the importance of putting the clients first, with the belief that if one puts the client first by delivering quality service and products, the profits will follow.

Chapter 5: DISCUSSION OF THE FINDINGS

5.1 Introduction

Reflecting on the results reported in Chapter 4, this chapter discusses in detail the findings of this study, according to the research questions/objectives. The first objective is identifying the opportunities that are at SMMEs disposal as a result of the digital revolution, which will necessitate digital transformation in these entities, while the second objective is to find out the factors that affect deployment of digital transformation strategy in SMMEs' business operations. Before diving into the objectives, it was necessary to point out vital findings on the sample deployed in this study, as well as the technologies adopted by these sampled SMMEs in the pursuit of digitization of their business operations.

5.2 Profile of the Entrepreneurs

The sample frame of this study consisted only of males, despite multiple attempts to reach females for a fair gender representation. Only male participants responded quicker and were willing to be part of the study, with 60% of them holding postgraduate qualifications (including Ph.D.). This study sample contradicts Bosma et al., (2016) findings that sub-Saharan African entrepreneurs are not highly educated. However, the GEM South African report, 2018 indicates that men are more likely to be involved in entrepreneurial activities than women (Herrington & Kew, 2018). The GEM report, 2017/2018 further identified several factors that play a part in preventing women from acting on as well as perceiving entrepreneurial opportunities. These factors may include: lack of female role models in the business sector; lack of capital and assets; higher levels of domestic responsibility; fewer business-orientated networks in their communities; lower status in society and a culturally-induced lack of assertiveness and confidence in their ability to succeed in business.

Another interesting finding from the research sample is the age of the participants. Entire sample participants fall between the ages of 36 to 45, with 70% constituting ages between 36 and 40 years old, and 30% between 41 to 45 years old. This also supports GEM 2017/2018 report that the age group of 36-45 is considered as the most

economically active group. Therefore, this research argues that there is great need to instil entrepreneurship skills in the younger generation.

More so, there seems to be multiple correlation between ages, the level of education and positions held in organisations. The South African youth ages range from 14 years to 35 years. From this study's sample, CEO positions are held by participants over the age of 35. Out of the 4 CEOs in the sample, 3 of them have Masters Degrees and one is a PhD candidate. According to the GEM report 2017/2018 higher participation rates in entrepreneurial activity among those between 35 and 44 could be attributed to the fact that these individuals have had time to develop their skills and knowledge through education. This report is in line with the sample that consists of Masters and a PHD candidate. They have also had time to build up knowledge through work experiences and have managed to build confidence in their own abilities. A critical factor is that they may have accumulated other resources such as social and professional networks, personal savings and access to other financial resources (Herrington & Kew, 2018).

5.3. Technology adoption

The technologies used by the participants vary according to their industries. The participants mentioned they acquire new technology for adding value to the business and to create convenience for the workers. During lockdown, there was an increase in video conferencing platforms for the ease of communication while adhering to the social distancing lock down rules. Figure 5.1 shows the main online video conferencing that were used worldwide.

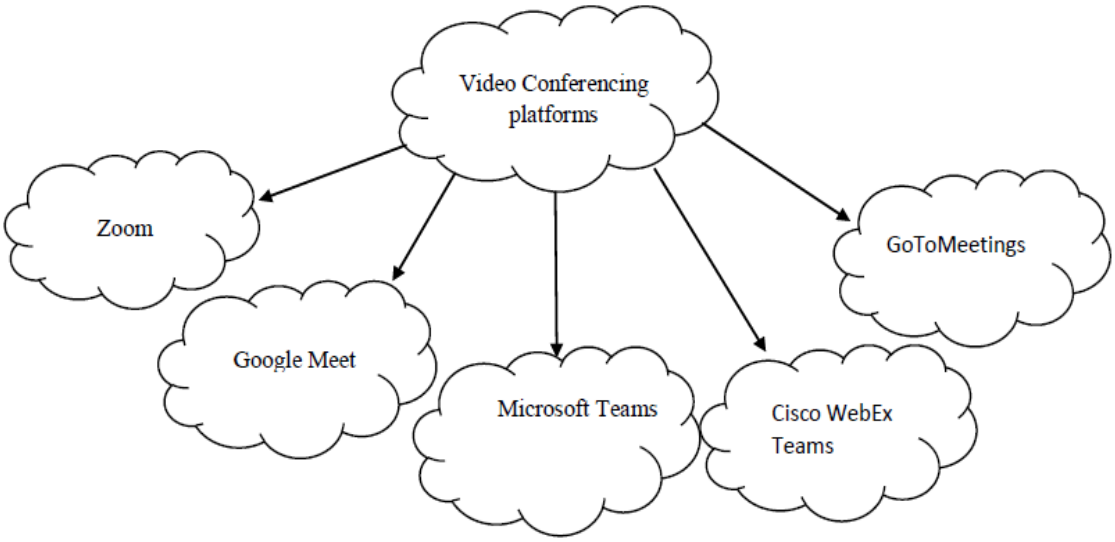

Figure 5.1: Video Conferencing (Adopted from Singh and Awashi, 2020)

The majority of the participants admitted that they use WhatsApp, Zoom and Microsoft Teams for meetings and conferences, which helped the business to keep functioning despite the global lockdown due to the pandemic Figure 5.2 is derived during the analyses of the responses provided by the participants. It shows the dominated apps that were used by the SMMEs to facilitate digitization of their businesses and kept the business afloat during the pandemic era.

Figure 5.2: Technology used (Source: Synthesized from the Participants responses)

5.3 Factors that affect deployment of digital transformation strategy in SMMEs

The first objective of this study is to identify and analyse the factors mentioned by the participants that affect deployment of digital transformation strategy in SMMEs' business models. As per figure 5.3, this study found that the top factors that affect digital transformation include: internet connectivity. technology applications, electricity and government official's skills. The most common issues raised by the participants appear larger than other words in the word cloud, which was derived from answers during analyses. These identified factors are analysed in detail below.

Figure 5.3: Challenges faced by SMMEs (Source: Synthesized from the Participants responses)

5.3.1. Internet Connectivity

During the higher levels of lockdown restrictions due to the pandemic, most companies had no choice but to operate from home and carry out businesses online. Most SMMEs had to ensure that employees had connectivity needed to continue with official duties. Even though the top management already had fibre at home, it proved to be the opposite for the lower level employees. This could be attributed to their low income / earnings. To ensure that employees are connected to keep up with work, most companies had to arrange for (acquire) data packages for the employees. Such a move was expensive for most SMMEs which raised their operating cost without assured corresponding increased revenue.

However, it was discovered that in 2013, the broadband policy was approved by the government (South African Government, 2013) in order to minimise internet connectivity problems. The broadband policy was established to ensure that South Africans are connected at a cost and quality that meets the citizen's needs by 2030 (South African Government, 2013) for efficiency purposes, the Independent

Communications Authority of South Africa (ICASA) was set as the regulator to coordinate the implementation of broadband across the country.

Research shows that these connectivity and internet access issues referred to 'digital divide' are in existence but less prevalent in the developed world. The '*digital divide'* is described as the gap between being able to use and access the digital infrastructure and services between households, individuals, geographical areas and businesses (Ben et al., 2017). The effects of this 'divide' are mainly within particular population segments, such as rural communities and low-income communities, due to lack of infrastructure, lack of affordability of new technologies as well as poor digital skills (Ben et al., 2017).

A study by Facebook in 2016, posits that remote areas or rural areas in emerging economies, indicates that more than four billion people remain unconnected to the internet (Facebook, 2016). Furthermore, there are gaps in high-speed internet access that have significant effects on media access, such as video streaming (Shenglin et al., 2017). This is an empirical worrisome issue considering the increasingly high usage of video conferencing platforms during global lockdown due to the pandemic.

China as an emerging country has had increasing e-commerce activity in the Business to Consumers (B2C) segment over the last few years (Dabrynin & Zhang, 2019). However, research has found that as many people are acquiring access to new services in China, large subdivisions of the residents remain left out from the 'new' economy. There is still a noticeable digital divide between developed and less developed areas and this is still an issue to be addressed in the future (Shenglin et al., 2017). The digital divide may come across as a much more critical and common issue inherent in emerging economies, however, some advanced economies still face these challenges such as France and Italy. Shenglin et al., (2017) posits that the only way to bridging the digital divide is for the government to provide adequate infrastructure and services, predominantly in disadvantaged areas of both advanced and emerging economies. The findings of this research is in line with Shenglin et al., (2017), as most of the research participants are of the opinion that the government of South Africa could do better by ensuring there is connectivity and affordability of internet connection across the country wide and most importantly at lower costs.

5.3.2 Technology Tools

The other common challenge identified by this study that affects digital transformation by SMMEs is the technological application tool deployed in carrying out daily business operations. The SMMEs are tech savvy enough to know software that can offer their companies integrated functionalities, however the concern is that the software's are not packaged to suit SMMEs. Instead, they are packaged to only suit medium and large enterprises. As part of the South African Connect (SA Connect) project plan to support digital opportunities, it is required that connectivity be increased through the promotion of local and relevant content and applications (National Broadband policy, 2013). According to Reiter & Kutin, (2018), large businesses in Europe excel at a higher rate than SMEs in terms of adapting to all digital technologies especially, technologies with a higher return, e.g. cloud computing. The findings of this research support that technological applications suitable for SMMEs should be considered by the government while making laws and policies relating to technological infrastructures.

5.3.3 Electricity/Load Shedding

Electricity is one of the core elements of a decent standard of living (South African Government, 2019). It is widely accepted that the availability of well-organized energy services is an essential driver of development and economic growth. It therefore can be argued that access to education, improved health and superior economic opportunities are dependent on efficient energy supply (Mahfoudh & Amar, 2015). Mahfoudh & Amar (2015) also found that there is a correlation between the wealth of a country and the consumption of electricity. In addition, all internet-enabled devices require electricity to function (O'Keeffe, 2021).

The third factor identified in this research that affects SMMEs digital transformation is electricity load shedding. Load shedding has been an epidemic in the South African economy even before the global lockdown due the COVID-19 pandemic. Most businesses had to close down during the period of load shedding, which in turn leads to reduction in earnings. Only a few have generators to continue with their businesses during load shedding, which directly and indirectly impacts negatively to the earning,

due to high cost powering the generators relative to generated profit. With the lockdown regulations that require people to work from home, it became more difficult for all employees to work during load shedding from their respective homes. This makes them lose out on businesses and it affects their reputation due to failure to satisfy clients' needs.

According to the Integrated Resource Plan, 2019, the National development plan has envisaged that South Africa will have an energy sector that provides efficient and reliable energy service at competitive rates. The government has continued to follow an energy mix that is diversified to reduce reliability on a single or limited energy source. The findings of this research envisage that the government of South Africa should speed up in facilitating energy supply to enable SMMEs to stay and succeed in businesses.

5.3.4 Individual upskilling

During the course of this study, it was found that some of the SMMEs are ready to apply the fourth industrial revolution in their businesses, but some of the individuals they do business with (especially government officials) are not yet exposed to the technologies and the digital ways of doing business. It was found that the government still prefers traditional ways of doing business, ranging from tender applications, bidding, and allocations of contracts. For instance, some tender applications require one to submit a 200 – 400 pages' document instead of, emailing or uploading to a secured depository.

According to an article published on the World Economic Forum in 2017, the top five skills needed by government officials in the Fourth industrial revolution include: technical knowledge, high quality data, collaboration with the public, global networks across sectors, and an open mind and an agile workplace (Campbell, 2017). The South African government has adopted what is known as e-government (Zibani, 2018), and has affirmed that all citizens and officials must be able to use and acquire technology to ensure that they do not fall victim to a "digital divide".

The findings of this research reveal that SMMEs are still struggling to do business with the government due to lack of effective implementation of the e-government.

Therefore, it is requested that the government should step up their game to ensure effective implementation and application of the e-government to enable an efficient business with SMMEs.

5.4 Opportunities that are at SMMEs disposal

The second objective of this study is to identify opportunities that are at SMMEs disposal as a result of the digital revolution, which will necessitate digital transformation in these entities. From the interview conducted, the findings of this research pointed to some opportunities in the form of data usage, competition within the SMMEs cycle, business value, innovation and creativity as well as integrating customers into the business.

5.4.1 Data Usage

Figure 5.4 highlighted the top words mostly used to describe the usage of data from all the participants. The picture was derived from the analyses of the interview responses.

Figure 5.4: Data Usage (Source: Synthesized from the Participants responses)

This study found that the majority of the SMMEs use data mainly for research, especially researching on the clients' market, building and predicting trends both for the business and for their clients. One of the interesting findings is that 70% of the SMMEs that participated in this study use data for predicting the future and the market trends. Therefore, access to and usage of data is identified as one of the major opportunities SMMEs will deploy to achieve digital transformation. The data collection sources and process varies depending on the interest of a particular SMME. Some SMMEs collect their data through social media, this helps them to find out and understand their clients' preferences, as well as the latest trends of their clients' needs.

The findings of this research is in line with Rogers's theory, where Rogers (2016) described data usage as a digital transformation domain that is dependent on how the companies are exposed to data, including collecting, managing and handling data. Figure 5.4 presents the top 100 words used when participants gave answers on how they deal with data in their respective companies.

The traditional ways of handling data meant it had to be produced through planned various measurements. The most common way data was collected in traditional ways was through inventory taking and customer surveys. The processes that required data collection were mainly manufacturing, operations, marketing and sales. The collected data was used for evaluations, forecasting and decision making that took place after strenuous analyses.

By contrast, in the fourth industrial revolution, the world is drowning in a never ending data collection and usage. This means data does not have to wait for long to be collected and it does not require systematic methodologies such as planned market surveys and monthly inventory counting. Instead, the collection of data is in the most unprecedented methods and quantities from various sources. Sources vary from conversations, client interaction, internal and external processes to the business. What has now proved to be the most popular, informal and timeous way of receiving data is through social media. Which can easily be carried out with a mobile device. For companies that work with sensors, it has also become easy to receive instant information on every object through the organization's supply chain.

This has led to the concept of big data analytics which has become a trend and easy way of collecting, analysing and making use of structured and unstructured data.

The challenge most SMMEs face is not having the required applications to enable them to handle unstructured data, as well as the ability to handle personal privacy issues as required by the various privacy laws (Schwab, 2016). Therefore, the finding of this research compels data collection, analysis and usage to be essential to SMMEs in the course of channelling their route to digital transformation.

5.4.2 Competition

Figure 5.5 highlighted the top words mostly used to describe the relationship between the SMMEs and their competitors.

Figure 5.5: Competition (Synthesised from the Participants responses)

The study found that most SMMEs prefer to collaborate with their competitors rather than viewing them as rivals. Most of the SMMEs that participated in this study mentioned that they prefer collaborating with competitors when the going is tough, they merge strength, technology and ideas with their competitors to deliver projects that seem difficult for one SMME. Only 10% of the SMMEs that participated mentioned that they do not have much trust with their rivals, therefore, hardly go into collaborations.

On the factor of competition, Rogers (2016) introduces two concepts namely; platforms and co-opetition. A platform is defined as "*a business that creates value by facilitating direct interactions between two or more distinct types of customers"* As a result of the power inherent in the networking effect of a platform, it makes it almost impossible for rivals to be recognized and compete once a platform is well established. Platforms are in the game of winner takes all, examples would be YouTube for videos, Facebook for social networking and Amazon for media streaming (Parker, Van Alstyne & Choudary, 2016).

Rogers (2016) explains co-opetition as an effective strategy that demands for even direct competitors to find ways to work together in certain arenas cooperatively. It is advisable for leaders to know when it is time to be fierce with competitors but for a successful business, it is highly imperative to know when to make peace with competitors and collaborate. The leaders of PayPal definitely succeeded at that when they merged their two companies together; Confinity and X.com to overcome the deflating tech bubble in the year 2000 (Parker et al., 2016).

The findings of this research based on the two concepts of competing, considering that the participants are already familiar with the concept of collaboration or co-opetition as described by Rogers (2016), encourages SMMEs to look beyond their immediate offering and explore the possibilities of creating platforms.

5.4.3 Business Value

Figure 5.6 has highlighted the top words mostly used by the participants when asked about the various value streams they utilize. The picture was derived during the analyses of the interview responses.

Figure 5.6: Value (Source: synthesized from the Participants responses)

The words that came up a lot around the value creation questions were client assistance. Most companies still stick to their original services and products as the value propositions to the market. However, whenever the client requires some extra assistance, they are more than willing to step in and assist. The participants of the study went through the biggest economic disrupter, COVID-19 pandemic, which came with lockdown restrictions by the South African government. This meant for most of the companies, it could not be business as usual. This led some of the participants to go for a completely different business model.

With the COVID-19 pandemic, there was an increase in demand for sanitizers (SASOL, 2020). Therefore, some of the participants took up that opportunity to stay in business and sold sanitizers. One of the lockdown restrictions by the South African Government was the prohibition of the sale of alcohol (Government, 2020). This led one of the participants of the study to start making alcohol free wine. Some of the participants that deal with government as their clients noticed a need for training and added training as part of their value proposition.

Rogers (2016) describes the old traditional ways of value as a value proposition defined by the industry. Companies optimized their business model for as long as they could; some formed a red tape around the industry to ensure there are no external

changes that will require them to make changes to their business model because market success meant complacency to traditional rules. The only changes meant refreshed campaigns, updated products and probably improved processes. However, what was offered to the consumer was just constant.

According to Rogers (2016) companies that are forever willing to evolve will survive the digital age. Rogers (2016) encourages businesses to judge change by how it could create the next business and not how it impacts current business. The study found that these are the qualities that seemed to come natural to small businesses interviewed that seized the moment by catering to the needs of the customer enticed by the lockdown restriction rules. The study encourages SMMEs to continually find new ways of business as the consumer needs may never be the same again after the pandemic.

5.4.4. Innovation

Figure 5.7 highlights the top words mostly used to describe how innovation is carried out by SMMEs, which was derived during the analyses of the interview responses.

Figure 5.7: Innovation (Source: synthesized from the Participants responses)

Considering the participants had high education qualifications, their knowledge around agile methodology was not surprising. It was also established that some participants have dedicated champions that handle innovative ideas. And some participants have an entire department that is dedicated to Research and Development.

Rogers (2016) defines innovation as “the process by which new ideas are developed, tested, and brought to the market by businesses”. He argued that the traditional ways of handling innovation were framed around the waterfall model. The decisions were made on seniority and with the aim of avoiding failure at all costs. For a new idea to be given any attention, it had to go through countless channels of a hierarchy process because it was expensive to test new ideas, the whole process was slow and difficult. The greatest challenge for most companies with innovation was the pressure to find the perfect solution. The focus was always on the end or finished product.

Whereas, in the digital ages, innovation is more about the minimum viable product (MVP) to market (Schuh et al, 2018). The digital age comes with constantly changing deliveries that are rapid and a timeous response to customer needs (Rigby et al., 2018).

Because of the nature of small business, with fewer employees than that of large enterprises, it is easier for communication to flow easily from top management to lower level employees and vice versa. The participants explained how they do not take long to process a new idea to be brought on board from all levels of employees within the company. In most small businesses almost all employees engage with customers regularly. It is because of this inherent design in the structure of the small entrepreneurial groups to stay close to their customers that enables them to adapt very quickly to the changing conditions of the market. The finding of this study encourages small businesses to adhere to the agile delivery methodology to see improvements in the rewards that cannot only be measured by profitability or finances but also in client loyalty and continuously engaged employees.

5.4.5 Customers

Figure 5.8 highlighted the top words mostly used to describe the relationship between the companies interviewed and their customers from all the participants.

Figure 5.8: Customers (Source: synthetized from the Participants responses)

The participants had a lot to say about their customers. Most words that came up were “marketing and collaboration”, which is in line with the five customer network behaviours identified by Rogers (2016). While some participants mentioned the level of extensive marketing they have to carry out to get their business going, the majority of the participants had a lot to say about collaborating with their customers.

Rogers (2016) posits that the traditional ways of how customers were perceived by business include mass market, and marketing was mainly to persuade a customer. The old ways of communicating to customers was through a mass broadcast, which meant there was no unique identity for a customer. The companies were the only influencers of their own products or services.

Figure 5.9 shows what a customer network looks like from a digital age perspective.

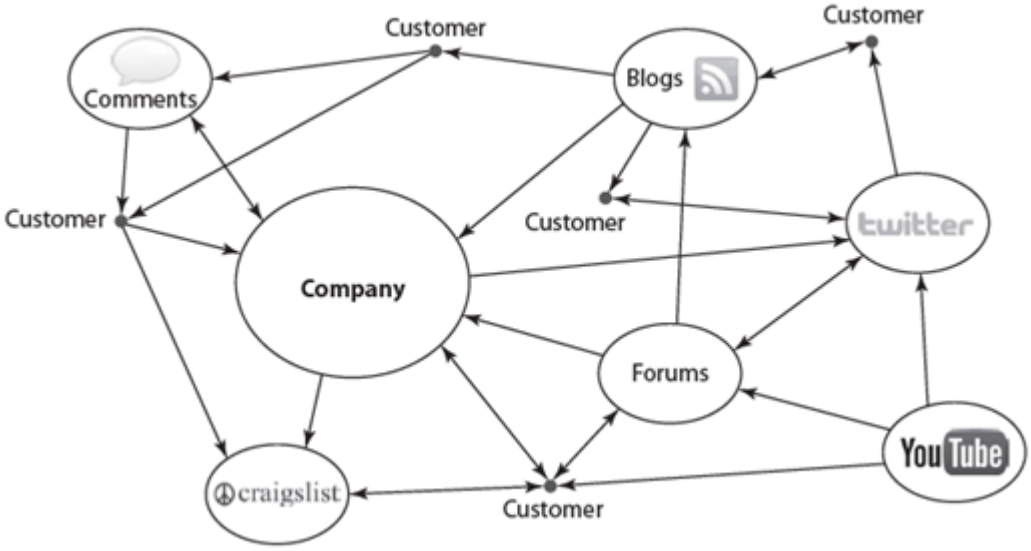

Figure 5.9: Customer Network (Source: Digital Transformation book: Rogers 2016)

As shown in figure 5.9, communication no longer flows one way from companies to customers, it now flows two ways including from a customer to the companies as well. The five customer network behaviours described by Rogers (2016) are; access; engage; customize, connect and collaborate. The access strategy is about providing the customers with instant access to interactions that are easy, quick and flexible. The engage strategy is defined as enabling the customers to engage with digital content that provides relevancy to their needs. Customers also strive to customise their experiences by modifying and choosing an assortment and variety of information. Customers strive to connect to other customers in their network to share opinions, ideas and experiences through comments, reviews and rated services. Rogers describes the collaborate behaviour as the most difficult out of the five. Sometimes customers want to collaborate with the companies to raise awareness of a social issue.

Although some SMMEs may not have defined these customer network behaviours in a way that Rogers (2016) has phrased them, they understand the importance of a client being able to reach them at all times. Not only on formal platforms like work emails but also on social chat platforms such as WhatsApp, most SMMEs have websites for sharing information about their businesses and also social media pages.

More so, social media platforms (Facebook, LinkedIn and Instagram pages) have allowed customers to connect with each other through the comments sections. In

terms of collaboration, this study found that SMMEs collaborate with their customers to the extent that some of their customers become influencers for marketing their product. Influencer marketing has proven to be a trusted online advice (Cakim, 2009).

This study has revealed that small businesses are very much capable of adhering to the five customer network behaviours. The customer network behaviours compel the SMMEs to strengthen their digital footprint in order to be connected and form part of the customer networks, in that way, they will advance in the digital transformation of customer care.

5.5. Performance of SMMEs

Key performance metrics

Kane et al., (2019) explains the importance of key performance indicators (KPIs) as vital instruments in motivating the employees. He posits that key performance metrics motivate employees for working at a faster pace and providing increased feedback that fast tracks arriving at a solution for clients. This study found that SMMEs deploy performance metrics in their businesses, also most of the SMMEs have their metrics built in such a way that they can adapt to changes in strategy.

Kane et al., (2019) further infers that a digitally maturing company understands the importance of KPIs that can adapt to changes in strategy. Changes in strategy can be brought on by working collectively as different teams, an effective strategy execution relies on cross functional teams. Bringing different people together from different disciplines encourages people to think differently and that increases performance. SMMEs in nature, due to their size or working space size, forces people to work closely together. This means there is no isolation of teams and people with different disciplines engage continuously. This study found that the lockdown restrictions which encourages people to work from home, may be a hindrance to the digital transformation advancements of SMMEs from this factor. It further appeals to SMMEs to apply key performance metrics in order to keep their employees motivated and for a better result in both productivity and efficiency.

Rewards

Figure 5.10 has highlighted the top words mostly used to describe rewards from all the participants.

Figure 5.10: Rewards (Source: synthesized from the Participants responses)

Majority of the participants mentioned they only provide rewards to managers for achieved goals. Although some would like to incentivise their managers along the way of an ongoing project, they are not there as yet financially. Some participants mentioned that the only reward they offer is annual bonuses if the budget allows for that financial year. In essence the participants believe in rewards given only for achieved goals and not motivation along the way.

Kane et al., (2019) states that people respond to incentives, and it is the responsibility of the company to ensure the incentives are designed and aligned to upkeep the digital maturity efforts. They further state that most employees find it hard to prioritize goals if it's not part of their jobs, suggesting that there is a need to incentivise managers in order to achieve better results. (Rogers, 2016) concurs and explains how rewards need to be aligned to the digital maturity of the company. The incentives have to be strategically aligned to the digital transformation goals of the company. Rogers further argues that incentives do not always mean compensation, but managers can be rewarded by the kind of behaviour that is supported and is enabled within the organization. Rewards can also come in the form of new accountabilities and how they

are assigned new positions. This study encourages SMMEs owners to invest in rewarding managers and all other employees to stay motivated in their work delivery.

Business focus

Figure 5.11 highlighted the top words mostly used to describe the relationship between the companies interviewed and their customers from all the participants.

Figure 5.11: Business Focus (Source: synthesized from the Participants responses)

The majority of the SMMEs focus on both customers and making profit. However, most SMMEs understand the importance of focusing on both making the client happy with a solid value proposition (instead of chasing profits) and increasing the shareholder value. This study has found that SMMEs have an understanding of the importance of a value proposition over focusing on profits. The participants expressed how they understand the long term effects of such a practice, as literature has shown that there is a direct relationship between prioritizing the customer and gaining profits. This finding of this research is in line with Rogers (2016) that the client needs to be prioritized before profits and this will ensure longevity of the business.

5.6 Chapter Summary

This study found challenges that affect digital transformation in SMMES to be internet connectivity technology applications, electricity and government official's skills. Internet connectivity is a challenge because the data packages are too costly for SMMEs to keep up with, especially during lockdown. Technology applications are also a challenge for operational issues, as the packages are not customised for SMMEs level. The other challenge is electricity cut offs known as load shedding. The constant load shedding interrupts effective delivery and damages the reputation of SMMEs. The last challenge faced by SMMEs is the unskilled government officials. SMMEs struggle to conduct effective business with the government due to lack of effective implementation of the e-government.

The opportunities at the disposal of SMMEs to implement digital transformation strategy is data, competition, business value, innovation and customers. SMMEs are able to collect, manage and analyse data for predictive analysis which is in line with the digital era. The nature of SMMES allows them to quickly adapt to changes in market demands and start offering a new value proposition. The innovative ideas born in SMMEs are treated with efficiency and taken to market in a timely manner. The customer network behaviours are in favour with SMME's culture of keeping close and personalised relationships with clients.

Key performance indicators are vital for measuring performance and play a vital role in motivating employees. The same can be applied to rewards. For longevity in business it is imperative to prioritize customers over profits as the latter will be gained when the clients are happy.

6. Conclusion and Recommendations

6.1. Introduction

This study set out to explore opportunities at the small and medium-sized enterprises' (SMMEs) disposal as a result of the digital revolution, which will necessitate digital transformation. It also investigated factors that make a digital transformation strategy suitable for SMMEs in the South African context.

This study commenced by providing the definition of the subject matter with its terms and concepts from a South African perspective, in doing so this paper explained the classification of Small and Medium sized Enterprises according to the National Small Business Act, 1996. This study focused on SMMEs Gauteng, Johannesburg, to look at factors that affect deployment of digital transformation strategy in SMMEs' business models, as well as the opportunities that are at SMMEs disposal to achieve digital transformation

6.2. Conclusions

The conclusion of this study is in two parts, focusing on the factors that affect deployment of digital transformation strategy in SMMEs' business models, secondly on the opportunities that are at SMMEs disposal to achieve digital transformation in this 4th industrial revolution era.

6.2.1. Factors that affect deployment of digital transformation strategy in SMMEs' business models

The findings of this study on the top factors that affect digital transformation in SMMEs include; internet connectivity, technology applications, electricity and government official's skills. It is found that Some of the SMMEs had issues with the cost of internet connectivity, which brings on the issue of digital divide amongst the country. Though in order to combat this digital divide, it was discovered that the broadband policy was approved by the government in 2013 (South African Government, 2013), but the technology applications available to SMMEs are not customized for their level and size. This denies SMMEs the chance to have an integrated functionality for streamlined processes that are efficient and that may increase customer satisfaction.

The other identified factor is electricity/ load shedding, which has been a common economic disrupting factor in South Africa. All internet-enabled devices require electricity to function, generators are costly, and might not be affordable by most SMMEs, or even affordable by employees working from home due to global lockdown in the 2019/2020/2021 pandemic. The last challenge found as a disruptor to SMMEs was government upskilling. It was found that SMMEs that do business with the government find it difficult to conduct business in the old traditional ways still being applied by government officials. This study found and suggests that the top five skills needed by government officials in the Fourth industrial revolution include; technical knowledge, high quality data application, global networks across sectors, as well as an open mind and an agile workplace/workforce.

6.3. Opportunities that are at SMMEs disposal to achieve digital transformation

This study found that the opportunities at the SMMEs disposal as a result of digital transformation are in the form of data usage, competition within the SMMEs cycle, business value, innovation and creativity as well as integrating customers into the business.

Some collect data through most advanced ways that vary from the Internet of Things (sensors) to social media. This is in line with Rogers (2016), which posits that data collection in the digital age is in the most unprecedented methods and quantities from various sources. This collection of data is used for predictive analysis for markets and client's businesses.

The other opportunity to digitally transform is to collaborate with your competitors or to form a platform. The study found that some of the SMMEs do collaborate with their competitors. One of the opportunities to digitally transform a business is change or multiple value streams. This study found that some of the SMMEs showed the ability to quickly create a new value stream according to an urgent need in the market. Innovation is another opportunity identified by this study. The SMMEs showed a lot of agility to handle new ideas proposed within their companies. The new ideas do not have to go through any multiple red tapes but instead can be shared directly with the business owners. According to Rogers (2016), for a digital transformation in a

company, new ideas are developed, tested, and brought to the market by businesses in a rapid and efficient manner that does not take too much time.

6.4. Recommendations

To address the factors that affect digital transformations in SMMEs, this study recommends that the government intervenes in so many ways to ensure increased survival/success rate of SMMEs, especially those in the digital space. It is recommended that the Independent Communications Authority of South Africa (ICASA) should fast track the National broadband policy in order to mitigate the digital divide issue faced by small businesses. The government should execute laws and policies that take into consideration the size of SMMEs when it comes to technology applications. The government should also speed up in facilitating energy supply to enable SMMEs to stay and succeed in businesses. It is also requested that the government should step up their game to ensure effective implementation and application of the e-government to enable an efficient business with SMMEs.

To ensure that the opportunities available to SMMES to deploy digital transformation can be well harnessed, it is recommended that SMMEs should adopt the Rogers (2016) theory and apply the five (5) domains of digital transformation. To track and improve performance, the SMMEs should apply performance metrics, incentivize employees and prioritise customers over profits.

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APPENDIX A: Government Gazette

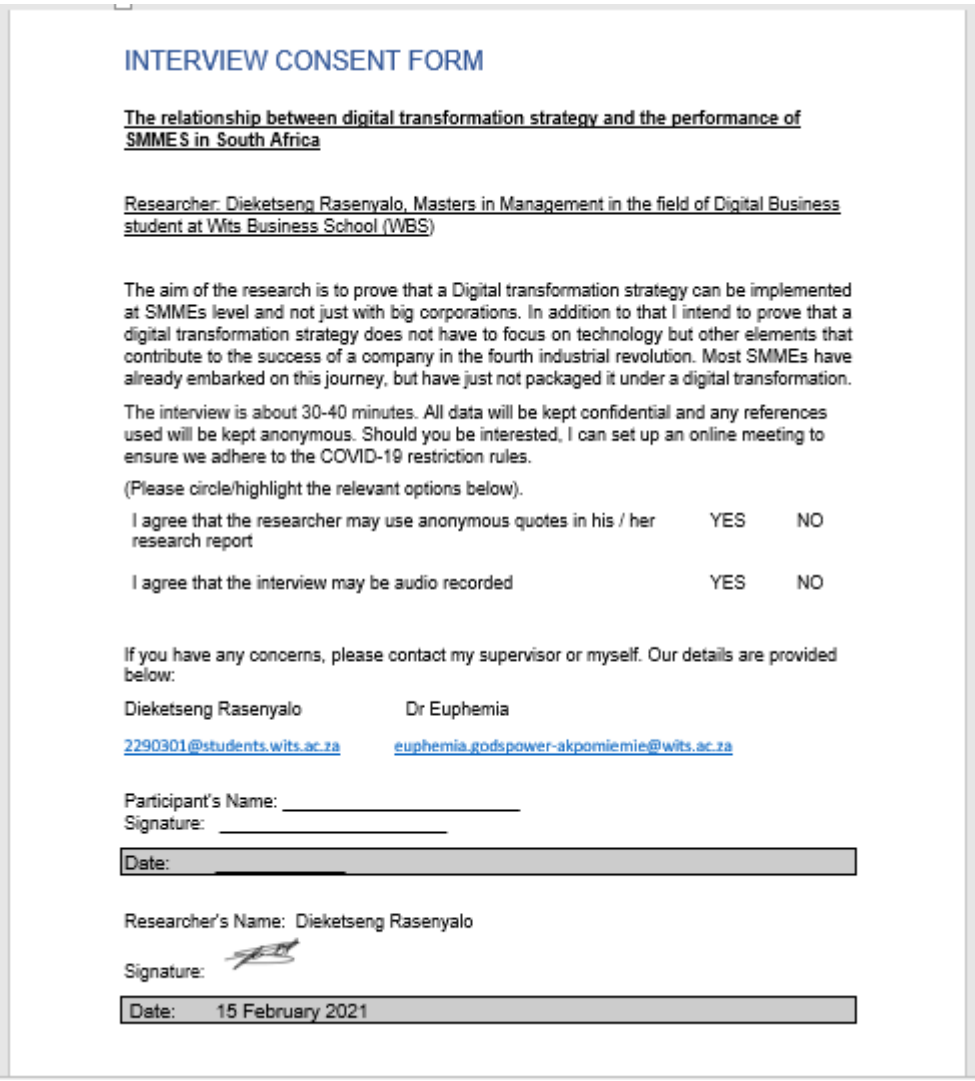
SCHEDULE

The new National Small Enterprise Act thresholds for defining enterprise size classes by sector, using two proxies

Column 1	Column 2	Column 3	Column 4
Sectors or sub-sectors in accordance with the Standard Industrial Classification	Size or class of enterprise	Total full-time equivalent of paid employees	Total annual turnover
Agriculture	Medium	250	35.0 million
	Small	50	17.0 million
	Micro	10	7.0 million
Mining and Quarrying	Medium	250	210.0 million
	Small	50	50.0 million
	Micro	10	15.0 million
Manufacturing	Medium	250	170.0 million
	Small	50	50.0 million
	Micro	10	10.0 million
Electricity, Gas and Water	Medium	250	180.0 million
	Small	50	60.0 million
	Micro	10	10.0 million
Construction	Medium	250	170.0 million
	Small	50	75.0 million
	Micro	10	10.0 million
Retail, motor trade and repair services	Medium	250	80.0 million
	Small	50	25.0 million
	Micro	10	7.5 million
Wholesale	Medium	250	220.0 million
	Small	50	80.0 million
	Micro	10	20.0 million
Catering, Accommodation and other Trade	Medium	250	40.0 million
	Small	50	15.0 million
	Micro	10	5.0 million
Transport, Storage and Communications	Medium	250	140.0 million
	Small	50	45.0 million
	Micro	10	7.5 million
Finance and Business Services	Medium	250	85.0 million
	Small	50	35.0 million
	Micro	10	7.5 million
Community, Social and Personal Services	Medium	250	70.0 million
	Small	50	22.0 million
	Micro	10	5.0 million

Lindiwe D Zulu, MP
Minister of Small Business Development
Date: 28/09/2018

APPENDIX C: Sample of proposed interview Questions



INTERVIEW CONSENT FORM

The relationship between digital transformation strategy and the performance of SMMES in South Africa

Researcher: Dieketseng Rasenyalo, Masters in Management in the field of Digital Business student at Wits Business School (WBS)

The aim of the research is to prove that a Digital transformation strategy can be implemented at SMMEs level and not just with big corporations. In addition to that I intend to prove that a digital transformation strategy does not have to focus on technology but other elements that contribute to the success of a company in the fourth industrial revolution. Most SMMEs have already embarked on this journey, but have just not packaged it under a digital transformation.

The interview is about 30-40 minutes. All data will be kept confidential and any references used will be kept anonymous. Should you be interested, I can set up an online meeting to ensure we adhere to the COVID-19 restriction rules.

(Please circle/highlight the relevant options below).

I agree that the researcher may use anonymous quotes in his / her research report	YES	NO
I agree that the interview may be audio recorded	YES	NO

If you have any concerns, please contact my supervisor or myself. Our details are provided below:

Dieketseng Rasenyalo — 2290301@students.wits.ac.za

Dr Euphemia — euphemia.godspower-akpomiemie@wits.ac.za

Participant's Name: _____
Signature: _____
Date: _____

Researcher's Name: Dieketseng Rasenyalo
Signature:
Date: 15 February 2021

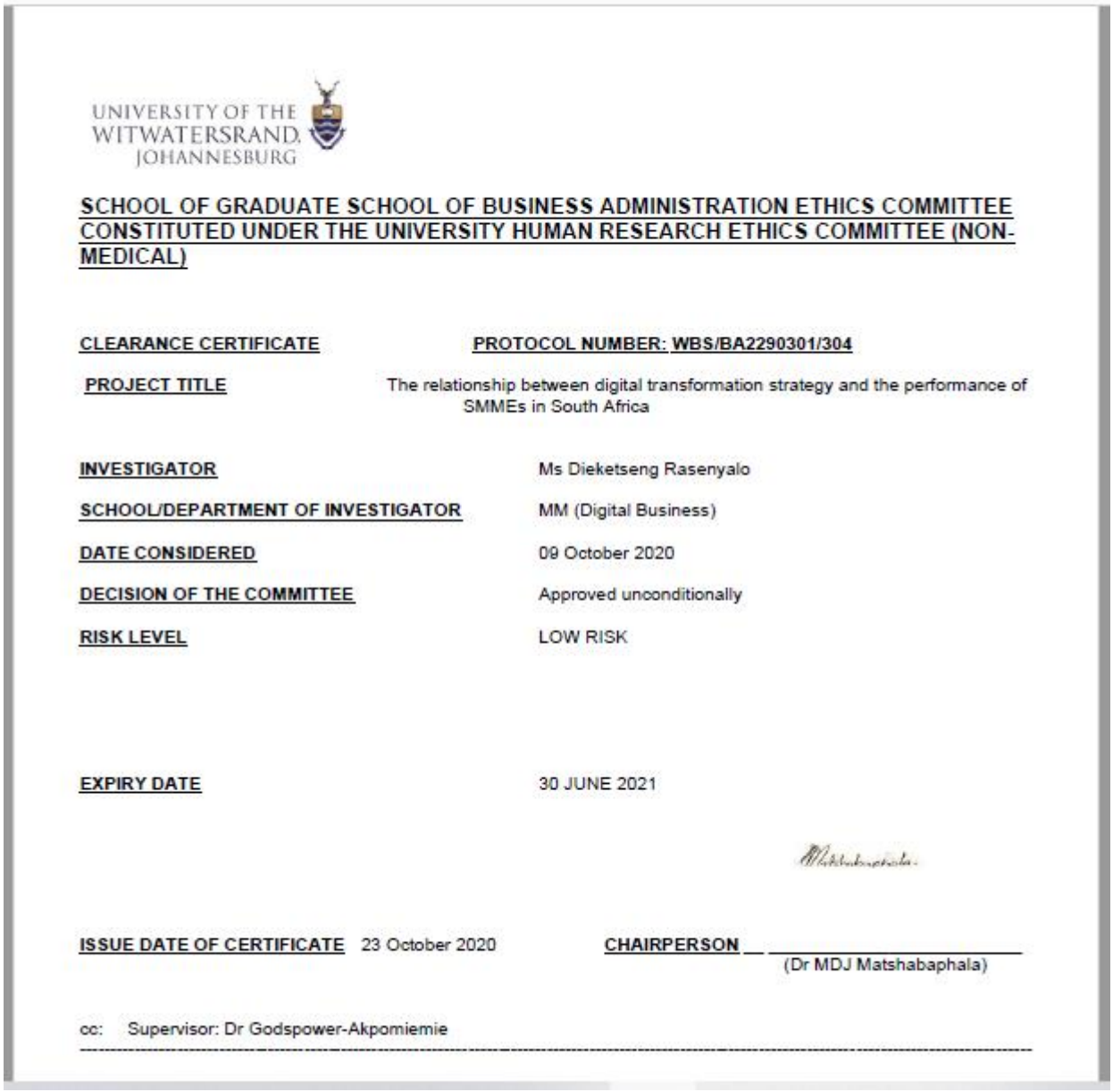
SECTION A: Profiling
Demographics
Gender?
Age?
What is your position in the company?
Company profile
Where in Gauteng is your company based?
Which industry is your business in?
How many employees does your company have?
How much is your total annual turnover?

SECTION: B Factors Affecting Digital Transformation
Description of occurred changes in the companies' processes due to Digital Transformation
How did you start your DT? Which technologies are in use already? What else are you planning?
Free narration of the actual situation of the digital transformation in general and Digital Transformation barriers
How do new technologies change the way of working? What eases/ enables the use of new technologies? Which other changes were expected/ hoped for? Why did these not happen yet? Which are the major barriers? Which are the major enablers?

SECTION C: StrategicThinking
How do you interact with your customers and what other platforms or channels do you utilize? Do you use Marketing only to market and persuade customers or do you also use it to collaborate with with your customers? Are you agile in your innovations? Do you ever collaborate with your rivals and compete with your partners What do you use your data for? Is value creation only through your own stream or do you utilize platforms and other networks.

SECTION D: Organizational Agility
When you acquire new technology, is it to make your current work easier or to create new value Are your key performance metrics only meant for the current business or can they adapt to changes in strategy Are managers only rewarded to achieved objectives or can they be rewarded for long term strategies how does your conpmany deal with new ideas Is your focus on profits or customers?

APPENDIX D: CLEARANCE CERTIFICATE



UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF GRADUATE SCHOOL OF BUSINESS ADMINISTRATION ETHICS COMMITTEE CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE **PROTOCOL NUMBER: WBS/BA2290301/304**

PROJECT TITLE	The relationship between digital transformation strategy and the performance of SMMEs in South Africa
INVESTIGATOR	Ms Dieketseng Rasenyalo
SCHOOL/DEPARTMENT OF INVESTIGATOR	MM (Digital Business)
DATE CONSIDERED	09 October 2020
DECISION OF THE COMMITTEE	Approved unconditionally
RISK LEVEL	LOW RISK
EXPIRY DATE	30 JUNE 2021

ISSUE DATE OF CERTIFICATE 23 October 2020 **CHAIRPERSON** _____
(Dr MDJ Matshabaphala)

cc: Supervisor: Dr Godspower-Akpomiemie