THE INFLUENCE OF DIGITAL TRANSFORMATION ON THE GROWTH OF SMALL AND MEDIUM ENTERPRISES IN KWAZULU-NATAL

Dissertation submitted in partial fulfilment of the requirements for the degree: Master's in Management Sciences in Business Administration in the Faculty of Management Sciences at the Durban University of Technology

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ABSTRACT

Digital transformation has become the driver of the current market in the world of business. Globally, the business environment has become highly dynamic, unpredictable, and competitive due to external forces that generate change, mostly “technology”. Existing data indicate that the arrival of digital transformation is forcing businesses to change the way they operate. Therefore, a warning to any enterprise to rethink the way they operate, to maintain their competitive advantage. This study sought to investigate the effectiveness of digital transformation and assess its impact on Small and Medium Enterprises (SMEs) in KwaZulu-Natal. Furthermore, the study aimed to explore the extent to which South African SMEs implement digital transformation using the case study of KwaZulu-Natal. Moreover, the investigation determined the factors that challenge digital transformation in SMEs. A qualitative design was used to collect data through semi-structured interviews, with eight interviews conducted in Durban, in the KwaZulu-Natal province. Eight SMEs representatives were interviewed and responded to the questions. In the analysis of data, various factors were identified that link SMEs and the arrival of digital technologies. In the effectiveness of digital transformation, the study identified that themes such as “gaining exposure” and “gaining effective sales figures” result from implementing digital transformation. In reference to its impact on SMEs, the analysed data illustrate that digital transformation has a huge impact in building customer relationships and ensuring easy accessibility of the business. As to the extent of implementation, the collected and analysed data indicate mainly online selling and digital marketing as the main digital platforms successfully implemented by most SMEs. Lastly, the study reveals that factors such as digital maintenance and rapid changes in technology are the main challenging factors of digital transformation in SMEs. In the final analysis of data, the study recommends that South African SMEs must improve digital transformation implementation by extending more digital marketing to gain more exposure. Every business desire competitive advantage in the business sector, therefore, every SME must adapt to the new ways of doing business by implementing effective digital transformation.

Key words: Digital Transformation, SMEs, Growth, Influence, and Digital Technologies

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GLOSSARY OF ACRONYMS

BE	Business Enterprise
BMI	Business Model Innovation
B2B	Business-to-business
B2C	Business-to-customer
CRM	Customer Relationship Management
CSU	Customer Service Units
CTR	Clickthrough Rate
DFs	Digital Fashionistas
DT	Digital Transformation
EIU	Economist Intelligence Unit
ERP	Enterprise Resource Planning
ICT	Information and Communication Technology
IoT	Internet of Things
IT	Information Technology
IS	Information Systems
KZN	KwaZulu-Natal
NDP	National Development Plan
PESTIE	Political, environmental, social, technology, international, economy
PPC	Pay-per-click
PRC	Penitential Review Commission
ROI	Return on Investment
SA	South Africa
SEO	Search Engine Optimisation
SMEs	Small and Medium Enterprises
SMME	Small, Micro and Medium Enterprise
SUSE	Software und System Entwicklung
TOE	Technology–Organisation–Environment
WEF	World Economic Forum

CHAPTER ONE
INTRODUCTION AND OVERVIEW OF THE STUDY

1.1 Chapter Introduction

This chapter will introduce the topic of the study, present the background, summary, and the context of the study. The research problem statement and study location will be also presented in full. Furthermore, the research purpose/aims, questions and objectives will be clearly presented. In addition, the motivation for undertaking the study will be briefly discussed. Lastly, the chapter presents a summary of all the chapters in chronological context.

The general overview of the study: In the general overview, the intention of the study was to determine the influence of digital transformation (DT) on the growth and general performance of small and medium enterprises (SMEs) in the South Africa (SA) using the case study of the province of KwaZulu-Natal (KZN). By means of references, the full discussion of the general overview together with the background of the study is presented in section 1.2 bellow.

Problem: The arrival of new digital technologies that force SMEs to adapt and implement DT remain a global phenomenon that concerns every business manager in SMEs. This problem has captured the attention of several researchers worldwide. The brief discussion with references is presented in section 1.6 (Research problem) bellow.

Purpose/aim: The initial purpose of this study was to investigate the practical aspect pertaining to the implementation of DT by South African SMEs, using the case study of the province of KZN. Further, this study aimed to investigate the impact of the arrival of digital technologies in SA business sectors, using the specific reference of SMEs in the KZN province. The study also aims to identify the link between the two variables in terms of growth. The briefing is outlined and detailed in section 1.7 bellow.

1.2 The general overview and the background of the Study

This study sought to determine the influence of digital transformation (DT) on the growth of small and medium enterprises (SMEs) in the province of KwaZulu-Natal (KZN), South Africa (SA). This investigation resulted from a gap indicated by the existing literature in

the investigation on the influence of new technological developments' arrival in the business sector, specifically on SMEs. It has been noted that most previous authors have mentioned that the implementation of digital technology comes with changes in the business sector in terms of operations and competition. For instance, Kotarba (2018) highlighted that the adjustments of business models to digital technology and social changes in SMEs can be understood as a transformation to a new organisational form of doing business for better fit for functioning in the digital economy, in relation to digital clients and partners, as well as with the increasing usage of digital assets. Moreover, Goerzig and Bauernhansl (2018) indicated that transformation towards smart connected business causes enormous changes in the operation from a development perspective.

A DT approach to exploration is the grouping of changes in three areas: business models, business processed and consumer behaviour (Schwertner 2017). Most business organisations use digital technologies to change the path of value creation they have relied on before to stay competitive, however, to do so they have to implement structural changes and overcome the barriers that impede their transformation effort (Gomes, Okano, Simoes, and Otola 2019).

In the view of Vogelsang, Packmohr and Hoppe (2019), DT is expected to have a massive impact on different branches of industries from decentralised decades. Business organisations in all sectors are feeling the pressure to adopt digital. Now, things need to be done differently and customer communication improved to avoid being left behind in innovative advantage with digitally-focused competitors and new entrants (Leipzig *et al.* 2017).

This view is supported by Ablyazov, Asaturova and Koscheyev (2018) by mentioning that DT has allowed quicker interaction with company stakeholders including; customers, suppliers and partners, therefore, it provided for additional business opportunities and expanded chances to grow. Executives in business organisations are digitally transforming their companies, in "customer experience, operational processes and business models" (Westerman, Bonnet and McAfee 2014). Digital technologies are

classified as being capable of providing considerable strategic and operational value to the business organisation (Afolayan, Plant, White, Jones, and Beynon-Davies 2015). Therefore, the increasing possibility to access digitally sourced information and advance technology to analyse it, forces many companies to adapt to digital change (Grishikashvili, Dibb and Meadows 2014).

In this 21st century, SMEs are facing tremendous challenges in their pursuit of technological innovations, with their survival dependent on the management of information systems (IS) to develop new organisational models, compete in new markets or enhance internal and external communication relationships (Hoti 2015). However, these enterprises seem to be lacking effective knowledge with regard to the most valuable DT initiation method (Gamache, Abdul-Nour, and Baril 2019).

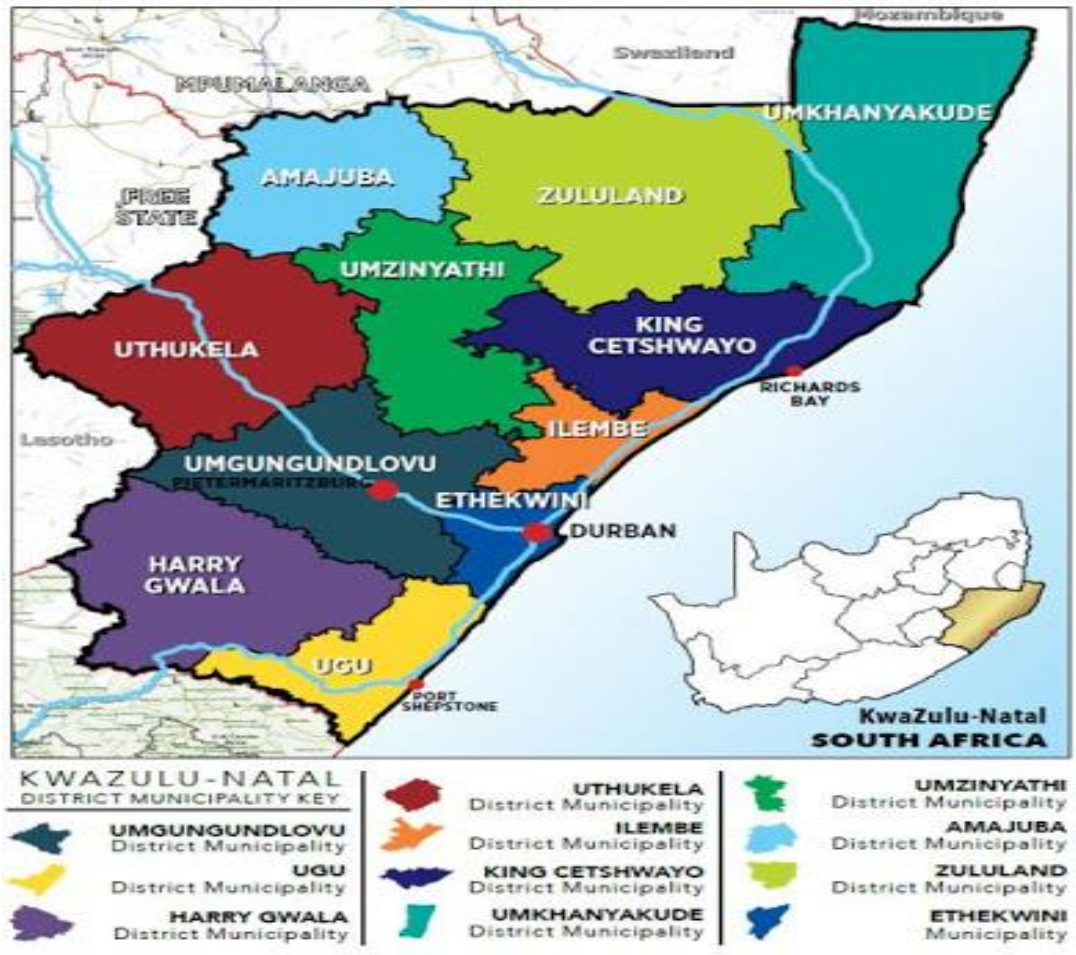
In support of this, Vogelsang *et al.* (2019) mentioned that many business organisations still struggle to drive their DT forward. In the same vein, reluctance on the part of SMEs to embrace technological change results in the adoption of more traditional approaches and means of conducting a business and overall operations (Ismail, Jeffery, and Van Belle 2011). Nonetheless, the adoption of new technologies is vital for the on-going survival of SMEs in a widely increasing competitive marketplace, both locally and globally (Van Sheers 2018). According to Ahmed (2020), it is most important for SMEs to have a clear understanding of the aspects or factors to consider in DT adoption.

South African SMEs should seek proper adoption of DT to enhance their working capacity, boost their skills and produce significant results (Pradhan, Nigam and Tiwari 2018). Similarly, Henning (2019) indicated that South African SMEs, the manufacturing sector in particular, need to adapt to new methods and processes to remain competitive in the ever-changing business landscape. In this regard, Pillay (2016) stated that the adoption level of smart technologies that accelerate industry 4.0 remains at a foundation stage in the SA business sector.

This leaves the question why the SA business sector still lags in the adoption and implementation of the new digital age at a time when the whole world is dominated by DT. Considering the comprehensive potential of DT as source of competitive advantage for a business enterprise (BE) in the market, and after screening numerous academic studies dealing with this and similar topics, it becomes obvious that further investigation is needed to research the concept of DT and its influence on SMEs from a holistic point of view.

1.3 Location of the Study

This study was conducted in Durban, which is a major city located in the province of KZN. The study sample comprised SMEs within the jurisdiction of the province of KZN.



Map 1: The origin of KwaZulu-Natal

Source: (http://ww.kznonline.gov.za/)

Situated in the south-east of SA, the province of KZN borders the Indian Ocean; with provincial borders meeting the provinces of the Eastern Cape, Mpumalanga and Free State, while nationally, KZN has borders with Swaziland, Lesotho and Mozambique (KwaZulu-Natal n.d). Described as SA's 'Garden Province', it covers an area of 94 361km², from the subtropical east coast and the Indian Ocean to the Drakensberg Mountain Range in the west and the savanna in the east (KwaZulu-Natal n.d).

With a population of 11 065 240, it is the country's second most populous province, even though the area covered is the third smallest in the country. The province's capital is Pietermaritzburg, the largest city is Durban, with other major towns and cities in KZN including Richmond, Ladysmith, Estcourt, and Newcastle, as well as Port Shepstone, and Richards Bay (KwaZulu-Natal n.d).

In terms of GDP contribution, the manufacturing sector of KZN is the largest, with the province having undergone rapid industrialisation as it has an abundant supply of water and labour resources. Not only is Richards Bay the centre of operations for the country's aluminium industry, the Richards bay Coal Terminal is instrumental in ensuring SA is the second-largest exporter of steam coal in the world (KwaZulu-Natal n.d).

Agriculture is another industry central to the economy and the coastal belt sugar cane plantations are commonly accepted as the mainstay of KZN agriculture. While inland farmers concentrate on stock farming, dairy and vegetable crops, the coastal belt is also a substantial subtropical fruit producer. An additional income source is that of forestry in the areas around Richmond, Harding, Eshowe, and Vryheid, as well as Ngome. KZN comprises 43 local municipalities in 10 district municipalities and one metropolitan municipality (eThekwini Metropolitan Municipality) (KwaZulu-Natal n.d).

Map 2: The origin of Durban

Source: http://www.durban.gov.za

The city of Durban is located within the SA province of KZN and has become the province's most important and largest city. Situated within the eThekwini metropolitan municipality, and home to the country's premier port, Durban's superb beaches has made the city something of a "tourist hotspot", locally and internationally (Durban n.d).

The city's western suburbs (Hillcrest and Kloof) stand at around 850 metres / 2 789 feet above sea level and are noticeably elevated. Another notable suburb of Durban is Berea, located on a ridge, offering good city centre views (Durban n.d).

1.4 Context of the Research

Globally, the business environment has become highly dynamic, unpredictable, and competitive due to external forces, mostly technology that generate change. This is referenced by the globalisation, trade liberalisation, and technological developments, particularly around information communications technology (ICT). All these developments have tuned the world into a global market, which means businesses compete beyond national boundaries (Otache and Mohamood 2015).

According to Muscalu, Iancu and Halmaghi (2016), the survival and progression of the business organisation are influenced by a set of institutions and external forces that

represent the external environment. In terms of new market dynamics, Wook Seo and Hwan Lee (2018) argue that technology is one of the global business challenges, while rapidly changing environments can be recognised as a driver to explore new business plans and strategies and pioneer new market opportunities. As DT is characterised by the utilisation of new digital technologies to enable significant organisational improvement, it is an unavoidable business development opportunity (Stief, Eidhoff and Voeth 2016). This indicates that external forces affect BE operations in the global business sector and have a huge influence in the business success at present. The influence can be positive or negative, depending on how the new technology is being implemented and the manner in which it affects the business profit.

Technological advancements, together with their swift diffusion amongst BEs in Africa, have created several business opportunities for SMEs to gain access in the digital market at a low cost, thus increasing their competitiveness and generating enduring profits for themselves (Chinje 5015). SA is one of the countries characterised by change in external factors such as technology. This, therefore, means SA business organisations must adapt to the change and adjust to transformation (Ayandibu and Houghton 2017).

Neither these external forces nor their impact resides within business management's control, yet they force the business to change its operations for self-innovation. As example, the new innovative systems of advertising push businesses to change their marketing strategies to focus on social media platforms, and that is digital technology.

KZN business organisations have recently experienced a rapid change in technology, which forced them to adapt to new technology trends to maintain innovation and manage the market through, for instance, advertising on social media. Therefore, considering the recent trends and prospects in digital technology as an external factor to the business, this study seeks to explore the implementation and influence of DT in South African SMEs, using KZN as the case study. According to Ismail, Khater and Zaki (2017), in facing the challenge to digitally transform, SMEs today need to undertake a complete

restructuring and introduce new roles where necessary, in order to sustain competitive advantage.

1.4.1 Terminology explained in brief

The digital era and the consequent transformation of BEs have brought their own terminology and the most relevant are expanded on briefly, along with some other terms, as follows:

Digital Transformation (DT): On the one hand, this is an emerging paradigm in the business sector, which introduces strategy-oriented and customer-centric changes in communication, as well as buying processes that rely on contemporary information and communication technologies (ICT) (Pihir, Tomicic-Pupek, and Furjan 2018). On the other hand, Schallmo and Williams (2018) referred to DT as a business transformation, sustainable by means of newly created or revised business operations and models. This is achieved because of value-added digitisation initiatives, ultimately resulting in increased profitability.

According to Ismail *et al.* (2017), business DT strategy is an organisational strategic plan initiated to enable a business organisation to incorporate digital economy opportunities by leveraging their digital resources and capabilities. DT strategy further includes digitally transforming along multiple business dimensions in operations, customer focus and business models. Almost across every industry, digitisation is becoming a massive phenomenon, whereby traditional business processes are being replaced with digital counterparts or at least equipped with new digital features (Prem 2017).

Through the diffusion increase in DT in many aspects of businesses, new kinds of applications become possible by combining and integrating multiple technologies that are accessible anytime and anywhere (Hanelt, Piccinini, Gregory, Hildebrandt, and Kolbe 2017). Selase *et al.* (2019) explain that with the internet being a new development that has changed the “ways and manner of doing things”, businesses should adopt it “as a matter of responding to world dynamics”. It must though be noted that DT strategy is

regarded as an overarching and existing business-wide strategy that guides an organisation throughout its entire DT journey (Ismail *et al.* 2017).

The development of digital technologies today is remarkable and valued as unexpected, which has entered the private lives of people, as well as that of business activities (Mastilo 2017). According to Ismail *et al*. (2019), business DT dimensions include digital activities and changes to products or services and business models, thus going beyond BE operational boundaries.

In the context of its origin, DT is defined by Pihiri *et al.* (2017) as the extreme renovation of organisational and business activities, processes, and the overall operation. Furthermore, it is a vital tool used for national economies towards 21st century requirements and growth (AL-Mubaraki and Aruna 2013). With regard to the new digital age, business managers are required to rethink existing models as new, innovative business models emerge (Gomes, Okano and Simoes 2019). Indeed, today's business world has been deeply influenced by DT, and the utilisation of these digital technologies among business is widespread, with technology rapidly changing global production, work, business methods, and trade and consumption patterns of business organisations, as well as that of consumers (Selase *et al.* 2019).

Additionally, by implementing real-time DT the business can achieve competitive advantage and expect major long-term gain in efficiency and productivity (Vogelsang *et al.* 2019). DT also leads to a change of economic structures and quality of production factors, along with base innovation perspectives (Mastilo 2017). However, digital interconnectivity overcomes physical barriers, allowing BEs to reach and engage with more people, thus enabling the building of a good customer network based on interests, rather than geographical location (Ismail *et al.* 2017).

Not only are digital technologies able to provide extensive strategic and operational value to BEs, it is noted that their development and implementation have been investigated in a variety of environments (Afolayan, Plant, White, Jones and Davis 2015). DT enables

innovation practices, improved design, and new business models, while also shaping the way businesses create value using the internet (Nadeem, Abedin, Carpa, and Chew 2017). Similarly, Stief *et al.* (2016) maintained that the business environment has now become increasingly interconnected with the enterprise's processes, products or services, as well as its business development, which often blurs established lines between different business structures.

New technologies have, furthermore, also created new markets, new customers, and new competitors (KPMG International Cooperative 2017), while also transforming the manner of interaction between business entities and objects of socio-economic relations. Therefore, processes in business operations need to adapt to this rapid change and exponential growth or companies and industries will be left behind by developments in their sector and by their competitors (Pillay 2016). Nevertheless, digital technologies enable the BE to automate its supply chain processes and human resource functions, which leads to increased organisational efficiency (Rutihinda 2019).

Small and Medium Enterprises (SMEs): In terms of economic growth, Pradhan *et al.* (2018) find SMEs have shown significant strength in not only maintaining a constant and steady growth rate but also in generating employment during preceding years, describing this as "an appreciable performance". On the one hand, SMEs have been shown to play a vital role in employment creation, innovation, as well as in economic growth (Rassol and Dissanayake 2019). On the other hand, SMEs in developing countries have a growing interest in the adoption of new technologies that will generate and maintain a good competitive advantage in future innovative and fast-growing industries (AL-Mubaraki and Aruna 2013).

In this regard, Lekhanya (2017:85) mentioned that "SMEs are the key basis of fiscal intensification in developed and developing countries". In concurrence, Van Scheers (2018:125) likewise states that, "the promotion and development of SMEs in SA is currently the focus of much attention in a wide variety of fields because it is regarded as

a major key to economic development and wealth creation, thereby contributing towards social prosperity and upward mobility".

These enterprises play a vital role in the economies of countries throughout the world by contributing to the creation of jobs, economic upliftment and the gross domestic product (GDP) (Gopaul and Manley 2015). Along similar lines, Muriithi (2017) indicated that SMEs account for almost 90 percent of businesses in both developed and developing economies through job creation, employment, tax provision and contribution to GDP. This view is also held by Selase *et al*. (2019), who argued that the significant contribution by the SME community worldwide to employment, regional development and innovation is well established. Moreover, they play a major role in economic development throughout the employment creation and income generation processes. Ismail *et al.* (2011) added that SMEs in SA are seeming not only seen as a strong engine of economic growth and productivity but are also valued as a means of distributing income amongst employees and their affiliates.

In SA, SMEs have come to play an increasingly vital role in the country's economy and development, more so since some large enterprises have restructured and down-sized (Chimucheka 2013). Regarded as the engine of economic growth, SMEs are essential for a competitive and efficient market (Ayandibu and Houghton 2017), yet, Gopaul and Manley (2015) confirmed that for different reasons, of all the SMEs in SA, in excess of 72 percent fail in the first three to four years. This is worrisome as SMEs in SA have been shown to contribute 50-60 percent of the country's GDP and 60 percent of employment (Muriithi 2017).

Understanding the concept of the entrepreneurial mindset in the SME business sector in SA is vital as one of the means to foster SME success in the country (Neneh 2012). The argument Hassan, Iqbal and Malik (2018) put forward a few years later was that SMEs play a significant role in terms of sustainable economic development and their survival is crucial for every country. This is supported by Kariwa, Mukulo and Romanus (2019) and they mention that SMEs create diversified sources of national income, improve a nation's

competitiveness and promote economic development that leads to flexibility and resilience of economies.

SMEs are estimated to comprise in excess of 90 percent of African business operations and contribute to more than 50 percent of African countries' employment and GDP (Muriithi 2017). However, the sad part is that these enterprises suffer high business failure rates that will likely be exacerbated because of present global economic hardships (Selase *et al.* 2019). These echoes findings of the Adclick Africa Marketing Agency (2018), which highlighted that South African SMEs continue to struggle due to a wide range of challenges that makes their survival rate concerningly low. For instance, in 2016, it was found that numerous SMEs (including micro businesses) in SA did not survive beyond five years (Neneh 2012).

SMEs in SA are widely recognised as the engine that critically drives economic forces to alleviate some economic challenges that the country faces. In order for the challenges of poverty alleviation and unemployment to be addressed, these challenges must be addressed by policies that encourage SME development and sustainability, according to Bvuma and Marnewick (2020).

However, Sarah (2017) states that SMEs, by virtue of their effect on wealth and job creation, as well as service delivery, are known to positively and significantly impact the economy, which increasingly makes them understood as fundamental in reducing poverty and unemployment. After all, as per Muriithi (2017), SMEs comprise almost 90 percent of the business sector in both leading and developing economies through job creation, employment, tax provision and contribution to GDP.

1.5 Research Problem Statement

In the new global economy, the arrival of new digital technologies that force SMEs to implement DT remain a global phenomenon that concerns every business manager in SMEs. This problem has captured the attention of several researchers worldwide. For instance, according to Schwertner (2017), digital business transformation disrupts

businesses by breaking down barriers between people, business and things. Technology is one of the external factors generally beyond the business manager's control, which then affects strategic planning and forecasting due to the rapid changes.

Ismail *et al.* (2017) support this view and argued that the DT phenomenon has been explored widely in academic domains and remains a challenge for many business organisations. Likewise, Lindh, Dahlin and Hadjikhani (2016) indicated that new technology development places new demands on companies or provides new possibilities for developing or improving market activities, as well as products. In many business sectors it has further become evident that digitisation of business processes goes far beyond merely improving products, services, and production (Prem 2017).

Most academic studies in the SME and DT fields have only focused on the opportunities and features of technology in the business, with experimental data rather controversial to explore the implementation of digital business transformation. This indicates a need to investigate and understand the facts on how South African SMEs implement DT to improve innovation in the market. Thus far, no data exists on how and to what extent South African SMEs implement DT. Until recently, there has been no reliable evidence that entails data on SME capability to implement digital business transformation. Therefore, this indicates the need for further investigation to achieve the required evidence.

1.6 The research Aims

From the initiation of this study, the purpose was to investigate the practical aspect pertaining to the implementation of DT by South African SMEs, using the case study of the province of KZN. Therefore, the study adopted an applied research purpose using an exploratory approach. Davis (2014) explained the applied research purpose as designed to investigate practical issues to find solutions that can possibly be practically implemented. In exploratory studies, methods of research used usually employ a qualitative method involving personal, focus groups, interviews, surveys and case studies (Davis 2014).

This study aimed to investigate the impact of the arrival of digital technologies in SA business sectors, using the specification of SMEs in the KZN province. Further to this, experiences of SMEs that are in the process of implementing DT would be explored, as well as views regarding the effectiveness and challenges. The study also aims to identify the link between the two variables in terms of growth.

1.7 Research objectives

- To investigate the effectiveness of DT in SMEs in KZN.
- To assess the impact of DT in SMEs in KZN.
- To explore to what extent South African SMEs implement DT using the reference of KZN.
- To determine the challenges of DT implementation in SMEs in KZN.

1.8 Research questions

- How effective is DT in the business environment of SMEs in KZN?
- How does digital technology impact SMEs in the market in KZN?
- To what extent do South African SMEs implement DT?
- What challenging factors are experienced by SMEs in implementing DT in KZN?

1.9 Summary of the study

This study focused on the arrival of DT, which influences business operations. Existing data indicate that the DT arrival is forcing business organisations to change how they operate. For instance, Schwertner (2017) argued that digital business transformation implementation comes with disruption in every aspect of the business. Taking from previous studies on the arrival of technology in overall business operation and specifically DT, the gap identified lies in the implementation of digital business transformation in SMEs. The study aims to investigate the implementation of DT in South African SMEs using the case study of KZN.

Unlike the macro business market, SMEs in SA are seemingly not too quick to adapt to change. This view is supported by Ayong and Naidoo (2019: 43), who mention that “the

adoption of new digital technologies in those so-called developing countries such as SA is still rated very low". It is thus not a question of whether SMEs should implement DT or not, but rather how they can do so as quickly as possible in order to maintain or achieve a large competitive advantage in the market (Matt and Rauch 2020). Keeping pace with arriving new technologies and developing innovations to beat the market through the adoption of effective DT play a decisive role in today's BEs (Prepletany 2013).

Consequently, SMEs are also driven to adapt to new digital technologies with the aim of improving their internal processes, enhancing their product or services through faster customer communication, and better promoting and distributing their products or services (Selase *et al.* 2019). Earlier, Hoti (2015) mentioned a permanent need to understand the organisational adoption of technological innovation, its dimensions and characteristics.

Based on a literature review of current academic studies regarding DT, this research aimed to contribute a holistic overview of the DT concept using the relevant qualitative data collection tools. This study investigated the effectiveness of DT and the manner in which it affects the business environment of SMEs. In addition, the influence of DT on SMEs, whether positive or negative, was also assessed. The study further explored the extent to which South African SMEs implement DT and determined factors that challenge its implementation, in addition to investigating in what way external forces such as technology influence SMEs in SA.

The data were collected from SMEs within the KZN province, which was the selected study location. The population for this study was purposefully selected based on certain characteristics, namely for being the management of any SME within the selected area of jurisdiction (KZN). The selected sample comprised SMEs within the Durban/eThekwini Metro, which is part of the KZN province. Eight SME managers were interviewed, with the use of unstructured questionnaires, regarding their views and experiences on the implementation of DT.

The collected data were transcribed and analysed accordingly, using the relevant tools and systems, allowing conclusions to be drawn from the study objective, questions and findings. The data will, furthermore, be fully discussed and unpacked for conclusions to be drawn from the study findings in the relevant chapters. Lastly, the main study conclusion and recommendations will be presented. The collected data will add to the existing data and introduce new thinking in the field of academics.

1.10 Motivation of the Study

As per the general research process, the researcher has identified and analysed the problem (see 1.5). The researcher also visited and presented the evidence and existing data from previous authors and identified a gap and the intention to conduct this investigation. The researcher then formulated the research questions, together with the objectives, and selected the approach used to conduct the research. Following this, the full proposal was formulated and presented in detail. In addition, the researcher pre-tested the research data collection methods or instruments, which will be presented in the full methodology in chapter three. A sampling method that suits the study has been selected and presented and formulated data analysis and interpretation methods that will lead to achievement of the research objectives.

The study investigated the effectiveness of DT in SMEs, assessed the impact of DT in SMEs, explored to what extent South African SMEs implement DT and the challenging factors of DT in SMEs. Therefore, the researcher used the relevant data collection tools to achieve a true fulfilment of these objectives. This study will help to identify the interaction between the two variables (DT and SMEs) and assist in ascertaining the strengths and weaknesses in the implementation of DT by South African SMEs, using the evidence from KZN. In addition, possible recommendations will be provided after the full investigation, data presentation and interpretation.

1.11 The study contribution

This study will contribute by adding information to the body of knowledge. From a business sector perspective, the study will show how DT affects business operations and

how SMEs are assisted towards achieving growth. The study will provide clarity in terms of the current status of KZN SMEs in the implementation of DT. In addition, the study will demonstrate the effectiveness of the adoption of DT in SMEs that have successfully implemented this transformation. Furthermore, the study will identify the fundamental principles of effective business DT, present the experiences of SMEs in implementing DT, as well as identify those factors found challenging during DT implementation by SMEs.

The study draws on an extensive review of literature, from both academic and private-sector research, and best practice examples of effective DT. In doing so the researcher invited different views from different schools of thought, which assisted to construct a solid literature review of SMEs and DT. A more comprehensive understanding of SMEs is offered and a DT conceptual framework, while the study has also highlighted SA legislative framework on DT.

Contributions to the area of business models are discussed, through creating a link between digital innovations and business growth in general. In addition, the study will present the different digital channels available at present to assist SMEs to grow and gain competitive advantage in the market. Moreover, the study will put forward possible recommendations that can assist SMEs in achieving a true and effective DT that can improve growth.

1.12 Summary of the Chapters

This section presents a chronological summary of the study (chapter by chapter), outlining the fundamentals presented by each chapter.

Chapter One: Chapter one presented the outline and the basic overview background of the study. It also discussed the research problem, research questions, objectives, and methodology, while indicating the study location, full context, aims, limitations and motivation. The chapter, furthermore, presented the contributions of the study and the summary of all chapters.

Chapter Two: This chapter will present a conceptual understanding of DT and its implementation in SMEs from a global, South African and specifically a provincial (KZN) perspective. The effectiveness of DT in SMEs will also be offered, together with the legal framework of DT in South Africa, as well as the views and findings of previous authors in similar context of the study.

Chapter Three: This chapter will explain the research methodology and the rationale in methodology. The research paradigm, design will be described, explained, justified and selected, with, the selected design for the study clearly discussed. The research strategy, sampling, data collection tools and data analysis techniques best suited to the study have been selected and will be discussed in full.

Chapter Four: The collected data will be presented and analysed in this chapter, from an overview to the final discussion. The study findings and identified themes will also be described, in addition to clearly indicating the linking of study themes. Each objective of the study has findings represented in this chapter.

Chapter five: The last chapter; this chapter will present the summary of the study findings and a recapitulation of research questions and objectives, with a summary of each chapter's fundamentals. This chapter will also offer study recommendations and a conclusion.

1.13 Chapter Conclusion

The research topic and its variables have been identified and presented, together with the background, location, summary, and context of the study, while the research problem statement has also been identified and presented in detail. The research questions, aim, and objectives were clearly outlined and the study motivation discussed. The next chapter will present the literature review of the study.

CHAPTER TWO:
LITERATURE REVIEW

2.1 Chapter Introduction

The previous chapter introduced the topic of the study, presented the background, summary, and the study context, with the research problem statement location stated in full. Furthermore, the research aims, questions and objectives were clearly presented, and the study motivation briefly discussed. This chapter will present the conceptual framework of the study variables, while highlighting theoretical frameworks from previous researchers. The South African legislative framework will also be set out and the study objectives discussed from the findings and views of previous authors.

2.2 Digital transformation: Conceptual framework

Several attempts have been made to define DT in the academic field. For instance, Mastilo (2017) defined DT as the use of new, fast, and frequently changing digital technology to solve problems. An example is that of “cloud computing”, which reduces reliance on user-owned hardware and increases reliance on subscription-based cloud services (Genpact Research Institute 2014). However, according to Ablyazov *et al.* (2018), a characteristic of the digital transformation of business activity is the resulting dissemination of innovative technologies, as well as the incorporation of both digital and physical systems.

Digital business transformation is the integration of new digital technologies into all business areas (Schwertner 2017). According to the Department for Business, Energy, and Industrial Strategy (2018), by creating both opportunities and challenges at the same time, digital transformation is having a wide-ranging impact on the business environment. Digital business transformation enables businesses to create new products and services, while finding more efficient ways of doing business. All these innovations apply across organisations of all types worldwide.

This view is supported by Weinelt (2018:47), who mentioned that “in this new world, analogue incumbents of several successful companies embrace the predation of digital revolution and feel like they are being more innovative in the markets”. Furthermore, DT of enterprises is regarded as a new paradigm in the context of contemporary implementation of technologies to set new developments in the global market (Pihir *et al.* 2018).

Nevertheless, according to Rutihinda (2019), DT is way more than the information technology (IT) infrastructure transformation. Furthermore, transformation of the IT infrastructure involves changes to the information network, communication, as well as information storage and access infrastructures, which are often managed by the business organisation’s IT department. In contrast, DT requires reshaping the value proposition of an organisation, as well as its business distribution channels, business customer segments, and competition. Included are the supply chain, other stakeholders, and partners.

2.2.1 Definitions of digital business transformation

Table 2.1: Definitions of digital transformation from different authors

Author(s)	Definition
Liu (2011:7)	“It is the integration of digital technologies into business processes”.
Bharadwaj (2013:21)	“It’s an organisational strategy formulated and executed by leveraging digital resources to create differential value”.
Fitzgerald *et al.* (2013:17)	“It is the use of digital technologies to enable major business improvements”.
Lucas (2013:5)	“It’s the fundamentally altering traditional ways of doing business by redefining business capabilities, processes and relationships”.
Westerman *et al.* (2014:15)	“It is the use of technology to radically improve performance or reach of enterprises”.
Henriette (2015:32)	“It’s a business model driven by the changes associated with the application of digital technology in all aspects of human society”.
Hanelt *et al.* (2015:2)	“It is characterised using new digital technologies to enable significant business improvements”.
Hess *et al.* (2016:8)	“It is concerned with the changes digital technologies can bring about in a company’s business model, which result in changed products or organisational structures or in the automation of processes”.

2.2.2 Defining SMEs

It is difficult to formulate a universal definition for SMEs as economies of countries differ, and people adopt standards for a particular purpose(s) (Van Scheers 2017). According to Ismail *et al.* (2011), the usual ways in which to define an SME are based on, for example, how many people the enterprise employs within the organisation, or what the value is of and unmovable assets. Then again, Liberto (2020:15) defines SMEs as "businesses that maintain revenues, assets or a certain number of employees below a certain threshold". Each country does, however, have its own definition of what constitutes an SME. According to Pradhan *et al.* (2018), SMEs refer to those streamlined, non-subsidised, independent firms that employs less than a given number of employees, with this number fluctuating according to different countries.

From a South African perspective, the definition of an SME, as stated by Chimucheka (2013), relies on the enterprise having one or more of the following characteristics:

- Fewer than 200 employees,
- An annual turnover of less than R64 million,
- Capital assets of less than R10 million, and
- Direct managerial involvement by owners.

Nonetheless, Ayong and Naidoo (2019:62) defined SMEs as "non-subsidiary, independent firms that employ less than a given number of employees" and this varies from one country to another. On the one hand, the description put forward by Ayandibu and Houghton (2017) defines SMEs as those enterprises with fewer than 250 employees while, on the other hand, Ahmed's (2020:25) definition, describes SMEs as enterprises with staff numbers "less than certain limits, and they control the data of high sensitivity". Harindranath and Ozcan (2019) highlighted that SMEs in SA are either micro, very small, small or medium enterprises (sometimes referred to as SMMEs) and each individual sector has its own varying sets of thresholds.

2.3 An Overview

Businesses operate in an ever-changing world. These changes result from external factors, for example Technology, which have a direct and indirect impact on business success globally. This view is supported by Modimogale and Kroeze (2018) who argued that the way business is done has been changed through globalisation and digitalisation. With Information and Communication Technology (ICT) turning out to be" the lifeblood of change in the business sector", this also applies to competing in the marketplace.

According to the Economist Intelligence Unit (EIU) (2015), technology has a massive influence on the workplace for different decades of a business, but the pace of change has quickened and is beginning to have a major disruptive effect on businesses worldwide. Mastilo (2017:107) likewise points out that the digitisation of business has "been introducing increasingly dynamic changes across the entire global economic sphere, whereas its content increasingly maintains the competitiveness of national economies".

As the diffusion of technology increases throughout industries and everyday life, businesses are being transformed in their operations, even in areas where survival depends on "physical materiality" (Piccinini, Hanelt, Gregory and Kolbe 2015). Digital marketing is defined to be a marketing strategy involving the deployment of technology-based tools such as the internet (email, search engines and electronic commerce), mobile phones and social media platforms (Kawira, Makulu and Odhiambo 2019). Globally, an opportunity has been presented to businesses to radically transform their business models through the implementing of new digital technologies; these include social networks, mobility, big data, the internet of things (IoT), as well as other innovations such as blockchain and so on. (Ziyadin, Suieubayeva and Utegenova 2020).

According to the World Economic Forum (WEF) White Paper (2016), widespread recognition exists among leaders in most industries with regard to the rapidly shifting role of digital technology. This situation has arisen from digital technology being a driver of marginal efficiency to an enabler of fundamental innovation and disruption. However,

several obstacles stand in the way of digital maturity in companies, such as the lack of an effective strategy to implement DT and the lack of competing priorities, which lead the list of speed bumps of success (Kane, Palmer, Phillips, Kiron, and Buckley 2015).

According to Ablyazov *et al.* (2018), the development of digital platforms, both local and globally, and technological and scientific progress have played a part in the rise of new entrepreneurship forms, by strengthening their business and economic activities. Seen from this perspective, it is clear that SMEs are widely accepted as the backbone of modern market economies, thus playing an important role, particularly in developing countries (Ardjouman 2014). They are the dominant form of business, accounting for more than 90 percent of the business population in most countries, and therefore, SMEs a significant role towards driving effective and sustainable economic growth and job creation.

Kotarba (2018) found that in recent years, discussions of the most important factors that impact the survival and growth of “contemporary organisations, have highlighted that of digital transformation. Among businesses where the critical parts of the infrastructure are big data, the cloud, social and mobile technologies, Schwertner (2017) determined that, on average, these technologies had higher revenue, would be profitable before long, and would realise a market valuation that was bigger than those competitors that do not have a strong vision.

This view is supported by Tarute, Duobiene, Kloviene, Vitkauskaite and Varaniute (2018), who argue that companies’ productivity and their innovation capacity are greatly influenced by the increasing use of ICT. It is, however, widely accepted and known that SMEs are the lifeblood of modern market economies and their role in developing countries, for instance SA, cannot be overstated (Ardjouman 2014).

At the centre of DT are elements referred to as cloud computing technologies, which are extensions of virtualisation and grid computing services offered to the BE by professional

computer organisations with global networks of servicers situated in multiple locations around the world (Rutihinda 2019).

DT process in relatively a new phenomenon that uniquely different from information technological infrastructures changes of the past (Rutihinda 2019). Recent investigations have revealed that South African SMEs are still struggling to reach the right position on digital technology in their decentralised business models. For example, a study by Ayong and Naidoo (2019) showed that among SMEs in developing countries, particularly SA, the adoption of cloud computing remains very low. Nonetheless, Ismail *et al.* (2011) identified that South African SMEs encounter several critical barriers in the process of adopting DT.

However, to compete in the burgeoning nature of global competition, SMEs need to explore issues pertaining to their internal and external environment, as well as the technological and individual attributes of the owner-manager (Harindranath and Ozcan 2009). With the advent of global competition, technological advances and demographic changes, the roles of SMEs have become more important, since the information age has transformed how business should operate (Selase *et al.* 2019).

The described nature of DT found in the literature further suggests that its degree of complexity indicates a huge impact on business practice. At the same time, many businesses around the world are talking of the potential of DT stating their belief that implementing in this decade could assist businesses to drive competitive insight and shape the marketing strategy decisions of organisation (Grishikashvili *et al.* 2014). Today's demand for higher-technology companies requires the expectation and setting for technological change required to gain competitive advantage (Durowoju 2017). The DT phenomenon has been receiving huge attention in previous literature concerning industries such as media, entertainment, and publishing (Hanelt *et al.* 2015).

The level of technological changes dominant in today's global economy and the eve-increasing implementation of DT has led to changes in the economic environment, forcing

changes to business systems (Mastilo 2017). According to Pillay (2016), existing DT cannot be compared simply with a greater level of production automation, a process driven by developments in electronics and IT since the 1970s, because the current one is more advanced. In addition, Bican and Brem (2020), point out that digitalisation plays a vital role in contributing to the United Nations Sustainable Development Goal, and without it, there is much confusion on interrelationships and terms dealing with digitisation.

Underwood (2009) refers to “a growing motion” of evidence, nationally and internationally that show the positive impact on measurable learning outcomes by digital technologies. At present, globalisation and technology are the leading drivers through which a new level of fragility though out global economy is created, and the economic future is no longer what it once was since the arrival of digital age where changes happening so fast that the ability to accept and adapt to change has become an advantage in beating competition (Boric, Stanisavljev, Kavalic, Vlahovic and Tobolka 2016).

On the one hand, according to results from Gamache *et al.* 2019), the most significant parameters that tend to present digital performance, thus helping to foster decent DT in SMEs, are mainly management commitment of 28 percent, skills development and acquisition of 26 per cent, digital architecture of 42 percent, and automation of 42 percent, as well as the quality of data at 42 percent, and the use of the e-commerce at 42 percent. On the other hand, the results of a study by Selase *et al.* (2019) identified that most large companies, in general, have the ability to adapt to DT, whereas SMEs wanting to adapt to the digital age are handicapped by financial and human resources, but seek to improve competitive advantage.

Ismail *et al.* (2017) found that according to business experts, the ability to digitally reinvent the business is not just about adopting digital technologies, but rather about a radical, strategic and cultural change within the BE. Furthermore, corporate employees must be equally believed in the central role played by the new development (Ismail *et al.* 2017).

The IT revolution and communication technology impact a new economy's business development on a global scale, which contributes significantly to modern business (Mastilo 2017). Nevertheless, a study by Rutihinda (2019) indicates that most SMEs are still undecided what products/services to manufacture/produce and the decisions to take regarding these disruptive arrived digital technologies. However, notwithstanding all progress, SMEs face the growing need to become accustomed to and incorporate digital technologies, so that their business activities may transform, and they can pursue development of their business (Stief *et al.* 2016).

Over and above, business organisations around the world are already discovering the upgrade from 4th generation (4G) to 5th generation (5G) DT, where they will drastically alter the way they operate and compete, which will, across industry verticals, unlock completely new practices of digital technologies, along with new business models (Accenture 2020).

2.4 The legislative framework

2.4.1 SME business technology: South African perspective

2.4.1.1 National e-Strategy

Government's mandate, according to the National Development Plan (NDP), is to develop a National e-Strategy, to give support to developing a Knowledge Economy and Information Society that is inclusive. The following aspects discussed are described and stipulated in the National e-Strategy (SA Dept. of Telecommunications and Postal Services 2017):

- The Electronic Communications and Transaction Act of 2002 provides for the development of a SA National ICT Strategy.
- The process for the development and implementation of the National e-strategy is multi-sectoral, trans-disciplinary and highly complex.
- It is recognised that some entities in both the public and private sectors might have developed their own e-Strategies.

- The National e-Strategy seeks to assist and support such initiatives, while persuading all sectors to consider implementing nationally prioritised e-strategy programmes and initiatives.
- The National e-Strategy is developed to articulate the vision for the development of a digital society, as adopted in the Integrated ICT White Paper.

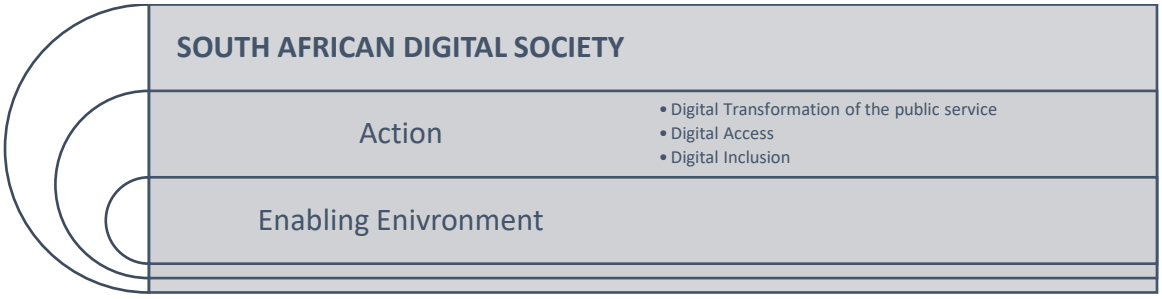


Figure 2.1: Digital Society Pillars (SA Dept. of Telecommunications and Postal Services 2017:4)

The proposed digital society framework aims to ensure the development of e-commerce to stimulate SMME development and economic inclusion and empowerment in the ICT sector. Significant strides have been made by the SA government in the DT of society, government and business, to stimulate inclusive growth by developing a policy that seeks to embrace the arrival of new digital technologies and their effective implementation (Manda and Backhouse 2017).

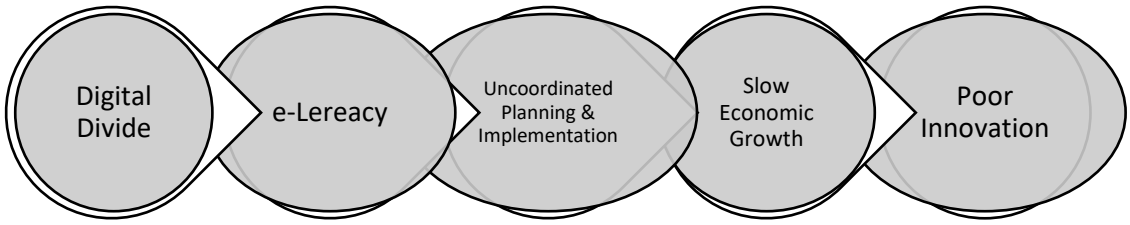


Figure 2.2: Projected Challenges (SA Dept, of Telecommunications and Postal Service 2017:7)

2.4.1.2 e-Commerce

With electronic commerce promising to be one of the main features of doing business and growing the economy it is necessary to:

- Review the laws supporting e-commerce to remove legal and regulatory barriers;
- Provide technical support for e-commerce business strategies and practices;
- Build consumer trust;
- Promote ICT Skills;
- Position the Post Office as the e-commerce regional hub, in partnership with other Post offices.

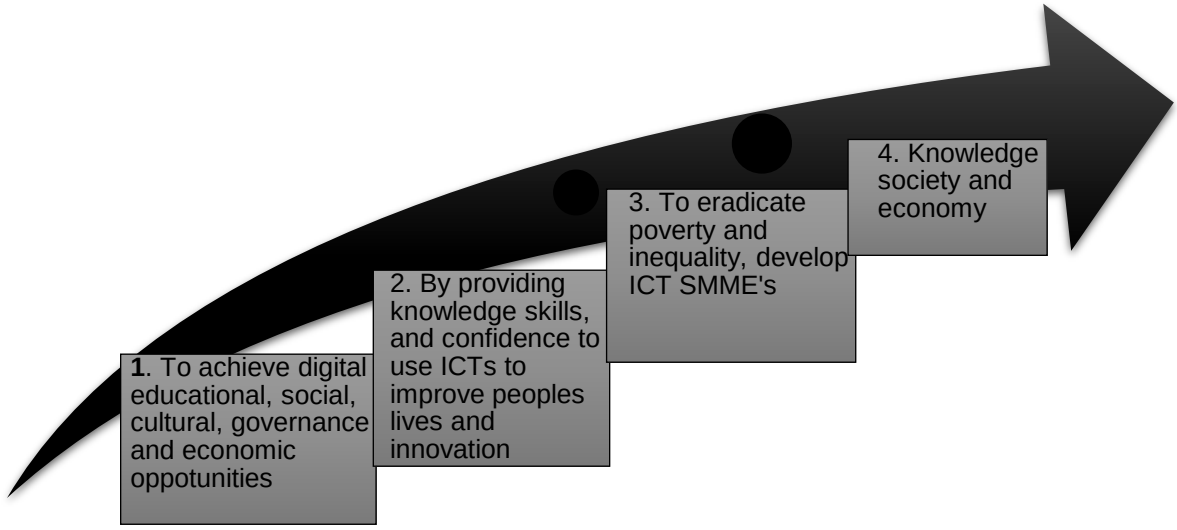


Figure 2.3: Vision: Making technology work for SA citizens and building a digital future (SA Dept. of Telecommunications and Postal Services 2017:5)

The proposed vision 2030 (Figure 2.3) of “making technology work for SA citizens and building a digital future” is shown in the National e-Strategy, prepared and updated in 2017. As per the vision, policy and legislative reforms are being implemented to promote inclusive DT in society, in both private and public sectors (Manda and Backhouse 2017).

2.4.1.3 e-Government Strategy

- Enhanced security for a One-Government-One Citizen View Portal, Consolidation, Interoperability and Back End Integration of e-Government Services.

- Enhanced security for government networks, communications infrastructure, government information, personal and transactional information of citizens.
- Human Resources and ICT Skills/Awareness Training.
- Manufacturing and SMME support Framework.
- Government public service delivery priorities.

2.4.1.4 e-Sectoral Strategy Plans

Sector Plans will detail how each sector of society, or the economy will infuse technology to deliver public, commercial and community services, as it will:

- Promote growth, employment and reskilling of the existing workforce.
- Plan to develop future digital human resources capacity, develop, promote and adapt South African ICT products and services.
- Outline procurement strategies for services from SMME and the youth sector.
- Provide coordination mechanisms at a sector level to ensure that government, business and communities are aligned.
- Different government departments will coordinate and convene the different sector stakeholders.

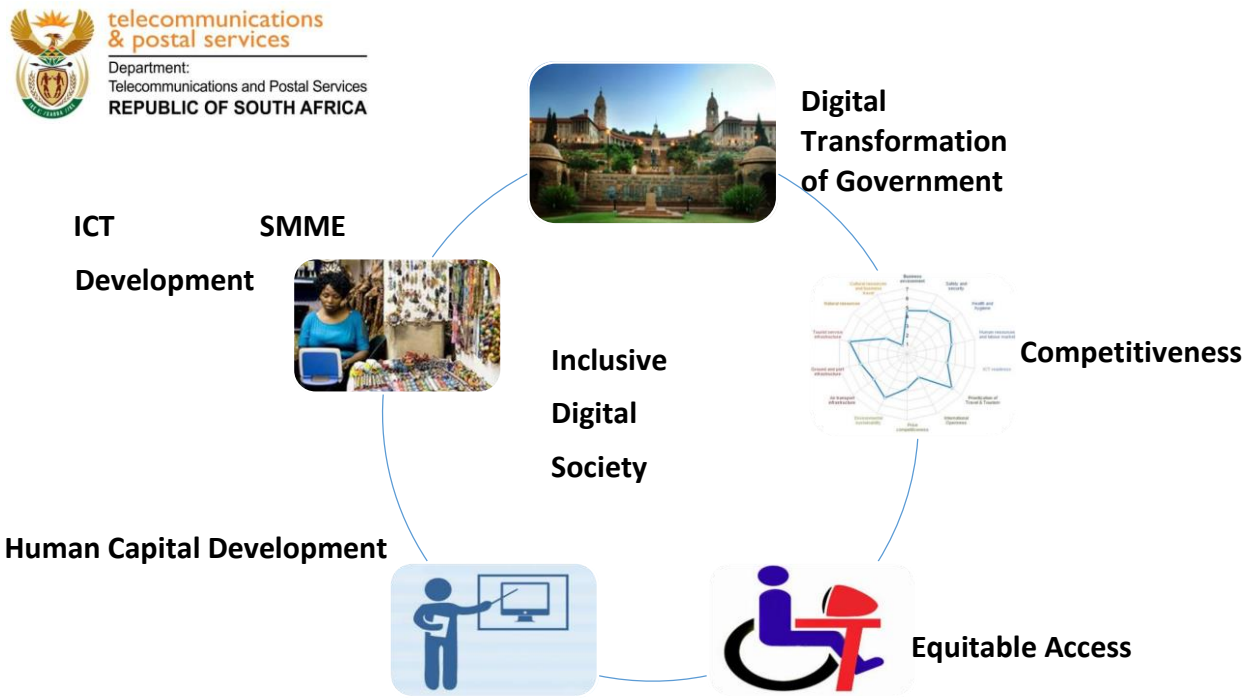


Figure 2.4: Strategic Objectives (Dept. of Telecommunications and Postal Services 2017:12)

2.4.1.5 Policies, Strategies and Plans

The response to industry 4.0 or the 4th industrial revolution opportunities and challenges by the SA government consists of policies and strategies which address DT that is inclusive (Manda and Backhouse 2017). The digital driven revolution is also referred to as the 4th industrial revolution and while it has introduced different development opportunities it has also brought various challenges through its adoption process (Manda and Backhouse 2017). However, according to the National e-Strategy (SA Dept. of Telecommunications and Postal Services 2017), the government has a vision of making technology work for SA citizens through the SA national department of telecommunications and postal services, and to build a digital future.

Manda and Backhouse (2017) explain that the policy/strategy document facilitates DT but enabling government to develop effective social, economic, industrial and labour market policies that are responsive and have strength to better prepare business, society and

government to leverage the opportunities while addressing challenges of the arrival of digital technologies". According to Lekhanya (2015b: 215), "the benefits of better governance are found in the improved access to finance for SMEs, in addition to ensuring their sustainability and support for better financial performance".

The main policies that influence DT in SA are tabled below:

Table 2.2: Main policies influencing DT in SA

Policy/Strategy document	Relevance
Report of the Presidential Review Commission on the Reform and Transformation of the Public Service in SA (1998)	Main findings and recommendations of the Penitential Review Commission (PRC) concerning the operation, transformation and development of the SA Public Service, and creation of a new governance culture
Electronic government: The digital future: a public service IT policy framework (2001)	Detailed and defined e-Government vision on measurement of progress and set priorities for ICT in government
National Development Plan (NDP) (2012)	A long-term development plan providing a broad strategic framework to guide key choices and actions including inclusive DT
Public Services Corporate Governance of ICT policy	To strengthen governance of ICT as an important public service resource
"National broadband Policy (2013)	To connect and integrate people, government and business in pursuit of inclusive economic growth
Cyber-security Policy Framework (2015)	To strengthen security and improve trust in the cyber environment by providing a safe and secure space for society, business and government to thrive
National Intergraded ICT Policy White paper (2016)	Overarching policy framework for transforming SA into an inclusive and innovative digital and knowledge society

The implementation of a policy on DT is a positive step towards achieving the goal of an inclusive digital society, as this sets government's priority for change (Manda and Backhouse 2017). As a developing country, SA is experiencing a growth period and exploiting different technologies (Modimogale and Kroeze 2016). It is only by

incorporating technology in management of its SMEs that African countries will achieve sustainable development (Ardjouman 2014).

Likewise, Lekhanya (2015a) indicated that the inception of new technologies, including digital, networking, as well as social media, has changed the marketing landscape in SA. This is a clear indication that technology has a huge impact on business operations and can change the business strategy in business models. Conversely, Ismail *et al.* (2017) reported that, although DT is being experimented with by many business organisations, the enhanced competitive positioning of successful businesses has recently been shown, by success story studies, to not only depend on adopted technologies. More importantly, though, it builds on the deployed strategies by leaders. It is thus evident that a broader perspective has been adopted by different authors in the aspects of digital technology impact on the business.

Successful DT does not only rely on the use of as many technologies as possible, as a clear vision for the company's development must be incorporated into the business strategy (Schwertner 2017). Business digitalisation is, similarly, at the heart of the country's economy today (Gamache *et al.* 2019). However, a lack of knowledge exists with South African SMEs concerning how best to initiate DT. Harindranath and Ozcan (2019) support this view and argued that South African SMEs can be classified as micro or medium enterprises with varying sets of thresholds for each individual sector but without proper technological innovations. Nonetheless, these small enterprises could achieve innovation through digital marketing of their services and products to create availability awareness, enabling them to stand competitively in the market (Ngochi 2019).

According to Modimogale and Kroeze (2016), in some developing countries such as Botswana and SA, obtaining information is problematic due to inadequate or non-existent ICT infrastructure. Therefore, South African SMEs should explore mobile technologies, with many South Africans now having cell phones and other digital devices to access information, making this an excellent good platform through which to deliver information, for example, marketing.

On the one hand, the economies of developed and developing counties, for example SA, have SME activities largely based on improving DT (Schwertner 2017). On the other hand, the number of SME failures in five years in SA varies between 50 and 95 percent, and approximately 75 percent of new SMEs do not become established firms; one of the highest in the world (Neneh 2012). According to Modimogale and Kroeze (2016), the lack of infrastructure and high cost of connectivity are some of the biggest problems with South Africa where DT is concerned. However, through awareness campaigns and setting up of non-profit organisations the SA Government is attempting to assist SMEs in obtaining ICT resources as needed, as well as technological advice and support.

South African SMEs can take advantage of social media and social networks to enhance their businesses by increasing their market share and sharing marketing information with potential customers (Lekhanya 2013). This is echoed by Henning (2019), who likewise states that for SA manufacturing SMEs to stay competitive in a constantly changing landscape, they will have to adapt to new technologies and methods. Nevertheless, Schallmo and Williams (2018) found that most companies in SA develop departments that are digitally dominant and digital specialists are hired in a variety of different divisions to drive their DT strategy.

2.5 The effectiveness of business digital transformation

New digital technology such as social media, mobile and analytics play a significant role in business growth and interaction between the business and its new and regular customers (Westerman and McAfee 2012). These digital channels are widely used by consumers to see the latest goods and running specials. For instance, Facebook alone has more than one billion users, and there are more than six billion mobile phones in SA (Modimogale and Kroeze 2016). Companies are better at driving revenue by means of their prevailing assets when they are mature enough in the “digital intensity dimension” (Westerman and McAfee 2012).

Furthermore, digital technologies facilitate the connection process within the organisation, as well as with external stakeholders such as consumers, partners, suppliers and so on (Ablyazov *et al.* 2018). In addition, active entrepreneurs can then simultaneously create and manage numerous business projects. DT vests the power to fundamentally improve many economic characteristics for business growth (Prem 2017). Furthermore, active uptake with content through digital technologies allows wide distribution to customers because of the increased number of devices and channels that are available (Ismail *et al.* 2017). In addition, digital technologies enable innovation practices, improved designs, development of new business models, and the shaping of business organisations' value (Nadeem *et al.* 2018).

Companies that effectively managed to implement DT have an advantage and improvement can be expected in one or all of three areas: improved customer engagement and experiences, operations that are streamlined and new avenues of business models or business (Fitzgerald, Kruschwitz, Bonnet and Welch 2013). DT similarly uplifts business innovation when compared to nearest competitors (Schwertner 2017:153). In addition, "SMEs are driven to adopt appropriate internet technology for the purpose of improving their internal processes, improving their product through faster communication with their customers and better promote and distribute their product and services" (Selase *et al.* 2019).

Therefore, by adopting DT, customer service can be enhanced significantly. An example would be when client complaints are addressed by the bank establishing a twitter account for quick assistance, thus aiding customers in not having to physically visit a branch (Westerman, Bonnet and McAfee 2014). The use of technology can assist SMEs to improve their business competitiveness by means of the internet, which provides several opportunities to compete equally with large companies (Selase *et al*. 2019). Then again, SME information processing capabilities can be scaled and expanded through cloud computing services, without investing in buying costly equipment and software, or employing computer engineers (Rutihinda 2019). Ahmed (2020) similarly argued that

Cloud computing has been advantageous to SMEs. However, some have not adopted DT into its appealing benefits.

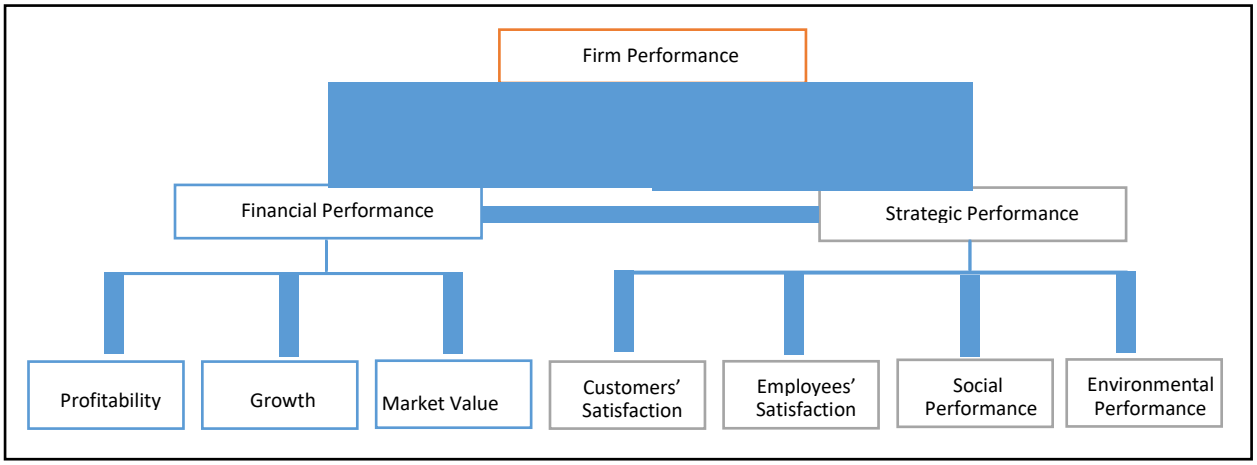


Figure 2.5: Dimensions of a digitalised firm's performance (Santos and Brito 2012:15)

The dimensions and balance of firm performance when DT is successfully implemented are illustrated in Figure 2.5. The firm's financial performance indicates an effective incline through the effective strategies implemented. This is measured by three dimensions (Profitability, Growth and Market value) as shown by Santos and Brito (2012). Strategic performance refers to the set of managerial decisions and actions that determines the longevity of business operational strategies. Good operational strategy generates positive financial performance in return (Gomes *et al.* 2019). When digital performance is centred on a business performance concept it is viewed as good business practice implementation for improved performance in operational and organisational levels (Gamache *et al.* 2019).

According to Ismail et al. (2017) Digital performance thus comprises six dimensions; organisational culture, leadership, and customer experience, along with technology, measurement systems and data management. However, business financial performance is measured by three dimensions: profitability, growth, and market value (Schwertner 2017).

Financial Performance

Financial performance demonstrates an effective indicator of firm profitability and overall business performance is demonstrated by its financial performance when compared to the benchmark for rate of returns equivalent to risk adjustment and the capital cost's weighted average (Deraz and Bebrekidan 2018). Therefore, the firm that is digitally oriented in terms of embracing transformation, will see effective financial gain in profitability, growth and market value perspectives.

Previously, Mule, Mukras and Nzioka (2015) maintained the commonly applied method to analyse financial performances as the use of profitability and market value, with these being key measures of efficiency and performance. DT advocates consider it to be a means of transforming the nature and financial performance of firm operations (Wood 2017). Digital technologies have the potential to add substantial value to the business operation and uplift the competitive position of SMEs.

Profitability measures the firm's ability to generate returns compared to past performance, including indicators such as return on investment, net income/revenues, return on equity, and economic value added and so on (Westerman and McAfee 2012).

Growth indicates a firm's ability to increase its size in terms of assets, net revenue, net income, and number of employees, as well as profit and cash generation in general, compared to past performance (Santos and Brito 2012).

Market value demonstrates the future expectation and external assessment of the firm (Deraz and Bebrekidan 2018). However, the firm's financial performance does not merely perform the function of raising the market, but also directs financial sector development, which finally leads to market success as an engine of financial development (Khan, Nouman, Khan 2015).

Strategic performance

While DT is critical to the firm's long-term strategies, it is difficult for company operators today to articulate what tangible financial advantage DT has on the firm's profit (Wood 2017). The strategic performance of the firm is a business performance that is overarching in the conceptualisation covering non-financial aspects (Santos and Brito 2012). It consists of four main variables, namely: customer satisfaction, employee satisfaction, environmental performance, as well as social performance. Strategy is a simple rule of being different and stems from the focus on key strategic processes and the development rules that shape these management processes (Gomes *et al.* 2019).

In DT, the use of digital technologies impacts three organisational dimensions: externally, internally and holistically (Ismail *et al.* 2017). It impacts externally with a focus on digital enhancement of the customer experience, thus its entire life cycle is altered; the internal impact affects decision-making, business operations, and organisational structures; and, holistically, all business functions and segments are affected; this frequently leads to business models that are completely new. Beyond strategic performance there is marketing strategy, which is a process of identifying customer needs, then conceptualising those needs in terms of an organisation's capacity to produce, communicating that conceptualisation to the business organisation's applicable laws of power (Van Scheers 2018).

Customer satisfaction is measured by means of indicators such as; product and service mix, quantity of complaints, rate of repurchase, and retention of new customers, in addition to general customer satisfaction, and how many new products/services have been /will be launched (Deraz and Bebrekidan 2018). True digital transformation is furthermore initiated through customer satisfaction; working inwards to connect capabilities that will guarantee the delivery of great customer experiences is what the entire business organisation is built around (KPMG International Cooperative 2017).

Employee satisfaction is measured by indicating company employees satisfaction, such as; employee turnover, investments in employee development and training, clear wages,

and good bonus policies, in addition to career plans, employee empowerment, performance rewards, and overall employee satisfaction (Santos and Brito 2012).

Social performance indicates the manner in which the firm performs toward indirect stakeholders such as government and communities (Deraz and Bebrekidan 2018). It can be regarded as an effort to satisfy communities.

Environmental performance presents the firm's performance in improving and recovering the environment (Santos and Brito 2012). This includes indicators such as; number of projects to improve/recover the environment, level of pollutant emissions, use of recyclable materials, and recycling levels, as well as reuse of residuals.

DT has reached a high and solid position in discussions with regard to the main elements that impact contemporary organisations' survival and development (Kotarba 2014). The powers of digital interconnectivity are mentioned by Ismail *et al.* (2017) as capable of overcoming physical barriers and allowing SMEs to reach more people and build a customer network based on interests, instead of geographical location. At present, most businesses with a massive increase in customer numbers have become particularly obvious through the demand for individualised products and the increasing influence of customers (Goerzig and Bauernhansl 2018).

Therefore, the digitalisation of industries is the focus of the current global economy (Gamache and Abdul-Nour 2019). Successful digital transformation is part and parcel of business process reengineering and optimisation in the way best suited for the strategy (Schwertner 2017). The manner in which value is created, captured, and offered is changing profoundly and depends on DT (Gomes, Okano, Simoes and Otola 2019). In addition, to improve and better promote their products and internal processes by means of improved communication with customers, SMEs are driven to implement suitable internet technology (Selase *et al.* 2019). Furthermore, introducing digital technologies in the BE can achieve business goals, since digital innovation confers the power for the company to move into new domains and thus develop existing business (Stief *et al.* 2016).

Interestingly, “new” digital technologies such as mobile, social media, and analytics are quickly making an impact on the economy (Westerman and McAfee 2012). These tools strengthen innovation in current business environments. This view is supported by Berghaus and Back (2016), who indicated that digital tools have changed on so many levels in different organisational themes that exploit digital technologies to improve existing processes. Moreover, Ismail *et al.* (2011) indicated that DT has the potential to add substantial value to the operations and competitive position of SMEs.

In addition, when service is provided where DT has been adopted, through embracing technological change and internet facilities, information processing speeds have increased in delivery to network clients, customers and other stakeholders work-wide (Durowoju 2017). In the current stage DT has, furthermore, evolved to the point where it shows its main value as assisting most SMEs to operate successfully in a dynamic and complex environment, in a manner essential for learning enterprises, through self-examination and experimentation, to avoid stagnation (Gomes *et al.* 2019).

With more consumers today spending more time on the internet, it is a crucial time for businesses to use communication that is online and interactive to directly connect with consumers at all decision process stages and to thus strengthen efforts in offline marketing (Selase *et al.* 2019).

2.6 Effects of digital technology in business environment: Trends and prospects

Recent trends indicate that technology is one aspect of a business organisation that represents extensive expenditure, yet it is also a department where businesses can make numerous cost savings (Prepletany 2013). Digital technology has been effective in most enterprises, since it allows faster interaction with consumers and partners, therefore providing for an additional opportunity to improve customer relations. According to Fitzgerald *et al.* (2013), every company wants the technology to transform their business, they see the potential for using digital technologies to achieve transformation, however, most are unclear on how to obtain results.

Some business organisations in SA still lack the ability to use effective technology and thus do not quickly adapt to changes as technology evolves. This view is supported by Lekhanya (2010), who highlights a lack of marketing knowledge and limited use of marketing strategies by SMME owners/managers in SA. Nonetheless, the Genpact Research Institute (2014) emphasised that in some functions, business executives estimate a high impact from technology that has been radically improved, stating its impact would be higher than that of other "levers". These levers range from business process reengineering to shared services and outsourcing and are calculated from improved technology use where relevant. When the market is rightfully digitised, it provides both potential and existing customers who have a smart phone with real-time information with regard to available and accessible products or services they need, when they need them, and in a form they need (Ngochi 2019).

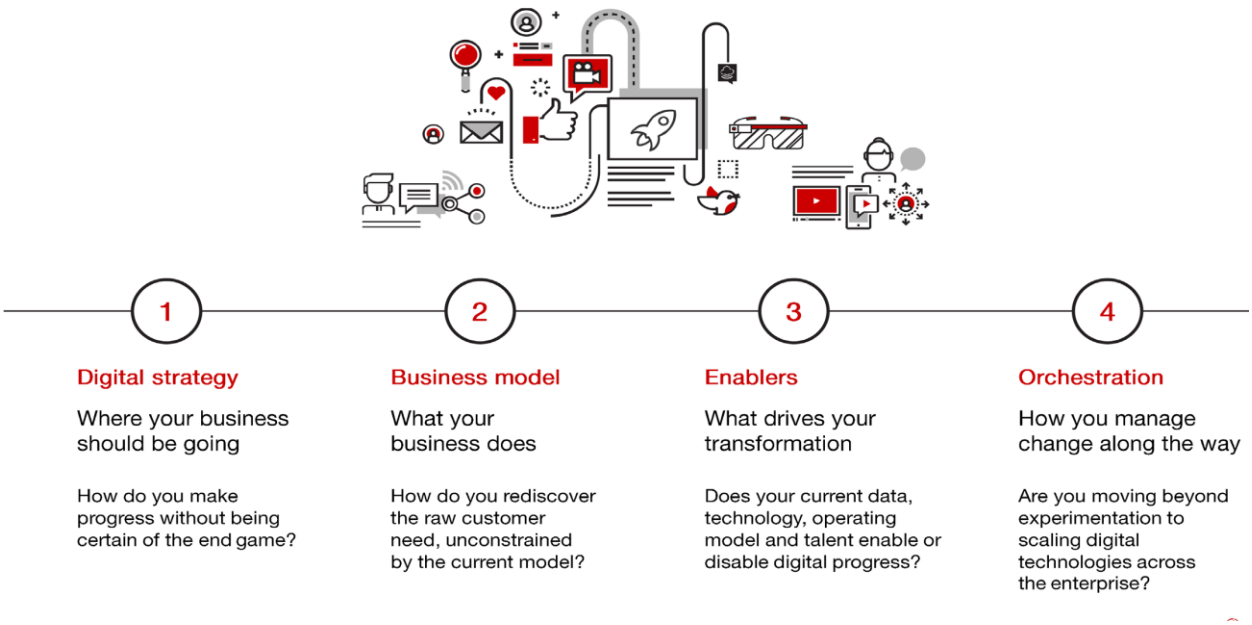


Figure 2.6: Transformation framework and sample questions (Ngochi 2019:102)

Digital strategy, business model, enablers, and orchestration are the factors to consider in the digital transformation framework (Ngochi 2019). These factors affect the implementation of digital transformation in the business operation. Digital strategy is specifically on where your business should be going in a certain period, business model

indicates the business mission in what the business does, enablers present what drives the business in the transformation perspective, lastly orchestration is how the business manage change along the way in transformation (Ngochi 2019).

The massive increase in the implementation of business digital technologies in different industries and aspects of life is transforming the business environment, even in areas that were mainly dependent on physical materiality (Piccinini *et al.* 2015). As a matter of record, Kotarba (2018) states that numerous enterprises have already started to design concepts of digital value creation in striving for innovation through business model approaches. This view supports Mastilo (2017), who argues that business digital technologies lead to a change of economic structure and quality of production factors, based on knowledge and innovations on a micro-economic level.

The Economist Intelligence Unit (2015) also mentioned that, at present, organisations are not only creating new business models by employing technology, they are also able to improve productivity and innovation as well as move closer to their customers. Technology can thus be an immense source of competitive advantage and strength in the workplace. On the one hand, Ardjouman (2014) maintains that in assisting SMEs to participate fully in the digital revolution does not merely rely on improved quarterly profits, it also relates to job and growth creation. On the other hand, Westerman *et al.* (2014:123) are of the opinion that “SMEs are still learning to promote their brands more effectively through digital media by building new online communities to advise and build loyalty with their clients in media services” (.

By so doing, SMEs realise that, currently, keeping pace with technological developments and innovations, as well as putting technology to use successfully play a significant role in the operations of a BE (Prepletany 2013). DT assists business organisations by opening new networking possibilities and cooperation between different business models and affects all sectors of economic growth (Schallmo and Williams 2018). Therefore, SMEs must strategically position their digital technologies within their organisations in such a way that they yield good results and maximise profits (Modimogale 2015).

According to Nadeem *et al*. (2018), digital leadership dictates the acquisition of current and updated digital competencies and skills, while new leadership roles are introduced to match the changing external environments of e-commerce. In addition, digital leadership should ensure agile and scalable operations, digitally enabled customer service units (CSU) and digital artefacts, while it can also manifest the business capability needed to pursue DT to align with changing external environments.

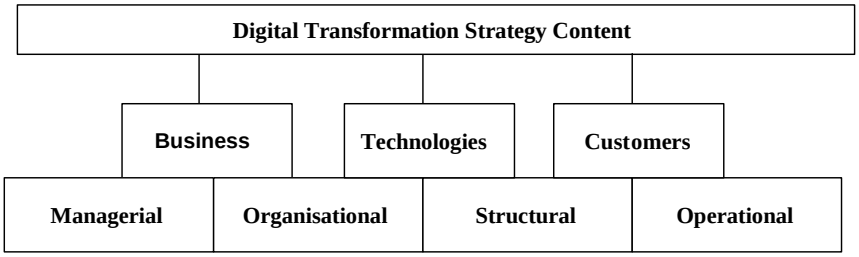


Figure 2.7: Digital Transformation Strategy Content

The DT strategy content (Figure 2.7) illustrates the process business requires in connecting with their customers. “Technology has been shown by recent trends to have become more of a “game changer” capable of motivating top-line growth and creating new strategies and business models (McKinsey & Company 2012). Similarly, Ismail *et al.* (2017) highlighted that technology has been identified as a key internal dimension that aids organisations in transforming their business models. This indicates that when digital technology has been implemented successfully it can generate organisational change.

The digital economy has, in effect, provided potential companies with the opportunity to experiment with new mechanisms to generate value creation, in the sense that value is created jointly by a company and a myriad of business partners (Gomes *et al.* 2019). Recent trends also indicate that technology is the heart of economic growth, which means SMEs are also driven to adapt to new and appropriate internet technologies in order to improve their internal processes, products or services, through faster communication with their customers (Selase *et al.* 2019). Nonetheless, the external collaboration of digital

technology ecosystems, shared by DT, digital business strategy, and organisational capabilities, are a solid indication of the significance in developing collaboration with external partners in today's digital world, in order to co-create value and better BE performance (Nadeem *et al.* 2018).

Based on the need to undertake a digital shift and improve competitive business, the prevailing discourse agrees that digital technology must become more accessible, user-friendly and inexpensive (Pelletier and Cloutier 2019). Access to information today plays an indispensable role in an informed process of decision-making, allowing SMEs to more easily make good decisions from a competitive perspective (Modimogale and Kroeze 2018). In addition, Schallmo and Williams (2018) highlight the focus on mobile devices at present, recommending that businesses should capitalise on this through value creation for customers by making best use of personalised customer data types that can be generated on a massive scale by mobile technologies.

BEs, specifically SMEs, find themselves facing tremendous challenges in initiating efforts to pursue technological innovations, because nowadays their survival often depends on the use they make of digital technologies and IS to ensure new developments in their business models, compete in new markets or enhance their international and external communication relationships (Hoti 2015). Therefore, according to Kawira *et al.* (2019), SMEs must continue to seek out new developments and opportunities that enhance their competitiveness in the highly dynamic marketplace, to ensure superior performance and sustainability.

Managing organisational change requires strategic planning and implementing change in a manner that will minimise employee resistance and cost to the organisation, while simultaneously maximising the effectiveness of the effort to change (Schwertner 2017). Other than the discovery of the impact of new technological innovations on business sectors, companies may also have different management styles that could produce different results (Hassan *et al.* 2018).

According to Ngochi (2019), being in possession of advanced DT contributes significantly to enhance competitive advantage and growth. Therefore, when SMEs have successfully implemented advanced technologies that provide platforms for digital marketing, they stand the chance of growth as they are in a position to reach many customers. SMEs can implement major business improvement in order to maintain competitive advantage and foster new growth potentials through the adoption of new digital technologies (Stief *et al.* 2016).

People at all levels of the BE should take part in strategic management, as this will: assist in obtaining critical information by scrutinising the environment, while taking advantage of environmental changes to put forward programme and business strategy changes (Gomes *et al.* 2019). Managers need to understand that there is a fundamental difference between digital transformation and previous IT-enabled transformation, due to particular trends that can be discerned when there is engagement linking companies and customers (Ismail *et al.* 2017).

Indeed, the features of digital technologies allow people to have more active interactions with content since they can create, eliminate or utilise these whenever necessary because of its flexibility advantage. For instance, target advertising and, new on-the-go services are created with the assistance of mobile digital technologies, while engaging the customer relationship (Prepletany 2013). When a BE digitally transforms its operations, it also transforms business models, processes, relationships and products to improve the performance and their scale (Goerzig and Bauernhansl 2018).

2.7 Impact of digital technology in business models of SMEs

The potential impact of digital technologies varies widely amid the business organisations themselves (Grishikashvili *et al.* 2014). DT may have a different impact in different themes of industries. For instance, Berghaus and Back (2016) iterate that those industries that have healthy and established business-to-customer (B2C) relationships and customer orientation may be affected by digital age influences earlier and with a greater impact

than those organisations that have a focus that is predominantly business-to-business (B2B).

According to Ablyazov *et al.* (2018), digital technologies have provided an added opportunity for SMEs not only to initiate their entrepreneurial activities, but also to procure tools that will ensure dynamic growth of competition in replicating products, scaling and international market access. Digital technologies have enabled product or service innovations at a rapid pace, with product life cycles that are shorter, and industry disruptions across boundaries, thus requiring new business strategy configurations (Hanelt *et al.* 2015). Although DT employs digital technologies and capabilities to influence different aspects of the BE to create value, the importance of understanding the specific way in which this impacts the particular business aspect is paramount to its successful implementation (Morakanyane 2017: 439).

Almost all business organisations in decentralised branches are now experiencing pressure to digitally transform their operations, knowing they need to do so quickly before they are left behind by innovative and digitally focused competitors and new entrants (Leipzig *et al.* 2017). Therefore, Goerzig and Bauernhansl (2018) point out that SMEs possess specific traits that impact the DT process, leading to what is needed with regard to the supporting tools; SMEs basically have very limited resources. According to Ardjouman (2014), SMEs in African countries can only be developed when they work toward sustainable development through embracing technology in their management.

From a technological perspective, in most firms and therefore, also in SMEs, a core role is played in business model innovation (BMI) by advanced technologies, such as social media and big data (Bouwman, Nikou, Molina-Castillo and Reuver 2018). Similarly, Goerzig and Bauernhansl (2018) mentioned that DT impacts BE, processes, business models, products and relationships to improve scale of the enterprise as well as its performance. Additionally, the digitisation of BE offers a possibility to fulfil existing customer demands for a highly flexible supply and demand for individual products (Goerzig and Bauernhansl 2018).

On the one hand, Ismail *et al.* (2017) find that business DT strategy more broadly affects companies, allowing for opportunities to transform existing business models, processes, products and consumers. On the other hand, Mastilo (2017:121) is of the opinion that “the impact of business digital growth especially on modern business should be reflected in improved productivity, knowing that the increase in productivity is a key issue in any economy, including digital economy”.

The focus on business models became popular in the late 1990s in most global business environments, through the processing, storing and sharing of information, as well as in creating new ways of doing business (Gomes *et al.* 2019). DT has been found to impact positively on barriers between individuals, enterprises and processes across every industry and unsettle the industry’s eco system (Rassool and Dissanayake 2019). For instance, technologies such as digital mobile assist in creating and providing targeted adverts, new on-the-go services, and engaging the customer relationship (Prepletany 2013).

Digital technologies are also transforming relationships between customers, workers and employers as new technologies reach and invade almost everything people do; from buying groceries online to finding a life partner on a website (Muhleisen 2018). Therefore, by eliminating these barriers, DT can enhance and help innovate brands, as well as product and service offerings and find a proficient method of working together.

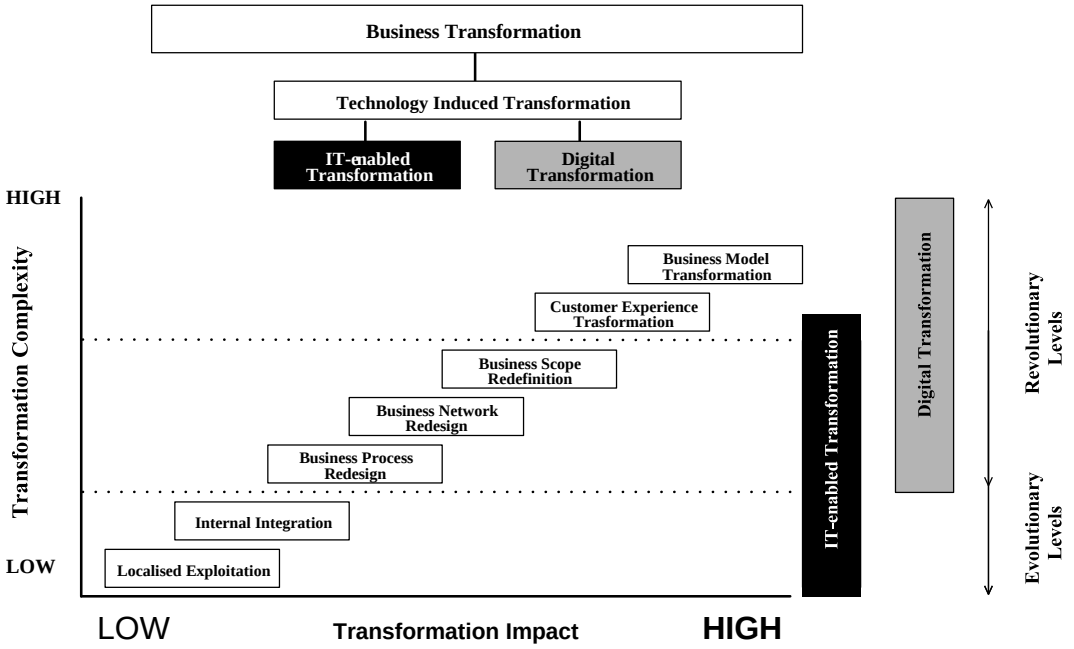


Figure 2.8: Business areas of digital transformation

Source: Ismail et. al 2017 (www.cambridgeservicealliance.org)

The positioning of DT and its impact in different areas of the business organisation are illustrated (Figure 1.4). The nature in which DT is implemented is a fundamental key to its success, causing a dramatic shift within the business organisation and in the competitive landscape (Ismail *et al.* 2017). Thus, the technology impact on business strategy continues to increase in importance on the agendas of SME CEOs and has become a refrain of many top teams in seeking competitive advantages in a world of fast-moving technological change (McKinsey & Company 2012). Therefore, from an academic viewpoint, it has been observed that DT adoption is a radical need for most SMEs in order to gain market growth.

Pelletier and Cloutier (2017) argue that DT in SMEs deals with psychological inactivity at individual level, such as private entrepreneurs and socio-technical inaction at group level, for example an IT specialist, in addition to economic and political sluggishness at a systemic level, which includes professionals offering socio-economic support. This shows that implementing DT has some challenges that SMEs should experience, for example, providing staff training and re-arrangement of organograms. It is, therefore, important for

SMEs to strategically position their digital technologies within their organisations in a way that will maximise benefits.

The ability to transform processes and business models, empower workforce efficiency and innovation depends on SME management (Schwertner 2017, with the transformation of these processes potentially leading the business in victory of competitiveness. In the complicated and fast-moving markets, the way in which value is created, captured, and offered is changing profoundly and DT is one of those responsible for this change (Gomes *et al.* 2019). Business model adjustment to digital technology and social changes can thus be understood as a transformation to a new organisational form, which Kotarba (2018) explains, is a better fit for functioning in the digital economy. Apart from this, SME managers and or decision makers need to transform their organisational routines and structures to meet the challenges of the digital age, even though organisational change may come with change in business operations (Berghaus and Back 2016).

Furthermore, another important element in response to changing customers is that of digitally enabled CUS, as it assists in the analysis of the customer value proposition in the e-commerce context. This would be achieved through the development and implementation of those infrastructures and digital processes beneficial when dealing with large amounts of data (Nadeem *et al.* 2018). BEs need to realise their ability to harness digital technologies to deliver compelling messages that create and sustain their brand equities, and likewise provide the leverage to enter markets is one of their most important organisational drivers (Chinje 2015).

Digital Marketing

In the recent digital revolution, the world has witnessed a rise in digital marketing characterised by the explosion of information, communication and technology (Kawira *et al.* 2019). According to Chinje (2015) this type of marketing is referred to as e-marketing, web, online or social marketing. It also uses web-based technologies to build brands and scale businesses, in assisting BEs to create and satisfy customer needs. Digital marketing can reduce the transaction costs of a firm, thus allowing for effective

management, coordination and usage of information that drives the firm towards its desired performance direction (Ngochi 2019).

The term “digital marketing” is all-embracing and incorporates various kinds of digital channels, such as video, email, content, and social media, as well as mobile marketing, in addition to search engine optimisation (SEO), Pay-per-click (PPC), and display advertising (Siddiqui 2020). These digital channels are platforms that enable reaching a target audience with brand, product, or service information (Aguila 2020). Thus, in using these channels, BEs can assist their customers with any possible questions or challenges they may have, while positioning the business a step closer to its marketing goals. When implementing digital marketing, it is important for the BE adopting the marketing strategy to assess the nature of the technology applied in marketing. For instance, when adopting mobile marketing, the theory advice on an assessment of the technology in use, in order to achieve set performance and growth objectives (Ngochi 2019).

According to Backlinko (2020), all marketing activities that make use of electronic devices or the internet are referred to as digital marketing; this incorporates all marketing activities performed online. Furthermore, it is a successful way to achieve meaningful results in today’s businesses, however, an understanding of the strategy is needed to get there, along with the manner in which it works, and what kinds of digital marketing can be made use of. For instance, Writer (2020) states that when traffic cannot be boosted, a greater number of customers attracted, brand awareness grown, or engage with the audience or teams, it becomes necessary to have a solid understanding of each digital marketing channel type to implement.

Therefore, as a business or brand, it is important to be aware of several different types of digital marketing. This means that, should a BE find it tempting “to wing it”, when only those types that are currently understood are used to market a brand, product or service, some of the most powerful forms of digital marketing for a brand, product or service may not be employed (Zovitsky 2020). This means an understanding of as many types of

digital marketing channels as possible is required so that the digital marketing strategy is based on optimising efforts, as opposed to merely implementing what is already known.

Cizmeci and Ercan (2015) explained that digital marketing tools are introduced as a deconstruction of traditional marketing tools and have become more important by providing interactively to all business stakeholders, including consumers, suppliers and producers in the marketing process. The adoption of digital marketing strategies exposes most enterprises to wider coverage of the market through social platforms, and this creates a possibility of widening an enterprise's growth, regardless of their size (Ngochi 2019).

Table 2.3: Differences between traditional and digital marketing

Traditional marketing	Digital marketing
Closed system	Open system
Not transparent	Transparent
Mass communication	Communication is one-to-one
Oriented to the product	Focused on consumer
The message is created by a professional	Messages are created by participating consumers
Formal communication	Informal communication
Paid	Free

Source: Boric et al. (2016:24)

Some differences in traditional and digital marketing techniques are tabled (Table 2.3). Traditional marketing contains the original and basic methods of marketing and advertising on four basic ways: through the press, electronic devices such as TV and radio, direct mail and by means of phone calls and SMS; used before the arrival of the digital era (Boric *et al.* 2016).

Indeed, those were the basics of delivering the necessary information with regard to business products or services. Digital marketing, however, consists of assistance from "electronic devices such as computers, smart phones, tablets, and sometimes even game

consoles, connected stakeholders, and other devices that can be connected to the internet to participate in digital marketing" (Boric *et al.* 2016:154). Furthermore, Aguila (2020) finds that digital marketing is reliant on technology for analyses of the comprehensive performance of a marketing complaint and assists in guiding future strategies and decision-making. Nonetheless, the best way to define a digital marketing strategy is to break it down into its two parts, which comprises digital marketing and digital business platforms.

According to Combs (2020), opportunities for Business to Business (B2B) marketers are opened by digital marketing for the promotion of their companies on the extensive scope offered by digital marketing platforms, including email, websites, social media, and paid and organic searches, as well as display and mobile advertisements. Choosing the right marketing platform best suited to a business culture can help obtain Return on Investment (ROI).

However, vigilance is needed in the manner of selecting the right marketing channels for optimum returns on advertising (Gotter 2020). In addition, with continuous marketing changes the difficulty lies in knowing what channels will work best for which BE.

According to Lundberg (2020), the usual questions apply when deciding which type of channel to choose, such as: Why do you want to use that digital marketing channel, and who are you trying to reach with your marketing efforts? This will assist in selecting the perfect formats and channels to achieve the BE's objectives. In the same vein, digital marketing channels need to be secure, reliable, and affordable, with convenience and ease of use on the customer side, and in their adoption, the enterprise needs to include content that will make the user return for repurchases (Ngochi 2019). According to Boric *et al.* (2016), one of the leading digital marketing methods and ways to interpret digital marketing is social media marketing; effective marketing cannot be imagined without digital marketing today.

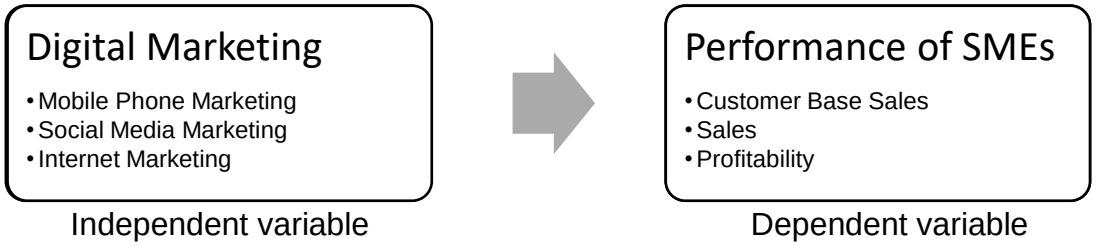


Figure 2.9: Digital Marketing to performance of SMEs

Mobile phone marketing involves the utilisation of mobile telephony through short messages (SMS) and dial-ups to reach and service customers. This kind of digital marketing has emerged as the preferred ICT tool for SMEs due to its affordability, ease of use, and reliable provider networks (Kawira *et al.* 2019). Basically, Social Media marketing involves the promotion of a company through various networking sites and well-liked media channels, for example, twitter, LinkedIn, Instagram and Facebook, as well as WhatsApp (Thompson, Williams and Thomas 2013).

Internet marketing involves creating sites where potential customers are able to view what is advertised by the company. All these digital marketing systems improve business revenue performance (Kawira *et al.* 2019). Digital marketing is an independent variable in this regard, whereas SME performance is a dependent variable.

According to Siddiqui (2020), the benefits of digital marketing implementation include having an online presence that is constant, profitable, delivers results promptly that are highly measurable, and offers an exceptional ROI. Further benefits consist of making a straight communication route available between business and customer, reaching likely customers at the start of the buyer's journey, real time interaction with targeted audiences and being highly targetable, while offering personalisation knowhow, with global reach. Digital marketing today is frequently focused on the use of messages that are progressively more conversion oriented to reach customers across various channels (Marketing Evolution Guide 2019).

Furthermore, this “new” digital way of marketing has been touted before as a cardinal strategy towards enhanced firm competitiveness and hence performance, due to its accessibility, ease of use and ability to reach a larger number of the target audience in a short time (Kawira *et al*. 2019). Therefore, human and time constraints, together with fast technological improvements and the rapid diffusion of technology devices in Africa, are increasingly strengthening the business case for SMEs to harness digital marketing techniques to facilitate communication with their target market by delivering messages at a faster and cheaper rate than other players in their markets (Chinje 2015).

Different BEs adopt different digital marketing channels, depending on their size and availability of resources; hence, most SMEs are presently in the growth stage, which can be regarded as the most important stage as it entails attraction and retention of customers, through the formulation of precise and concise marketing objectives and strategies, with the potential of reaching many prospective customers (Ngochi 2019). These digital marketing channels can sustain competitive advantage when utilised as the SME marketing and communication strategy (Chinje 2015).

Digital marketing, in comparison to other marketing forms, emphasises dialogue value, where it takes place between the brand and customers or the brand and a group of customers (Sheppard 2019). Furthermore, it offers businesses a way to connect with more potential consumers than even before, with over 3.6 billion active internet users around the world. This view is supported by Kawira *et al.* (2019) whose study revealed that digital marketing tools such as mobile phones, the internet and social media sites play a significant role in attracting/reaching and retaining customers and improved sales volumes and profitability.

In addition, advances in technological features have made significant impact on marketing theories and practice and these improvements have expanded opportunities to capture better quality customer data and increase the focus on customer relationships, while there has also been a rise in customer insight and Customer Relationship Management (CRM)

(Grishikashvili *et al.* 2014). Digital capability similarly facilitates digital artefacts, enabling a BE to create or adapt new products or services for its e-commerce, thus fulfilling the need for a digitally enabled CSU to fit with changing customer needs (Nadeem *et al.* 2018).

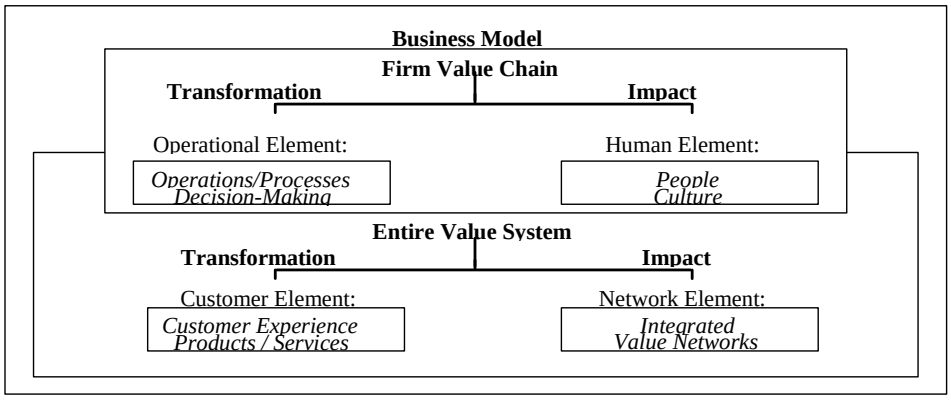


Figure 2.10: Digital Transformation Content

Source: Ismail et al. (2017:52) www.cambridgeservicealliance.org

Figure 2.10 indicates how DT impacts business operations. For instance, DT influences the firm from the operation element to the human element (people culture), as well as from customer elements to network elements. This figure presents the role of DT in the overall firms' value chain, showing that DT can play a role in all sections of the business model when implemented successfully. These sections include the business operations element, along with the human, customer and network elements.

The critical difference between the traditional and DT is the opportunities for innovation, scalability and abilities that are possible in any transformation process digital is part of (KPMG International Cooperative 2017). Further to this, DT can deal with uncertainty and allow for quick response to change compared to traditional. In addition, there is its influence on society to digitally transform by offering improvements, products that are exciting, and the convenience of daily life services (Veldhoven and Vanthienen 2019).

Nonetheless, the implementation of technologies into business processes is not enough; when positive results are not yielded, it is necessary to create additional value for customers, the business itself, and other essential stakeholders (Schallmo and Williams 2018).

From a financial advantage perspective of digital maturity in transformation, it has been found that business organisations mature in DT enjoy good turnover from their goods and services (Westerman and McAfee 2012). This references the relationship between digital maturity and financial performance. However, there is a striking difference in the comparison of digitally matured companies and their less-matured competitors (Westerman and McAfee 2012), where there is direct involvement at all levels in the organogram hierarchy (owners and managers) in the digital transformation processes (Schwertner 2017).

This therefore proves that SME managers are fully aware of the important role of DT in today's markets. When BEs have an informed understanding of customers and their needs, this forms the central aspect of a successful DT (KPMG International Cooperate 2017).

Berman and Bell (2020) likewise indicated that every business leader has realised the tremendous pressure created by customer expectations for the business to change the way they run their organisations and set their strategies. According to Westerman and McAfee (2012), four types of business digital maturity exist, namely "Beginners, Fashionistas, Conservatives, and Digirati".

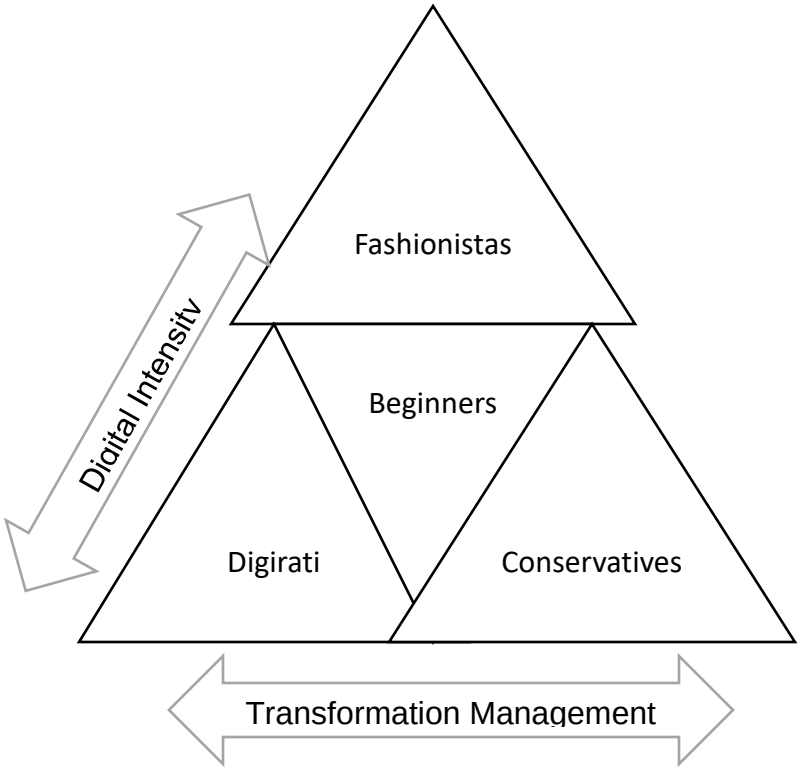


Figure 2.11: Four types of Digital Maturity

Figure 2.11 Illustrates four types of business digital maturity, with business organisations in the centre regarded as digital beginners in the transformation. They do very little in advanced digital capabilities, hence they are referred to as digital beginners. These companies may be mature more with traditional applications, such as Enterprise Resource Planning (ERP). However, they would then remain unaware of the opportunities in the implementation of effective DT. In the current digital age, while certain predictions of the effects of digital changes have come to function, there is no definite answer on what works and what does not, with reference to changes in the SME's business context (Grishikashvili *et al.* 2014).

According to the KPMG International Cooperative (2017), not only must businesses offer superior experiences for customers, consumers, citizens and employees, but delivery on their promises should happen in a way that is faster and more agile.

Those in the top business digital maturity levels are Digital Fashionistas (DFs). They have implemented or experimented with many digital applications, which may create value in their operation. DFs are motivated to bring on digital power changes within the organisation, yet their DT strategy does not have enough knowledge of how to maximize business benefits. Where companies lack corporate governance, they may find themselves in this quadrant at corporate level, even where there are more mature digital efforts in certain business units (Westerman and McAfee 2012).

Companies on the bottom right quadrant (Figure 2.11) are referred to as Digital Conservatives. These companies favour prudence over innovation. They understand the need for a strong unifying vision, as well as for governance and corporate culture, in order to ensure investments are managed properly. However, according to Westerman and McAfee (2012), these companies are typically sceptical of the value of new digital trends, sometimes to their detriment.

Lastly, those businesses in the left bottom (Figure 2.11) are known as Digirati. The businesses in this guardant truly understand how to drive business value with DT. They are capable of combining a transformative vision, careful compliance with governance and engagement with enough investment in new opportunities, developing a digital culture that can visualise added changes and put them into service wisely by means of engagement and vision (Westerman and McAfee 2012). Furthermore, Digirati continuously advance their digital competitive advantage by investing and carefully coordinating digital initiatives. Correspondingly, profitability and growth that is sustainable need technological innovation and control perspectives that are attentive (Durowoju 2017).

2.8 Challenges of business digital transformation in SMEs

Described as an external force, technology is difficult for businesses to predict, which is why managers are often perplexed regarding how to effectively plan for it, specifically in SMEs where investing in technology is deemed as quite pricy and costly to manage (Durowoju 2017). DT deals with deeply embedded values and beliefs that require a new

set of skills to be built at all levels within the organisation (Ismail *et al*. 2017). Therefore, SMEs face numerous barriers and obstacles in completing DT adoption (Van Belle 2011).

Fitzgerald *et al*. (2013) indicated that, notwithstanding the growing acceptance of the necessity for DT, it is a struggle for numerous SMEs to gain distinct advantages from "new" digital technologies. This is, on the one hand, a result of their lack of management temperament and relevant experience to know how to drive transformation through technology effectively. On the other hand, Durowoju (2017) mentioned that to manage technology can be quite expensive and costly, thus, to acquire new technology at great cost would mean turning from traditional to sophisticated and automatic ways.

Modimogale and Kroeze (2017) mentioned different categories of barriers that disrupt SMEs from adopting DT, namely: insufficient knowledge about the strategic use of digital technologies, lack of the necessary internal IT skills-base, perceived high setup cost, and ever-changing ICT environment, as well as geographical factors (Modimogale and Kroeze 2017). Interaction between organisations and digital technology are complicated, with numerous challenges in implementing effective digital change that require attention (Grishikashvili *et al.* 2014). However, while these challenges can seem overwhelming, now that digital is part of the mix the transformation process can be far more innovative, fast, scalable and agile (KPMG International Cooperative 2017).

The primary concern of SMEs at present is change in the morphology of business models that took place in recent decades, because of the massive technological development, framed under the concept of DT (Kotarba 2018). A broader perspective has been adopted by Schwertner (2017), who argues that every business in the business industry is being disrupted by digital business transformation, "breaking down barriers between customers, businesses and things". This indicates that the arrival of digital technology comes with challenges where business managers must maintain market standards and build innovations.

Similarly, Pelletier and Cloutier (2019:153) stated that “SMEs are under pressure to adopt and use digital technology more intensively to better support operations and management activities, and to access resources and skills they so not possess internally”. However, in contrast, Ismail *et al.* (2017) highlighted that even as numerous companies are trying out DT, recent success story studies have indicated that successful SMEs’ enhanced competitive positioning does not rely only on the adopted technologies, but more importantly, instead it builds on strategies deployed by their leaders.

New technology, as explained by Lindh *et al.* (2017), places new demands on companies and offers new probabilities for improving or developing products and market activities. The Economist Intelligence Unit (2015) similarly mentioned the profound impact technology has had on the workplace for several decades, while there has been a quickening in the pace of change and it is starting “to have a huge disruptive effect in business operation”. For instance, pressure on employees may be increased and their professional satisfaction reduced, which will not only harm the well-being of staff but also business performance.

Therefore, business owners need to understand both challenges and opportunities for employees to realise their aspirations. In overcoming the main obstacles relating to the implementation of DT, the business may gain not only a competitive advantage in the market but also improved performance (Tarute *et al.* 2018). According to Selase *et al*. (2019), SMEs usually do not have appropriate skills available in-house and must thus retain existing staff or outsource the technological duties, perceived as an additional overhead cost that reduces net profit.

Durowoju (2017) likewise indicated that implementing new technologies requires more training, which is capital intensive, despite the achievement of new business opportunities for BEs. Therefore, many SMEs still struggle to realise DT potential due to these challenges (Vogelsang *et al.* 2019).

Establishing SMEs in a country, more specifically developing countries such as SA, does not come without its challenges (Gopaul & Manley 2015). Challenges such as staff training and skills development within the organisation need attention as far as digital technology implementation is concerned. “The level of education in the SMEs, cost of ICTs and related training, and the lack of skills in the county are all factors that put weight on SME owners/managers in making decisions regarding ICT adoption” (Harindranath and Ozcan 2019).

Digital business technology fundamentally differs from the traditional ones, therefore, require new systems and strategies (Mastilo 2017). Digital advancement is likewise forcing companies to rethink their organisational models (Tarute *et al.* 2018). This view is supported by Mubarak, Shaick, Mubarik, Samo and Mastoi (2019) who argued that implementing digital technology offers much benefit in the market, however, these bring their own challenges as the structure and nature of companies and markets is changed, which raises questions regarding social and economic interaction, jobs and skills, privacy, and security.”.

At the same time, SMEs need to spend money and time on obtaining the relevant advice from digital technology experts and consultants so they may set up strategies of implementation (Schwertner 2017). This means that “organisational routines and structures need to be transformed by managers and decision makers to meet digital age challenges. According to Fitzgerald *et al*. (2013), even large firms experience challenges with new digital technologies where leadership has shown they can leverage technology effectively. For instance, emerging technologies today, such as social media, mobile, embedded devices and analytics, require mindsets and skillsets that are different from previous technology transformation waves.

2.9 Factors affecting digital transformation and implementation in SMEs

Different forms of business activities have been substantially transformed by the digital revolution, with supporting options for new business idea implementation (Ablyazov *et al.* 2018). Similarly, Berghaus and Back (2016) mentioned that DT impacts various areas

within an organisation simultaneously and several stakeholders are involved in delineating a strategy for transformation in, for example, IT, human resources and marketing. Therefore, there must be a common understanding of the prioritisation of DT activities between all these areas.

Different factors affect business DT in SMEs, including the following:

- Marketing strategy
- Innovation
- Staffing, training and development
- Business organogram
- Corporate governance

These factors directly/indirectly affect the implementation of DT and business operation systems.

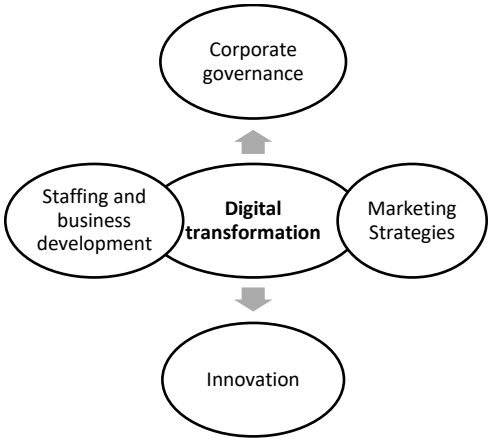


Figure 2.12: Factors affecting digital transformation

Factors to be considered in the implementation of DT (Figure 2.12) that directly/indirectly affect business operations. These include, corporate governance, which indirectly affects SME operations and while regarded as an external factor as it is not internally controlled, business must comply with it. All the digital channels that the business implements or uses must be in line with corporate governance. Marketing strategies though, are internal strategies within the business and therefore directly affect business operations. Similarly,

staffing and business development also directly affect the business operation and are developed within the organisation. Lastly, innovation is a factor that business wants to develop and maintain in the market in order to be competitive. It is a reason for implementing DT, therefore, it directly or indirectly impacts business operations.

2.9.1 Marketing Strategies

Figure 2.13: Marketing Strategy

Figure 1.10 shows SME survival through digital technology, where different digital channels are used to maintain effective marketing. These digital channels are social media (for example, Facebook, twitter, Instagram), as well as online marketing, and computerised records.

Social media marketing: According to Norries (2020:64), Social Media is one of the great places to saturate your business, everybody uses it in some way e.g. from Facebook to LinkedIn communication it's a very open and visible aspect of today's society". One of the better ways to use social media to grow customer numbers is to create original social media content, through blogs and video, on business social media platforms such as facebook, twitter, Linkedln and Instagram (Siddiqui 2020).

Online Marketing: This digital marketing channel is essential for every business organisation operating today because it is a workhorse for communicating and selling to prospects and customers (Combs 2020). The creation and distribution of content that adds value for the audience is part of online marketing, with pictures, text, and or

multimedia employed instead of merely broadcasting and advertising messages (Lundberg 2020).

Computerised records: Another effective way BEs use to develop and sustain their relationships with potential customers is through computerised records. BEs can focus on helping prospects advance through the sales funnel, assisting them with solutions to specific problems and achieving particular goals instead of unexpectedly driving them toward sales (Combs 2020). Indeed, keeping records is the most important aspect in measuring business performance as the business is able to trace reliable and loyal customers while also tracking performance of products/services. Guarda, Santos, Augusto, Pinto, and Silva (2013) supported this view, indicating that information processing has gradually become the basis for achieving competitive advantage in the current phase of the business digital age.

Nevertheless, even though the discussed digital channels have been shown as vital for any business operating nowadays, recent evidence revealed that SMEs are still lacking ‘digital-wise’, in their business models. For instance, most SMEs do not understand strategic marketing with little if any experience in strategic marketing and this shows within their business models (Sugar 2016). Duffett and Wakeham (2016) also highlight that online interpersonal interaction and communication has become an important aspect of social activities, more especially among millennials (young adults), which therefore forces the business organisations to adapt to the change. There is a positive association between SME success and marketing skills SME owners or managers require (Cant 2012).

Figure 2.14 depicts social media and digital marketing for SMEs:

Figure 2.14: SME social media and digital marketing

Source: evensi.com

Recent social media marketing statistics show that 73 percent of marketers agree with the effectiveness of social media marketing, indicating that from a growth perspective, it has either been somewhat or very effective in their business (Siddiqui 2020). Furthermore, 54 percent of digital browsers have been shown to use social media to research products, and 71 percent of consumers who have had a positive experience with the brands on social media are most likely to recommend them to their friends and relatives.

Marketing has been identified as one of the key drivers that bring revenue for most SMEs (Ayong and Naidoo 2019). Indeed, since digital technologies have been booming, consumer habits have shifted toward mostly making purchases digitally and interacting online. No doubt times are changing, and most businesses today are adopting online marketing to get the product to where the people are. There are two options in Digital Marketing; Organic and Paid. Of course, everyone loves organic traffic from social media such as Instagram, LinkedIn or Facebook, but many do not know how to generate this type of content (Matt and Rauch 2020). For paid services such as Facebook business, it

is quite complicated for the average person to get started, with many having tried and wasting much money with little or no benefit.

Digital channels such as Facebook and twitter. play a major role in maintaining customer relations through frequent communications and prompt problem solving, hence retaining customers (Kawira *et al.* 2019). It has been observed that the high rate of failure is attributed, amongst other factors, to for instance a. lack of marketing strategies that limits SMEs from reaching target markets (Ngochi 2019). Therefore, by adopting digitalised marketing strategies, organisations expose themselves to wider coverage of the market through social platforms.

This view is supported by Selase *et al.* (2019) who mentioned that in order to improve their internal processes and products by means of faster communication with customers and better promotion of their products and services, SMEs are driven to adopt appropriate internet technology. This is a clear indication that “technology has become the heart of every country’s economy” (Selase *et al.* 2019).

At present, social media platforms are an essential part of everyday life, with marketing communications through these digital channels now one of the latest trends in SA (Duffett and Wakeham 2016). However, there are factors affecting the success of SME marketing strategies in SSA, such as technological infrastructure, more so for those enterprises operating in rural areas, with specific reference to the rural areas of the KZN province (Lekhanya 2015a: 410). This shows a massive need to investigate implementable measures so that South African SMEs are able to adopt/adjust to DT in order to succeed in the current markets.

According to Modimogale and Kroeze (2016), SMEs need to define digital technologies for the business in order to understand their potential and outline the processes and methods to be followed during adoption. On the other hand, Lekhanya (2015a: 410) mentioned that “most SMEs do not have clear knowledge and understanding of digital marketing and how it can benefit their business popularity”.

Nowadays, social medial has become primarily used as a personal online ICT channel for private communications among friends, family members and affiliates to communicate and share information (Duffett and Wakeham 2016). Nevertheless, some businesses organisations have taken advantage of these innovative digital channels to reach billions of potential customers with their marketing communications. Business organisations must consider that customers demand the same digital convenience they experience in their private lives when interacting with businesses (Veldhoven and Vantheinen 2019). However, in the current digital age of SME marketing in SA, some prediction of the effects of digital changes have come to fruition, yet there is no definite answer to what works and what does not in terms of implementation.

According to Westerman *et al.* (2014), executives in most industries worldwide are now using digital advances such as analytics, mobility, social media and smart embedded devices in an attempt to improve their use of the latest technologies, such as ERP, to change customer relationships, internal processes and value propositions. Reports of failures of ERP and CRM projects within several organisations have, however, been reported, with technology not perceived as the biggest problem. More importantly, the readiness of the organisation to embrace the technology is seen as a common problem (Modimogale and Kroeze 2016).

In addition, Grishikashvili *et al.* (2014) similarly indicated that digital technology advances have significantly impacted marketing – in both theory and practice with technology expanding the prospects of capturing customer data of a better quality and increased customer relationship focus, and upsurge of CRM and the accompanying customer insight.

2.9.2 Innovation

Over the past decade, numerous innovative ICT platforms have surfaced, providing a selection of innovative communication possibilities to businesses (Duffet and Wakeham 2015). This is the one factor that almost every business strives to develop and maintain

in the market, as digital technology is an innovative tool in business operating models, while business activities significantly affect the geography and size of the prospective market, the competitive environment and speed of good substitution (Ablyazov *et al.* 2018). Furthermore, innovation encourages associating different ‘gadgets’ with the internet and consequently, information is shared with relevant stakeholders, as well as new and regular customers (Kumar 2018).

The innovative growth of SMEs results in the number of sales that generates business revenue. This can be achieved through marketing of services and products in order to create awareness of their availability and make them stand competitively in the business market (Ngochi 2019).

To maintain innovation, mobile technologies should be explored by South African SMEs as this is a good platform to deliver to customers and many South Africans have cell phones (Modimogale and Kroeze 2016). The adoption of digital innovative measures enables SMEs to survive in tight competition, global economic crisis and compete against large organisations (AL-Mubaraki and Aruna 2013). However, South African SMEs seem to have limited knowledge and capabilities to adopt technological innovation.

According to Hoti (2015), the DT innovation orientation of enterprises is an important aspect that encourages the adoption process of the information system. The acceptance of innovation-related strategies concerning IT nonetheless requires the acquisition of a technologically based instrument that plays a significant role in the decision-making and planning, as well as the communication processes (Ngochi).

Figure 2.15 presents innovation through digital marketing techniques for SMEs:

Figure 2.15: Innovation through digital marketing techniques for SMEs

Source: antevenio.com

Where competition is high and resources are limited, competitive advantage of new technologies has specific importance for SMEs and any new alternative new technologies would be adopted (Ayong and Naidoo 2019). According to Lekhanya (2015b), the networking and social media business environment has drastically changed since the emergence of new technologies, including digital. Not only are SMEs an economic growth source, they also practice innovation in all industries, transforming from traditional production forms to advanced technologies. Thus, innovation plays a crucial part in enhancing SME competitiveness, and this is conditioned by manager competencies (Szczepanska-Woszczyan and Kurowska-Pysz 2016).

Indeed, using digital channels is clearly shown as important for business brands, and SMEs should also follow this progression should they wish to gain innovation and remain competitive. According to Ayong and Naidoo (2019), a new technology's competitive advantage has specific importance for SMEs where there is intense competition and limited resources and would therefore adopt any alternative new technology through which productivity can be improved and some economic benefits are offered. In addition, digital media channels provide the organisation with an opportunity to develop a deep relationship with its customers; more than has been possible ever before (Boric *et al.* 2016).

Where the means through which value is created, captured, and offered are profoundly changing, it is important to consider new development in business models, and one of those responsible for this change is DT (Gomes *et al.* 2019). Therefore, business entities such as SMEs need to grow and expand their operations to ensure survival in the markets, as well as to gain highly competitive levels of the available market (Ngochi 2019). Even though DT has become almost a slogan, “true transformation does not come in a box, it is the sum of more than just the adoption of technology but a new way of thinking that embraces disruption and technology to drive innovation and new processes” (Bannett 2019:32).

According to AL-Mubaraki and Aruna (2013), policymakers find enterprises that are technology-based to be strategically smart as these BEs have higher potential in the creation of jobs, generating wealth through business development, and a lower rate of disappearance in comparison to enterprises that are non-technology based. In order to achieve the maximum benefit of innovations in a BE, the right organizational culture must be instilled consistent with the implementation of innovation (Ngochi 2019).

2.9.3 Staffing and business development

A new breed of skilled workers is required in the 4th industrial revolution for DT and innovations, with workers being innovative and having technology know-how (Manda and Backhouse 2017). Despite increasing fears that digital technology will replace humans, the 4th industrial revolution brings new opportunities that require human intelligence and technological skills. Similarly, maximising the potential of DT will require constant reskilling for staff at every level (Economist Intelligence Unit 2015). Therefore, HR professionals will need to have a better understanding of the expertise of individuals within the organisation.

In SA, SMEs are on a priority list for job creation and economic assistance by the government. Further to this, in the next 10 years, 500 000 jobs are expected to be created every year according to the government, with the bulk most likely from the SME sector

(Cant 2012). However, the implementation of new digital technologies contradicts with these government expectations as rapid changes in digital systems minimise the need for bulk staffing in some business areas (Kotarba 2018). This subsequently reduces job creation but increases competitive features and requires staff training.

As an essential factor of economic growth promotion and achievement as well as development, SMEs are seen as a contributor to widespread employment and wealth creation (Van Scheers 2018). According to Modimogale and Kroeze (2016), SME owner-managers need to understand that their contribution to the company is limited physically and where certain skills are concerned; they therefore need to employ or outsource some ICT functions. A good example is FNB, which provides a payroll solution to its SME clients. Therefore, SMEs should invest both funds and time to obtain relevant advice from ICT consultants and experts so they may set up an ICT strategy founded on their business strategy.

On the one hand, talent is becoming a commodity brought in as and when necessary in every function, with more use made of temporary experts (Economist Intelligence Unit 2015). On the other hand, development through DT is introducing a more flexible and collaborative working environment that facilitates business operations (Westerman *et al.* 2014). Thus, the first step is to manage digital development activities, in order to differentiate those that are valuable that can grow the business operation (WEF 2018).

Figure 2.16: Business development through DT

Source: Itweb.co.za

Business DT requires matching organisational structure in identifying technology capabilities and the challenges encountered in the transition to a production process that is information technology intensive (Hitt 2010). According to Ngibe and Lekhanya (2019), formal SMEs account for 98 percent of the number of formal businesses in the SA economy, whereas the informal SME sector only accounts for 28 percent of the country's job creation.

This raises concern as it should be 60-70 percent, based on international trends, yet it must also be considered that South African SME owners lack DT knowledge (Ismail *et. al.* 2017) However, this is not only with regards to technologies available for use today, but also knowledge on who can supply them with digital technologies.

In addition, Selase *et al*. (2019) mentioned that SMEs usually do not have the appropriate skills available in-house and thus, have to train existing staff or outsource some activities, which is seen as an additional overhead cost that reduces the net profit of the business. Multiple areas within the organisation are simultaneously affected by DT where stakeholders involved in defining a strategy for transformation are IT, marketing, human resources and product development (Berghaus and Back 2016). All these departments need to develop a common understanding of the prioritisation of DT activities to develop innovation.

2.9.4 Corporate governance and legislative framework

According to the Department of Trade and Industries (South Africa) (2019:21) the sector supplement on SMEs defines these enterprises as a private enterprise for-profit company with a Public Interest Score (IP Score) of 350 or more, as calculated based on regulation 26(2) of the South African Companies Act 71 of 2008. The report on Corporate Governance of SA (2016:7), contains corporate governance principles to be used by companies on a voluntary basis, with the Companies Act governing, amongst other matters, the legal obligations and powers of directors, requirements for annual disclosure and the company's core rules that have to appear in the "memorandum of incorporation".

This therefore indicates that rules of general conduct and prescribed fiduciary duties must be adhered to by all directors, as enshrined in the common law and codified in the Department of Trade and Industries (South Africa) (2019:29) as per Companies Act (SA Companies Act, 2008). Companies must, as indicated by King IV (2018), comply with these principles: leadership, ethics and corporate citizenship, performance and reporting, governing structures and delegation, and stakeholder relationships. As explained by Heenetigala, Armstrong and Clarke (2014), corporate governance regulations aim to reduce risk and maintain confidence and order in the corporate market, while guaranteeing compliance.

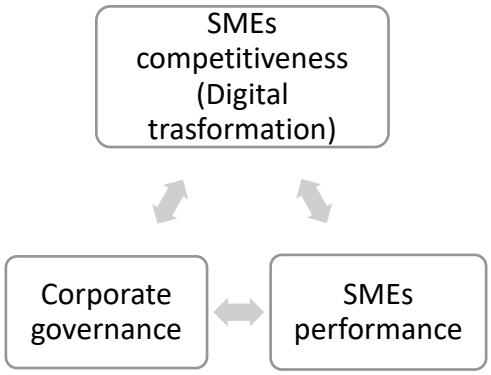


Figure 2.17: Corporate governance

Figure 2.17 Indicates that the implementation of DT must comply with corporate governance. This means the implementation of digital technologies should not contradict corporate governance. In addition to this, SMEs do not much concern themselves with corporate governance in their operations. This is supported by Shezi (2013), who mentioned that SA is recognised for its world class corporate governance, but it has the highest SME failure rate amongst the developing countries. This shows that SMEs in SA need to adapt to change in the way they are doing things but comply with the existing corporate governance to improve performance.

As per Sarah (2017), good corporate governance is beneficial to SMEs. However, Shezi (2013) highlights multiple challenges faced by SMEs, such as insufficient skills in business management, low profitability, ineffective corporate governance systems

resulting in a lack of access to funding, and conflicts of interests, as well as ethical dilemmas.

In SA, government and other SME development agencies are making some efforts to ensure and encourage corporate governance compliance in SMEs (Hove-Sibanda, Sibanda and Pooe 2017). This is important as corporate governance concerns the control and direction of companies, exercised by their directors or those holding powers and authorities, and other decision making in matters that affect the vision, performance and long-term sustainability of the organisation (Heenetigala *et al.* (2014).

According to Lekhanya (2015c:321), “the importance of the promotion of SMEs as a tool for poverty reduction is noted in the strategic framework for small businesses in South Africa”. Nonetheless, little if any consideration is given to the impact on SME competitiveness and performance by corporate governance in SA, particularly in KZN (Independent Research Journal in the Management Sciences 2017).

2.10 Transforming Customer Experience

Technology is indispensable in the customer experience, more so as customer expectations continue to expand (McKinsey and Company 2012). In order to digitally transform the customer experience, companies make use of three major building blocks namely, “customer understanding, top-line growth and customer touch points” (Westerman *et al.* 2014).

Those BEs that manage DT effectively should gain in any or all of three areas, according to Fitzgerald *et al.* (2013):

1. Better customer experiences and engagement,
2. Streamlined operations, and
3. New lines of business models

This indicates that customer experience reflects the clearest impact on DT. Marketing professionals of any enterprise must thus keep learning to transform customers experiences or they will become obsolete; technology such as social media is creating

new opportunities, with customer needs and expectations continuously changing (Economist Intelligence Unit 2015).

2.10.1 Customer Understanding

“Many business organisations are creating a single view of their customers, complemented by seamless multi-channel sales and support capabilities” (Westerman *et al.* 2014), which allow customers to use their preferred channels to do business on, while companies are enabled to benefit from every interaction by a customer (McKinsey and Company 2012). Similarly, the majority of companies have started to gain an in-depth understanding of specific market segments and geographies by taking advantage of previous investments in systems. Some are exploring social media to search for an understanding on what makes customers happy — and what leads to customer dissatisfaction.

McKinsey and Company (2012) explain that digitally, sales and customer care functions are revamped by companies through implementing an integrated CRM system that offers a common customer data set across all touch points and this leads to dramatic customer service improvement and 10 to 15 percent increased revenue. In the same vein, a gradual development has been seen in recent years where e-marketing and other e-mediums in marketing are concerned, to connect with alert and aware customers (Pradhan *et al.* 2018). Integrated marketing communication informs, reminds, persuades and entertains existing and potential customers by applying a unified message across a variety of media platforms (Chinje 2017).

In addition, companies are learning to promote their brands more effectively through digital media, where data-driven marketing reveals a number of tactics with which to approach, attract, make aware, and delight, as well as lead customers to purchase online (Pradhan *et al.* 2018). Furthermore, new online communities are also being built by companies to offer advice and build loyalty with clients in financial services, medical, or real estate products. Nevertheless, Westerman *et al*. (2014) indicated that other BEs are

building products that improve branding in lifestyle communities, while numerous organisations are building analytics capability to understand customers in more detail.

Therefore, digital marketing conceptualises digital campaigns, providing numerous benefits to various customers at one click (Pradhan *et al.* 2018: 6089). This means businesses nowadays need to implement a digital marketing strategy that is in sync with potential to grow in the market. Other business organisations are conducting analytics-based experiments to drive customer behaviour. For instance, certain restaurant companies are actively conducting pricing and promotion experiments in across a set of franchised stores. Westerman *et al.* (2014) explain that product prices are dynamically adjusted in the experiment responding to demand, the weather, proximity to closing time and inventory levels. Therefore, this indicates that DT has opened a new range of possibilities for enriching interactions with customers.

2.10.2 Top-Line Growth

Every BE's core aim is to grow. This is in terms of assets and market size and due to increase in competition (Ngochi 2019). Therefore, business must ensure more customers are attracted while, at the same time, retaining the existing ones to remain in business and profitable. Companies are thus making use of technology to enrich in-person conversations that deal with sales. For instance, tablet-based presentations are being used by financial services companies to make sales pitches in preference to paper-based "slide decks" (Westerman *et al.* 2014).

In support of this, Fitzgerald *et al*. (2013) mentioned that technology is an integral aspect that, although it has been important to the business, is becoming much more strategic, more so today with the emergence of new technologies and the transformation of how consumers are engaging with technologies.

Insurance firms have, as example, introduced mobile tools to assist engagement by salespeople and customers in planning that is analytics-based. A sales force of medical devices is taking the place of in-person interactions and replacing this with digital

interactions, such as a visit to the doctor's office, where a salesperson would leave information regarding new products on an iPad with video and other material for the doctor to peruse (Westerman *et al.* 2014). As gaining the doctor's attention is the aim here, without any inconvenience to the physician or affecting busy office schedules, a 10-minute conversation will then follow once the iPad is retrieved on the salesperson's return. Therefore, the growth of the business is dependent on the number of sales, which generates revenues for the business (Ngochi 2019).

2.10.3 Customer Touch Points

According to Westerman *et al.* (2014), digital initiatives can significantly enhance customer service. An example is where a bank helped customers avoid having to physically go to a branch by establishing a Twitter account to quickly answer client complaints,". Companies more often see digital technologies help transform their customers' expenses or operations (Fitzgerald *et al.* 2013).

Digital initiatives can also leverage a community of experts, permitting crowdsourcing with a number of employees and customers. Digital technology is "an ever-growing source of entertainment, news, shopping and social interaction as consumers are now exposed to what the media, friends, relatives, peers, etc. are saying, not only just to what your company says about your brand" (Deraz and Gebrekldan 2018).

SMEs that have a variety of channels to the customer are facing pressure to offer an experience that is integrated Westerman *et al.* (2014). However, multichannel services need visualisation with change implemented across customer experience and processes of internal operations". Properly implemented DT develops decent innovations to create new customer experiences, relationships, and organisational forms (Hanelt *et al.* 2015).

According to Westerman *et al*. (2014), home shopping is now offered by many retailers with options to take delivery of the products in a store or by mail. However, other business executives believe customers become angry when customer service representatives in a store cannot access order history online. Today's marketing and sales professionals are

somewhat more motivated to use digital technologies, as these allow working more efficiently, collaborating remotely and in real-time, and being flexible to work while travelling or from home" (Economist Intelligence Unit 2015). This shows that over and above other functions, marketing and sales professionals are attracted by the opportunities to better understand customer behaviours and needs and to leverage new technologies.

With digital technologies, it is necessary to describe who is the target of organisational value creation, how to identify the most important customers, and the manner in which the company segments its customer base (Kotarba 2018). Mobile phones play a significant role in maintaining customer relations through frequent communications and prompt problem solving, hence retaining several customers. Furthermore, it is possible to share business information with relevant stakeholders via mobile phones and provide basic information to customers (information dissemination) with regard to product/service prices and their availability (Kawira *et al.* 2017).

There are also many companies that offer self-service by means of digital tools, saving the customer time and the company money (Westerman *et al.* 2014). New value propositions could result from this, as products and services, or in different ways of customer interaction in terms of providing offers and deliveries, along with the new organisational forms that will be needed to provide customers with these offers (Goerzig and Bauernhansl 2018). Nonetheless, several organisations now offer consumers apps to enhance their customer touch points. For instance, smartphone apps are being put to use by one hospitality company, by linking to the customer's profile, facilitating integration between itself and the customer across SMS, apps and social media efforts. Another scenario is where a media company offers apps with geolocation and augmented reality to assist customers in finding interesting places to visit and providing special offers via e-couponing and vouchers (Westerman *et al.* 2014).

Companies substantially alter their key constituency/stakeholder relationships such as with customers, employees or suppliers (Goerzig and Bauernhansl 2018). However, even

while customer experiences that are transformed are the most noticeable and exciting features of transformation, very strong benefits are also being realised by companies making use of process digitisation, enablement of workers and performance management to transform internal processes (Westerman *et al.* 2014). In addition, improved customer relationships can be generated in areas where the most success is achieved with digital technology through the addition of features into new product versions (Fitzgerald *et al.* 2013). Due to the increase of available channels and devices, digital technology diffusion permits content to be widely distributed to consumers" (Ismail *et al.* 2017).

2.10.4 Process Digitisation

In change management, the term DT is used to address the extent of strategic change in the business operation (Goerzig and Bauernhansl 2018) and while automation can enable companies to refocus staff on tasks that are more strategic (Westerman *et al.* 2014), digital business modification is the process of transforming the business model. This digital globalisation results in new digital businesses (Schwertner 2017). Furthermore, the digital economy has provided potential customers with the opportunity to develop themselves by trying out new forms of value creation mechanisms, in the sense that adds value and growth (Gomes *et al.* 2019).

With this in mind, most manufacturing companies are now initiating centralisation of their HR functions and allowing economies of scale through self-service, while freeing HR people to acquire management skills; especially materials companies that have automated many business processes.

With researchers allowed, through automation, to focus on creativity and innovation instead of recurring and even cyclical efforts (Westerman *et al.* 2014), streams of data are also created by automation that could be of use in later efforts of data mining. An example of this is that of a paint manufacturer having created plants that are fully automated resulting in labour requirements that are significantly reduced, along with improved quality of products and enhanced performance in the fields of health and safety and the environment.

As a simple rule, strategy is about being different and exceptional from the focus on key strategic processes and the development of simple rules that entails these processes (Gomes *et al.* 2019). As “going digital” eliminates the need to ship physical prototypes back and forth, most companies have transformed to digital design processes when collaborating with manufacturing partners, consequently reducing the product development lifecycle by 30 percent (Westerman et al. 2014).

2.10.5 Digitally Modified Businesses

Companies use digital technologies to change the paths of value creation they have relied on to maintain competitive advantage (Gomes *et al*. 2019). However, to do so, they must ensure digital implementation with structural changes and overcome the barriers that impede their transformation effort. These changes can lead to positive impacts on the company. Most business enterprises don’t transform just the way they do business, but they transform the business operation (Westerman *et al.* 2014:231). Therefore, It’s not about changing the way they do technology but changing the way they do business. Implementing digital marketing strategies exposes a firm to wider coverage of the market through social platforms (Ngochi 2019).

New ways are being found by companies to “argue physical with digital offerings and to use digital technologies to share content across organizational silos” (Westerman *et al*. 2014). An example would be where “a grocery company stays true to its traditional business but uses digital to transform a new growth business”. This indicates that today’s business world has been deeply influenced by internet technology adoption.

2.10.6 New Digital Businesses

The current use of business systems is widespread, since technology is rapidly changing global production, work and business methods, as well as trade and consumption patterns of enterprises and consumers (Selase *et al.* 2019). Therefore, these uses of digital technologies can improve business competitiveness by means of the internet, providing several opportunities for SMEs to compete equally with large corporations. In

addition, digital products that complement traditional products are also being introduced. Westerman *et al.* (2014) use the example of a manufacturer of sports apparel that started selling global positioning systems (GPS) and other devices that can digitally track a workout by a customer and report on it.

Furthermore, by reshaping their boundaries through digital, other companies are changing business models. Examples include: a mortgage company that moves to being a global assembler of investment products rather than just a link in the value chain, or the aim of an airport authority to become a traveller's end-to-end process owner through the provision of an integrated multichannel experience, which would include information on airplane reservations and air traffic, promotions for duty-free shopping and further benefits (Westerman *et al.* 2014).

2.10.7 Digital Globalisation

For business development purposes, companies are increasingly transforming from multinational to truly global operations (Westerman *et al.* 2014). Business digitisation is at present introducing several changes in business sectors across the entire global economic sphere (Mastilo 2017) with its content gradually continuing to impact national economic competitiveness.

However, new technological development puts new demands on business organisations, providing new possibilities for developing or improving market activities as well as products (Lindh *et al*. 2017). Through advanced digital technologies, business operations are now increasingly being transformed in this hyper-competitive era (Mubarak, Shaick, Mubarik, Samo and Mastoi (2019). Therefore, in the context of globalisation, a substantial need exists for countries to plan and manage change, while focusing on digital intervention to heighten the country's economic activity, in order to attain economic independence (AL-Mubaraki and Aruna 2013).

Global businesses are able to gain and sustain global synergies by means of DT, combined with information that is integrated, while remaining responsive locally

(Westerman *et al.* 2014). These businesses benefit from globally shared services for HR, finance and even core capabilities such as manufacturing and design, due to implementing DT. Globally shared services promote global flexibility and reduced risk in business operation, with the example of one manufacturer, with only a few days' notice, being able to shift production around the globe in answer to excess demand or disruptions.

According to Mastilo (2017), the digital economy impacts today's global economy in four important ways; it creates content that is brand-new and by imposing new business rules, it deconstructs modern business while threatening traditional business models, it develops new ways of communication among the people, based on new principles of everyday communication, by utilising all the applications provided by digital technologies, and lastly, it develops new job opportunities.

According to Westerman *et al*. (2014), requirements to ensure successful digital transformation are: strong leadership to drive change; a vision as to which parts of the company will be transformed by implementing DT, global companies can automate their supply chain processes and HR functions leading to increasing their business efficiency (Rutihinda 2019). This view supports that of Westerman *et al.* (2014), who argued that companies in all regions and industries are experimenting with DT and benefiting from it. Digital technology offers a wealth of opportunity, whether it is how individuals work and collaborate, how business processes are performed within and across organisational boundaries, or in the manner in which customers are understood and served by a company.

From a global viewpoint, it is easy to respond to market requirements that keep changing with technology tools as these even allow, taking advantage of insights gained from big data and collaboration (Economist Intelligence Unit 2015). Thus, no company transforms all nine areas at once, making focus really important, nonetheless new ways to redefine the way they work are constantly identified by the best-managed companies in the new digital era.

2.11 Successive Implementation of business digital transformation in SA

The digitalisation of industries, from a global perspective, is at the heart of every county to sustain economic development. (Gamache *et al.* 2019). However, some countries seem to have a lack of knowledge with regard to the most effective methods of initiating DT in SMEs. SA is an emerging economy and as a result it was recently admitted to the BRICS group of countries (Gono, Harindranath and Ozcan 2016). Increasing utilisation of ICT by SA businesses makes development of a better understanding of the impact of DT imperative, specifically in SMEs (Harindranath and Ozcan 2016).

In their operation, SMEs in SA must take into consideration the technological advancement that is rapidly dominating in the business market to develop competitive advantage based on adequate and intensive use of IS, which are essential sources of innovation and success in the business sectors (Hoti 2015). Moreover, according to Ismail *et al.* (2011), SMEs in SA are often reluctant to embrace technological change and instead, hold themselves to traditional approaches and means to conduct their business and operations.

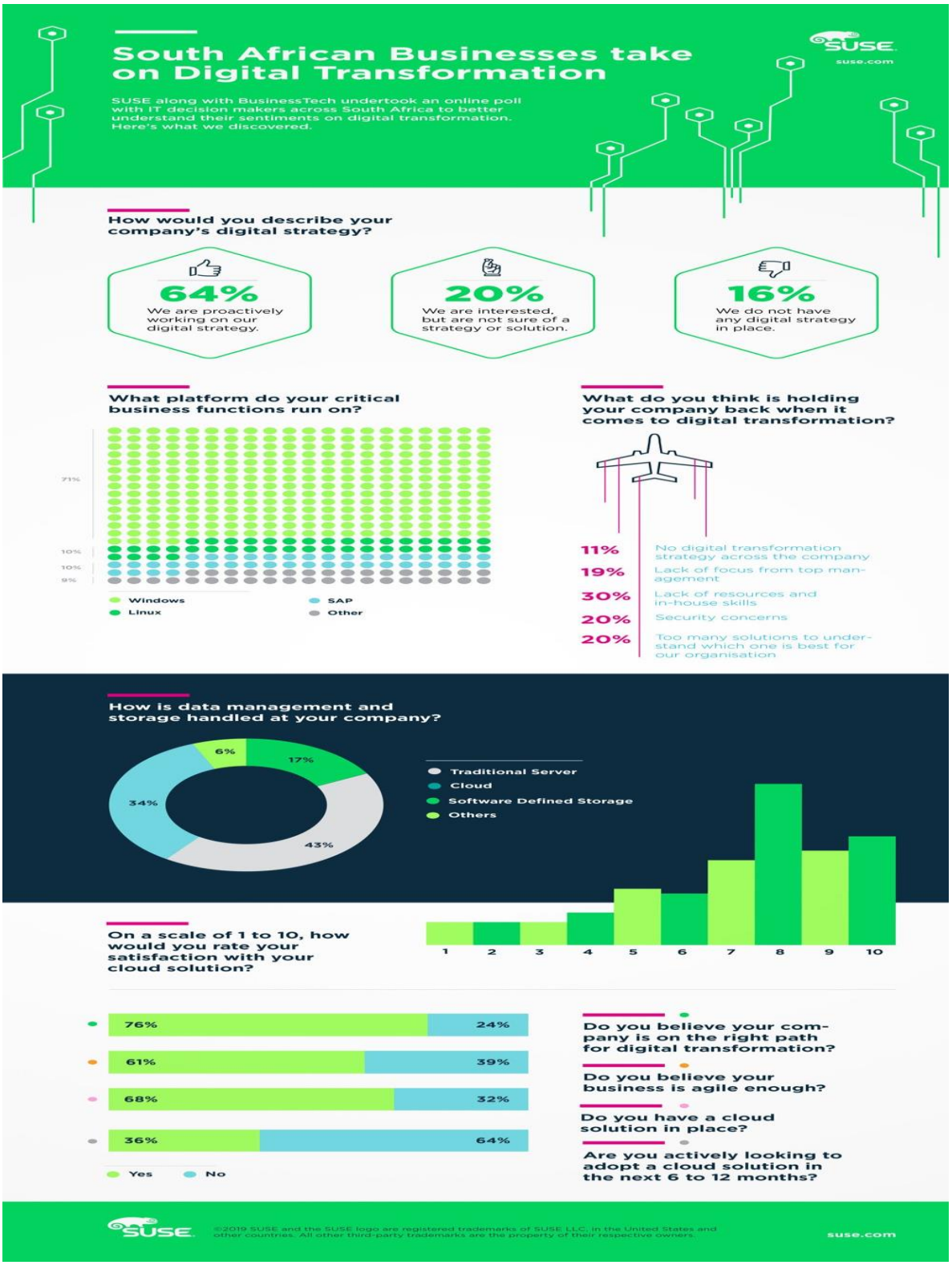


Figure 2.18: South African businesses take on digital transformation

Source: Bannett (2019:63) businesstech.co.za

Actual findings on the take on of South African business of DT are illustrated (Figure 2.18) by Software und System Entwicklung (SUSE 2019).

“Recent online transformation by SUSE (2019) shows 76 percent of respondents are of the opinion that their company is on the correct business digital transformation path. Nevertheless, 64 percent are proactively working on their digital strategy, while 20 percent are interested in making transformation but are not yet sure of their strategy. Approximately 16 percent of respondents indicated their companies have no digital strategy in place. It is interesting and promising when South African BEs are serious about implementing effective DT and that many of them seem confident and are passionate that they are on the right path that best suits their business strategies.

However, it remains that some SMEs in SA are hesitant to start their DT journey. According to Bannett (2019) from SUSE, other businesses are holding back when it comes to DT for the following reasons:

- Insufficient or no resources and in-house skills (30 percent)
- Security concerns (20 percent)
- Too many solutions to understand which one is best for the organisation (20 percent)
- Lack of top management focus (19 percent)
- No DT strategy across the company (11 percent)

For these businesses to scale their infrastructure and IT staff more efficiently, the cloud has been a great way to achieve this on their journey of DT. In their study, Bannett (2019) found more than two thirds (68 percent) of respondents who indicated that DT has been implemented in their business models. However, almost a third (32 percent) were still hesitating to transform from traditional to digital due to challenges that come with the digital age (Bannett 2019). This indicates that those that have invested in the cloud are very satisfied with their solutions. With regard to data storage and maintenance, 43 percent of respondents indicated their organisations will use traditional servers to manage

their data, while 34 percent have moved their storage in to the cloud, whereas only 17 percent are exploring other options such as software-defined storage solutions.

These results show the improvement of digital adoption in BEs. However, the extent to which these BEs have implemented DT indicates that they have only partially implemented these new systems.

Considering elements of DT, it is also interesting to note that roughly 61 percent of those respondents believed their businesses are agile. Agility is very critical nowadays – especially when considering the market challenges. From these findings, it is promising on the one hand to see that SA businesses do have the ability to leapfrog and embrace DT.

On the other hand, McKinsey and Company (2019) state that regardless of whether a change effort has been successful or not, a few shared traits of the present DT status are evident from the actual results. For instance, one organisation may tend to look inward when making such changes. Therefore, the most cited objective for DT is digitising the organisation’s operation model. by McKinsey and Company (2019) presents that organisation with successful transformation deploy more technologies than those without (Figure 2.19).

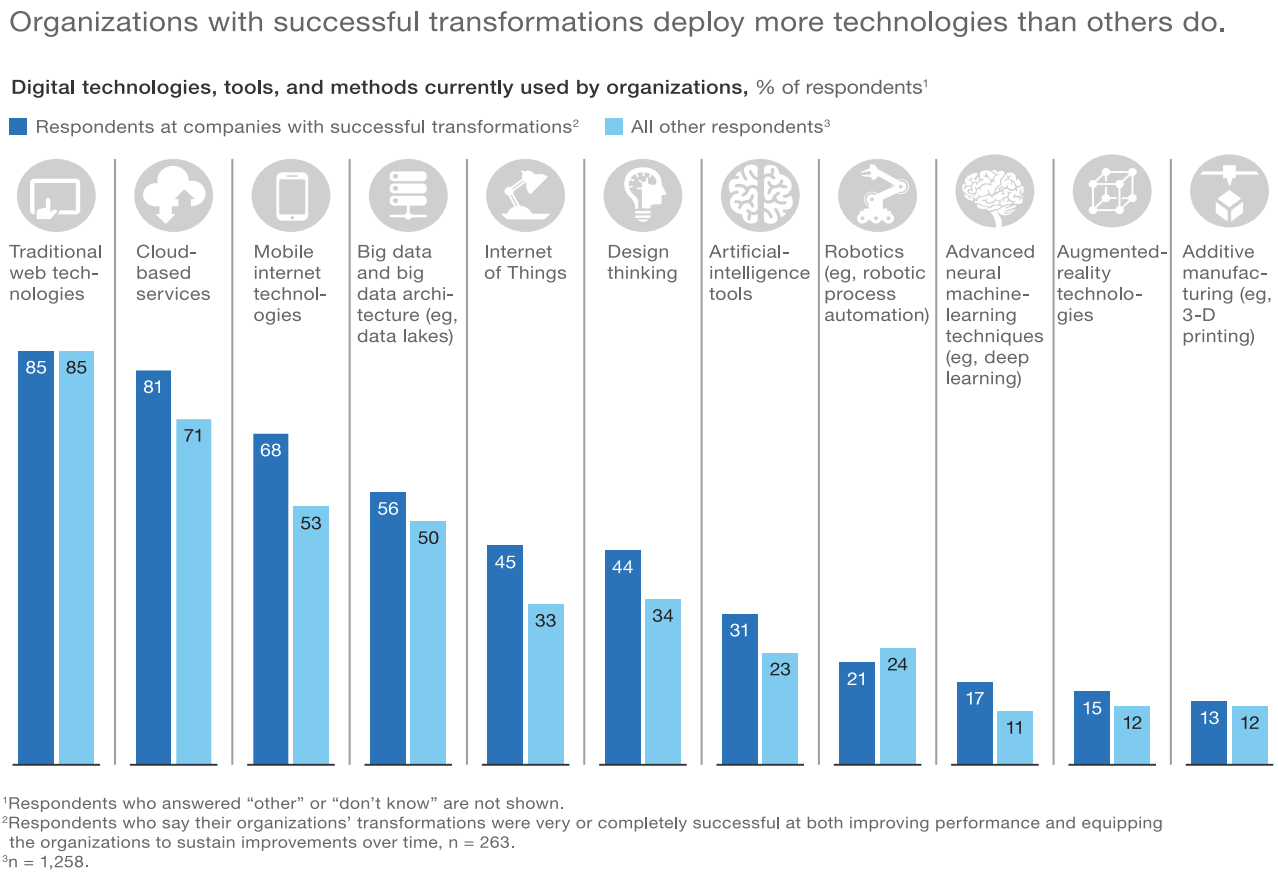


Figure 2.19: Organisations with successful transformation

Source: McKinsey & Company (2019:34) www.mckinsey.com

The digital technologies, tools, and methods currently used by organisations are shown (Figure 2.19), as well as the respondent percentage. Respondents at companies with successful transformation are presented in blue, whereas all other respondents are shown in light blue. The findings by McKinsey & Company (2019), for respondents at companies with successful transformation, indicate 85 percent of companies with successful transformations through traditional web technologies, 81 percent on cloud based services, 68 percent on mobile internet technologies, and 56 percent on big data and big data architecture (for instance, data lakes), along with 45 percent on IoT, 44 percent on design thinking, and 31 percent on artificial-intelligence tools, while 21 percent on robotics (including process automation), 17 percent on advanced neural machine-

learning techniques (such as deep learning), and 15 percent on augmented reality technologies, as well as 13 percent additive manufacturing (for example, 3-D printing).

These results from successful transformation show that these organisations deploy more technologies than others do. The organisations with successful transformations are likelier than others to use more sophisticated technologies, such as artificial intelligence, IoT, and advanced neural machine-learning techniques. According to Onyeji-Nwogu, Bazilia and Moss (2017:100). “the rise of disruptive technologies is profoundly transforming systems of production and management across sectors and industries”.

On the other hand, Manda and Backhouse (2017) indicated that, in a connected and smart society, DT has become one of the key strategies the SA government is adopting to promote inclusive growth. This shows that the 4th industrial revolution, a digital driven revolution, has brought with it many opportunities. Similarly, ICT is a vital component at present and is used by many global businesses to remain competitive (Modimogale 2019). From an African perspective, Ndemo and Weiss (2017:51) argued that “digital technologies have spread across the African content at an inexorable pace, widely cited data on adoption rates suggest that digital technologies are making their way into every facet of life in African societies”.

2.11.1 Leapfrog potential for Africa/SA in full capacity of new technologies

The current adoption and impact of industry 4.0 on the African continent remain low compared to the rest of the world (Pillay 2016). This points toward the need by company and industry processes to be adapted to this new industrial revolution for potential should they not want to be left behind by developments in their sector and by their competitors. However, the pace of technological change is indicated by some experts to be accelerating affecting thousands of workers in offices and plants as labour saving innovations is more widely diffused (Durowoju 2017).

Africa/SA remain with a challenge of connectivity and accessibility to progress in the space that will drive broader adoption of industry 4.0 applications by businesses and

consumers (Pillay 2016). From an academic viewpoint, DT is a rather fragmented field as a result of the existence of multiple and diverse areas of investigation, such as DT of societies, industries, economies, as well as individuals (Ismail *et al.* 2017). Similarly, digitisation forms a significant part of business development's world-wide trend, industry 4.0, and threatens to entirely transform business models (Leipzig *et al.* 2017).

2.12 The technology–organisation–environment (TOE) framework

The TOE framework combines a range of factors (technological, organisational and environmental) considered to influence SME owner-manager attitudes towards ICT (Gono *et al*. 2016). It must be noted though that SMEs use green practices to analyse drives that the TOE framework impacts (Ahmed 2020). Organisations are thus forced by the rapid digital change to intensify their digital transformation pace, through the revision and renovation of redundant processes and offerings (Mhlungu, Chen and Alkema (2019).

Societal change processes prompted and catalysed by the introduction of digital technologies can likewise be understood as a multiple environment (Ndemo and Weiss 2017). Therefore, the context of TOE embodies a technology pool that may be adopted from and used by a firm, in addition to their appropriate suitability with technologies in use and the relative benefits that arise in their usage. Furthermore, this framework describes factors that influence the adoption of DT and its likelihood (Shneider 2016).

According to Ahmed (2020), TOE is a framework consisting of three different roots from an organisational perspective, namely technological, organisational and environmental contexts. These fundamental principles contribute to many areas of the organisation by explaining different technological developments, such as e-commerce, business resource planning, green IT Start-Up, and cloud computing. Similarly, Baker (2018) indicated that this framework is "an organisational-level theory" that clarifies the manner in which these three different business context elements may affect decisions regarding influence adoption. All three elements are positioned to influence technological innovation.

Technological context: This refers to the relevant technologies within the enterprise, including digital marketing channels, available IS, and digital connections (Ahmed 2020). Technologies already in use at the firm are included, as well as those available in the marketplace but not currently in use (Baker 2018).

Organisational context: This denotes firm characteristics and resources (Barker 2018), with organisational characteristics including corporate size, centralising degree, formality, and complexity of management structures, in addition to quality of corporate HR and slack domestic resources (Ahmed 2020).

Environmental context: The environment refers to the space where an organisation operates and carries out its activities, including occupational associates, participants and the administration. It is one of the external forces with restrictions and prospects with regard to the high-tech revolution (Ahmed 2020). In the same vein, Barker (2018) mentioned that this context includes the structure of the industry, presence or absence of technology service providers, and the regulatory environment.

Today's customers no longer only expect companies to respond to their expressed demands, but unreservedly expect their futures needs to be anticipated and addressed before they have been realised (Leipzig *et al.* 2017).

2.13 Theoretical context

The implementation of DT remains a global phenomenon that concerns every business manager. Technology is one of the external factors considered as generally beyond the control of the business, which then affects strategic planning and forecasting because of rapid changes. According to Schwertner (2017), digital business transformation disrupts businesses by breaking down barriers between people, business and things. However, it also enables businesses to create new products and services and find more efficient ways of doing business.

All these innovations apply across organisations of all types worldwide. In this regard, Weinelt (2018) mentioned that in this new world, the “predation” of digital revolution is embraced by analogue officials of numerous successful companies, who believe they are being more innovative in the markets.

Several attempts have been made to present the prospects and features of digital business transformation and its influence on the business operation. For instance, Lekhanya (2015c) investigated the impact of digital marketing on SME growth and brand popularity in SA. Previously, Prepletany (2013) had assessed the impact of digital technologies on innovations in retail businesses. However, such expositions are unsatisfactory because these studies do not cover the implementation of this transformation in SMEs, such as how these digital technologies in business models are being implemented, how capable SA SMEs are to adopt DT, and what the perceptions of SMEs are on DT and other external forces.

Most academic studies have only focused on the opportunities and features of technology in the business; however, the experimental data are rather controversial to explore the implementation of digital business transformation. This indicates a need to investigate and understand the facts on how SA SMEs implement DT to improve innovation in the market. Thus far there are no existing data on how and to what extent South African SMEs implement DT. Until recently, there has also been no reliable evidence that entails data on SME capability to implement digital business transformation. Therefore, this indicates the need for further investigation towards achieving the required evidence.

From an academic viewpoint, existing experimental data are rather controversial, and no general agreement exists with regard to the extent of implementation of digital business transformation in SMEs. While the DT phenomenon has been widely explored in different academic domains, there is only a crude overview of the academic field. Most studies in digital business transformation sought to address the prospects and features of DT, with research to date having tended to focus on the basic areas of DT in the business but not deeply investigating how SMEs adjust to change or transform to digital technology.

Furthermore, previous studies have not explored the capability of these SMEs to implement measures of DT.

This study therefore seeks to investigate how DT affects the business environment in SMEs. Secondly, this study will assess the extent of DT implementation in SMEs. Thirdly, the study will explore the capability of SMEs in SA to adopt digital business transformation to gain innovation in the market. Fourthly, it will determine the challenges in adopting DT, while also exploring SME perception of digital technology and other external forces that affect their business.

2.14 Chapter conclusion

This chapter has presented the conceptual framework of the study variables. In addition, this chapter brought forward the theoretical framework from previous researchers. The legislative framework from SA legal documents was also presented. The study objectives have been discussed from the findings and views of previous authors. The next chapter will present the research methodology in detail.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Chapter Introduction

The previous chapter presented a review of literature, including the study's conceptual framework, theoretical framework, and legislative framework, as well as the views and findings from previous authors. In this chapter, the research design considered will be clearly discussed in detail. The study target population will also be clearly identified the sample size indicated, and the selected sampling method will be discussed in detail, along with the measuring instruments employed. Furthermore, the data collection tools and analysis will be clearly discussed, as well as pretesting, delimitations/scope, validity and reliability, and anonymity and confidentiality, along with ethical considerations.

3.2 Research Paradigm

Paradigms are more likely to be referred to as research traditions or worldviews in the social sciences context (Du Plooy-Cilliers 2014). However, it is very important to understand that, by following a particular research paradigm or research tradition, researchers adopt a specific way of studying certain phenomena which is relevant to their field of study (Bryman 2012:630).It is important for the researcher to know what paradigm or tradition to ascribe in order to determine what questions are considered worthy of investigation and also what acceptable processes are required for the answers to these questions (Du Plooy-Cilliers 2014). There are many paradigms/traditions in research, but there are three dominants, these are positivist, interpretivist, and critical realist (Bryman 2012). These traditions links to the three cognitive interests, or sciences used to generate knowledge that was identified by the theorists, namely the empirical analytical sciences, the historical hermeneutic (or hermeneutic-phenomenological) sciences, and the critically oriented sciences (Do Pooly-Cilliers 2014).

The empirical analytical sciences are referred to as empirical and technical sciences, and their aim is to identify causal (cause and effect) relationships. These sciences are closely related to positivism in paradigms/traditions the research context (Do Pooly-Cilliers 2014).

Whereas historical hermeneutic sciences deal with practical, and their aim is in-depth understanding of a phenomenon, therefore in paradigms perspective, it is related to interpretivism. The last one (critically oriented sciences) emancipatory and related to critical realism and aim to empower people through knowledge.

This study has adopted historical hermeneutic sciences which is related to interpretivism to explore more in practical and in-depth understanding of a phenomenon. The study sought to explore the practical experiences of SMEs in their adoption of digital transformation. This was conducted by interacting with SMEs management or representatives in a form of in-depth interviews as a data collection tool using a general interview approach. A great degree of freedom was given to the interviewees to express their views and experiences in the arrival of digital technologies in their businesses.

3.3 Research Design

According to Kumar (2011: 56), the most important aspect of research is the use of a suitable research design, which is intended to provide an appropriate research project framework. The research design can be quantitative, qualitative and or a mixed method design. While quantitative research uses a structured approach with rigid or predetermined methodology, qualitative research uses an unstructured approach (Jilcha 2019).

Kumar (2011: 63) further states that, “Quantitative design is used where the researcher wants to quantify firstly the variation from a phenomenon, situation, and problem or an issue if the data will be collected using predominantly quantitative variables.” Whereas it is regarded as a qualitative study when the primary aim is to define the phenomenon, situation, event or problem where data collection is done “using variables measured either on nominal or ordinal scale”; this is classified as qualitative measurement scales (Kumar 2011: 77).

Similarly, qualitative study works differently form quantitative study, mainly due to qualitative data being made up of observations, words, images, and even symbols (Bhatia

2018). Furthermore, “qualitative study focuses on the underlying qualities of subjective experiences and the meaning with phenomena (Strydom and Bezuidenhout 2014: 173). A mixed method approach then applies to both the quantitative and qualitative approaches. Thus, the manner in which data will be collected is determined by the selected method.

This study adopted a qualitative design for the aim of obtaining a richness and depth of data. The researcher dealt with the underlying qualities of subjective experiences from SMEs within the Durban area. As Neuman (2011: 424) explained, “qualitative researchers attempt to capture the details of a social setting in an extremely detailed description and convey an intimate feeling for the setting and the inner lives of people in it. Hence the researcher is interested in understanding subjective experiences of the participants.”

The main approaches in qualitative study include ethnography, grounded theory, case studies and, in some instances, participatory action research (Strydom and Bezuidenhout 2014: 176). This study adopted a case study approach. The researcher selected the case study of Durban SMEs for the aim of obtaining an understanding of DT implementation experiences in their businesses. As indicated by Strydom and Bezuidenhout (2014: 178), a “case study approach develops a thick and detailed description of a social phenomenon that exists within a real-world context. Furthermore, it provides a deep exploration in a natural context and a thorough understanding of the lived experiences of a participant.”

3.4 Target Population

“The second aspect, which every study in social sciences has, is the study population from whom information will be obtained to answer research questions (Kumar 2011:123). The term population in research refers to the entire group a researcher wishes to draw a conclusion about (Bhandari 2020). Similarly, according to Wiid and Diggines (2013: 186) “population refers to the total group of people or entities from whom the researcher requires information”.

The important aspect is that all the people or social artefacts in the population should share at least one specific characteristic that relates to the research objectives. These specific shared characteristics from a number of people or social artefacts in the population are referred to as the population parameters of the study (Pascoe 2014: 132). Although the term “population” does not always refer to people in research, it can sometimes indicate a group with elements of anything studied, such as events, objects, organisations, and countries, as well as species, organisms and so on (Bhandari 2020).

The population of this study consists of SME managers or representatives in different and decentralised SMEs within the province of KZN. All KZN SMEs have an equal opportunity to be selected as the study sample, since they share the common description of SME. The data were collected from the sample population that was selected from the overall population, with the selected sample representative of the overall population. As per Kumar (2011), as when narrowing the research problem, a decision must be made regarding who specifically and clearly constitutes your study population, in order to select the appropriate respondents. Therefore, Durban SMEs were selected to represent all KZN SMEs in this study.

3.5 Sample Population

A sample population is “a subset of population from where the data will be collected” (Pascoe 2014: 135). More recently, Bhandari (2020) likewise defined a sample population as a specific group that data will be collected from, with the size of the sample always less than the total size of the entire population. Nevertheless, Kumar (2011) describes sampling as a selection process whereby a few participants from a bigger group become the estimation or prediction basis to determine the prevalence of a situation, that is unknown, or a piece of information, or outcome with regard to a bigger group. According to Davis (2014), a sample population comprises those people a researcher can gain access to within the entire population.

SME managers or representatives in this study are referred to as the source of the required information; they are the observers of any obstruction in the business operation

and the implementers of change. Therefore, they contain information concerning the implementation and influence of DT in the business operation. The sample population in this study are eight SME managers or representative within decentralised SMEs in the Durban metropolitan area, which is in the KZN province. These SME representatives stand for all SMEs in the province of KZN. Eight managers or representatives of SMEs in KZN were interviewed to express their experiences in digital business transformation; these SME managers share the common characteristics of their management level in their business organisations of origin. The SME managers in this study are referred to as the population parameters of the study since they will be the main respondents of the study. These eight representatives were purposefully selected for their positions in the business.

3.6 Sampling method

Research sampling is the selection of the population from whom the researcher will obtain the required data. Therefore, a sample is regarded as “a subset of population from where the data will be collected” (Pascoe 2014: 135). There are two techniques that can be used: probability and non-probability sampling. Probability sampling is characterised by generalising the sample, whereas with non-probability sampling, the sample is selected based on certain characteristics (Kumar 2011: 121).

This study has adopted a purposive non-probability sampling method as the elements in the sample were purposefully selected based on their characteristics. As indicated by Bhabari (2020), because there is not a complete sampling frame at the start of the non-probability sampling process, some individuals do not have the opportunity to be selected. In addition, with purposive sampling, the researcher purposefully selects the elements that will be included in the sample, based on a set list of characteristics (Pascoe 2014: 142).

Thus, for this study, SME managers/representatives were purposefully selected based on their positions in the business/company. The researcher conducted interviews with the business managers from eight selected SMEs within the KZN province. The sample

participants were characterised by their representative position in the business. The same questions were asked from all selected SME representatives; however, they were interviewed at different times. The appointments were made with these business representatives and the interviews were conducted in their business offices in a week of 08-12 February 2021 and week 15-19 February 2021. The interviews were arranged to a duration of +-20 minutes each. Because of the Covid-19 government regulations, the interviewees were given the soft copies of the interviews schedules to answer them manual and hand the hard copies of the question's responses to the researcher. The researcher had to carry the hand sanitiser to use it at all time when collecting these hard copies from the respondents.

3.7 Measuring instruments

Researchers and practitioners make use of measuring instruments to aid in the assessment of subjects (Brynard, Hanekom and Brynard 2014:49). Whatever becomes a way to collect data for the study is referred to as a research instrument or tool, including observation forms, interview schedules and guidelines, as well as questionnaires (Kumar 2011).

The data collected differ significantly between quantitative and qualitative research. "Quantitative research uses surveys, experiments, observation and content analysis as data collection tools, whereas qualitative research uses in-depth interviews, focus-groups, documents and archives, historical research, and observations to collect data" (Du Plooy-Cilliers and Cronje 2014:148).

Three types of interviews are highlighted by Strydom and Bezuidenhout (2014) as the informal, conversational interview, a general interview approach, and standardised, open-ended interviews. "The mixed method applies both the quantitative and qualitative research tools" (Kumar 2011: 102).

This study has adopted in-depth interviews as a data collection tool using a general interview approach. "When you apply the general interviews approach, the interviews

follow a conversational approach and a great degree of freedom is given to the interviewees to express their views and experiences" (Strydom and Bezuidenhout 2014: 188). Semi-structured interview questions were thus asked from participants to allow a free flow of responses to each question. Interviews were transcribed after data collection to determine the overall findings.

3.8 Data Analysis and research strategy

According to Chapman (2018), the process of data analysis comprises the inspection, rearrangement, modification and transformation of data to extricate information from it that is useful. Thus, it is crucial to maintain the integrity of the data, so that a data analyst may obtain an analysis that is not only appropriate but also accurate. The data analysis process is, on the one hand, described by Joel (2014) as a method of putting facts and figures together to solve a research problem. On the other hand, Bhatia (2018) states that data analysis deals with the manner in which the researcher gains meaningful insights from a mass of data, with various data analysis methods available, contingent on the research type.

According to Dudovskiy (2020), differences between qualitative and quantitative data analysis include that the means to collect data differ. Interviews, focus groups, experiments, and so on, are employed by qualitative studies to identify common patterns within the responses and analyse these critically as part of achieving the research objective and aims. From a quantitative perspective, critical analysis and interpretation of figures and numbers are involved, in an attempt to determine the rationale behind the main findings.

Whether the data is qualitative or quantitative, the purpose of data analysis is to gather information that is usable and useful. The data may be described and summarised through the analysis, relationships between variables identified, variables compared, and the difference between variables identify, while also forecasting outcomes (Bhatia 2018). According to Bezuidenhout and Cronje (2014), text can be either oral, written or graphic language, or anything that we produce as an interpretation of the meaning of something.

Regardless of which method is used to collect the qualitative data, the researcher invariably ends up with a vast amount of data that needs transcription, analysis, interpretation and presentation (Bezuidenhout and Cronje 2014). Systematic and rigorous processes are used in the analysis and interpretation of qualitative data, thus in presenting the capstone of the study “a description of meaning is obtained that is “thick, rich and detailed”.

There are different approaches to analyse qualitative data; namely textual, iterative, hermeneutic, and subjective analysis, in addition to constructed and symbolic analysis.

Since this study adopted a qualitative approach, the researcher used a narrative research strategy to analyse the content from interviews, using the experiences shared by the respondents when answering the research questions. As indicated by Bhatia (2018), the analysis of content from various sources requires narrative analysis to analyse interviews of respondents, surveys or observations from the field. This research strategy focuses on using the stories and experiences shared by people to answer the research questions.

This study also used qualitative content/textual analysis to analyse the data, guided by a semi-structured questionnaire, with a script of interesting issues in business DT, to explore more depth and richness of data. According to Chapman (2018), although semi-structured questions are guided by a script, a more in-depth exploration of interesting issues can provide both richness and replicability. Furthermore, when qualitative data is analysed, it is referred to as analysing text, whether it was collected through interviews, field notes or observation (Bezuidenhout and Cronje 2014:230).

3.9 The study rationale

Davis (2014:93) asserted that the research rationale is not a research design, it fits into the research design, justifying why the research is being conducted and why it is worth spending time investigating and finding solutions for the problem identified. It is further important that the study rationale and justification need to be critically supported from the

reviewed literature (Kumar 2011). Furthermore, researchers need to be assured, along with others, that the proposed or adopted path will yield results that are valid and reliable. This means that any adopted action in the research process must be justified.

3.9.1 Rationale in theoretical context

Scholarly theories were used in the construction of the literature review as the study required evidence from previous authors. As indicated by Bezuidenhout (2014), when a theory is referred to as a scholarly theory, it has been formed based on evidence gathered through a comprehensive and step-by-step (systematic) research process. The study examined the influence of DT implementation in SMEs, using the reference of KZN. It has been observed that DT is dominating the business sector in the current century, which is characterised by new industrial revolutions. Therefore, an empirical study was adopted by the researcher to investigate the views and experiences of the SMEs in the arrival of these revolutions.

3.9.2 Rationale in type of literature review

This study adopted thematic reviews with the researcher wanting to employ different schools of thought and group the literature into differing views. As explained by Howard (2014:102), thematic reviews group the literature into different views and perspectives, with a focus on different schools of thought.

3.9.3 Rationale in research design

This study adopted a qualitative design with the researcher aiming to obtain the richness and depth of data from the SME implementation of DT phenomenon. As indicated by Strydom and Bezuidenhout (2014:174), the researcher obtains a richness and depth of data by using a qualitative design and gathering data from multi-faceted and complex phenomena in a particular social context.

3.9.4 Rationale in research approach

The study has adopted a case study approach in order to allow a deep exploration within a natural context to provide for a full and thorough understanding of the experiences of

participants (SMEs) in the implementation of DT. As mentioned by Strydom and Bezuidenhout (2014:175), use of a case study approach is an “attempt to understand a phenomenon within a specific circumstance, because it allows a deep exploration within a natural context and hence provide a full and thorough understanding of the particular and lived experience of a participant.”

3.9.5 Rationale in research population

This study population consisted of SMEs within the KZN province. From a research perspective, the term population refers to the entire group that researchers want to draw a conclusion about (Bhandari 2020). KZN is one of the provinces with numerous SMEs in different cities. Therefore, it was selected with the aim of obtaining reliable data that may yield positive results. However, the KZN province in this study is regarded as the entire group the researcher wants to draw a conclusion about.

3.9.6 Rationale in research sample

The term sample refers to the subset of population where the actual data will be collected that represents the entire population (Pascoe 2014: 135). The study sample was the selected SMEs from the City of Durban, located in the KZN province. Durban was chosen as it is the biggest city in the province, therefore, it contains several SMEs in different operational perspective in terms of goods and services. Furthermore, Durban is a developed city with many amenities that attract business owners to operate in.

3.9.7 Rationale in data measuring instrument

The study has adopted in-depth interviews to collect the data from the selected sample, with interviews selected as the measurement instrument because the research wanted to obtain richness of data. An in-depth interview is described by Strydom and Bezuidenhout (2014:175) as a qualitative method of data collection that allows the posing of questions during the interview process, in order to obtain more richness and depth with regard to a specific phenomenon.

3.9.8 Rationale in research questions

Table 3.1: Rationale for research questions

Research questions	Rationale
Q1: How effective is digital transformation in the business environment of SMEs?	Seeks to investigate the effectiveness of digital transformation in SMEs.
Q2: How do digital technologies impact SMEs in the market?	Seeks to assess the impact of digital transformation in SMEs.
Q3: To what extent do South African SMEs implement digital transformation?	Seeks to explore the extent to which South African SMEs implement digital transformation.
Q4: What are the challenging factors that are experienced by SMEs in implementing digital transformation?	Seeks to determine the challenging factors of digital transformation in SMEs.

3.9.9 Rationale in data analysis

The researcher used qualitative content/textual analysis to analyse the collected data in order to systematically analyse and provide an in-depth understanding of the influence of DT in SMEs. As asserted by Strydom and Bezuidenhout (2014:174), content analysis of a qualitative nature consists of the systematic analysis of social artefacts for in-depth understanding of the phenomenon.

3.10 Pre-testing

As an integral part of instrument construction, field testing or the pre-testing of a research instrument (tool) is should not be performed on the study sample of the population, but on a population that is similar but not part of the study (Kumar 2011). An interview questionnaire was structured from the research objectives and questions to ensure it provided relevant and reliable data. Eight SME representatives were interviewed with the same questions at different times and participants had the opportunity to ask questions to be clear to what is expected from them. The purpose is to obtain a thick, rich and detailed description of meaning from the findings.

3.11 Delimitations/scope

Delimitations can be applied in different parts of the research scope from any area of the research project (Enslin 2014:277).

Delimitations of the study population: The study was conducted in the province of KZN, where the data was collected. KZN has many SMEs in different business categories, therefore, using a sample from the KZN province was decided on to facilitate the research process and provide enough evidence of the findings.

Delimitations of the theoretical framework: The study focused on the influence of the arrival of new digital technologies in the business sector, specifically in SMEs. This is in terms of the effectiveness, impacts, current status of implementation, and challenges.

Delimitations of the conceptual framework: The proposed model to test the influence of DT adoption by South African SMEs, using the case study of KZN. Figure 1.14 (adapted from Santos and Brito 2012), indicates the model of measuring the financial performance of SMEs resulting from implementing effective DT.

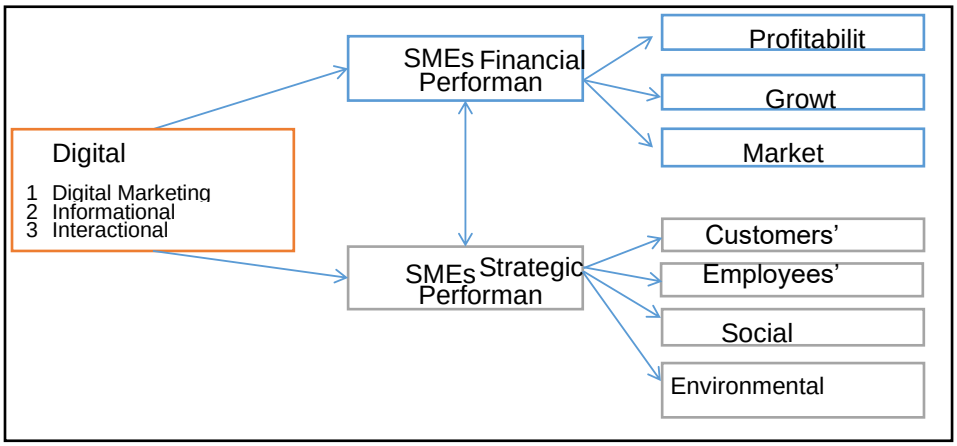


Figure 3.1: Proposed conceptual model to link digital transformation and SMEs

Figure 3.1 presents the proposed model of testing the impact of adopting DT on SMEs' performances. The researcher ought to investigate the influence that DT has in overall operation of SMEs. The investigation was intended to discover the link between the study variables (DT and SMEs). The overall growth of SMEs is presented (Figure 3.1) as SMEs' financial performance, which comprises profitability, growth and market value. Whereas DT comprises digital marketing, informational functions, and interactional functions, SME

strategic performance is made up of customer satisfaction, employee satisfaction, social performance, and lastly, environmental performance. However, the evidence from the qualitative study will provide final indicators that will then shape the conceptual model of this study, concluded in Chapter five.

Delimitations of the research design: The study focused on the empirical review of DT in SMEs. Therefore, the researcher used semi-structured qualitative design so in order to explore in more depth and provide a good balance between richness and replicability.

Delimitations of the research method: The study examined the implementation of DT by SMEs and conducted the research to source the views and experiences of SME managers/representatives. Useful results regarding effectiveness, impacts, implementation status, and challenges of DT by SMEs were gained using empirical qualitative insights.

3.12 Data Quality Control

The data quality control in qualitative design is different to that in quantitative design. For quantitative design the study uses validity and reliability in data quality control as it is ensured through, for example, huge sample sizes, random sampling and reliable research tools. Qualitative design in a study uses trustworthiness that is further divided into “credibility”, “transferability”, “dependability” and “conformability” (Koonin 2014: 258).

3.12.1 Validity and reliability/trustworthiness

“Since qualitative research do not use numbers as evidence, they use different criteria to determine the trustworthiness, or credibility of research findings” (Koonin 2014:253). The author adds that, “even though some qualitative research still uses the term ‘reliability’ and ‘validity’, the way in which they determine reliability and validity differs from how this is done in quantitative studies”. In qualitative research, ‘trustworthiness’ is the overarching term for validity and reliability, which is further divided into credibility, transferability, dependability and confirmability. Similarly, Kumar (2011) mentioned that trustworthiness in a qualitative study is determined by four indicators, namely credibility, transferability,

dependability as well as confirmability. These four indicators reflect validity and reliability in qualitative research.

Credibility, on the one hand, demonstrates the accuracy with which the researcher interprets the data provided by participants (Koonin 2014:258). On the other hand, it indicates where qualitative research results are credible or believable from the research participants' perspective (Kumar 2011).

Transferability relates to the ability of the findings to be applied to a similar situation and deliver results that are similar to the original research outcomes (Koonin 2014:258). Further to this, transferability indicates the degree to which a qualitative study's results can be generalised or transferred to other settings or contexts (Kumar 2011).

Dependability presents the quality of the process of integration between the data collection method, data analysis, as well as the theory generated from the data (Koonin 2014:258). However, dependability is more concerned with whether the research would obtain the same results considering the possibilities of the same topic being investigated twice (Kumar 2011).

Confirmability demonstrates the positive extent to which the data collected support the findings and researcher's interpretation (Koonin 2014:259). Similar to reliability in quantitative research, confirmability is the degree to which others are able to confirm or corroborate the results (Kumar 2011:281).

Trustworthiness has been used since the study is qualitative. There will be no access to confidential information without prior consent of participants. Research data will be stored in both hard and electronic copies. Both copies will be submitted to the faculty of Management Sciences and kept in a locked file cabinet for a period of five years prior to being disposed of. The supervisor will be the only person to have access to the copies. Other similar copies will be kept in a locked safe with a password.

3.13 Anonymity and confidentiality

“For most research participants their main concern is protecting their identity and sensitive information about themselves. According to Louw (2014:264), anonymity and confidentiality are not synonymous, and they do not refer to the same concept. When the researcher promises participants anonymity, they undertake neither record their names at any stage of the research process, nor match their identity to their research responses in any way. Whereas “when the researcher assures confidentiality, they undertake that even though they will be able to match the participants’ identities to their research responses, that information will be known only to the researcher and will not be made available to anyone else” (Louw 2014:262).

Therefore, in this study, anonymity will be ensured where appropriate (for example, coded/distinguished names of participants/ respondents/ institutions), no participant will be asked or forced to mention their names during interviews.

3.14 Ethical considerations

“An effective code of ethics guides all professions, and it has evolved over years to have capacity for the changing ethos, expectations and needs of those with a stake in the professions (Kumar 2011:271). In research, ethics are crucial, as they can potentially affect all research stakeholders. These include “participants, broader public, the local and international research communities, the academic institution, funding body, the community, policy makers, the mass media, and you as a researcher” (Louw 2014: 263).

In this study, respondents will be informed that participation is voluntary; there will be no incentives for participation. Anonymity will be ensured where appropriate, while there will be no access to confidential information without prior consent of participants.

In addition, no participants were required to commit an act that might diminish self-respect or cause them to experience shame, embarrassment, or regret. No participants were exposed to questions which may be experienced as stressful or upsetting, or to procedures which may have unpleasant or harmful side effects. The study made no use

of stimuli, tasks or procedures which may be experienced as stressful, noxious, or unpleasant. No form of deception will be initiated.

3.15 Chapter Conclusion

The research design used in this study has been clearly discussed in detail and the target population identified, with the sample size indicated, along with the selected sampling method. In addition, the measuring instruments has been clearly outlined and, the rationale of the research methodology was presented per section. Furthermore, the data collection tools and analysis methods have been clearly discussed as along with pretesting, delimitations/scope, validity and reliability, and anonymity and confidentiality, as well as ethical considerations.

The next chapter presents the collected data and analysis of the findings linking to the review of literature.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Chapter Introduction

The previous chapter presented the research methodology in full, with this chapter presenting the collected data and analysis of the findings linking to the literature review. The data were collected from the selected sample using general interviews as a data collection tool. Eight managers or representatives of SMEs in KZN were interviewed to express their experiences with regard to digital business transformation. This chapter will present an overview of the collected data, data presentation and analysis from each research objective. The abbreviated words to be used will be indicated and explained. Furthermore, the linking of the collected data to the presented literature review in chapter two will be discussed.

4.1.1 Key to used short words

BE1- Business Enterprise 1 – Just Cars
BE2- Business Enterprise 2 – Display Equipment CO Natal (PTY) LTD
BE3- Business Enterprise 3 – Russells Durban West
BE4- Business Enterprise 4 – KZN Hardware Distributors
BE5- Business Enterprise 5 – Bradlows Durban
BE6- Business Enterprise 6 – Checkone Supermarket (Pty) LTD t/a CHECKOUT
BE7- Business Enterprise 7 – Kings Builders Suppliers
BE8- Business Enterprise 8 – WB Motors
Q- Question

4.2 Location of the Study

This study was conducted in Durban in the province of KZN. The selected sample consisted of BE management from any SMEs within the province of KZN. Durban is one of the biggest, developed and industrialised cities in SA, ranked as the Durban Metro, it is the biggest in KZN.

Map 3: eThekwini Municipality Map

Source: eThekwiniOnline

4.3 The Overview of Data

The transcribed data collected will be presented by means of graphs in section A and through thematic analysis from section B to section F. Section A presents Biographical details of all participants from eight participants in line graph below.

4.3.1 Biographical Details of participants

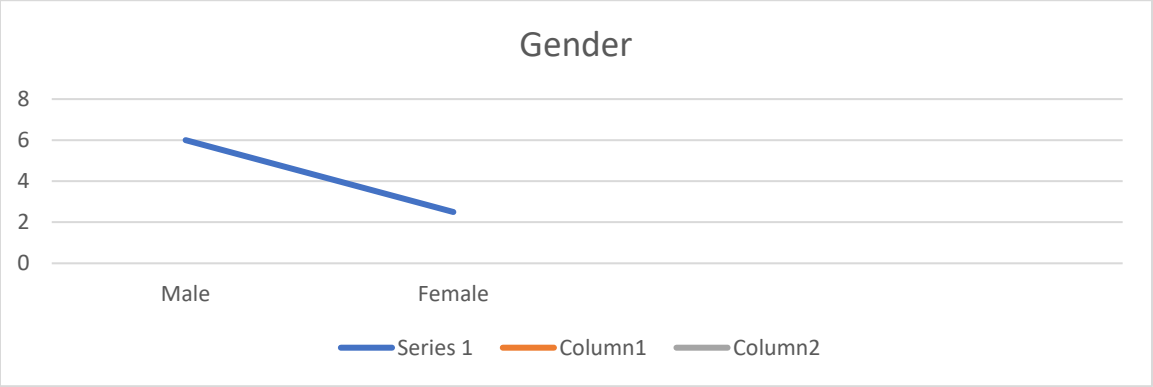


Figure 4.1: Q1 - What is your gender?

The line graph (Figure 4.1) indicates the gender of the participants, reflecting six males and two females.

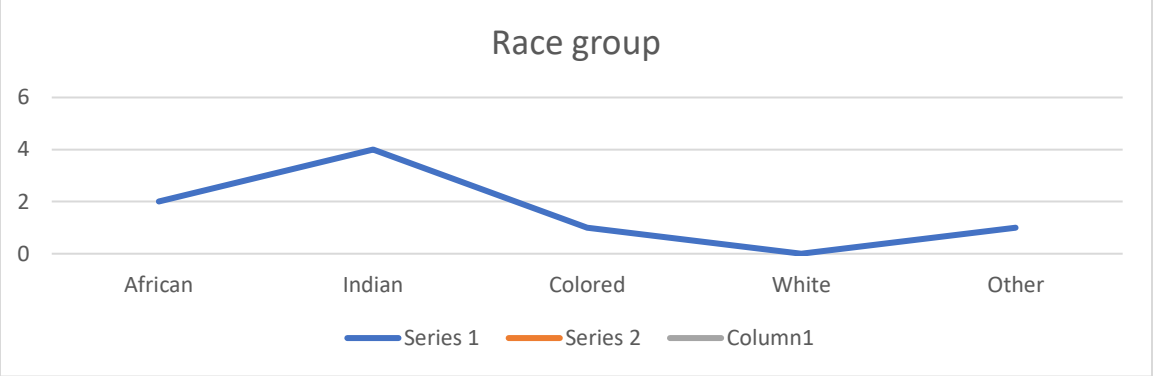


Figure 4.2: Q2 - What is your race group?

The line graph (Figure 4.2) depicts the race groups of respondents, with two Africans, four Indians, one Coloured, 0 White, and one “Other” race group.

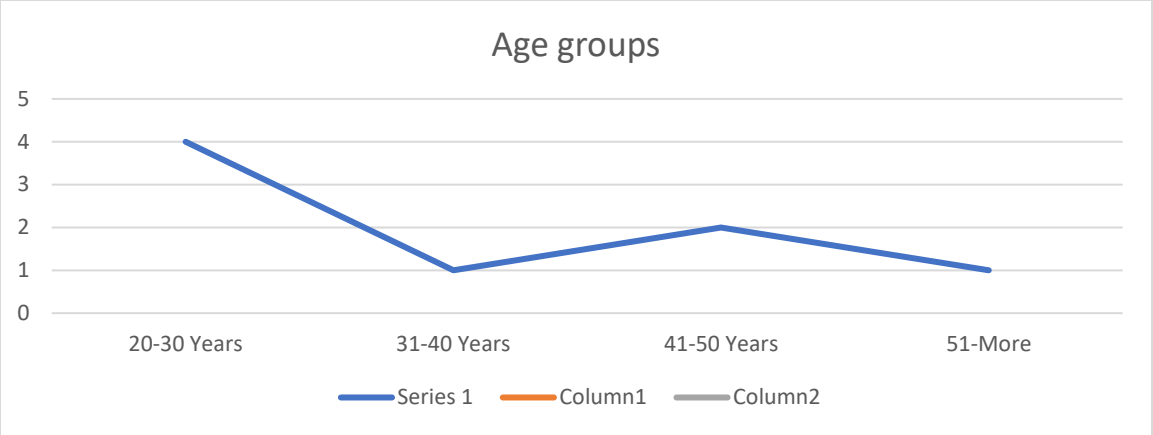


Figure 4.3: Q3 - What is your age?

The line graph (Figure 4.3) indicate the age group of the participants ranged from four respondents aged 20-30 years, one who was 31-40 years, and two respondents who were 41-50 years, to one who was older than 51 years.

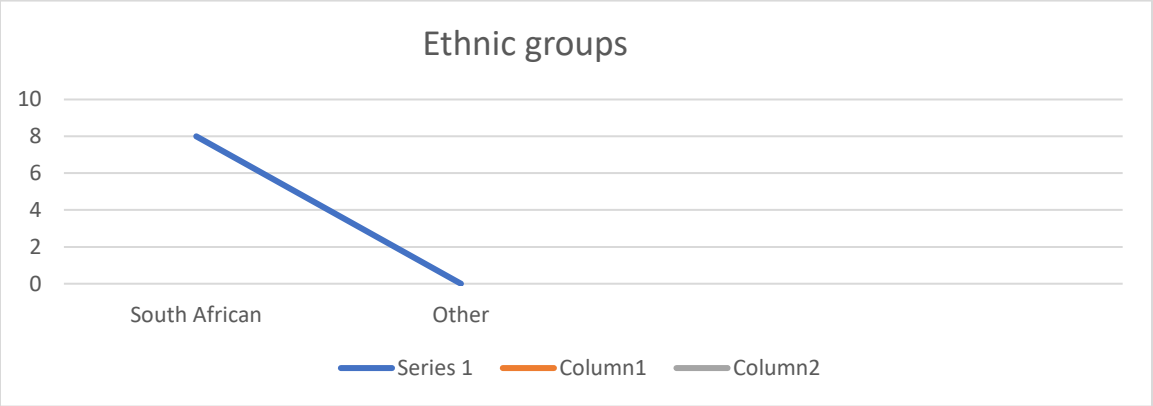


Figure 4.4: Q4 - What is your Nationality?

Line graph (Figure 4.4) shows the ethnic groups of participants, with eight South Africans and 0 to other.

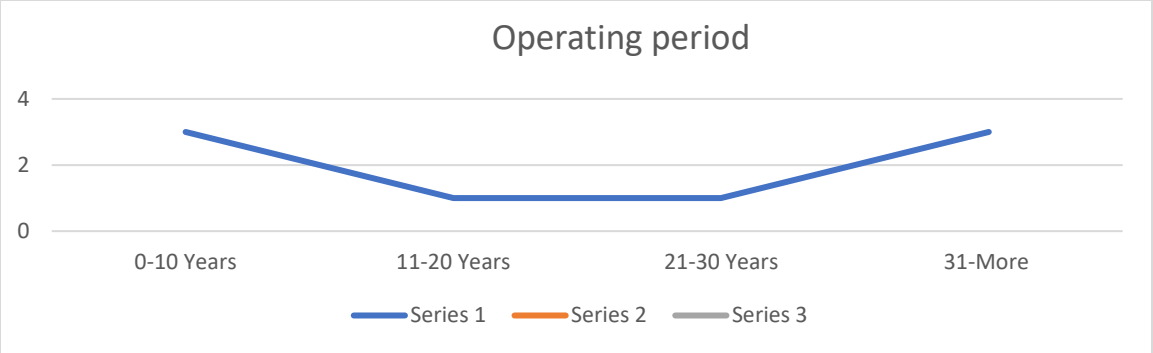


Figure 4.5: Q5 - How long have you been operating this business

The line graph (Figure 18) illustrates the operating period of the SMEs where the data were collected. It is indicated that three SMEs have been in operation for 0-10 years, one for 11-20 years, one for 21-30 years, and three for 31 years or more.

4.3.2 Recapitulation of Research Objectives and Research Questions

Table 4.1 contains Section B to Section F of the interviews schedule. The research objectives, research questions, and interviews questions that indicate the questions being asked of respondents during the data collection process, which emanate from each objective. The themes emerged from the thematic analysis of the transcribed data from the questions asked using the focus group interview schedule.

Table 4.1: Interaction between the research objectives, research questions, and the findings/Themes			
Research Objectives	**Research Questions**	**Interviews Questionnaires**	**Findings/Themes**
1. Effectiveness of digital transformation in SMEs.	1. How effective is digital transformation in the business environment of SMEs?	• Does your business implement digital transformation? Yes/No • What can you elaborate about the effectiveness of the arrival of digital transformation in your business?	• Exposure • Effective sales figures
2. The impact of the digital transformation in SMEs.	2. How does digital technology impact SMEs in the market?	• How does digital transformation impact the business operation?	• Easy accessibility • Customer relationship
3. The extent of the implementation of digital transformation in South African SMEs	3. To what extent do South African SMEs implement digital transformation?	• What aspects of digital transformation is implemented by your business? • Which sections of the business have successfully transformed to digital technology?	• Online selling • Digital Marketing
4. Challenging factors of digital transformation in SMEs	4. What are the challenging factors that are experienced by SMEs in implementing digital transformation?	• What are the challenging factors your business experiencing in digital business transformation? • How the external forces like technology influence the business operation?	• Digital maintenance • Rapid changing • Moving with technology

4.4 Qualitative Data Presentation

The data will be presented as per the research objectives. Responses from participants will be quoted and linked to the relevant research objective. Furthermore, the corresponding responses from the study participants will be indicated and presented. Table 4.2 below presents the Qualitative Data Presentation/Findings.

Table 4.2: Qualitative Data Presentation/Findings				
Statements	**Respondents**			
	BE1/ Respondent1	BE2/Respondent2	BE3/Respondent3	BE4/Respondent4
1. Effectiveness of digital transformation in SMEs.	BE1: "*We get customers from all areas out of Durban to purchase our stock due to digital technology, it helps as it motivates the business."*	BE2: "*Ever since digital technology arrived on the business platform, it has been a huge change in marketing and exposure to companies such as creating a good income, service to customers and the increase of customers".*	BE3: "*Customers come to the shop in numbers knowing exactly what they are looking for after they saw from digital adverts".*	BE4: *"Over the last few years digital technology has been highly effective. Even in the current decade of corona pandemic most people are working from home and doing more and more on social media where they view our adverts digitally".*
2. The impact of the digital transformation in SMEs.	BE1: "*Customers no more need to come physically into the shop to see our product, they can now just visit our web page and browse through our products".*	BE2: "*In terms of customers manually coming into the shop to see our products, they can now just visit our web page and browse through our products".*	BE3: "*Due to technology, it is easy to target certain segments of customers with a potential to buy"*	BE4: "*With digital technology, customers are no longer have to physically come to the shop to get something. They can sit at home and still get whatever they want".*
3. The extent of the implementation of digital transformation in South African SMEs	BE1: Mentioned they use the company website to advertise their products.	BE2: Indicated they do digital marketing and digital sales to attract more customers.	BE3: Mentioned that their marketing section, Sales, and HR have implemented digital transformation.	BE4: "*We have implemented Online marketing through social media platforms such as Facebook, YouTube, Twitter, and Instagram".*
4. Challenging factors of digital transformation in SMEs	BE1: "*We have to move with technology as it is rapidly changing*"	BE2: "*Internet connections are experiencing problems, for example, maintaining the*	BE3: *"Online deliveries may sometimes not reach the customer on time"*	BE4: *"Ensuring our social media and website have the correct manpower to manage them. Also, as*

		webpage so the site does not crash, also, with technology we always have to keep up with new apps as well as with general technology because something new is always coming up"		*technology advances, things are moving on to a cloud base".*
	BE5/Respondent5	BE6/Respondent6	BE7/Respondent7	BE8/Respondent8
1. Effectiveness of digital transformation in SMEs.	BE5: *"More exposure of the business towards customers".*	BE6: Mentioned that technology improved business marketing.	BE7: *"Lots of hits from digital technologies"*	BE8: "*Turning to digital transformation improves sales numbers, it makes us connect with potential customers even from other countries"* (BE8).
2. The impact of digital transformation in SMEs.	BE5: "*Customers are moving away from visiting the store, and younger generation is shopping online".*	BE6: *"It improves the buying system and records keeping, it makes it easy to control stock and easing the methods of payments".*	BE7: Indicated that digital transformation helps with advertising advantage	BE8: *"It makes it easy to connect with a number of customers".*
3. The extent of the implementation of digital transformation in South African SMEs	BE5: They use online selling, Facebook, SMSs, and website to connect with different segments of customers.	BE6: Mentioned that marketing and finance sections have successfully transformed.	BE7: Indicated that their marketing and sales sections have implemented digital transformation.	BE8: Indicated that they advertise their products on Gumtree.
4. Challenging factors of digital transformation in SMEs	BE5: *"Fewer customers visiting the store, fewer staff required".*	BE6: Unstable network servers which sets business disadvantage.	BE7: Indicated that technology force them to adapt to new ways of doing business	BE8: "*Maintaining is Costly affair"*

4.5 Interpretation and analysis of data/results

4.5.1 Interpretation per research respondent

This section will interpret the study results from the eight respondents to the four listed statements.

BE1/ Respondent 1: It has been noted that the respondent agrees that DT brings effectiveness in the business, by mentioning that, with digital technologies they get customers from all areas, even out of Durban, to purchase their stock, which helps as it motivates the business. In the second statement, the respondent agreed that DT has a positive impact in the business and indicated that their customers no longer need to physically come into their shop to see their products as, with digital technologies, they can now just visit their web page and browse through their products. Furthermore, in the third statement the respondent presented the extent of their current status in the implementation of DT explaining their use of the company website to advertise their products. Lastly, in the fourth statement, the respondent has accepted that there are existing challenges in the implementation of DT by indicating that they must move with technology as it is rapidly changing.

BE2/ Respondent 2: There is an indication that the respondent agreed there is effectiveness in the implementation of DT, in stating that since digital technology arrived on the business platform, it has resulted in a huge change in marketing and exposure to companies, such as creating a good income and service to customers, as well as an increase in customer numbers. In addition, in the second statement the respondent agreed that DT impacts the business to customer relationship by explaining that customers are now not physically going the shop to see the products, they can now just visit the company's web page and browse through their products, then visit the shop knowing exactly what they want. In the third statement, the respondent presented the extent of current implementation of DT in their business by indicating that they do digital marketing and digital sales to attract more customers. And lastly, in the fourth statement, the respondent agreed that there are existing challenges that they experience during DT implementation, by stating that they are experiencing problems with Internet connections,

for example, maintaining the webpage so the site does not crash, while also keeping up with new apps as well as staying up to date with general technology as there is always something new coming up.

BE3/ Respondent 3: The respondent agreed to the effectiveness of DT in the business, by stating that with digital marketing, customers come to the shop in numbers, knowing exactly what they are looking for after seeing digital advertisements. The respondent also agreed on the impact of DT in the business operation, highlighting that digital technologies make it is easy to target certain segments of customers with the potential to buy, which helps the business to grow and score high turnover. Furthermore, the respondent presented the extent of implementation of DT by presenting that their marketing section, sales, and HR have implemented DT. Lastly, the respondent also agreed that there are challenging factors in the implementation of DT by arguing that online deliveries may sometimes not reach the customer on time, which creates a bad business image with customers.

BE4/ Respondent 4: It was noted that respondent 4 also agreed that DT is effective in the business, stating that over the last few years digital technology has been highly effective. Even in the current decade of the Covid-19 pandemic most people are working from home and are doing more and more on social media where they view their adverts digitally. The respondent also agreed that DT has indeed had an impact in the business operation by highlighting that, with digital technology, customers are no longer having to physically come to the shop, they can sit at home and still order and receive whatever they want. Nonetheless, the respondent brought forward their current status of implementation of the DT by presenting that they have implemented online marketing through social media platforms such as Facebook, Twitter, YouTube, and Instagram. Lastly, the respondent accepted the challenges that occur during the implementation of DT by stating that ensuring their social media and website have the correct manpower to manage them is one of the challenges. Also, as technology advances, things are moving on to a cloud base.

BE5/ Respondent 5: From the presented data above, there is an indication that the respondent has also agreed to the effectiveness of DT in the business, by asserting that the business gains more exposure by customers. The respondent further argued to the impact of DT stating that customers are moving away from visiting the store, and the younger generation is shopping online. In addition, the respondent presented the extent of DT implementation by presenting that they use online selling, Facebook, SMS, and their website to connect with different segments of customers. Finally, the respondent brought forward the issue of a staff problem as a challenging factor in the implementation of DT, stating that with fewer customers visiting the store means less staff are required.

BE6/ Respondent 6: It has been noted that the respondent also agreed that DT is effective for business growth. The respondent asserted this by indicating that technology improved business marketing. In the impact on the business operation, the respondent also stated that DT improves the buying system and record keeping, makes it easy to control stock and eases payment methods. Nevertheless, the respondent also brought forward the present extent of digital implementation by stating that their marketing and finance sections have successfully transformed. Lastly, the respondent agreed that there are challenges in DT implementation by stating that unstable network servers are a business disadvantage.

BE7/ Respondent 7: The respondent agreed to the effectiveness of business DT by pointing out that they receive many hits from digital technologies in the business. The respondent also indicated that DT helps provide an advertising advantage, therefore it impacts the business operation positively. In terms of the current status of implementation, the respondent presented that their marketing and sales sections have implemented DT. And lastly, in terms of challenges, the respondent indicated that technology forces them to adapt to new ways of doing business.

BE8/ Respondent 8: It was noted that the respondent agreed there is effectiveness in implementing DT in the business. The respondent asserted this by mentioning that turning to DT improves sales numbers and enables them to connect with potential customers. In

terms of the impact of DT, the respondent accepted that DT does indeed impact the business operation, by stating that DT makes it easy to connect with several customers. Moreover, the respondent presented the current status of implementation by stating that they advertise their products on Gumtree. And lastly, the respondent accepted the challenges that exist in the implementation by presenting that maintenance is a costly affair.

4.5.2 Interpretation of research objectives

This section will present the interpretation of research objectives from the correspondence of respondents above. The matching view and experiences of the respondents will be addressed in order.

Effectiveness of digital transformation in SMEs: The study found that DT is very effective in SMEs nowadays. Most respondents indicated that the arrival of digital technologies has generated a huge change in their businesses, specifically by improving exposure to potential customers.

For instance, BE1 asserted this by mentioning that:
"*We get customers from all areas even out of Durban to purchase our stock due to digital technology, it helps as it motivates the business."*

In the same vein, BE2 indicated that:
"*Ever since digital technology arrived on the business platform, it has been a huge change in marketing and exposure to companies such as creating a good income and service, as well as the increase in the number of customers".*

Similarly, "*Turning to digital transformation improves sales numbers, it makes us connect with potential customers even from other countries"* (BE8).

In addition, BE6 agreed with this by indicating that technology improved business marketing.

The combination of these respondent views in general present that SMEs that have implemented DT and are embracing the arrival of the digital age. Most of the respondent SMEs seem to agree there is an effectiveness in the implementation of DT. Looking at the above evidence, BE1, BE2 and BE8 are all taking about the increasing number of customers due to implementing DT. However, it has been noted that they still needed to improve and expand their implementation to embrace DT fully.

Impact of digital transformation in SMEs: Regarding the impact of DT, the study identified that technology generates good customer relationship in SMEs, and it ensures easy accessibility of their operation by potential customers e.g online selling and digital marketing.

According to BE4:
"*With digital technology, customers no longer have to physically come to the shop to get something. They can sit at home and still get whatever they want" (online selling).*

This was also asserted by BE3, who mentioned that:
"*Due to technology, it is easy to target certain segments of customers with a potential to buy."*

In the same vein, BE1 mentioned that:
"*Customers no longer need to come physically into the shop to see our product, they can now just visit our web page and browse through our products".*

Likewise, BE7 indicated that the impact of DT creates an advertising advantage.

From the evidence above there are common views and experiences with regard to the impact of DT in SMEs. For instance, BE4 and BE1 indicated that customers no longer have to physically visit their shops, since there are now available digital platforms where they can view their products. This therefore indicates a positive impact of DT in the

business as it improves the advertising advantage as per BE7 and leads to positive turn over in sales because most customers come to the shop to buy not to view, as they know exactly what they want and what they saw in the digital advertisement.

Furthermore, digital advertising makes is easy to target certain segments of customers with potential to buy, as per BE3. These respondents are of a common view that DT brings a positive impact in SMEs, specifically an advertising advantage.

4.5.3 Implementation extent of digital transformation in SMEs

The study has identified that digital marketing and online selling have been implemented by most SMEs in SA, such as business websites, social media marketing, and online selling. For instance, BE1 mentioned that they use the company website to advertise their products, while BE8 indicated that they advertise their products on Gumtree. BE5 likewise presented that they use online selling, facebook, SMS, and the company website to connect with different segments of customers. Similarly, BE2 asserted this by mentioning that they draw more customers through digital marketing and digital sales. In addition, BE4 stated that their company has implemented online marketing through social media platforms such as facebook, twitter, YouTube, and Instagram.

The above evidence has shown a common feature of implemented digital tools by different SMEs. The most mentioned features are online selling and digital marketing, which most SMEs indicated they have implemented. As per the above evidence, BE1, BE2, BE4, BE5, and BE8, had common responses that they have implemented digital marketing and sales. This indicates that KZN SMEs have mostly implemented digital marketing, as per the collected evidence. However, as per the literature, there are other digital features available which can improve the companies even more. These features will be presented in the data discussion bellow.

4.5.4 Challenging factors of digital transformation in SMEs

The study revealed that factors such as digital maintenance and rapid changes in technology are the main challenging factors of DT in SMEs. Most participants indicated that these factors exist in their digital operations.

For instance, B4 outlined that:
"Ensuring our social media and website have the correct manpower to manage them". Also, "*As technology advances, things are moving on to a cloud base. So, this is good as almost all people now have smartphones with internet access wherever they want."*

Similarly, BE2 mentioned that:
"*Internet connections are experiencing problems, for example maintaining the webpage so that the site does not crash". Also,* "*with technology we always have to keep up with new apps as well as keep up with general technology because there is always something new coming up."*

On the other hand, BE8 indicated that:
"*Maintaining is* a c*ostly affair."*

In the same vein, BE1 stated that:
"*We have to move with technology as it is rapidly changing"*

BE7 similarly highlighted that, as an external force, technology forces the business to adapt to new ways of doing business to maintain market competitive advantage and that need a budget.

As much as DT is effective and positively impacts the business, it comes with challenges in the business. Based on the provided evidence, factors such as digital maintenance and constant changes are perceived as the most challenging factors in DT implementation. The common experiences from the respondents above reference that these factors concern most SMEs. For instance, on the one hand, BE2 and BE4 shared the same

experience of difficulties with web page maintenance. On the other hand, BE1 and BE7 are concerned with the rapid changes in digital features that are forcing them to adapt to latest versions to maintain their competitive advantage. These are all costly exercises, as per BE8.

4.6 The overall data discussion

This section assesses and presents the link between the research objectives, literature review, and the findings of the study. It will present how the collected evidence addresses what was indicated by previous authors. Each theme of the statement will be linked to the literature review to identify common thoughts and experiences.

4.6.1 Effectiveness of digital transformation in SMEs.

Upon analysing data on the effectiveness of DT in SMEs, the study identified that themes such as “gaining exposure” and “gaining effective sales figures” are as a result of implementing DT. The combination of respondents has concluded the general impression that DT is effective in KZN SMEs. The findings of the study give a clear picture and answer the study question. These findings link to the indication from previous studies in the literature review.

For instance, theme one (gaining exposure), quoting from the literature, according to Westerman and McAfee (2012), new digital technology such as social media, mobile and analytics play a significant role in business growth and integration between the business and its new and regular customers. This was also asserted by Modimogale and Kroeze (2016), who argued that those digital channels are used widely by consumers to see the latest goods and running specials, for instance, there are more than one billion Facebook users, and more than six billion mobile phones in SA.

Furthermore, in this regard, Fitzgerald *et al.* (2013) states that companies can expect to gain in one or more of three areas once they manage to effectively implement digital transformation. The areas comprise: better customer engagement and experiences, operations that are restructured and simplified and new business models or lines.

Furthermore, Selase *et al.* (2019) presented that appropriate internet technology is adopted by SMEs to improve their internal processes and their products by improved communication with customers and products and services can thus be better promoted and distributed. These arguments link directly to the above findings.

Moving to the second item (gaining effective sales figures), Goerzig and Bauernhansl (2018) found most businesses with a large increase in customer numbers have become very obvious in their demand for individualised products and increasing customer influence. Therefore, gaining an increase in the number of customers automatically translates to an increase in sales figures. From a similar perspective, Kotarba (2018) presented that it is necessary with digital technologies to describe who the target is of organisational value creation, how the most important customers can be identified, and how the company segments their customer base, which then produces high sales figures.

Furthermore, In the complicated and fast-moving markets, the way in which value is created, captured, and offered is profoundly changing, with one of those responsible for this change being DT (Gomes *et al.* 2019). In addition, Westerman and McAfee (2012) indicated that business organisations that are mature in DT enjoy good turnover from their goods and services. These arguments link to the findings of the study above and provide evidence that there is indeed effectiveness in the arrival of the digital age.

4.6.2 Impact of digital transformation in SMEs

The analysed data showed DT has a huge impact in building customer relationships, and easy accessibility of business. These findings correspond to what was indicated by previous authors in the literature review. For instance, taken from a technological view, in most firms (including SMEs) advanced technologies such as big data and social media are deemed to have a core function in business model innovation (BMI) (Bouwman *et al.* 2018). Similarly, Goerzig and Bauernhansl (2018) mentioned that DT influences BEs, processes, business models, and customer relationships, as well as products to improve the scale and performance of the business.

Furthermore, Grishikashvili *et al.* (2014) stated that digital technology advances have significantly impacted marketing theory and practice, with technology expanding the prospects of capturing better quality customer data and increasing the focus on customer relationships, CRM and the rise of customer insight.

According to Berghaus and Back (2016), DT may have different impacts in different themes of industries. For instance, the authors found those BEs with a strong customer orientation and B2C relationships may be affected earlier by digital age influences and more so than those organisations that operate mostly with a B2B focus. In the same perspective, Fitzgerald *et al*. (2013) also highlighted that companies more often see digital technologies help transform customers' expenses or operations.

Additionally, technology is essential to the customer experience, more especially as the expectations of customers continue to rise (McKinsey and Company 2012). Therefore, the combination of the research findings and the indications from previous authors present that DT positively impacts SMEs.

4.6.3 The extent of implementation of digital transformation in SMEs

To what extent did South African SMEs implement DT? According to the collected and analysed data, the digital platforms that have been successfully implemented by most SMEs are online selling and digital marketing. These are the basic features of business DT, with the findings indicating that in KZN, SMEs still have a long way to go to achieve true implementation of DT.

Linking these findings to the literature review, previous studies have reported that SMEs are still lacking decent DT in their business models. For instance, Sugar (2016) indicated that the majority of SMEs do not comprehend strategic marketing and within their business models, show little knowledge on strategic marketing experience.

Nonetheless, Lekhanya (2015a: 410) mentioned that "there are factors affecting the success of SME marketing strategies in South Africa e.g. technology infrastructure,

especially those operating in rural areas with specific reference to KwaZulu-Natal". Similarly, Gamache *et al.* (2019), stated that SMEs in SA seem to have insufficient knowledge regarding the most effective method to initiate DT. Indeed, there are more digital channels that can assist SMEs to achieve growth, other than online selling, such as branding, marketing by means of social media, content and email, as well as video production, Web design, SEO, and app development, and so on.

4.6.4 Challenging factors of digital transformation in SMEs

According to the findings, the existing challenging factors in implementing DT in SMEs are digital maintenance and rapidly changing technology. Linking to the literature review, Pelletier and Cloutier (2019) highlighted the pressure SMEs are under to adopt and more intensively use digital technology to access skills and resources not internal to the enterprise and thus better support management and operations activities.

Similarly, new demands on companies that new technology brings also provide new opportunities to develop or improve products and market activities (Lindh *et al.* 2017). Likewise, digital business technology differs fundamentally from the traditional, thus requiring new strategies and systems (Mastilo 2017). This indicates that the arrival of digital technology brings with it challenges, where business managers must maintain market standards and build innovations.

In reference to the influence of technology as an external force in SMEs, the study revealed that moving with technology has much influence in SMEs. This shows that with the fast pace at which technology is moving, businesses have to maintain or better that pace to sustain themselves in the market. Quoting from the literature review, according to Durowoju (2017:241), "technology is an external force and it's difficult for businesses to predict, that's why managers are often puzzled about how to plan it effectively especially in SMEs where investment in technology is seen as very costly and expensive to manage".

This view was asserted by the Economist Intelligence Unit (2015), in highlighting the profound impact technology has on the workplace for several decades, and with the pace of change having quickened, it is starting to have an extensively disruptive effect on business operations. For example, pressure on employees and reduced professional satisfaction can result from technology and harm not only the well-being of staff but also that of business performance. Lastly, According to Selase *et al*. (2019) SMEs usually do not have appropriate skills available in-house and thus, have to retain existing staff or outsource the technological duties, which then becomes an additional overhead cost that reduces net profit.

4.7 Chapter conclusion

The collected data were presented and analysed in this chapter, from the overview to the final discussion. The findings of the study were presented and the found themes mentioned, with the literature review revisited and linking themes of the study clearly indicated. Each objective of the study has findings presented in this chapter. The next chapter will provide the study recommendations.

CHAPTER 5
CONCLUSIONS AND RECOMMENDATION

5.1 Chapter Introduction

This previous chapter presented the collected data and indicated data analysis linking to the literature review. This chapter contains a summary of the study conducted in KZN, with previous chapters summarised and presented, along with a recapitulation of research questions and objectives. This will be presented by the linking of objectives, questions and findings. A brief summary of the data collected from SMEs in Durban will also be set out. Furthermore, the identified themes from findings will be indicated and summarised in the final study findings. This chapter will also present the full study recommendations and conclusion.

5.2 Recapitulation of Research Questions and Objectives

The link between the research objectives, research questions and findings are presented in the table below.

Table 5.1: Linking of research objectives, questions, and findings

Research Objectives	Research Questions	Findings/Themes
Effectiveness of digital transformation in SMEs.	How effective is digital transformation in the business environment of SMEs?	Exposure Effective sales figures
The impact of the digital transformation in SMEs.	How does digital technology impact SMEs in the market?	Easy accessibility Customer relationship
The extent of the implementation of digital transformation in South African SMEs	To what extent do South African SMEs implement digital transformation?	Online selling Digital Marketing
Challenging factors of digital transformation in SMEs	What are the challenging factors that are experienced by the SMEs in implementing digital transformation?	Digital maintenance Moving with technology Rapid changing

5.3 Main Research Findings, Conclusions and recommendations

This section presents the research objectives, questions and findings, by linking each objective with its question and findings, then the conclusion. Each figure presents one objective, question, findings and then the conclusion.

5.3.1 Research Objective One and Research Question One

- **Research Objective One:**

To investigate the effectiveness of DT in SMEs.

- **Research Question One**:

How effective is DT in the business environment of SMEs?

Findings

The study determined that DT is very effective in SMEs. Most managers indicated that the arrival of digital technologies has generated a huge change in their businesses, especially by improving exposure to potential customers.

Conclusion

These findings link to the indication from previous studies in the literature review. For instance, Westerman and McAfee (2012) indicated that new digital technology such as social media, mobile and analytics play a significant role in business growth and interaction between the business and its new and regular customers. Therefore, this means digital technology is generating positive results in KZN SMEs that have implemented DT. This means digital technology is generating positive results in KZN SMEs recently, with a clear indication that the use of digital technology is assisting SMEs to be competitive in the market.

5.3.2 Research Objective Two and Research Question Two

- **Research Objective Two**:

To assess the impact of the DT in SMEs.

- **Research Question Two**:

How does digital technology impact SMEs in the market?

Findings

The analysed data established that DT hugely impacts building customer relationships, and easy accessibility of business. These findings correspond to what was indicated by previous authors in the literature review. For instance, KPMG International Cooperative (2017) mentioned that true DT begins with customer satisfaction and works inwards, connecting capabilities to ensure every part of the BE is built around delivering great customer experiences.

Conclusion

This shows that SMEs that have implemented DT are embracing the impact, because building customer relationships is a very important aspect for any business worldwide.

5.3.3 Research Objective Three and Research Question Three

- **Research Objective Three**:

To explore to what extent South African SMEs implement DT.

- **Research Question Three**:

To what extent does South African SMEs implement DT?

Findings

According to the collected and analysed data, only online selling and digital marketing are the main digital platforms that have been successfully accessed by most SMEs. However, in digital marketing specifically, the data revealed that SMEs in KZN have only implemented the basics of digital marketing, such as social media marketing. As indicated by previous studies, SMEs still lack adequate DT in their business models.

Conclusion

This indicated that South African SMEs still have a long way to go in improving the use of digital technologies. For instance, improvement in digital marketing is a main component that seemed to be lacking in the KZN SMEs. This can be solved by examining the suitability of various digital marketing channels that are available in the digital context.

5.3.4 Research Objective Three and Research Question Four

- **Research Objective Four**:

To determine the challenging factors of DT in SMEs.

- **Research Question Four**:

What are the challenging factors experienced by SMEs in implementing DT?

Findings

According to the findings, the existing challenging factors in implementing DT in SMEs include digital maintenance and rapidly changing technology. In reference to the influence of technology as an external force in SMEs, the study revealed that keeping pace with technology is very challenging for SMEs.

Conclusion

The above findings link to some previous research findings in the literature review in chapter two. As indicated by Durowoju (2017), technology is an external force that is difficult for businesses to predict, hence managers are often puzzled regarding how to plan it effectively, especially in SMEs where investment in technology is seen as very costly and expensive to manage. These findings indicate that the issue of digital maintenance remains a challenge at present. Furthermore, as moving with technology and its rapid changes seems to be a problem, businesses will have to keep pace with the changes to sustain themselves in the market.

5.4 Overall findings conclusion

The overall findings/results of this study empirically proved that DT in KZN SMEs still requires further development in order to sustain competitive advantage in the global market. As much as some SMEs have implemented this transformation, the agility of implementation in their business models still shows inefficiency, compared to the availability of new digital technologies. This empirical study linked two variables (SMEs and DT) to identify the influence DT has on SME operations and growth. The study identified that DT does indeed impact SMEs in different ways, however, it vested the

power to grow SMEs in the current century. This was asserted by the study respondents who are embracing the arrival of new digital technologies.

Figure 5.1 concludes the study findings from the interaction of the variables.

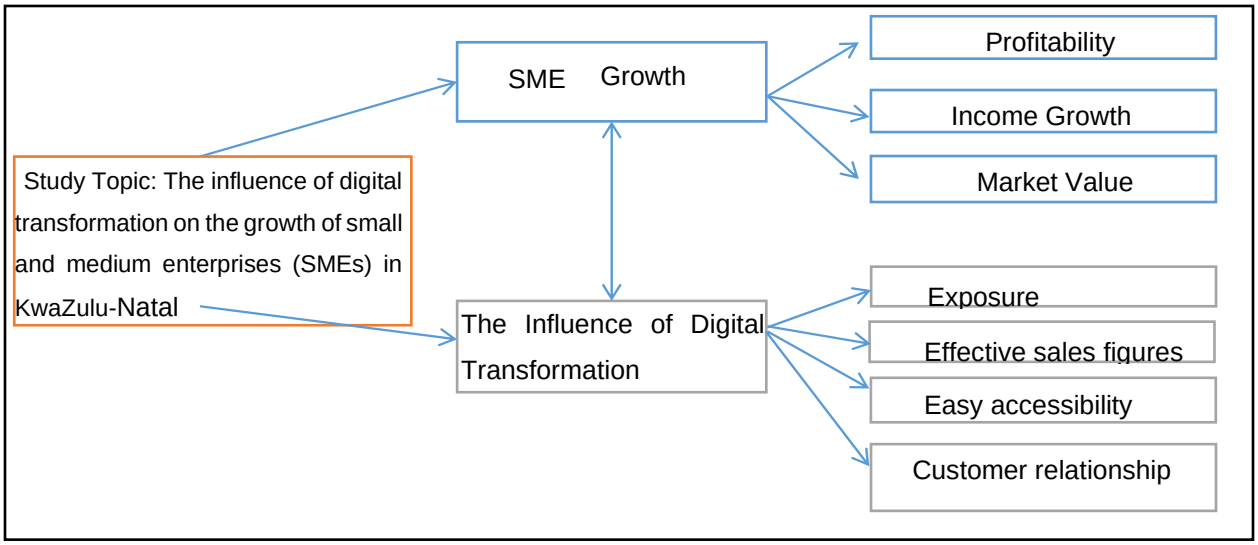


Figure 5.1: Conclusion of study findings

As presented (Figure 5.1), the study aimed to assess the influence of DT on the growth of SMEs. The overall growth of the BE is measured by the value of its assets, net revenue, net income, number of employees and profit and cash generation in general, compared to past performance (Santos and Brito 2012). Therefore, overall growth of SMEs is best measured through their financial performance, which involves profitability, income growth, and market value.

The results of the study, in terms of the effectiveness and the impact of DT, indicate that the influence of DT implementation by SMEs is characterised by attaining exposure, effective sales figures, easy accessibility, as well as customer relationships. This concludes that the more effective the implementation of DT, the higher the financial performance of SMEs.

Furthermore, the results where the status of the current DT implementation extent (sub-section 5.4.3) is concerned, indicate that most SMEs in KZN have implemented online selling and some basics in digital marketing. Lastly, in terms of the challenges in DT implementation by SMEs (sub-section 5.4.4), it is concluded that digital maintenance and keeping pace with rapidly changing technology are the most challenging factors.

The concluded findings show that KZN SMEs still face a challenge to improve their implementation of DT, especially in terms of digital marketing.

5.5 Recommendations

This section presents the researcher's recommendations, taken from the study findings. The researcher presents what could be done to change/improve going forward, taking from what the study presented as findings, with two recommendations the researcher believes can change/improve the current state for KZN SMEs and SA in general.

5.5.1 Improving the use of digital technologies

Every business desires competitive advantage in the business market. Therefore, every SME must adapt to new ways of doing business by implementing effective DT. SMEs that have successfully implemented DT have to improve their use of digital technologies to gain more exposure and improved customer relationships. With digital technologies, the business is able to access different target segments, build more exposure country- and even worldwide that can grow the business and generate more turnover.

Taking from the study findings, the current status of implementation is unsatisfactory; however, the most effective DT can be adopted by SMEs as a way of accessing markets at a faster and more competitive rate than their competitors.

KZN SMEs have to adapt to more digital platforms to better market themselves and find a substantial number of customers. The results from the findings on the extent of implementation indicate SMEs have only implemented online selling, social media marketing and web design. However, there are other very powerful digital marketing

techniques they have not mentioned, for instance app development, video production, email marketing, and search engine marketing (SEM), as well as SEO, branding, and content marketing. These marketing techniques can develop extensive exposure that can grow SMEs immensely. Furthermore, they must improve online selling and do enough research on other countries that have successfully implemented digital technologies.

Every SME must equip themselves and build internal capacity to maintain DT. In so doing all the challenging factors can be dealt with effectively; such as digital maintenance requiring competence in technology. Further to this, rapidly changing technology can be maintained when there is effective internal capacity. External forces such as technology cannot be controlled by the business, however, it can be maintained to grow and sustain the business. When you turn your back on technology, you do the same to growth and competitiveness.

It is therefore recommended that SMEs fully adapt to DT and move with technology as it changes for their own good. Every SME must have a business website where potential customers can view products and services. SMEs owners should not avoid new technologies, as while there are some digital systems that are quite costly, they are effective for the business growth.

5.5.2 Implementing more digital channels

It is recommended that KZN SMEs adapt to more digital channels to improve customer relationships that will lead to their growth, in term of business exposure and high turnover. There are digital channels other than those in use that they can implement should they be willing to grow. These include; branding, social media marketing, content or web marketing, and email marketing, as well as video production, SEO, influencer marketing, and PPC advertising. These digital channels can give KZN SMEs much potential to grow, in terms of financial performance and competitive advantage, even in comparison to large enterprises.

Branding: The manner in which a brand is designed and built online through a website, applications, social media, video and more. Therefore, to develop a brand online requires digital branding, which comprises a digital marketing and internet branding blend (Michelle Robertson 2020). This kind of digital marketing is becoming more and more popular, with good reason.

Zovitsky (2020) adds that the use of brand journalism, where content is created that interests an enterprise's audience, allows for calls-to-action that are less aggressive to supplement this content (Zovitsky 2020). Further to this, during the content creation and dissemination process via brand journalism, the process creates a mutual transaction between the parties, with interesting content provided to consumers, while self-promotion by the business or brand is enabled.

The DT, as far as branding is concerned, has brought many advantages in different companies and can be an extremely valuable marketing tool, however, this is only true when the company manages to gain a positive relationship between the brand and consumers and when it has a proportional advantage in comparison to its opponents; as much it brings many advantages, the digital age can set up many traps (Boric *et al.* 2016). Indeed, brilliant and creative brand messages find their way to consumers through various forms of media, by means of television, newspapers, and any form of electronic mail.

Social Media: One of the better ways to use social media to grow customer numbers is to generate original content for display on social media, by placing blogs, video, and so forth, on business social media platforms such as facebook, twitter, Linkedln and Instagram" (Siddiqui 2020:12). These platforms can be utilised to share more videos and photos of products and services, to engage with audiences by asking questions and promptly answering their queries on the advert and product in it. Other than being a digital channel used to establish personal connections, Aguila (2020) states that social media has grown and developed into something "grander, bigger, and better" than originally envisioned.

Today it is possible to reach out to several potential buyers by engaging them in a more personal and authentic fashion. According to Bogle (2020), on average, users operate approximately eight social media accounts and spend in the region of two hours and 22 minutes on social media per person per day. In addition, of the 5.11 billion people who operate a smartphone, 3.26 billion access social media, with roughly 1/7th of people's working time spent on social platforms.

As Combs (2020) explained, marketers are able to reach their prospects in countless ways through social media platforms. From being a digital channel merely for socialising, this channel has grown into one that brands and businesses alike consider as a powerful digital marketing tool (Combs 2020).

According to Norries (2020), a great means of saturating a business, is through the use of social media, as everybody uses it in some way. For example, from Facebook to LinkedIn, in today's society communication has to be very visible and open. Indeed, posting advertisements on social media is a great way to get your business noticed.

Gotter (2020) describes this channel as a major player currently in the marketing world, with customers actively looking for brands they are interested in or like and more users taking to social media to make buying decisions or research products, services, prices and availability. In addition, valuable opportunities for community-building can be found only on social media and nowhere else. If truth be told, whether you are simply sharing "behind-the-scenes information" on your personal page or creating a group that involves your business, Gotter (2020:5) asserts that "you should be leveraging social media for all it's worth".

According to Lundberg (2020:16), "mobile marketing is almost as broad as digital marketing itself and will overlap with a lot of other channels because it involves doing everything you're doing on desktop but adapting to mobile and doing mobile-specific things like in-app advertising, sending text and using social messaging apps, especially if you are targeting a younger audience who spends most of their time on their phones".

Social media marketing is all about using the power of content on its platforms to market a business, and it has dominated the digital space over the last decade, attracting millions or even billions of potential customers across the globe (Odden 2020).

Furthermore, the functionality of mobile marketing comprises advertisements that pop up on a mobile device and varies in term of formats, styles and customisation. This strategy exists in different forms, including app-based marketing, in-game mobile marketing, location-based marketing, and mobile search ads, as well as short messaging service (Ngochi 2019).

According to Kawira *et al.* (2019), since mobile phones play a major role in maintaining customer relations through frequent communications and prompt problem solving, social media marketing is important as it promotes customer retention. Mobile phones certainly have the ability to share business information with different stakeholders and provide basic information with regard to product price, available products and services to potential customers. Therefore, social media is not only a communication tool for amusement but is also an important part of marketing strategies in business life nowadays.

It has been noticed that consumers today spend more time on social media, therefore, it is crucial for BEs to adopt social media marketing for interactive communications to affect consumers directly at all stages of their decision process and thus strengthen competitive advantage (Selase *et al*. 2019). As Rutihinda (2019) explained, through social media platforms SMEs have an opportunity to reconfigure company operations, particularly that of marketing, sales, and HR, as well as research and development functions. Superior customer relationships can be established with more in-depth customer engagements that transcend the traditional CRM function.

Content Marketing/Web: In producing a high ROI, content or web marketing is one of the more impactful channels of digital marketing (Siddiqui 2020). A website (Content marketing) is a must-have tool should you wish to transform to the digital age, providing

a dedicated platform where audiences can be educated about a brand, its products, and services (Aguila 2020).

On the one hand, content marketing allows proactive marketing teams to answer user questions through the creation of content, videos, and other assets or by providing consumers with context through three stages, namely: a state of awareness, the stage of consideration, and the decision-making stage (Bogle 2020).

On the other hand, content marketing is an essential digital channel for every business organisation operating today because it is a workhorse for communicating and selling to prospects and customers (Combs 2020). This technique entails the creation and spreading of content deemed valuable from the recipients' point of view to draw attention and therefore, engage the community around a target group (Swieczak 2016).

Content marketing is a vital part of any business organisation with a virtual presence as content is the shared information your online promotions could present. Thus, that information could be in written, audio, or visual form, since it is present in blog poster-books, posts on social media, PPC, and even the very pages of a company website. Furthermore, Norries (2020) advocates that a business website should be "the crescendo of your marketing symphony, not a bland disappointment that does not live up to the preview".

Some companies, according to Gotter (2020), do not consider their website as a marking channel, however, it may in reality be the most important channel because this is where users go when interested in finding out more about a specific company. Moreover, when they cannot quickly obtain answers to their questions, they remain active on the channel long enough to do so. Nonetheless, content marketing entails the creation and distribution of contents such as text, pictures, and or multimedia that add value to an audience, rather than simply broadcasting advertising messages (Lundberg 2020).

This digital channel incorporates many forms of content, with examples of popular content types on the web that include social media posts, blogs, e-books, and video, as well as brochures, case studies, templates and infographics. When the aim is to influence purchasing decisions of customers down the line, it is all about creating content that customers wish to see" (Odden 2020:8). In today's business world, Aguila (2020), asserts a website is a "must-have tool" for business, providing a dedicated platform where audiences are educated with regard to brand, products and services. Therefore, this requires a solid understanding of both the target audience and an effective strategy for content marketing, which focuses on the creation and distribution of content that is consistent, valuable, and relevant to a target audience (Backlinko 2020).

Email marketing: Another very important digital marketing channel with the highest ROI of the majority of marketing tactics, an excellent means of increasing sales and customers as it empowers BEs to connect and engage with customers, advising of upcoming event, and other new products offerings or services (Siddiqui 2020). Many reasons exist for the difficulties experienced in dislodging email marketing as a channel that brings BEs a medium to high ROI.

However, the one thing you may not take away from email marketing is its versatility (Aguila 2020). Building and maintaining rapport with potential customers and maintaining these relationships can be effectively accomplished through email marketing. As prospects advance through the sales funnel, BEs can focus on assisting to solve particular problems and achieve set goals, instead of abruptly pushing customers toward sales (Combs 2020). In addition, when the BE adopts an email marketing strategy, it achieves wider coverage without incurring added cost, in terms of customer numbers (Ngochi 2019).

According to Norries (2020), this is also an "oldie but Goodie" in the world of virtual marketing, as it still an effective tool with approximately 70 percent of consumers preferring to be contacted by email. It is called email marketing because you email a list of people the latest news about your company. In the same vein, email marketing is

acknowledged as “one of the best methods of direct response marketing”, whereby users choose to hear from a BE, by opting in to this method, and are thus more willing to open messages and find out more regarding the latest products, sales and their benefits (Gotter 2020).

This view is echoed by Lundberg (2020), who stated that although email may be perceived as an “old school” method in a world where all and sundry are Snapchatting or instant messaging, it remains one of the most effective digital marketing channels. This applies particularly to e-commerce sites and retail brands, which are experiencing much success in pushing seasonal discounts and promotions such as Black Friday or Mother’s Day deals.

Further to this, BEs may also make use of email newsletters to nurture their products, affording them more value than merely pushing products or services. Nevertheless, email marketing is a means of promoting products or services, building relationships, inspiring customer loyalty, and gaining valuable feedback from loyal customers (Odden 2020).

Video Production: According to Siddiqui (2020), video production is one of the most dominant digital marketing channel trends and most likely to remain so for the next 5-10 years. It is the star of the show these days and should your business be doing one thing practically, this is probably the best channel as content can consist of a short clip or a longer format, offer education or entertainment, and be pre-recorded or streamed live, in real time.

In delivering marketing messages across a wide spectrum video production can be super effective, in creating an emotional connection with the audience and being much more memorable than merely some text or pictures (Lundberg 2020). According to Writer (2020), every month there are approximately two billion people searching YouTube for something. This implies the use of video marketing strategies to drive results throughout the marketing funnel, as with emails and blog posts. People are undeniably in search of

videos for specific reasons, for instance the pursuit of credible product and service reviews.

Search Engine Optimisation (SEO): Ensuring that the company webpage and articles feature as frequently and as high as possible on searches relevant to the business is done by means of SEO. Siddiqui (2020) describes SEO as organic advertising, in other words, you do not bid on positioning as with traditional media, instead the company website, pages and articles are optimised through a variety of techniques, ensuring that when relevant keywords are searched, the website features as a top result.

Nonetheless, SEO is a channel that uses search rankings and link-building, since people mainly use search engines to find information when shopping. This is referred to as search rankings, whereas link-building involves creating a link for customers to enter your adverts (Aguila 2020).

The reason why SEO remains as an exceptional B2B marketing channel is due to it being the most popular medium to channel the majority of the information, and experts in marketing understand SEO to be the foundation of an effective digital marketing strategy that thrives (Combs 2020). Similarly, Norris (2020), explained that SEO was one of the initial marketing channels that opened online, however, notwithstanding its age, SEO remains one of the strongest forms of digital marketing available today. This is attributed to the fact that SEO contends with results from search engines, and with search engines constantly used by online consumers, they are more prone to deal with a firm that is visible on the first results page.

Even while 94 percent of SEO results are organic, SEO can nonetheless manage to bring a company closer to that first page by increasing the company’s ranking. Therefore, this indicates that a business can have a better shot at being featured first, before others, through SEO. This channel is concerned with enabling a website to appear at the top of the results when a brand, products and services and other relevant words and phrases are searched (Lundberg 2020).

“SEO has been the marketing buzzword of the decade, and for good reason where more than 90% of online experiences begin with a simple online search through search engines like Google and Bing With SEO whereby you could rank on the search results page for your most relevant keywords and search tons of potential customers in the process” (Odden 2020:11).

Influencer Marketing: A fantastic way to increase your customers even more is to have someone that has an audience following them, to endorse your brand. Combs (2020) explains this channel as one of sponsored content, whereby another company is paid for the creation of content and its promotion, wherein the brand is described in some way and includes an article or a blog post. It is a trusted and effective way to harness digital channels to reach target.

Influencer marketing entails partnering with influencers such as celebrities, experts and authority figures with an existing audience. When these influencers promote a product to their audiences, mostly on social media platforms such as Instagram, Snapchat or YouTube, their loyal followers will act on this recommendation and buy from the BE (Lundberg 2020).

According to Writer (2020), should it fit digital influencers’ “voices”, specific content may be produced for a brand. Moreover, they are able to do public tests of products and provide the results, whether positive or negative, which means they have the power to praise or destroy a brand. This type of marketing is regularly employed by many brands outside of digital circles, whereby brands sponsor sports stars for marketing purposes or have a famous person endorse their brands online, thus creating a pathway between audiences, encouraging them to further investigate the particular product or service (Zovitsky 2020).

Pay-Per-Click Advertising: This channel is also known as PPC and is one of the most common types of digital marketing, where a BE only pays for the number of clicks

received on an advertisement (Odden 2020). According to Siddiqui (2020), PPC is also known as search advertising, as it allows a BE to position itself near the top of searches, even when that is not where your website would originally show up. Furthermore, PPC works by advertisers and promoters paying each time a user clicks on one of their online adverts.

The advantage noted in making use of PPC is that these advertisements are shown at a higher position than that of organic search results, and are thus more visible to potential users, even when payment is necessary every time a user clicks on such an advertisement. The inherent value remains, as does the monetary value from paid searches (Aguila 2020). This view is supported by Backlinko (2020), who mentioned “PPC as an advertising model where marketers pay each time someone clicks on their advertisement. It is in essence, a process of “buying visits” to a website, as opposed to receiving these organically via marketing tools such as SEO.

PPC is, according to Writer (2020), the most used model on the web of payment for media and may be employed in virtually all strategies for digital marketing. Therefore, when working with a “short tail keyword” PPC is more advantageous, and this model is generally a means to pay only for what is used. This channel is similar to a paid version of SEO because, instead of optimising a site for search engine prioritisation, a bid is made for advertising space for certain keywords on search engines. Zovitsky (2020) explained that complex algorithms are involved in bidding, on the other side of the search engine, with a small number of aspects the advertiser ought to prioritise, such as the amount to bid, advertisement quality, formats that include a variety of extensions, and the anticipated clickthrough rate (CTR).

However, before KZN SMEs implement these digital marketing techniques/channels, they must first understand the phases in the implementation process, as presented in Table 5.2 below:

Table 5.2: Phases identified in Digital Transformation Frameworks

Phases	Description
Initiation	Understanding digitalisation opportunities, threats and impact
Ideality	Imagining transformation dimensions as options for the business
Assessment	Evaluating digital readiness levels and identifying gaps
Engagement	Communicating the vision and integrating the necessary people
Implementation	Proceeding with the action plan in various domains
Sustainability	Validating and optimising the action plan on a continuous basis

Adapted from Ismail et al. (2017)

5.6 Implications of the study

This study investigated the implementation of DT in KZN SMEs. The issue was to assess the effectiveness of implementation, impacts, current implementation status, and challenges experienced by SMEs through implementation. The implications of this study include two variables namely, DT and SMEs in KZN. The investigation of these two variables has been conducted and concluded from the study findings.

The linking of these variables shows that SMEs today need DT to grow. Comparing the findings to the related theories, the results indicate that SMEs in KZN have partially implemented DT. This is referenced by the presented available digital technologies that are implementable but have not been implemented by SMEs in KZN; for example, digital marketing channels. There is some useful knowledge presented in the body of the study of the role played by DT in the performance of SMEs. In addition, SMEs that have implemented DT presented that they are embracing the advantage of it, as much as they experience some challenges.

5.7 Limitations of the study

Limitation refers to the limits or constraints that are out of the researcher's control in the study, such as financial resources, time, information access, and so forth (Enslin 2014). However, Kumar (2020) finds that limitations may also indicate structural problems with

reference to methodological aspects of the study (Kumar 2011) due to, for example, choosing a study design that may not be the best, which may have had to be adopted for various reasons. This is also classified as a study limitation.

The limitations in this study include that the data was collected from only eight SMEs within the Durban Jurisdiction. Furthermore, records of those SMEs where data were collected were not presented to identify the impact of DT. This means there was no physical comparison between the previous ways of doing business and how these are performed at present. Nonetheless, the expression from the respondents was from their own views and experiences.

5.8 Chapter Summary

There is still a long way to go to perfect DT in South African SMEs, compared to those of western countries. that the study does confirm though that DT has a direct impact on the growth of SMEs and that it generates a solid competitive advantage in the business market. For instance, DT develops exposure and extends the chances of business development by building customer relationships. Future related research may be on the impact of external forces (political, environmental, social, technology, international, economy - PESTIE) in the business operation. This investigation can strengthen the results and present much useful data in the business sector.

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LETTER OF INFORMATION

Title of the Research Study: The influence of digital transformation on the growth of small and medium enterprises in KwaZulu-Natal

Principal Investigator/s/researcher: Sanele Jeza (B.Tech Business Administration, Honours Degree: Public Administration, and National Diploma: Office Management & Technology)

Co-Investigator/s/supervisor/s: (Dr Lawrence Mpele Lekhany, PhD (UWC): Management;D-Tech(DUT): Marketing)

Brief Introduction and Purpose of the Study: This study aim to access the implementation of digital transformation in the South African SMEs to succeed. The purpose is to identify the influences and challenges that SMEs experience in the market since the digital technology arrived.

Outline of the Procedures: The content letter will be sent to the potential participants to get their dates and time of availability. The research participants will be interviewed about their experiences in the implementation of digital transformation in SMEs. The researcher will visit the number of decentralized SMEs within KZN to interview the business managers or representatives. Participants will be required to answer interview questions based on the experiences and perceptions. Eight interviews will be conducted in different days and each interview will take plus minus 10 minutes.

Risks or Discomforts to the Participant: Time management of the interviewees in the date of interview may be inconsistent and unreliable.

Benefits: Publication of the journal/article may assist to identify the common challenges in SMMs in the market and develop possible solutions from recommendations.

Reason/s why the Participant May Be Withdrawn from the Study: Non-compliance or other commitments my lead to withdrawal. Therefore, participants will be informed that there will be no adverse consequences for the participant should they choose to withdraw.

Remuneration: No monetary remuneration will be received for participating.

Costs of the Study: No

Confidentiality: There will be no access to confidential information without prior consent of participants.

Research-related Injury: There will be no compensation should any research-related injuries happen.

Persons to Contact in the Event of Any Problems or Queries:

(Supervisor and details) Please contact the researcher (tel no.), my supervisor (tel no.) or the Institutional Research Ethics administrator on 031 373 2900. Complaints can be reported to the DVC: RIE, Prof S Moyo at dvcrie@dut.ac.za

General:

Potential participants must be assured that participation is voluntary and the approximate number of participants to be included should be disclosed. A copy of the information letter should be issued to participants. The information letter and consent form must be translated and provided in the primary spoken language of the research population e.g. isiZulu.

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, **Sanele Jeza** (name of researcher), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _____,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____	_____	_____	_____
Full Name of Participant	**Date**	**Time**	**Signature / Right Thumbprint**

I, **Sanele Jeza** (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Sanele Jeza	22/02/2021	S Jeza
Full Name of Researcher	**Date**	**Signature**
_____	_____	_____
Full Name of Witness (If applicable)	**Date**	**Signature**
_____	_____	_____
Full Name of Legal Guardian (If applicable)	**Date**	**Signature**

Please note the following:

Research details must be provided in a clear, simple and culturally appropriate manner and prospective participants should be helped to arrive at an informed decision by use of appropriate language (grade 10 level - use Flesch Reading Ease Scores on Microsoft Word), selecting of a non-threatening environment for interaction and the availability of peer counseling (Department of Health, 2004)

If the potential participant is unable to read/illiterate, then a right thumb print is required and an impartial witness, who is literate and knows the participant e.g. parent, sibling, friend, pastor, etc. should verify in writing, duly signed that informed verbal consent was obtained (Department of Health, 2004).

If anyone makes a mistake completing this document e.g. wrong date or spelling mistake a new document has to be completed. The incomplete original document has to be kept in the participant file and not thrown away and copies thereof must be issued to the participant.

References:

Department of Health: 2004. *Ethics in Health Research: Principles, Structures and Processes* http://www.doh.gov.za/docs/factsheets/guidelines/ethnics/

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ANNEXURE B: INTERVIEW SCHEDULE FOR SMEs MANAGERS/REPRESENTATIVES

THE INFLUENCE OF DIGITAL TRANSFORMATION ON THE GROWTH OF SMALL AND MEDIUM ENTERPRISES IN KWAZULU-NATAL.

SECTION A: BIOGRAPHICAL DETAILS

1. What is your gender?

……
2. What is your race group?

……
3. What is your Age?

……
4. What is your Nationality?

…….
5. How long have you been operating this business?

……

SECTION B: EFFECTIVENESS OF DIGITAL TRANSFORMATION IN SMEs

6. Does your business implement digital transformation? YES/NO

…….

7. What can you elaborate about the effectiveness of the arrival of digital technology in this business?

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SECTION C: IMPACT OF DIGITAL TRANSFORMATION IN SMEs

8. How does digital transformation impact the business operation?

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SECTION D: THE EXTENT OF IMPLEMENTATION OF DIGITAL TRANSFORMATION IN SMEs

9. What aspects of digital technology is implemented by your business?

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……

10. Which sections of the business have successfully transformed to digital technology?

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……

SECTION E: CHALLENGING FACTORS OF DIGITAL TRANSFORMATION IN SMEs

11. What are the challenging factors your business experiencing in digital business transformation?

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