

**TRACKING THE DIFFUSION AND ADOPTION OF ICTS AMONG SMMEs IN THE  
AGRIBUSINESS SECTOR IN TSHWANE, SOUTH AFRICA.**

by

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submitted in accordance with the requirements for the degree of

**MASTER OF ARTS**

in the subject

**COMMUNICATION SCIENCE**

at the

**UNIVERSITY OF SOUTH AFRICA**

**SUPERVISOR: PROFESSOR BLESSING MBATHA**

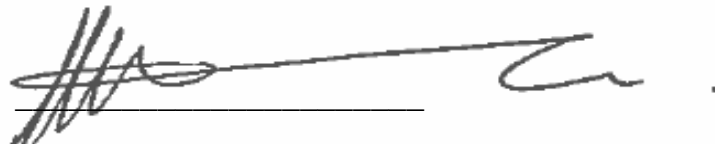
October 2022

## DECLARATION

I declare that the aforementioned dissertation is my work and that all sources utilised or quoted have been indicated and acknowledged with comprehensive references.

I also certify that I ran the dissertation via originality software and that it meets the established standards for originality.

I further certify that I have not previously submitted this work, or any portion of it, for examination at UNISA or any other higher education institution for another qualification.

  
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24 October 2022

DATE

## **DEDICATION**

To God, my wife Lufuno Ligavha-Mbelengwa, and family. Thank you!

## **ACKNOWLEDGEMENTS**

My greatest thanks goes to Professor Mbatha, my supervisor, for his persistent support, mentorship, and advice; thank you very much! In addition, I'd like to thank the National Research Foundation (NRF) and the University of South Africa (UNISA) for funding this study endeavor. I am mostly grateful!

## ABSTRACT

Small, medium and micro enterprises (SMMEs) are key catalysts for advancing inclusive growth and development in South Africa. Information and communication technologies (ICTs) have transformed and revolutionised the way people, governments and SMMEs operate in the modern world. This study sheds light on the diffusion and adoption of ICTs by SMMEs in the agribusiness sector in the City of Tshwane, South Africa. To achieve the aim of this study, the following questions had to be answered: (a) What role is played by ICTs to advance SMMEs in the agribusiness sector? (b) How can SMMEs in the agribusiness sector explore and address some of the challenges facing them? (c) In what ways can government support SMMEs? The study was informed by the diffusion of innovation theory in its attempt to respond to these questions. It targeted selected SMMEs and policy-makers from Tshwane municipality, and collected data using semistructured face-to-face interviews. Purposive sampling was used to select the participants. Data were analysed using thematic categorisation. The findings show that a variety of ICTs have been adopted by SMMEs to improve communication with their clients, but at a low rate of adoption. The most popular recommendations mentioned the need for sufficient funding support from government to help improve the business operations of SMMEs. The study concludes that sufficient government support is needed to assist SMMEs in developing and adopting the ICTs they need to operate efficiently. This calls for government intervention such as funding support and mentorship to help develop SMMEs. Most agribusiness SMMEs in the City of Tshwane are insufficiently supported, especially in the area of financial management skills. Therefore, the government should provide workshops and proper training on the financial aspects of business.

**KEY TERMS:** ICTs, SMMEs, Agribusiness sector, diffusion, and adoption.

## LIST OF ABBREVIATIONS

APSS	Agro-processing Support Scheme
ARC	Agricultural Research Council
CoT	City of Tshwane
CSIR	Council for Scientific and Industrial Research
CTMM	City of Tshwane Metropolitan Municipality
Dol	Diffusion of Innovations
ICTs	Information and Communication Technologies
ISPESE	Integrated Strategy for the Promotion of Entrepreneurship and Small Enterprises
NDP	National Development Plan
NGO	non-government organisations
SADC	Southern African Development Community
SME	Small Medium Enterprise
SMMEs	Small, Medium and Micro Enterprises
UNISA	University of South Africa
VAT	Value added tax

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# **CHAPTER 1**

## **INTRODUCTION AND BACKGROUND TO THE STUDY**

### **1.1 INTRODUCTION**

Small, medium and micro enterprises (SMMEs) play a key role in advancing inclusive growth and development in South Africa. It is important to note that SMMEs are major contributors to the economy. They provide employment opportunities and create economic wealth resulting in the reduction in poverty and increased employment (Agwa-Ejon & Mbohwa, 2015). With that said, SMMEs are not exempt from the global economic and financial turmoil that periodically occurs worldwide, therefore they must adjust their financial needs to accommodate such dynamic phenomena (Agwa-Ejon & Mbohwa, 2015). When looking at modern farming technology, one should acknowledge the pivotal role played by information and communication technologies (ICTs) as a decision support system for farmers. The diffusion and adoption of technology allow farmers to stay abreast of recent and useful information. In a nutshell, technology gives farmers access to data on weather, agriculture and sophisticated methods of improving crop quality and production.

Likewise, ICTs have immensely transformed and revolutionised the ways in which people, governments and SMMEs operate in the modern world. This study explores the diffusion and adoption of ICTs among SMMEs in the agribusiness sector in Tshwane, South Africa. The problem addressed in this study emanated from the reality that despite the documented advantages that ICTs present to businesses, including SMMEs, there is a lack of adequate adoption of ICTs by SMME service providers in the agribusiness sector, particularly in the City of Tshwane. Previous studies have found that growth and development remain key challenges when it comes to SMMEs in South Africa (Bhorat, Asmal, Lilenstein, & Van Der Zee, 2018; Bvuma & Marnewick, 2020). The various challenges extend to the inability of SMMEs to invest in ICTs owing to limited resources; the high cost of technology; the resource-based view of the firm as not only internalised but externalised as a result of effective networks; and the existence of SMMEs through supply chain relationships (Gono, Harindranath & Ozcan, 2013; Walaza, Loock & Kritzinger, 2020). In a quarterly report, Statistics South Africa (2020) indicates that there has been a rise in unemployment across various sectors in the country, but interestingly, the agribusiness sector continues to offer a better

outlook than many other economic sectors. To bolster this trend, the diffusion and adoption of ICTs in the agribusiness sector should be promoted and enhanced.

South Africa has an unemployment problem and the best solution to this problem is to support and promote SMMEs to create more jobs. This is evident as the official unemployment rate was estimated to be 30,1% in 2020 (Statistics South Africa, 2020). This level of the unemployment is evidence of the economic challenges faced by the country, and SMMEs can play a central role in fighting the poverty and income inequalities resulting from these challenges. The most effective way in which government can address unemployment in South Africa is to promote SMMEs and ensure that these businesses adopt ICTs in their day-to-day operations to compete and survive in the digital economy (Fataki & Smit, 2011; Francis & Willard, 2016). SMMEs play a significant role in the economy (Beyers & Molala, 2016; Gqoboka, Anakpo & Mishi, 2022). SMMEs in South Africa need to be encouraged to enhance their competitiveness in the local, regional as well as global ecosystems and economies (Chimucheka & Mandipaka, 2015). It has been argued that SMMEs in South Africa are not fully equipped with relevant technology, thus they face several challenges that are presented by the global information society (Chimucheka & Mandipaka, 2015; Modisane & Jokonya, 2021). Several scholars are of the view that SMMEs should adopt ICTs to strengthen and facilitate trade in local and international markets. Following this introduction, the study goes on to review previous studies on the role of ICTs in ensuring productivity in SMMEs. Thereafter, the study discusses the research methodology employed to carry out the study, followed by the research findings and a discussion thereof. The study ends with concluding remarks and recommendations.

## **1.2 BACKGROUND TO THE STUDY**

Despite the documented advantages that ICTs present to businesses, including SMMEs, it appears that there is a lack of uptake of the use of ICTs among SMMEs in South Africa in general and in particular. Growth and development remain key challenges when it comes to SMMEs in South Africa (Bhorat, Asmal, Lilenstein, & Van Der Zee, 2018). The various challenges extend to the

inability of Small Medium Enterprises (SMEs) to invest in ICTs as a result of limited resources: the issue of cost, the resource-based view of the firm as not only internalised but externalised as a result of effective networks, the existence of SMEs through supply chain relationships (Gono, Harindranath & Ozcan, 2013).

Furthermore, Statistics South Africa (2020) in its quarterly report, did indicate the rise in unemployment in the country across various sectors, but interestingly, the Agribusiness sector continues to offer a better outlook amid all these challenges which is why ICTs diffusion becomes even more important in this sector.

The above does tap into why there is such a lack of ICTs uptake and will help this study discover multiple reasons and solutions accordingly. It is for this reason that this study will employ a mixed methods design to ensure that enough control is practised when dealing with different variables so that the validity and reliability of research are not compromised (Abumelhim, 2015).

### **1.3 STUDY MOTIVATION**

The researcher was employed at the National Research Foundation, a division of the Department of Higher Education, Science, Technology, and Innovation, at the time this study was conceptualised. Therefore, one of the key focus areas of the latter is to develop innovations and initiatives as well as transfer technologies, especially to SMMEs that will result in socio-economic upliftment. This formed part of the reasons the researcher decided to conduct this study to explore the SMME's historical background in the agribusiness sector, specifically in South Africa and how they can fully be the catalysts for change in the economy by way of diffusing ICTs in their day-to-day operations. The study was also intended in understanding the SMME and ICT landscape in Tshwane with a goal of proposing viable solutions to the agribusiness sector pertaining to technologies that could be fit for purpose in this regard. Moreover, the findings of this study will help the key stakeholders, in this regard being the government to better understand the needs of small businesses based on their areas of focus and operation by providing the most relevant and needed support in a long run. The study strongly supports South Africa's National Development Plan (NDP, 2030) initiatives to increase various infrastructure investments in small businesses by

ensuring supportive policies in terms of entry barriers, regulatory red tape reduction, and the provision of an entrepreneurial environment for business development (NPC, 2012).

Likewise, Buchana, Sithole & Majokweni (2022) in their policy brief to the government, confirms the need to study and understand the agribusiness sector in line with the adoption and diffusion of ICTs for their survival. The scholars agree that “in the last few decades, ICTs have played important transformative roles in the modernisation of different sectors of the economy. The proliferation and rapid diffusion of ICTs in sectors of the economy, such as the manufacturing and services sectors, have produced significant improvements in how products (goods and services) are developed, produced and delivered to the market” (Buchana, Sithole & Majokweni (2022:1). Therefore, this study inherently sought to shed light on the role that the agribusiness sector would further play if it were to effectively diffuse various advanced technologies into their operations and this could only be achieved through carrying out of a thorough research study.

#### **1.4 RESEARCH PROBLEM**

According to Statistics South Africa (2020), South Africa is regarded as a country or an economy with the dire levels of unemployment as compared to other countries. This is evident as per “the official unemployment rate of the estimate of 30.1% in 2020” (Statistics South Africa, 2020:2). This level of the unemployment rate is evidence of the challenges faced by the country economically and this is where SMMEs can be seen to play a central role in fighting poverty and income inequalities that exist. The most effective way to address this problem lies with the government’s response and promotion of SMMEs (Fataki & Smit, 2011) and ensure that these businesses adopt ICTs in their day-to-day operations to compete and survive in the digital economy.

Thus, the study sought to map the diffusion and adoption of ICTs by SMMEs in the agribusiness sector in the city of Tshwane of South Africa. Moreover, it is worth noting that SMMEs play a significant role in the economy (Beyers & Molala, 2016). SMMEs in SA needs to be encouraged to enhance their competitiveness in their local, regional as well as global ecosystem and economies (Chimucheka & Mandipaka, 2015). In South Africa in particular, the problem is that SMMEs are not fully developed, as well



as capable enough to face the challenges that are presented by the global information society (Chimucheka et al., 2015). The scholars further recommend that SMMEs should adopt ICTs to strengthen and facilitate trade in the local and international markets.

#### ***1.4.1 The context and background of the research problem***

Buchana, Sithole, and Majokweni (2022) observe in their study that information and communication technologies (ICTs) have made tremendous improvements in recent years, helping to expand several sectors of the economy such as manufacturing and services. Climate change, water scarcity, financial resources, droughts, and rising global competition are just a few of the issues impacting the agriculture business. As a result, some governments recognized the need for and value of small enterprises implementing ICTs into their operations, while cautioning that ICTs should be deployed with the primary goal of supporting company or business growth (Maduku & Kaseeram, 2021). As a result, it is critical that governments properly assess whether SMMEs truly require ICTs before considering an adoption strategy, and that they also assist SMMEs in determining the best strategy for their businesses, avoiding a one-size-fits-all approach because SMMEs have varying ICT requirements (Maduku & Kaseeram, 2021). Adoption and spread of ICTs give chances to solve these difficulties so that solid and good decisions can be made in the future to ensure the smooth operation of SMMEs in this respect (Modimogale & Kroeze, 2011). Past study indicates that a number of variables impact ICT adoption in small and medium-sized businesses (SMEs), such as perceptions of benefits and consumer expectations, a lack of financial resources, a lack of technical skills, and a low level of education (Fosu, London & Africa, 2018). Notwithstanding the extensive literature on ICT usage in SMMEs, only a few studies have focused on agricultural operations, despite the fact that these businesses have proven to be key drivers in the majority of global economies (Modimogale & Kroeze, 2011).

The growing number of SMMEs in South Africa (Cilliers & Strydom, 2016) shows a positive prognosis for the country's economy. SMMEs have been identified as the economic backbone (Zulu, 2017). But, if these SMMEs have the appropriate support, they will be able to perform far better than they are presently. As a result, an investigation is being done to establish how these SMMEs, particularly those in the

Agriculture sector, are faring in terms of accessing the information society and the ICT world. Learn what they are doing to increase productivity using ICTs, what constraints or challenges they are encountering, and how ICTs may help them be more efficient.

According to Palitza, Erwin, Godia, and Amuriat (2007), ICTs are crucial for organisations because they provide them with the information they need to perform correctly. This point of view is crucial to this study because it helps identify the primary pieces of evidence that attempt to justify why ICTs may play such a vital role in SMMEs, particularly in the City of Tshwane. Likewise, Buchana, Sithole, and Majokweni (2022) agree with Palitza et al. (2007) that the development and rapid spread of ICTs in economic sectors such as manufacturing and services have resulted in major advancements in how goods and services are conceived, manufactured, and supplied to the market, and this forms part of the objectives; i.e. *to explore the role of ICTs in advancing SMMEs in the Agribusiness sector; to explore and identify some of the challenges that SMMEs in the Agribusiness sector face; and to examine various ways in which the government can support SMMEs* which this study sought to address.

#### **1.4.2 Statement of the problem**

Despite the documented advantages that ICTs present to businesses, including SMMEs, it appears that there is a lack of uptake of the use of ICTs among SMMEs in South Africa in general and in particular. Growth and development remain key challenges when it comes to SMMEs in South Africa (Bhorat, Asmal, Lilenstein, & Van Der Zee, 2018). The various challenges extent to the

inability of SMEs to invest in ICTs as a result of limited resources: the issue of cost, the resource-based view of the firm as not only internalised but externalised as a result of effective networks, the existence of SMEs through supply chain relationships (Gono, Harindranath & Ozcan, 2013).

Furthermore, Statistics South Africa (2020) in its quarterly report, did indicate the rise in unemployment in the country across various sectors, but interestingly, the Agribusiness sector continues to offer a better outlook amid all these challenges which is why ICTs diffusion becomes even more important in this sector.

The above does tap into why there is such a lack of ICTs uptake and will help this study discover multiple reasons and solutions accordingly. It is for this reason that this study will employ a mixed methods design to ensure that enough control is practised when dealing with different variables so that the validity and reliability of research are not compromised (Abumelhim, 2015).

## **1.5 AIM OF THE STUDY**

The main aim of this study is to track the diffusion and adoption of ICTs among SMMEs in the Agribusiness sector in Tshwane, South Africa.

## **1.6 OBJECTIVES OF THE STUDY**

- To explore the role of ICTs in advancing SMMEs in the Agribusiness sector.
- To explore and identify some of the challenges that SMMEs in the Agribusiness sector face.
- To examine various ways in which the government can support SMMEs.

## **1.7 RESEARCH QUESTIONS**

- What role can be played by ICTs to advance SMMEs in the Agribusiness sector?
- How can SMMEs in the Agribusiness sector explore and address some of the challenges they are faced with?
- In what ways can government support SMMEs?

## **1.8 SIGNIFICANCE OF THE STUDY**

This study is significant in that it sought to establish how various SMMEs in the Agribusiness sector in Tshwane go about the diffusion and adoption of ICTs in their businesses. Moreover, the study seeks to establish the role that the government can play when it comes to the support of these businesses. The researcher is of the view that the research findings of this study will help in future decision-making by the businesses concerned and how government can intervene going forward.

The importance of this study and its anticipated contribution will be to:

- i. Provide small-scale business stakeholders, with the need to propagate their resourceful processes and practices towards local, regional, and global needs.
- ii. Encourage individuals, agencies, and the government to create an enabling environment within which small-scale businesses can grow.
- iii. Emphasise the value of business processes and practices that are globally oriented.
- iv. Contribution to global SDGs 8, 9, 10 and National Development Plan 2030 core elements of Social Protection and Employment.

## **1.9 DEFINITION OF TERMS**

### **a) Information and communication technologies (ICTs)**

Information and communication technologies are identified as “critical drivers of social and economic development. Smartphones, in particular, have revolutionised the telecommunications industry by becoming the principal means of Internet connectivity. These technologies have become the primary platforms for innovation in developing countries and are contributing directly and indirectly to economic growth and job creation” (Gillwald, Mothobi & Rademan, 2018:21)

### **b) Small, Medium and Micro Enterprises (SMMEs)**

“SMMEs should be separate and distinct business entities, cannot be part of a group of companies, must include subsidiaries and branches when determining its size, should be managed by its owners, and can be a natural person in the form of a sole trader or partnership” (Nieman & Pretorius, 2004:3).

### **c) Agribusiness**

Agribusiness may be defined as commercialisation and value addition in the agricultural sector paying special attention to pre- and post-production enterprises, thus ensuring effective relationships among enterprises (Mabaya, Tihanyi, Karaan & Van Rooyen, 2011).

## 1.10 DISSERTATION STRUCTURE

**Chapter One:** This chapter's key subjects include the introduction, background, motivation, and issue statement, aims, research questions, significance, dissertation framework, and summary.

**Chapter Two:** Presents the literature that was reviewed regarding the study. Therefore, it is directed by the study's goals.

**Chapter Three:** Describes the research paradigm within which the study is located, the research design and methodology employed, the population, and data collection, analysis, and interpretation procedures.

**Chapter Four:** Presents the data analysis and interpretation of findings.

**Chapter Five:** Presents the summary, conclusion and recommendations.

## 1.11 SUMMARY

The first chapter gave an introduction and background information about the study. They comprised the motivation, problem description, aims, and importance of the study. The dissertation structure is also supplied for the convenience of the readers. The study's goal is to follow the diffusion and adoption of ICTs among SMMEs in the Agriculture sector in Tshwane, South Africa. As a result, the next chapter investigates the body of information already published concerning the issue under consideration.

## CHAPTER 2

### LITERATURE REVIEW AND THEORETICAL FRAMEWORK

#### 2.1 INTRODUCTION

Agribusiness is a combination of the words "agriculture" and "business", and refers to any business related to farming and farming-related commercial activities. Agribusiness involves all the steps required to send an agricultural good to market, namely production, processing and distribution (Van Fleet, 2016; Barnard, Foltz, Yeager & Brewer, 2020). ICTs in agriculture technology are those networks, mobiles, devices, services and applications that aid the processing, management and exchange of data, information or knowledge with a target audience (Van Fleet, 2016; Barnard, et al. 2020). They include a broad range of converging technologies, including traditional telecommunications, television and video, radio, CD-ROMs, cell phones and smart devices, and several modern technologies such as computers and the internet, sensors, geographic information systems and satellites (Van Fleet, 2016; Barnard, et al. 2020).

There is an increasing number of SMMEs in South Africa (Cilliers & Strydom, 2016; Gqoboka, et al. 2022), and this alone creates a positive outlook for the country's economy. SMMEs have been described as the backbone of the economy (Zulu, 2017; Modisane & Jokonya, 2021). For instance, Palitza, Erwin, Godia and Amuriat (2007) acknowledge that ICTs are crucial when it comes to businesses because they provide them with the relevant information needed to operate effectively. A variety of ICT scholars such as Palitza et al. (2007), Didi-Quvane and Twinomurinzi (2013), Belle (2014), Mbatha (2016) and Gillwald, Mothobi and Rademan (2018) have written extensively about the role of ICTs in business and organisational development, and in society at large. These scholars concur that ICTs play a crucial role in the dissemination of information and key tools when it comes to the development of businesses, organisations and societies. The study conducted by Gillwald, et al. (2018:21) identifies ICTs as critical drivers of social and economic development. In addition, ICTs have become the primary platforms for innovation in developing countries and are contributing directly and indirectly to economic growth and job creation. SMMEs are crucial to a nation's ability to develop its economy, particularly in the case of South Africa (SEDA, 2016; Nieuwenhuizen, 2019; Kibuuka & Tustin, 2019;

Maduku & Kaseeram, 2021). Furthermore, SMMEs have the power to change the unemployment dynamics of a country completely given their capacity to create jobs and drive the necessary innovation. However, Fosu, London and Africa (2018) observe that at the very least 30% of SMMEs fail during their first year of operation. This speaks to the general point that it is not easy for the majority of SMMEs to succeed, hence the need for government support.

This chapter reviews the literature regarding the diffusion and adoption of Information and communication technologies (ICTs) among Small, Medium, and Micro Enterprises (SMMEs) in the Agribusiness sector in Tshwane, South Africa. This study was also partly motivated by the one carried out by Okello-Obura and Minishi-Majanja (2008) on Small and Micro-Enterprises (SMEs) in Uganda which established that, for the majority of SMEs to succeed by showing real growth and creating jobs, they need to incorporate ICTs in their businesses. The chapter further describes the theoretical framework that has been used in understanding how ICTs can be diffused and adopted by businesses and organisations.

## **2.2 THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY**

The City of Tshwane Metropolitan Municipality is located in the northern part of the Gauteng Province of South Africa. This municipality is one of the three metropolitan municipalities in Gauteng province and it is the largest metropolitan municipality in size when compared to the City of Johannesburg and Ekurhuleni (City of Tshwane, n.d). It is further worth mentioning that this city is the fourth biggest municipality of the 8 metros in the country. The city's population rose from 2 478 557 in 2007 to 3 555 741 in 2017 which is double the growth rate of the population of South Africa as a whole. The city was established on 5 December 2000 and 15 local authorities were amalgamated to form the Tshwane Metropolitan Municipality (City of Tshwane, n.d).

Last, of great importance, the same city is home to the national government department's headquarters and it is the administrative capital of South Africa which houses the Union Buildings. According to the City of Tshwane (n.d), CTMM is a nationwide research and learning center that includes four institutions as well as seven of the eight national science councils. The car industry is the most significant component of this city's industrial sector, and all major banks and financial

organizations have offices in the same city. As a consequence, this illustrates that there is potential sufficient support for SMMEs and several opportunities for firm growth.

### **2.3 THE ROLE OF ICTS IN SMMEs AND BUSINESS DEVELOPMENT**

Various ICT fanatics, such as Palitza et al. (2007), Didi-Quvane and Twinomurinzi (2013), Belle (2014), Mbatha (2016) and (Gillwald, Mothobi & Rademan, 2018), have written extensively on the role that is played by ICTs in business and organisational development, also in society at large. One thing is clear, that is, these scholars concur that ICTs are incredibly important in the dissemination of information and key tools when it comes to the development of businesses, organisations and societies. According to Gillwald, Mothobi, and Rademan (2018:21), ICTs are essential drivers of social and economic growth in South Africa. Smartphones, in particular, have revolutionised the telecommunications industry by becoming the principal means of Internet connectivity. These technologies have become the primary platforms for innovation in developing countries and are contributing directly and indirectly to economic growth and job creation.

The consequence of this term qualifies the notion that ICTs are critical instruments for businesses to prosper, particularly in a global market. Given the emphasis on SMMEs and their nature, it is critical that they fully utilise these ICT solutions designed to aid in business mapping activities. Moreover, Palitza et al., (2007) allude that, ICTs have been proposed as new tools for economic and social improvement thus, the researcher believes that these scholars perceive ICTs in the manner that they do because of how ICTs have evolved and positioned themselves as new forms of learning in the world that we live in today. Belle (2014:2) added to the academic conversation by saying that, ICTs are technologies with the capability of storing, transferring, processing and disseminating data. These technologies enable communication between people that are geographically separated making the distance irrelevant examples are: computers, the internet, radios, televisions, landline and mobile telephones.

It has also been argued by Didi-Quvane and Twinomurinzi (2013) that, in most developing countries, entrepreneurship and a huge boost in the utilisation of ICTs



become even more important if one wants to address the growing levels of unemployment and poverty. The researcher thinks this is a noble approach considering the role that ICTs can play in changing how things are done by improving processes to help businesses sustain themselves the a long run.

Furthermore, Adesida and Summit (2008:4) acknowledge that

the information and knowledge age is upon us due to rapid advances in information and communication technologies (ICTs). These new technologies are changing the way we live and work, and they are transforming many aspects of social and economic organisation in ways we could have hardly imagined less than two decades ago.

The scholars further assert that “ICTs offer developing countries formidable and cost-effective tools for accelerated development.” The above is, in the researcher’s view, most fundamental in realising the importance and role of ICTs in this current century and SMMEs can benefit a lot if they took advantage of these existing tools. This confirms the view that technologies do bring countries, businesses and organisations together.

There is no doubt that ICTs have significantly contributed to how most businesses and organisations function thus improving their operations daily. A study conducted by Okello-Obura and Minishi-Majanja (2008) acknowledged that information is such a crucial resource when it comes to gaining sustainable and competitive advantage among various businesses. These researchers also discovered that it is critical for countries that have developed an adequate ICT environment for small firms to familiarize themselves with the benefits and possibilities of utilizing ICTs for company administration and operational improvements (Okello-Obura & Minishi-Majanja, 2008). This view confirms the notion that ICTs are greatly responsible for the transformation of societies and businesses when utilised accordingly. This also shows that ICTs continue to simplify the information-sharing processes in organisations and all over the world. The study conducted by Belle (2014) outlines some of the opportunities that are created by ICTs and these are Economic growth, Job creation and Knowledge management.

### ***2.3.1 Economic growth***

According to Gillwald, Mothobi, and Rademan (2018), ICTs have seen considerable growth in virtually all nations, and most governments have been able to use these ICTs to improve their country's economic standing. As a result, ICTs have shown to be beneficial in terms of contributing to a country's economic progress and establishing a welcoming atmosphere for all citizens (Belle, 2014). Additionally, the researcher demonstrates that various studies have proven the importance of ICT in economic growth, particularly in the United States and the European Union, which boosts labor productivity.

### ***2.3.2 Job creation***

With a particular focus on South Africa, there has been evidence that IT has helped significantly to employment development. Also, another key signal or feature to consider is that most people now utilise the internet, thus businesses may reach out to job searchers via the internet (Belle, 2014). This alone is essential since it contributes to the country's degree of economic growth.

### ***2.3.3 Knowledge management***

"The period in which individuals did not have access to information is ended. With ICTs, the challenge is no more with access but about being able to pick the most relevant information and applying it to the current circumstance for effective decision making" (Belle, 2014: 4). The researcher continues by stating that ICT has been extremely beneficial to most people because it can assist filter a big number of information while working with a certain sort of information, eliminating any clustering or confusion in the process. As a result, this aids in the facilitation and coordination of information exchange among peers.

## **2.4 SMALL, MEDIUM AND MICRO-ENTERPRISES AS KEY ACTORS IN THE ECONOMY**

Small, Medium, and Micro Businesses (SMMEs) are critical to a country's potential to build its economy, especially in South Africa (SEDA, 2016). According to the SEDA

report, SMMEs have the potential to totally alter the dynamics of the country's employment rate due to their ability to create jobs and promote critical innovation.

It has been observed on several occasions that the majority of SMME owners still lack sufficient knowledge about economic development activities at either local, regional or global levels. Furthermore, it cannot be ignored that SMMEs need to integrate ICTs into their day-to-day activities if they want to thrive. The government remains a key stakeholder when it comes to assisting SMMEs to become successful and able to create employment opportunities in the process.

SMMEs should be separate and distinct business entities, cannot be part of a group of companies, must include subsidiaries and branches when determining its size, should be managed by its owners, and can be a natural person in the form of a sole trader or partnership (Nieman & Pretorius, 2004:3).

Meggison and Meggison (2006) argue that this type of business is likely to develop at a slower pace and may not be preferable for the owners due to their preference for a more relaxed approach to running the business. Moreover, Vuba (2019) interprets and defines SMMEs as valuable drivers that can be used to create even more jobs in the economy. The recurring theme is that SMMEs do play a significant role in the economy, therefore, they deserve all available support that could be afforded to them to grow and sustain themselves.

The study conducted by Fosu, London and Africa (2018) indicates that there is a pool of studies that were carried out in the past that estimated that, at the very least, 30% of SMMEs experience failure during their first year of operation. This speaks to the general point that it is not easy for the majority of SMMEs to make it hence the need for government support in most cases. Fosu, London and Africa (2018) further reiterate the point that; the skills, characteristics, and values of an entrepreneur play an important role when it comes to the success of the business. These elements alone are not enough, but the level of education has an impact on the success of a business.

Another critical aspect to note is that, while the use of ICTs to improve corporate services appears to be well-established and well-represented in the development landscape, it is difficult to build an environment that fosters SME ICT adoption in developing countries (Okello-Obura and Minishi-Majanja, 2008:24). The scholars are

of the view that this challenge frequently highlighted derives from certain developing countries' failure to deliberately build an environment that attempts to aid SMEs in succeeding. This is a challenge, and this study will try to propose solutions with a special focus on the integration of ICTs in these small businesses for them to succeed as it is the core of most research. Some researchers raise a concern that the phenomenon regarding the existing elements to do with the unequal nature of the adoption of ICTs is increasing and this has a huge impact on economic growth (Belle, 2014).

Amra, Hlatshwayo & Mcmillan (2013) indicated their emphasis on the key rationale when it comes to the promotion of SMMEs in the country and this has to do with the fact that SMMEs have the biggest potential when it comes to the creation of job opportunities. These scholars argue that SMMEs have proven strong when it comes to job creation, and it is only if they are provided with the necessary support that they can stimulate the economy even more.

Furthermore, the SMME's potential to create more jobs continues to be a central point and this goes to show how important SMMEs are (Amra et al., 2013). It is therefore imperative for the government and private sector to consider increasing their investment in these businesses. However, the study conducted by Bureau for Economic Research (2016) indicated that, in the period 2008 – 2009, South Africa had economic challenges, and this had a dire impact on the sector. This situation saw the SMME sector take a toll for some time, but it was not for too long until the government stepped in to revive the economy and how this sector can be uplifted looking into the future (Bureau for Economic Research, 2016).

#### ***2.4.1 Profile of the SMME sector in South Africa***

The SMME sector has a critical role to play in the economic development of a country, and in particular in South Africa. Statistics South Africa (2020) noted that the Agribusiness sector played a critical role in the stimulation of economic activities in its quarterly labour force survey report. This seeks to confirm that this sector continues to carry the economy on its shoulders despite the number of challenges that are experienced by South Africa's economy every quarter.

In a study conducted by SEDA (2016), the majority of SMME owners are in a position of secondary education which accounts for 60%, and the ones in a position of tertiary education, therefore, account for 19% in this regard. While 4% of the SMME owners are not in a position of any form of schooling. SEDA's (2016:15)'s study further details that,

more than half of employers operate in the formal sector (69%), while the vast majority (80%) of own-account workers operate informally. Of SMMEs that operate in the agricultural sector, 74% employ other workers besides the owner. Some own account workers provide a service to private households (2%); these could include domestic workers who work part-time at different households every day.

Table 2.1: Definition of SMMEs in the National Small Business Act

Size of Enterprise	Number of Employees	Annual Turnover (ZAR)	Gross Assets, Excluding Fixed Property
Medium	Fewer than 100 to 200 depending on the industry	Less than R4m to R50m depending on the industry	Less than R2m to R18m depending on the industry
Small	Fewer than 50	Less than R2m to R25m depending on the industry	Less than R2m to R4.5m depending on the industry
Very Small	Fewer than 10 to 20 depending on the industry	Less than R200k to R500k depending on the industry	Less than R150k to R500k depending on the industry
Micro	Fewer than 5	Less than R150k	Less than R100k

Source: NCR (2011: 25)

Below are the types of SMMEs as described by NCR (2011:25) in Table 2.1:

- i. **Survivalist enterprise:** the income generated is less than the minimum income standard or the poverty line. These include hawkers, vendors and subsistence farmers.
- ii. **Micro-enterprise:** the turnover is less than the value-added tax (VAT) registration limit and these types often lack formality in terms of registration.
- iii. **Very small enterprises:** these are enterprises that employ fewer than 10 paid employees, except for the mining, electricity, manufacturing and construction sectors in which the figure is 20 employees.
- iv. **Small enterprise:** the upper limit is 50 employees, and they are generally more established than very small enterprises and exhibit more complex business practices.

- v. **Medium enterprise:** the maximum number of employees is 100 or 200 for the mining, electricity, manufacturing and construction sectors.

#### **2.4.2 Challenges faced by SMMEs**

It is rather common that businesses do go through various challenges to end up more effective and productive (Zulu, 2017). “The challenges faced by the South African SMMEs are not unique, but the apartheid legacy makes them a bit more difficult to deal with” (Zondi, 2017: 621). This further shows how the apartheid system negatively impacted the operation of these SMMEs because most opportunities were simply reserved for white South Africans compared to their black counterparts.

Olawale and Garwe (2010) and SEDA (2016) outline the SMME's constraints as follows:

- Inadequate financial access.
- Inadequate infrastructure.
- A workforce that is insufficiently educated.
- A lack of managerial abilities.
- A scarcity of information technology.
- Corruption and crime.
- Geographical location and networking.
- A lack of market access.
- A high rate of interest.
- Expensive transportation.
- Skilled labour is in short supply.

The biggest challenge facing SMMEs has to do with funding (Bhorat et al., 2018). This becomes the case because often one finds that a company's contract is well compelling but their downfall is more on the side of their business plan which does not articulate their requirements well, depriving the business of well-deserved funding opportunity in the process (Ncube, 2010). This further speaks to the point that, if

SMMEs can quickly diffuse ICTs in their business processes, they will be able to speed up production and many other issues in the business, especially in the Agribusiness sector, and attract more funding because they play a critical role in the economy.

### ***2.4.3 Government's support for the development of SMMEs***

In as much as SMMEs are concerned, the government still has a bigger role to play when it comes to the development of these businesses in various ways. As part of the government interventions in the support and development of SMMEs, the government came up with the Integrated Strategy for the Promotion of Entrepreneurship and Small Enterprises (ISPESE). This was another mechanism used by the government to understand the challenges that SMMEs face and how they can fully support them going forward (National Planning Commission, 2018). This was a good strategy and the only way to see it working, was through its holistic implementation to ensure all issues that exist are addressed. NPC (2018) further indicates that the Strategy was based on three key issues: increasing supply for financial and non-financial support services, creating demand for small enterprise products and services, and reducing small enterprise regulatory constraints.

Mpe (2018) concludes that government can play a critical role in supporting SMMEs through its various agencies. These agencies have the potential to rapidly develop these businesses if carefully considered. This is why the South African government has prioritised its support to agencies like SEDA because of its importance in driving SMME growth.

Government realised the potential that SMMEs possess to a point where the Ministry of Small Business Development was established in early 2014. The ministry was established to facilitate radical economic transformation through increased participation of small businesses in the mainstream economy (SEDA, 2016:4).

## **2.5 AGRIBUSINESS SECTOR IN SOUTH AFRICA**

Agribusiness is a combination of the words "agriculture" and "business" and refers to any business related to farming and farming-related commercial activities. Agribusiness involves all the steps required to send an agricultural good to market,



namely production, processing, and distribution (Van Fleet, 2016; Barnard, et al. 2020). Moreover, Mabaya, Tihanyi, Karaan & Van Rooyen (2011) further defines agribusiness as commercialisation and value addition in the agricultural sector paying special attention to pre- and post-production enterprises, thus ensuring effective relationships among enterprises. The mentioned processes that have to do with production require an element of technology to produce the desired findings, and this is where ICTs come in to better simplify processes and improve how things have always been done.

Furthermore, Statistics South Africa (2020) in its quarterly report, did indicate the rise in unemployment in the country across various sectors, but interestingly, the Agribusiness sector continues to offer a better outlook amid all these challenges which is why ICTs diffusion becomes even more important in this sector. AgriSETA (2010:1) views the agricultural sector as a “diverse sector that is comprised of several branches, namely: field crop husbandry, horticulture, agro-processing.” This implies that all these branches mentioned have a significant role to play when dealing with this sector, especially in pursuit of job creation which is at the core. It is also worth noting that South Africa has around 2.72 million hectares of cultivated land and among this, nearly 10.45 million hectares which constitute 82% are being utilised for commercial purposes (AgriSETA, 2010). This further confirmed that South Africa is not in any way lacking when it comes to Agricultural land if appropriately utilised for the benefit of society. One important aspect for noting is that “South Africa is the largest producer of maize which is the staple food in the Southern African Development Community (SADC) as well as the main ingredient for animal feed” (AgriSETA, 2010: 3-4).

It is also necessary to consider the sector's historical context in South Africa when discussing Agribusiness in all its forms. This is to help have a better understanding of the sector and how it has evolved throughout the years. It is for this reason that Vink & Van Rooyen (2009) suggests that, to have an understanding of the sector's performance in South Africa, one must take a look at the economic history of the country which saw a large investment in white commercial agriculture. According to Adenle, Manning, & Azadi (2017), South Africa and the African continent at large needs to be cognisant of the various key drivers to enhance their agribusiness development and ultimately provide economic growth. These drivers form an important

part of a successful agribusiness sector and they include: “i) *Financial services and macroeconomic environment* which plays a significant role in terms of resource mobilisation. ii) *Economic infrastructure* which seeks to attract various investors in the country. iii) *Technological innovation* which shows the willingness to adopt and invest in new technology, research and development. iv) *Land tenure system* which is one of the critical features of that determine economic characteristics of agriculture in developing economies.” Adenle et al. (2017:90-92). Likewise, Babu, Manvatkar & Kolavalli, (2016) allude to the view that, the slow rate of transformation in this sector can be partially attributed to the less than ideal environment for the development of agribusinesses as well as the limited incentives and opportunities for farmers to get involved in the development of agricultural value chains.

Undeniably, this is one sector that was seen as the key constituency during the apartheid period, and it is evident in the current disparities that exist in South Africa (Vink et al., 2009). As indicated before in the opening to this research, the Agricultural sector is essential to the economy (Statistics South Africa, 2020) which is why this study seeks to research this sector more and explore various ways in which ICTs can help improve its functionality and effectiveness, with a special focus on the City of Tshwane.

## **2.6 AGRIBUSINESS SECTOR IN TSHWANE**

The Tshwane region of the Gauteng province is where this study is situated. In this area, the agribusiness sector is the focus, and the study's main goal is to assess the sector's current state in relation to that topic. Tshwane Economic Development Agency (n.d) outlines the status of agriculture and agro-processing in one of its publications and it notes that Tshwane and the Gauteng province are at the core of the agro-processing industry due to their proximity to the large inland South African market as well the neighbouring export markets of Zimbabwe, Botswana and Mozambique. TEDA (n.d) argues that Tshwane is doing well because of the following salient features in the industry:

- access to feedstock through the Tshwane Fresh Produce Market which is the second biggest fresh produce market in South Africa, and it is the

primary market for fresh produce for Gauteng, Mpumalanga, Limpopo and North West provinces.

- access to large regional markets of Gauteng and SADC.
- proximity to the largest research and development base in South Africa, the Council for Scientific and Industrial Research (CSIR) and the Agricultural Research Council (ARC).

However, it is necessary to note that the Department of Trade and Industry (the dti) does support investment in the Agribusiness sector through the Agro-processing Support Scheme (APSS). According to the dti (n.d), the objectives of the APSS are to stimulate investment by South African agro-business enterprises and should demonstrate potential to achieve the following: *increased capacity; employment creation; modernised machinery and equipment; competitiveness and productivity improvement; and broadening of participation.*

## 2.7 THEORETICAL FRAMEWORK

This study is informed by Roger's (1995) Diffusion of Innovation theory. The theory was adopted because it proved useful in a better understanding of i) the technology and how it further influences businesses if well adopted and used; ii) the nature of innovation and innovativeness when it comes to improving the functionality of SMMEs; iii) the nature of communication channels as adopted and utilised by SMME owners in the Agribusiness sector, and lastly iv) the social system in which these SMME owners function or operate and how this influences the technology adoption. This theory is commended by various scholars as being central in explaining the acceptance of technology by various organisations (Chizwina, 2016; Mbatha, 2016; Stacks & Salwon, 2009).

Similarly, Clarke (1999) observes that the diffusion of innovation theory is mostly concerned with how a new technological idea, artefact or technique, or new use of an old one often migrates from creation to use. Clarke (1999) further notes that the diffusion of innovation theory is at its best as a descriptive tool, less strong in its explanatory power, and less useful when it comes to predicting outcomes, and providing guidance as to how to accelerate the rate of adoption. In light of this theory, it is worth mentioning that it is in the nature of organizations to offer some sort of innovation in order to successfully contribute to the market in which they operate and achieve favorable long-term results. As Rogers (1995) correctly stated, the innovation process begins with understanding what needs to be accomplished. In this regard, agenda setting occurs when one or more individuals in an organization identify critical issues and desire to innovate as a means of addressing that specific issue at hand.

Therefore, innovation, particularly ICTs in this respect, provide effective solutions to various SMMEs in the agriculture industry while enhancing their communication to reach clients in diverse places. As a result, Roger's four main elements (innovations, communication channels, time and the social system) are more applicable to this study, leading to the selection of this theory to try solve the issues encountered by SMMEs, particularly those in the agriculture sector. This is also beneficial in that the small firms in question may disseminate information requested by clients and assess their effect utilising these technologies or innovation in many forms.

## 2.8 CRITICISM OF THE DoI THEORY

Lyytinen and Damsgaard (2001) do not necessarily share the same sentiments about DoI and its interpretation by Rogers. Rogers (1983) acknowledges one of the most serious shortcomings of diffusion research is the pro-innovation bias. The pro-innovation bias is described as “the implication of most diffusion research that an innovation should be diffused and adopted by all members of a social system, that it should be neither re-invented nor rejected” (Rogers, 1983: 92). Therefore, Lyytinen and Damsgaard (2001: 13) concurs that the DoI theory has considerable impact in the diffusion of the innovation landscape, however, they contend that “it falls short of some theoretical constructs that help address how complex networked technologies can and will diffuse.” Thus, they are of the strong view that there are some basic premises about DoI that need careful reconsideration.

Moreover, these scholars further note that the DoI theory does not provide reliably proper constructs that can deal with the collective adoption of behaviours. Rogers (1983) contends that the exact problem that has been investigated and described as an innovation bias, was indeed one of the first biases to be recognised and does acknowledge that very little has been done to deal with or address the challenge or problem at hand. Henceforth, according to Rogers (1983), the net result of the pro-innovation bias as it relates to diffusion research, is that it has failed to learn about certain significant aspects of diffusion and that being; “what we do know about diffusion is unnecessarily rather limited.”

However, to overcome the pro-innovation bias, Rogers (1983) suggested that: *innovation should be investigated while diffusion is still underway; diffusion researchers should become much more questioning of, and careful about how they select their innovations of study; it should be acknowledged that rejection, discontinuance, and re-invention frequently occur during the diffusion of an innovation; researchers should investigate the broader context in which an innovation diffuses; and researchers should increase their understanding of the motivations for adopting an innovation.*

## 2.9 THE RELEVANCE OF DIFFUSION OF INNOVATIONS (DOI) THEORY TO THE STUDY

The DoI theory is therefore relevant to this study in that it openly talks about the adoption of innovations and all the processes involved herein. Therefore, this is relevant because this study also seeks to investigate the diffusion and adoption of innovations in the form of ICTs among SMMEs in the Agribusiness sector. Contextually, this part of the study will examine the 4 elements of the DoI theory and these elements are; innovations, communication channels, time and the social system.

### 2.9.1 *The Innovation*

An innovation is “an idea, practice, or object that is perceived as newly an individual or other unit of adoption” (Rogers, 1983:11). Innovations are fast-setting the agenda in terms of improving how things are generally done in most organisations. It is for this reason that this study sees it necessary for SMMEs in the Agribusiness sector in the Tshwane area to fast-track their adoption of ICTs as the new way of doing things. This is more about them being innovative in the process to ensure sustainable growth. According to Mbatha (2016), a person's perception of an innovation's novelty has a significant impact on how quickly it is adopted. Therefore, Roger (1983) outlines and describes the main characteristics of innovation as relevant to this study's pursuit of encouraging SMMEs to adopt ICTs for the effective running of their businesses. These are as follows:

- **Relative advantage:** has more to do with the degree of innovation as perceived to be better than the idea it supersedes. It is further emphasised that the greater the perceived relative advantage of an innovation, the more rapid its rate of adoption is going to be.
- **Compatibility:** this is concerned with the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters.
- **Complexity** is the degree to which an innovation is perceived as difficult to understand and use. The reasoning is that some innovations are easily

understood which increases their chances of being adopted while others are adopted slowly.

- **Trialability:** this is the degree to which an innovation may experiment on a limited basis. This part assumes that new ideas that can be tried on the instalment plan will generally be adopted more quickly than innovations that are not divisible.
- **Observability:** is therefore the degree to which findings of an innovation are visible to others. This means that the easier it is for individuals to see the findings of innovation, the more they are likely to adopt.

### **2.9.2 Communication Channels**

It is unhelpful to have innovations or new ICTs that are not being thoroughly communicated to the general public for them to have an appreciation of new ideas that they can use to improve their businesses. Rogers (1983) defines a communication channel as how information travels from one person to another. SMME owners have a huge responsibility to ensure that they equip themselves with any available information to do with the improvement of their businesses. These new ICTs are often communicated by the government to the public therefore the government needs to consider channels that are easily accessible to the public to remain fully aware of the current availability of ICT tools. Therefore, the SMME owners would also have an advantage in communicating their services using these advanced mechanisms as per available innovations.

### **2.9.3 Time**

It is important for members of the public and in this case, the SMMEs owners to consider when they would like to adopt certain innovations to make decisive choices. Innovations are introduced at a given period therefore one must choose ones relevant to their businesses after considering certain factors that may affect their decisions.

### **2.9.4 A Social System**

It has been indicated by Rogers (1995) that a social system may consist of individuals, social organisations or households. Therefore, the government must be aware that not

everyone is aware of innovations and their use, thus it may be necessary for them to try their level best in reaching out to everyone as this will allow people to make informed decisions.

## **2.10 CHAPTER SUMMARY**

The chapter focused on the literature review concerning the diffusion and adoption of ICTS among SMMEs in the Agribusiness sector in Tshwane, South Africa. The chapter elaborated on the available literature, both in agreeing and opposing views from various scholars on the subject matter. It also discussed on the theoretical framework, which was the diffusion of Innovation theory, which the research used to guide the discussion and discussions herein. The research technique employed in this study, as well as how the data obtained was analysed, will thus be detailed in depth in the next chapter.



## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

The study was conducted in the City of Tshwane of South Africa targeting SMMEs in the Agribusiness sector. The study adopted a qualitative approach and collected data through face-to-face interviews. SMMEs and municipality officials that were considered to be key informants for the study were selected using purposive sampling. The target population was 5 SMME owners in the agribusiness and 16 policy makers who were municipality officials in the City of Tshwane. Data were analysed using thematic analysis to identify patterned meaning across a dataset and provide answers to the research questions being addressed. Patterns were identified through a rigorous process of data familiarisation, data coding, and theme development and revision.

The literature about the study in question was fully discussed in the previous chapter. Different scholars' viewpoints on the diffusion and adoption of ICTs by SMMEs in the Agricultural sector were established and looked at accordingly. Moreover, the study's theoretical framework was analyzed and used to understand how SMMEs adopt and distribute ICTs. This chapter starts with an overview of the research paradigm as it pertains to this study, then moves on to a review of the research methodologies employed.

The study recognises the significance of the research approach used in this circumstance. According to Creswell (2007), when selecting study participants, a number of things must be considered, including the description of the study design, the study population, and the research tools used. This chapter also examines the methodologies utilized in respect to the study data.

#### **3.2 RESEARCH PARADIGM**

A research paradigm looks into the basis of a belief system together with a theoretical framework based on assumptions about the four elements; ontology, epistemology, methodology, and methods including positivism, interpretivism and critical theory (Rehman & Alharthi, 2016). Therefore, this study will employ an Interpretivism approach because of how it requires making meaning out of social phenomena in their

context (Rehman & Alharthi, 2016). This is so because the study is mostly focused on collecting qualitative data from different participants with various viewpoints.

### ***3.2.1 Interpretivist paradigm***

The interpretivist paradigm is concerned with qualitative research in pursuit of establishing meanings in various texts. Creswell (2003:9) points that, the use of interpretivist paradigm somewhat assumes that individuals tend to search of an understanding of the universe in which they are part of. . Furthermore, this paradigm is rather concerned with how people perceive the reality based on their experiences.

## **3.3 RESEARCH METHOD**

Creswell (2007) asserts that there are three different sorts of research methodologies: mixed, qualitative, and quantitative. While the study largely relied on the qualitative paradigm, there were some quantitative aspects involved to address the research purpose.

### ***3.3.1 Qualitative research***

According to Creswell (2007:4), qualitative research in itself, focuses on exploring and understanding various meanings that individuals or even groups tend to apportion to societal problems. Therefore, the study relied on the qualitative research method because of its key attempt to provide significance towards the behaviour of participants and how they view the world. However, this approach is distinct from the quantitative approach, which places more emphasis on comprehending human behavior through various scientific measurements. The study used the qualitative approach because it provided a thorough understanding of how SMMEs in the agribusiness sector are utilizing ICTs. The most crucial aspect of the qualitative research approach is that it enables the researcher to draw conclusions and make generalizations only after observing actual events and phenomena that would be challenging to quantify using the quantitative approach.

The qualitative approach to research, according to Kothari (2004:5), is concerned with the subjective assessment of attitudes, opinions, and behavior. This means that qualitative research focuses on the events and processes that take place during a

study rather than manipulating variables. This is due to the fact that the acts or behaviors of interest cannot be altered in a realistic situation. It is also crucial to mention that qualitative research is more concerned with the present happenings and being able to offer why and how information is used in the procedure to record the significance of events as they occur. Through qualitative research, the researcher is able to comprehend the various interpretations that people give to their everyday experiences.

In their book, the handbook of qualitative research, Denzin and Lincoln (2005:3) further state that

qualitative research is a situated activity that locates the observer in the world and consists of a set of interpretive, material practices that make the world visible. These practices turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.

### **3.4 RESEARCH DESIGN**

Also to be highlighted is the fact that qualitative research places a strong emphasis on the cultural, linguistic, and semantic elements that are ingrained in social environments. The approach prioritizes comprehending particular events over applying general research findings (Du Plooy, 2009). In order to investigate the diffusion and adoption of ICTs within SMMEs in the Tshwane region's agribusiness sector, the study used qualitative research. The researcher looked into how small and medium-sized enterprises (SMMEs) adopt ICT, in particular how their owners typically go about it and how the government can help these companies.

Research designs are "plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis," according to Creswell and Clark (2007:3). Research design is also described by Kothari (2004:31) as "the arrangement of conditions for data collection and analysis in a manner that aims to combine relevance to the research purpose with economy in procedure." In

essence, both of these scholars concur that research designs will make every effort to give the data received relevance and meaning. A typical research design consists of an outline that the researcher will follow, beginning with the statement of the study's aim, goals, and starting with research questions and concluding with data analysis (Kothari, 2004). It is a practical approach employed by the researcher in order to produce inexpensive, accurate, and objective answers. Kothari (2004) emphasises the importance of conducting research economically. The research design should be suitable in terms of both time and budget, according to the researcher. The decisions made regarding the what, where, when, how much, and by what means of an inquiry or research study do constitute a research design, according to Kothari (2004). Furthermore, Kothari (2004) suggest that a suitable study design takes into consideration the following factors: the methods used to gather information, the researcher's availability and expertise, the problem to look into, the type of the problem, and time and financial resources in place.

This study used an exploratory case study research design, which gave the researcher the chance to conduct a thorough analysis of the current phenomenon. A case study is a method whereby a researcher "explores in depth a program, an event, an activity, a process, or one or more individuals," according to Creswell (2003:15). By focusing on one particular program, activity, or event, a case study enables the collection of in-depth data.

### **3.5 STUDY POPULATION**

The population, according to Du Plooy (2009), refers to all conceivable analytical subgroups in a research. Moreover, Creswell (2008) proposes that a population is a group of people who share particular characteristics. A research population is thus a group from which generalisations may be made. This is due to the research's ability to elicit appropriate replies via its data analysis methods and generate convincing recommendations at the end of the study.

#### ***3.5.1 Target population***

A target population is the real group for whom the researcher aims to generalise the findings (Du Plooy, 2009: 109). In this study, the target population will be all SMMEs in the City of Tshwane and the accessible population will be various owners of these

SMMEs in the Agribusiness sector in Tshwane and relevant policymakers also referred to as government employees.

### **3.5.2 Accessible population**

The "units of analysis in the target population to which researchers has access" are referred to as the "accessible population," according to (Du Plooy, 2009: 109). There were 16 policymakers and 5 SMME owners in the accessible population. This population assisted the study in gathering the information required for additional analysis and interpretation.

### **3.5.3 Sampling technique**

"A rigorous procedure undertaken to select units of analysis from a target or accessible population" is referred to as sampling (Du Plooy, 2009:108). The same can be said for Kothari (2004:152), who defines sampling as "the process of obtaining information about an entire population by examining only a part of it." Sampling is the most important component of a research study due to its provision of a complete population representation the researcher with a complete population representation that helps with various data sets. Studying the entire target population may be difficult, which is why sampling is useful in this situation. According to Creswell (2008), a target sample relates to "a group of people with some common defining characteristic that the researcher can identify and study." As a result, non-probability sampling remains common in qualitative research while probability sampling is typically used in quantitative research (Du Plooy, 2009). Convenience sampling, snowball sampling, and purposeful sampling are examples of non-probability sampling types. Purposive sampling was selected to draw a sample for this study. According to Creswell (2003:213), the goal of qualitative research is to carefully choose participants or study locations. Moreover, because they "can purposefully inform an understanding of the research problem and central phenomenon in the study," the researcher chooses participants for the study (Creswell, 2007:125).

### **3.5.4 Sample size**

The sample size refers to the number of data sources picked from a population for study (Creswell, 2007). According to Ritchie, Lewis, Elam, Tennant, and Rahim, N.

(2013), the sample size for a single qualitative research study involving participant interviews should be less than 50. It is also mentioned that if the number reaches 50, the gathering and analysis would become unmanageable, reducing the quality. This study employed "convenient sampling," which is non-random sampling that facilitates the recruitment of research subjects (Sedgwick, 2013).

### ***3.5.5 Research setting***

The research setting for this study includes the City of Tshwane in Pretoria as the main area.

The City of Tshwane is located within Gauteng Province, which is the smallest of South Africa's nine provinces, and by far the country's largest economy. It is home to about 12.3 million people. The City of Tshwane is the second highest contributor to the Gauteng Province's economy, at an estimated 27.8% of Gauteng's gross domestic product (Mokebe, 2018; Tshwane Vision 2055).

### ***3.5.6 Unit of analysis***

The units of analysis were owners of various SMMEs in the Agribusiness sector in the City of Tshwane as this will help gather relevant information about this study. These will include aspects such as individual experiences in running the business and challenges that they are faced with within the process. This will also help gather the strengths, weaknesses, opportunities, and threats to the SMME's growth and development and determine what needs to be done going forward.

### ***3.5.7 Population parameters***

The focus will be on individuals aged between 18 and 65 in the City of Tshwane. This is to have room for multiple differing views in pursuit of obtaining varied information to help the study achieve its objectives and goals.

## **3.6 DATA COLLECTION INSTRUMENT**

An instrument used by researchers to collect data from study participants is called a data collection instrument. Face-to-face semi-structured interviews served as the primary method of data collection for this study. This method of gathering data was

deemed most suitable for obtaining the participants' more intimate accounts of the events.

### **3.6.1 *Semi-structured face-to-face interviews***

Interviewing is a data gathering strategy that entails asking research participants questions and enabling them to reply verbally. To collect data, three interview forms are used: organized, semi-structured, and unstructured. However, semi-structured interviews are commonly used in qualitative research. These meetings provide "an interview guide, typically containing both closed-ended and open-ended questions" (Zhang & Wildemuth, 2009:222). The authors go on to say that because this interview format is more adaptable, the researcher is free to "adjust the sequence" of the questions or "add questions" as the study progresses. To obtain data from participants, face-to-face semi-structured interviews were employed in the study. Face-to-face semi-structured interviews were a dependable strategy for collecting qualitative data from participants. However, due to the Covid-19 pandemic, the vast majority of participants opted to receive the interview questions by email, respond to them, and then send the researcher their responses.

## **3.7 PILOT STUDY**

According to Teijlingen van, Rennie, Hundley, and Graham (2002), a pilot study is a sample of the main study that allows for in-depth testing of research methods like questionnaires and interviews. These kinds of studies are helpful to the researcher to highlight any unforeseeable mistakes on time and correct them accordingly (Teijlingen van et al., 2002). This study will therefore conduct a pilot with (2) employees and (2) university students to amend what is deemed necessary to the initially prepared questions.

## **3.8 DATA COLLECTION PROCEDURES**

The pilot study, according to (Neuman, 2007), can help determine whether the study questions are intelligible by the research participants and whether the interpretations are compatible with the intended meaning of the questions. The pilot study was beneficial since it allowed researchers to verify whether the proposed data gathering instrument was effective before the study went public.

### **3.9 DATA ANALYSIS**

A letter of introduction was supplied to the researcher by the impacted organizations and participants. Before the interviews or replies to commonly requested questions, participants were required to sign informed consent studies. Participants were advised that they may opt out of the research at any time, and that the confidentiality of the information submitted to them would be protected.

#### **3.9.1 Qualitative data**

According to Creswell and Clark (2011), interviews are the most successful method of gathering qualitative data in a study. As a result, the researcher will use random face-to-face semi-structured interviews with a total of (10) SMME owners and (10) policymakers to gather adequate qualitative data for the study. The interviews will be conducted in person and/or through online platforms to obtain enough data. Interviews are often considered as the research strategy that helps gather information about participants' experiences and views concerning a specific research question (Ryan, Coughlan & Cronin, 2009).

The data from the semi-structured face-to-face interviews will be analyzed using thematic analysis. Within qualitative data, the thematic analysis locates patterns and themes (Maguire & Delahunt, 2017). A technique for "identifying, analyzing, and reporting patterns (themes) within data" is known as thematic analysis (Braun & Clarke 2006). It minimally arranges and thoroughly describes the data set. But frequently it goes beyond that and "interprets various aspects of the research topic" (Braun & Clarke, 2006).

Also, the analysis will be guided by Braun and Clarke's (2006) 6 step-framework (Maguire & Delahunt, 2017) in Table 3.1.



Table 3.1: Thematic Analysis

PHASE	DESCRIPTION OF THE PROCESS
1. Become familiar with the information	reading and rereading the transcripts of the interviews, and taking notes on your initial thoughts.
2. Creating the codes	collecting examples for each code and systematically coding the most intriguing aspects of the transcripts across the entire data set.
3. Identifying themes	collecting all information pertinent to each potential link, grouping codes into themes.
4. Examining themes	creating a thematic "map" of the analysis by determining whether the themes apply to the coded extracts (level 1) and the entire data set (level 2).
5. Naming and defining themes	continuous analysis to improve the details of each theme and the overall narrative the analysis tells, producing precise definitions and names for each
6. Writing the report	a scholarly report of the analysis is produced.

Source: Adapted from Braun (2006)

### 3.10 TRUSTWORTHINESS IN QUALITATIVE RESEARCH

Qualitative reliability refers to the point that, a researcher's approach is often consistent across different researchers and different projects, according to Creswell (2014), while qualitative validity "means that the researcher checks for the accuracy of the findings by employing certain procedures." Given that this is the most effective way to collect data, the questionnaire will be distributed to the key respondents who have been identified (Creswell & Clark 2011). Important individuals who are members of the study's target demographic and are willing to participate in the study will be considered. If an organization is also targeted, mandated representatives of that organization who speak on its behalf will be asked to respond to the questionnaire on the organization's behalf. The technique is more suitable because its primary goal is to obtain pertinent data most validly and reliably, which will help maintain the study's consistency (Taherdoost, 2016). The following four qualitative constructs were considered:

## **1. Credibility**

Credibility, according to Nowell, Norris, White & Moules (2017), includes the veracity of the research findings as well as the proper identification of the research participant. The study's credibility was upheld by providing in-depth information on the participants' ages, genders, educational backgrounds, and work experiences.

## **2. Transferability**

This framework helps to ensure that conclusions can be generalized to other contexts (Nowell et al., 2017). The authors go on to say that in this instance, it is the researcher's responsibility to give thorough descriptions of the structures, presumptions, and processes that were revealed from the data as well as rich, detailed descriptions of the research context.

## **3. Dependability**

This concept asks if the same study could be conducted again and produce similar results. According to Nowell et al., (2017), the researcher can ensure dependability when it comes to this construct by verifying identified themes and speaking with the participants to make sure they are accurate and reliable.

## **4. Confirmability**

In this sense, confirmability is concerned with demonstrating that the researcher's conclusions and interpretations are based on the data collected and that it is obvious how the conclusions were attained (Nowell et al., 2017). When credibility, transferability, and dependability are all attained, this aids the readers of the findings in determining whether they can rely on the findings provided or not.

### **3.11 ETHICAL CONSIDERATIONS**

Ethical clearance was granted by the Unisa Research Ethics Committee. The research participants were not forced to partake in the study. An information leaflet was provided to them to ascertain that they knew what the study was about and an informed consent form for their approval to participate in the study. Research findings obtained from the participants were kept confidential and treated anonymously.

## **CHAPTER 4**

### **DATA ANALYSIS AND INTERPRETATION OF FINDINGS**

#### **4.1 INTRODUCTION**

This chapter will present the research data acquired for this study. The objectives of the study, as defined in the first chapter, serve as the framework for data presentation. The purpose of this research was to look at how small, medium, and micro-sized firms (SMMEs) in the agricultural sector in Tshwane, South Africa, used and used ICTs. The researcher described the study strategy and methodology used to interview SMME owners and policymakers in Tshwane using face-to-face semi-structured interviews in the previous chapter. Moreover, data analysis, according to Lewins, Taylor, and Gibbs (2010), is the process of giving the information gathered during the research study structure, order, and meaning. Researchers must translate the qualitative data they have gathered into some kind of explanation, understanding, or interpretation of the people and situations they are studying, according to the scholars, who also point out that qualitative data analysis refers to a variety of processes and procedures. In conclusion, these scholars suggest that interpretative philosophy is typically the foundation of qualitative data analysis. This implies that the meaning and content of the data collected are examined.

#### **4.2 DEMOGRAPHIC PROFILE OF PARTICIPANTS**

Five SMME owners and sixteen policymakers were sampled for the study. These participants all gave the interviews favorable responses. To illustrate the distribution of participants, which aimed to cover all aspects of the study, the demographic and work experience profiles of the participants are presented as tables. To maintain their anonymity, the research participants are identified only by numbers. Finally, a summary of the chapter is given.

This section established the distribution of policymakers and SMME owners by age, gender, level of education, and work experience. This demographical profile was considered appropriate and important because it ought to help provide a perspective on how these influence the decisions that SMME owners take in their businesses and the policy framing by the government with the SMME owner in mind.

According to Radipere and Dhliwayo (2014), many people prefer running their own businesses because it presents a personal challenge. The academics imply that business owners are willing to assume their financial risks. Additionally, Radipere and Dhliwayo point out that given the high failure rate of small businesses, it is important to further investigate whether factors like age and industry can help start-ups succeed. Therefore, to determine the impact these factors have on the operation of these businesses, this study must take into account the demographic profile of the participants, including gender, age, work experience, and educational attainment. The majority of small businesses tend to perform very well but up to a certain size where they become sluggish. However, these businesses if they are entrepreneurial tend to perform well and if not, they are more likely to fail than older businesses that are more experienced and better resourced (Urban, 2004). Moreover, Wiklund and Shepherd (2003) share similar sentiments in that, age and business size influence business performance. It is further worth noting that businesses with an entrepreneurial orientation can discover and exploit new market opportunities.

#### ***4.2.1 Participants' age distribution (policymakers)***

It was determined that, amongst the participants in this study, those in the 30 to 35 age group constituted 31.2%, those in the 41 to 45 age brackets made up 50% while the rest of the age groups amounted to 6.2% each. There is an impression that can be established based on these findings that the majority of the government employees, in this case, referred to as policymakers aged between 30 to 35 and 41 to 45 were in the majority in the department. This can also imply that these government officials do have some level of understanding when it comes to technology and can understand the needs of small businesses based on their age group (Wiklund & Shepherd, 2003).

Table 4.1 shows the age distribution of participants in this study.

Table 4.1: Age of participants (n=16)

Age-bracket	Frequency	Percentage
30-35	5	31.2
36-40	1	6.2
41-45	8	50
46-50	1	6.2
Above 50	1	6.2
<b>Total</b>	<b>16</b>	<b>100</b>

#### ***4.2.2 Gender distribution of the participants (policymakers)***

Out of the 16 participants in this study, 60% were male and 33% female. However, 7% of the participants preferred not to share their gender, while the rest chose not to disclose their gender at all. Many decision-makers in this instance were males. Therefore, the researcher made an observation that the government needs to consider looking into this aspect so that more females are also part of the decision-makers based on the impression given by this study.

The below chart shows the distribution of gender of participants in the study.

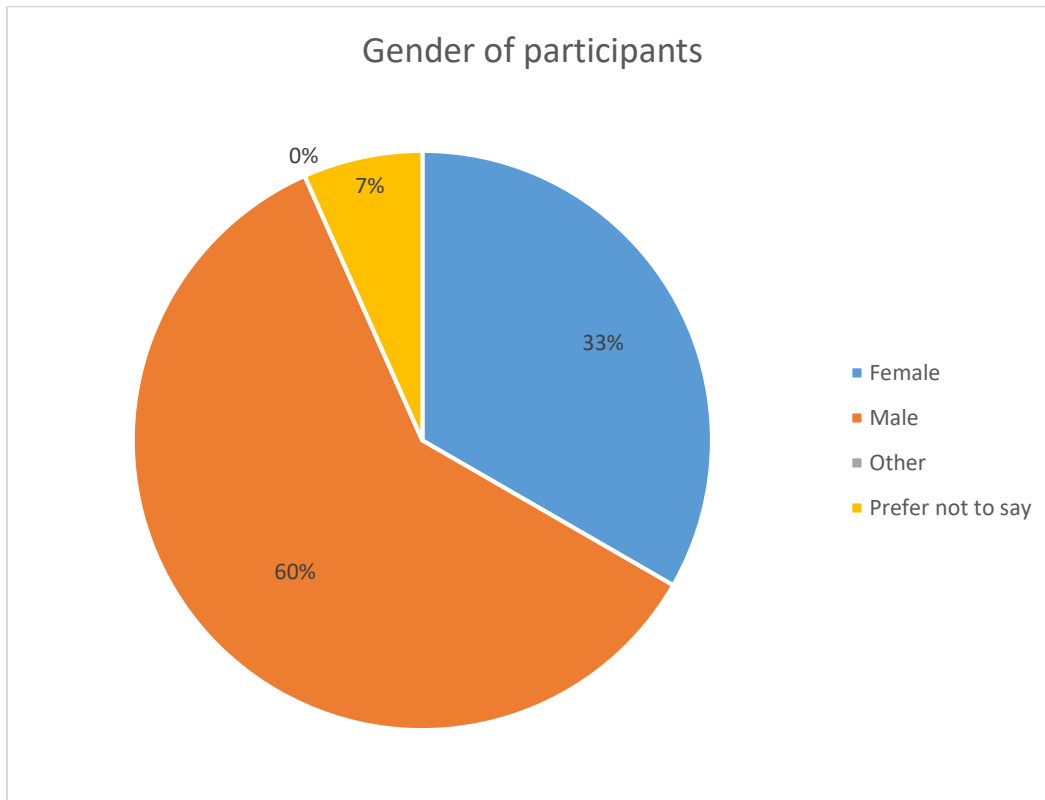


Figure 4.1: Gender (n=16)

#### **4.2.3 Participants' educational backgrounds (policymakers)**

Looking at figure 4.1, it is worth mentioning that an educational qualification often helps an individual to perform accordingly in a particular field of specialisation. The highest qualifications obtained by participants, in this case, amounted to 62.4% for both masters and PhD holders. One person held a diploma qualification while the other held a bachelor's degree and they both constituted 12.4% of the participants. The remaining 25% of participants held an honours degree. The researcher observed that most policymakers in this instance had the highest qualification being at the Master and Doctoral levels which may imply a better understanding of the business landscape they are working in and should be able to assist the SMMEs accordingly.

The educational qualification of participants is therefore shown in Table 4.2.

Table 4.2: Level of education (n=16)

<b>Educational Qualification</b>	<b>Frequency</b>	<b>Percentage</b>
Diploma	1	6.2
Bachelor's degree	1	6.2
Honours degree	4	25
Masters	5	31.2
PhD	5	31.2
<b>Total</b>	<b>16</b>	<b>100</b>

#### ***4.2.4 Working experience of the participants (policymakers)***

The majority of participants (63%) indicated that they had more than 10 years of working experience while 25% only had around 5 to 10 years of working experience. Those with 3 to 5 years of working experience constituted only 13% of the participants. The observation made by the researcher is that the policymakers were at a reasonably qualified level to ensure proper support is given to the small businesses. The working experience of participants is therefore shown in Table 4.3.

Table 4.3: Working experience (n=16)

<b>Working experience</b>	<b>Frequency</b>	<b>Percentage</b>
3-5 years	2	13
5-10 years	4	25
Above 10 years	10	63
<b>Total</b>	<b>16</b>	<b>100</b>

#### ***4.2.5 Age distribution of the participants (SMME owners)***

When it comes to the SMME owners who took part in this study, those aged 30 to 35 constituted 40%, while the remainder 20% of participants were aged 45 to 50. The other 40% of participants preferred not to disclose their age. There is a reasonable correlation between the age group of business owners and how they run their businesses. Therefore, this study found that the majority were capable enough to run small businesses given their age, but the government still needs to provide relevant support in the development of those businesses and reaching the desired business goals (Wiklund & Shepherd, 2003).



Table 4.4 shows the age distribution of participants in this study.

Table 4.4: Age of participants (n=5)

<b>Age-bracket</b>	<b>Frequency</b>	<b>Percentage</b>
30-35	2	40
45-50	1	20
Age not indicated	2	40
<b>Total</b>	<b>5</b>	<b>100</b>

#### ***4.2.6 Gender distribution of the participants (SMME owners)***

Out of the five participants in this study, 25% were male and 75% female. Based on this study, this implies that most females were willing to take risks by running small businesses as compared to their male counterparts. However, the rest of the participants preferred not to share or disclose their gender. The below chart shows the distribution of gender of participants in the study.

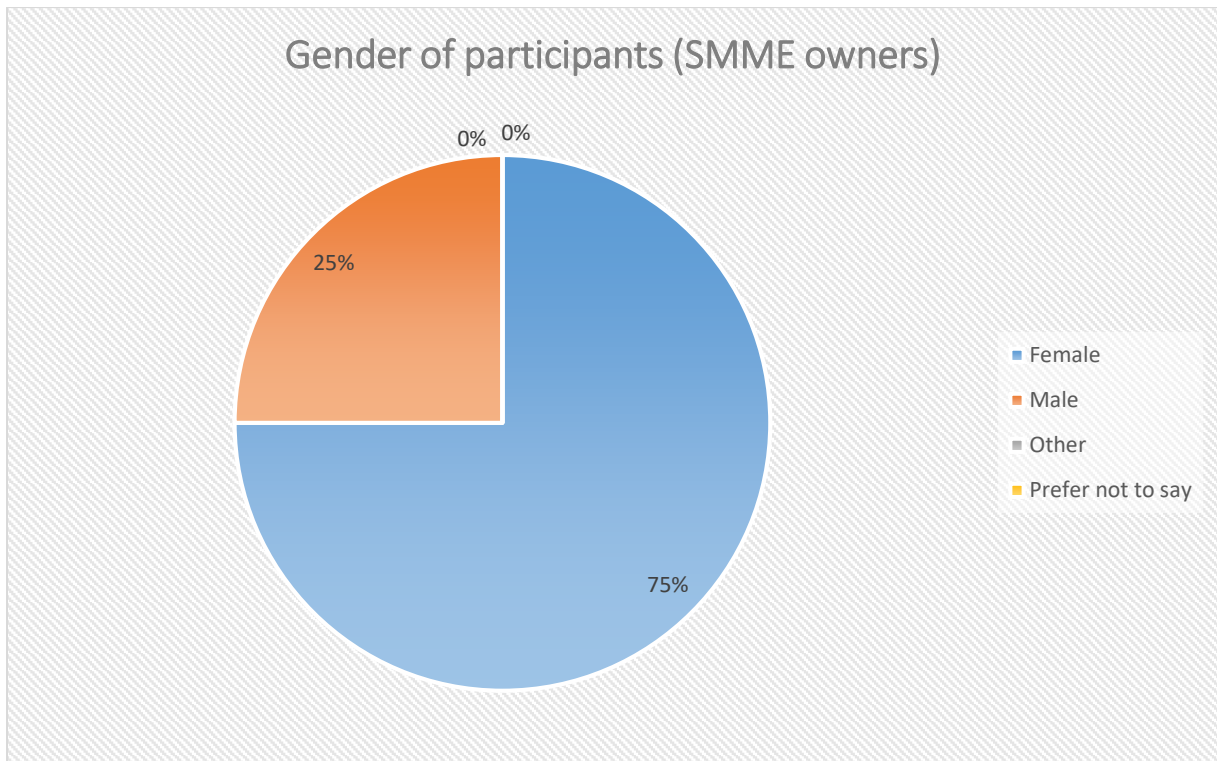


Figure 4.2: Gender of SMME owners (n=5)

#### 4.2.7 Participants' educational background (SMME owners)

According to figure 4.2, the highest qualifications obtained by participants in this study amounted to 80% for both certificate and honours degree holders combined. The other 20% of participants were in the position with a master's degree. The educational qualification of participants is therefore shown in Table 4.5.

Table 4.5: Educational background of SMME owners (n=5)

Educational Qualification	Frequency	Percentage
Certificate	2	40
Honours degree	2	40
Masters	1	20
<b>Total</b>	<b>5</b>	<b>100</b>

#### **4.2.8 Working experience of the participants (SMME owners)**

In Table 4.6, the bulk of the participants in this study had five to ten years of job experience totalling 100% in this regard. This also provides the impression that most people who started and ended up running small businesses managed to gain some working experience in various fields before owning their small businesses.

Table 4.6: Working experience of SMME owners (n=5)

<b>Working experience</b>	<b>Frequency</b>	<b>Percentage</b>
5-10 years	5	100
<b>Total</b>	<b>5</b>	<b>100</b>

#### **4.3 LEVEL OF KNOWLEDGE OF SMME OWNERS**

The majority of the participants hold various certificates and honours degrees as their highest qualification while the other group of participants hold a master's degree as part of their formal qualification as already indicated above. This could generally imply that an SMME requires some level of educational literacy for it to operate accordingly, even if it is on a foundational level while growing in other aspects. This is confirmed as part of the findings of this study in that, some level of educational qualification does have a role to play in managing one's business.

Campo & Barnes (2017) concur with the above findings in that, the general educational level of SMME owners does have a direct influence on how these businesses are run. They further agree that it is important for SMME owners to improve their level of knowledge to enhance their skill set. Likewise, Beyers & Molala (2016) note that having a good level of education has the highest impact when it comes to the efficient running of a business. They also emphasise the continued importance of SMMEs to the economy and this does not leave behind the role of education or empowering oneself with knowledge in the process.

#### 4.4 THE CURRENT STATE OF ICT-INTAKE WITHIN THE SMMEs

Nearly 90% of the participants acknowledged using ICTs in their day-to-day operations for their businesses in a variety of ways. ICTs are crucial for them to access different markets, according to the same majority of participants. It was also established that the type of technology mostly in use pertains to cell phones and computers for them to access internet services and render their respective services. This, therefore, speaks to the challenge of the slow uptake of advanced technologies in these businesses compared to the basic ones. For example, one participant said,

*Both computers and cell phones are used regularly in our business. Computers are used for most of the work that we do as most of our Apps are in there and we use cell phones to communicate with both the clients and staff when we need them. The business is dependent on both*

the other participant alluded to the above by saying;

*We use cell phones more, I have everything that I need on my hand, and I don't even need to be seated in 1 place to charge, I charge as I go by making use of travel chargers. So in short, a cell phone is a mobile office.*

Ab Wahab, Wahab, Mohamad, Zahirah, Yusuff & Musa (2020) agree with the above findings that, SMMEs tend to do well and succeed when they realise the importance of ICT adoption within their businesses. Moreover, these ICTs do help improve in productivity and performance of businesses if used well or correctly. Furthermore, Motsoeneng (2014) and Chairael, Widyarto & Pujani (2015) further concur with the findings by noting that, the adoption of ICTs helps in growing and creating business opportunities in the long run. They further indicate that, for a small business to thrive, it needs to appreciate the role that is played by various ICTs in the business. This, of course, aligns well with Roger's (1995) innovation theory in that, technologies play a significant role when it comes to business development. The researcher, therefore, shares the same sentiments with the above scholars in that, small businesses should expose themselves to the adoption of various technologies if they want to grow. Most small businesses, therefore, are set to succeed to the optimum if they carefully incorporate suitable technologies in their businesses.

## 4.5 ICT AWARENESS

Most of the participants as indicated above, do acknowledge that they have some sense of understanding when it comes to ICTs and their benefits in this regard. However, their level of awareness of the benefits that come with ICTs is fundamentally low when compared with the type of ICTs that are currently in use in their businesses. This is clear in the study's findings, which demonstrate that various business owners must expose themselves with up and coming technologies if they want to see reasonable growth in their businesses.

According to a participant, these conclusions are supported by the findings above: :  
“*The world is digital, especially at this time of Covid-19. It is important that small business make use of ICT to conduct business*” and the other participant also said that; “*ICT makes things easier and we are able to reach lots of customers in terms of advertising*”. These opinions do confirm the participants' awareness of ICTs, but in the bigger scheme of things, they still prove small when taking into consideration the only type of ICTs in their businesses; i.e. cell phones and computers.

The above findings highlight Palitza et al.'s (2007) point that small business owners must familiarise themselves with the various technologies for the high performance of their businesses. Moreover, ICT awareness plays a significant role in the success of a small business (Belle, 2014). These findings are therefore in line with the notion of Dol's theory concerning how users should familiarise themselves with innovations and adopt them into their businesses as part of business development. The researcher does concur with the above findings, together with the notion raised by the Dol theory that businesses should prioritise the adoption of technologies that seek to benefit them in a long run.

## 4.6 BUSINESS DECISION-MAKING

It was found that the majority of the business owners in this study indicated that they are the main business decision-makers concerning business activities in their entities. However, as already alluded to that their level of awareness is fundamentally low, most of them are still in the foundational phase when it comes to business decision-making because they still require a lot of awareness about the key role of ICTs in business. For example, none of the business owners indicated that they have ICT specialists

who help in their business-making decisions, and this proves the level of awareness that is needed.

One of the participants said that;

*A lot of the challenges we have faced were resolved by the internet. The aim is to make smartphones mandatory for my employees in the future so they can solve problems faster. In business, we never stop learning, and the effective way of doing that is through the internet.*

Another one mentioned that; *“ICT in small business are very important as they help us know what is happening in the business and if you are reaching the right market”.*

Adesida and Summit (2008:4) acknowledge that “the information and knowledge age is upon us due to rapid advances in information and communication technologies (ICTs). This is evident in how various businesses have shifted to doing business nowadays in this economy. Chizwina (2016) concurs with the above findings and shares the view that DoI theory is indeed helpful and informative after all, it helps guide those who are willing to adopt certain technological elements to make well-thought decisions because it thoroughly explains the processes involved. The researcher is of the view that, if small business owners appreciate the role played by ICTs in their businesses, they stand a high chance of making sound business decisions.

#### **4.7 CHALLENGES REGARDING THE ADOPTION OF ICTs BY SMMEs**

This section of the study identified the key issues holding back these businesses' rate of expansion. The majority of SMME owners mentioned various difficulties in this area. And these include a lack of funding, limited government support, a lack of funds to hire ICT experts, a lack of ICT knowledge, and high costs associated with the implementation and maintenance of technology. These challenges and/or barriers are in line with the already provided literature when it comes to the challenges that prevent SMMEs from growing and becoming what they all set themselves to be.

One participant stated, *“Our businesses struggle because of a lack of support from the government and a lack of sufficient funding to run the businesses,”* in support of the aforementioned findings. Bhorat et al., (2018) also support the above findings by

stating that, the lack of funding remains the biggest challenge when it comes to SMME development. Moreover, “the challenges faced by the South African SMMEs are not unique, but the apartheid legacy makes them a bit more difficult to deal with” (Zondi, 2017: 621). Likewise, Olawale and Garwe (2010) indicate some of the challenges facing SMMEs, such as lack of access to finance, poor infrastructure, and lack of management skills, to name but a few. These findings do resonate with the DoI theory in that, the adoption of new technologies is not a one-size-fits-all phenomenon, but businesses have to first determine if they will benefit from those technologies and that is a challenge on its own. However, the researcher is, therefore, adamant that, even amid these challenges, SMMEs in South Africa, in line with the above challenges, do have the highest potential to succeed if they take the role of ICTs seriously.

#### **4.8 GOVERNMENT SUPPORT TOWARD SMME DEVELOPMENT**

One of the themes that emerged during the study interviews relates to the government’s support for SMME development. The study discovered that the government does have a key role in improving the everyday operation and functioning of SMMEs. This view was shared by one of the participants who indicated that:

*The role of government is to promote the development of newly formed small businesses and maintain existing ones. The support may be in the form of funding, training, market access, infrastructure development, provision of production inputs and equipment, extension and advisory services.*

In support of these findings, a study by Small Enterprise Development Agency (2016) found that the government’s support towards SMMEs has seen a number of these businesses able to thrive and transform in the process. Moreover, this study by SEDA also indicated how important the government considered small businesses hence the willingness to provide support and resources where necessary.

Zulu (2017) further confirms that SMMEs have the power to change the dynamics of the country’s level of employment completely given their capacity to create jobs and drive the necessary innovation. The other participant further emphasised a similar point by indicating that:

*The Constitution states that all citizens should have access to sufficient food and water. It is therefore imperative that government puts measures in place for SMMEs to contribute and assist the government in achieving these objectives, e.g. through local economic growth and job creation.*

This, therefore, shows the inherent responsibility that the government has when it comes to the upkeep of these businesses and sectors.

Likewise, Statistics South Africa (2020) alludes to the point that the Agribusiness sector played a critical role in the stimulation of economic activities in its quarterly labour force survey report, and this was seen through the role of government intervention to a larger extent. Furthermore, Mpe (2018) shares similar sentiments in that, the government can play a critical role in supporting SMMEs through its various agencies. Mpe notes that these agencies (e.g. SEDA) have the potential to rapidly develop these businesses if carefully considered.

#### **4.9 THE USE OF TECHNOLOGY IN SMALL MEDIUM AND MICRO-ENTERPRISES**

Another theme that emerged from this study relates to the use of technology in SMMEs and how this has been of value to these businesses, both in functionality and up keeping. The use of technology remains relevant and important in SMMEs and this was confirmed by one of the participants who indicated that:

*Both computers and cell phones are used regularly. Computers are used for most of the work that we do as most of our Apps are in there and we use cell phones to communicate with both the clients and staff when we need them. The business is dependent on both.*

This view is also shared by Zulu (2017) who indicates that it remains the role of the government and its agencies to ensure that businesses are granted an opportunity to infuse technologies into their daily operations and be supported in the process.

Mbatha (2016) argues that technology has transformed various sectors all over the world, specifically the business sector as the core of this study. In line with the Diffusion of Innovations theory, these findings imply that the reason participants view technology



as having more benefits for them is that they see numerous benefits associated with its adoption. According to the Diffusion of Innovations theory, people are more likely to adopt technology if that particular technology has more benefits for them (Rogers, 1995).

Another participant expressed that technology has made it easier to bridge the transactional distance. Put in his words: “*Technology is playing a crucial role in collapsing the transactional distance and drives every aspect of our lives.*” Brown et al., (2007) note that technology supports these conclusions and has proved to be a panacea for closing the gap between businesses and government and further alluded to the point that, internet diffusion has been a valuable resource to businesses (both large and small), including of course the government, NGOs and civil society. Mbatha (2013) agrees, arguing that technology plays an important role in the development of enterprises.

To put the above into context, Rogers (1995) in his well-known diffusion of innovation theory, argued that one of the greatest pains that human nature must deal with relates to the pain of a new idea (elaborated in the theoretical framework). Rogers mentions that some inventions such as cell phones have managed to take the world by storm. However, Rogers did allude to the point that, most innovations often achieve slow penetration at first, but then grow quickly as their adoption including the rate of use increases. Therefore, based on the findings of this study, this means that for small businesses to experience inherent growth and be able to effectively meet the needs of the customers, they need to prioritise the adoption of technologies in their businesses. Investing in great innovations tends to have a great impact on the business in the long run.

#### **4.10 GOVERNMENT SUPPORT TOWARDS SKILLING SMME OWNERS**

The other theme that emerged during this study looked at the support provided by the government towards skilling the SMME owners. SMME owners need to have business skills and this part of the interview sought to establish that particular aspect. The participants did share their opinions on this subject indicating that, to a larger extent, the government does provide business skills training through various organisations. One participant agreed with the notion by saying that:

*In 2019, the Department of Small Business Development developed the SMME Support Plan. It is a dedicated programme to transform and integrate opportunities in townships and rural areas into productive business ventures.*

Likewise, Beyers & Molala (2016) argues that small businesses will battle to reach their growth objectives, and this is made increasingly hard when the necessary skills are in lacking and entrepreneurs are not able to secure the right skills for themselves. Furthermore, the two scholars, Beyers & Molala (2016) further highlight and indicate that the South African government needs to work even harder to improve the country's overall skills base. An emphasis was made that, if the government could make a greater investment in the education landscape, this may bring about relevant and much-needed skills. The Department of Small Business Development remains a catalyst in that it is a start, but much more has to be done to prioritize entrepreneurship and encourage its growth in both good and poor economic times. National Planning Commission (2018) further shares the view in indicating that, the government came up with the Integrated Strategy for the Promotion of Entrepreneurship and Small Enterprises (ISPESE) initiative to ensure proper and efficient support for these businesses.

Another participant further shared the notion of government support by indicating that: *“There are many organisations that are been funded by the government to provide skills and training but people do not come forward”*. This, therefore, speaks to the notion of awareness on the part of the government in that, they can still improve their level of support by ensuring that small businesses do become aware of the various government interventions. At the end of the day, both the small businesses and government tend to benefit from one another, and the economy the most.

The above confirms Roger's (1995) view that most innovation often achieves slow penetration at first but steadily grow quickly as their adoption increases. This is then the case in this regard in that, if the majority of small business owners could obtain the necessary skills, they will be able to incorporate those into their day-to-day business operations.

#### 4.11 ICT BENEFITS IN SMMEs

Finding out the function and advantages of using ICTs in small, medium, and microbusinesses was one of the study's goals. . An open-ended interview question was used to obtain various responses from the business owners in this regard. The participants, therefore, identified the benefits of using ICTs in a small business.

Amongst the many benefits, some of those mentioned include the following: *helps deliver good customer service to clients; improves productivity and provides efficient and faster solutions to challenges faced by business owners; improves service delivery efficiently; the transformation and production processes in the business; better communication between the businesses, suppliers and consumers; cut on business costs while making a profit; the research and analysis in the sector, the collection of data and analysis; monitor growth and quality of the business; and sharing of information across all sectors of agriculture, from the farm and crop management until it reaches the market or the customers.*

In support of these findings, a study by Mbuyisa (2017) suggested that efficient usage of ICTs by SMMEs has the greatest potential to result in the leveraging of even more advantages in the company while increasing their long-term capacities in poverty reduction . The author alludes to the point that SMMEs have a proven track record when it comes to providing viable solutions toward economic transformation among communities and the world. Therefore, according to the Diffusion of Innovation theory, this implies that people are most likely to adopt ICTs like computers and cell phones for ease of running their businesses because they are most likely to benefit from this adoption.

Moreover, Modimogale & Kroeze (2011), Steyn & de Villiers (2015), Ismail, Jeffrey, & Belle (2011), Wanghulde, Vivek, Katdare & Guide (2021), and Nyeko, Kabaale, Moya, Amulen & Kituyi (2013) further support the above findings in that that, ICT can help fulfil several business needs and these include aspects like strategic, operational or marketing needs if not a combination of all in this regard. The authors further allude to the point that, the majority of the small businesses that incorporate and implement various ICTs in their day-to-day operations tend to have a better chance of making it to the top or reaching the desired success. These findings are in sync with what the

diffusion of innovation theory stipulates when it comes to the importance of adopting technologies if businesses want to realise their set goals. The small businesses in question tend to continually benefit when they invest in technologies suitable to drive their business growth.

The agribusiness sector in particular, the findings above thus confirm that ICTs do play a critical role in the transformation of small businesses, including their productivity and creativity. These findings support Belle's (2014) and Mbatha & Lesame's (2013)'s observation that ICTs can improve processes in an organisation when implemented accordingly. These scholars further allude to the view that ICTs help promote and support the efficiency of a business or an organisation and help with economic and educational endeavours. Likewise, Borins (2007), and Mbatha and Ocholla (2011), without a doubt, share similar views about the role and benefit of ICTs in improving the lives of people and businesses. They agree that ICTs are an important part of a business if it needs to succeed, and these include their efficiency in business, economy and government. Last, the above also compliments Roger's (1995) diffusion of innovation theory in that, people do tend to adopt new technologies when they know they will benefit and this is proven in this study concerning these SMMEs by way of adopting various ICTs to be successful.

#### **4.12 CHAPTER SUMMARY**

The main focus of this chapter was to present and interpret the data that were solicited from the research participants, from both the policymakers and SMME owners and come up with relevant key themes for analysis. The interview questions were designed on the back of the main research questions to maintain proper alignment and provide reasonable views on what the study sought to achieve. Some of the questions looked at the following aspects: government plans when it comes to transforming the agricultural sector in Tshwane, the government supports for SMMEs with market access, how the business and technology incubation centres have helped SMMEs improve in their business and technology management, use of ICTs in the business and any tangible findings experienced, the benefits of adopting ICTs in small businesses, and the recommendations for improving ICT usage in small businesses. The chapter further established the demographics of the participants which were: age, gender, educational qualification, and working experience. Most of the participants

indicated that the government has to strengthen its role in supporting small businesses for them to thrive. The next chapter will focus on the conclusion and recommendations.

## **CHAPTER 5**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

The purpose of this chapter is to present the summary, conclusion and recommendations of this study. The findings and recommendations are discussed against the main aim, objectives, and research questions in the first chapter of this study. Moreover, the general conclusion, limitations, and recommendations for further research are also presented in this chapter. The interpretation and analysis of the study's findings were covered in the previous chapter. In a nutshell, the goal of this chapter is to give a high-level summary of the research findings and to suggest a few actionable recommendations based on the findings.

#### **5.2 SUMMARY**

##### **To explore the role of ICTs in advancing SMMEs in the Agribusiness sector**

One of the objectives of the study was to identify the role and benefit of using ICTs in the advancement of small medium and micro-enterprises (SMMEs) in the agribusiness sector in Tshwane. The results from this study do confirm that ICTs do play a pivotal role in the advancement of these small businesses, especially in improving their business operations to meet clients' expectations. Moreover, amongst the many findings obtained, the participants did concede to the positive role played by the various ICT tools in that, they help their businesses deliver good customer service to clients; improve productivity and provide efficient and faster solutions to challenges faced by business owners; improve communication with clients or customers, suppliers and consumers; and cut on business costs while improving on profit.

##### **To explore challenges that SMMEs in the Agribusiness sector are faced with**

In addressing this objective that investigates the challenges faced by these SMMEs, amongst the many findings obtained from this study, it was clear that these businesses do experience fundamental challenges that hamper their growth. Some of the major challenges that these businesses face include delays in the level of growth, lack of funding, limited government support, lack of funds to hire ICT specialists, limited ICT

knowledge, and high cost of technology implementation and maintenance. Several of the participants reported as part of the findings that they would like to infuse even more advanced technologies in their businesses than the normal use of basic desktop computers and cell phones, but they do not have the needed capacity yet.

### **To examine various ways in which the government can support SMMEs**

Although there are challenges with government support, however, some strides have been made by the government to support the SMMEs through its agencies like SEDA and IDC which are meant to provide funding and training to the SMMEs. However, some of the participants shared their dissatisfaction with the perceived role of government and indicated that the government should do better. As a result, some of the participants in the study who agreed that the government should support the growth of newly established small businesses and preserve those that already exist. They said that these can be done through increased funding, training, market access, and infrastructure development.

### **5.3 CONCLUSION**

This study aimed to shed some light on the diffusion and adoption rate of information and communication technologies among small, medium, and micro-sized enterprises (SMMEs) in the Agribusiness sector in SA, specifically in the City of Tshwane, and how they can help accelerate job creation. It was important to carry out this study because it sought to establish how various SMMEs in the Agribusiness sector in Tshwane go about the diffusion and adoption of ICTs in their businesses. Moreover, it was intended on establishing how efficient this is done and if there are benefits experienced in the process.

The study findings have led to several conclusions, namely that the diffusion and adoption of ICTs in the SMMEs in this study are widespread but a certain group of these tools are mostly preferred. Those that are mostly preferred in this case and the majority in use include cell phones and desktop computers largely for improved communication and internet purposes. This study, therefore, reaffirms that ICTs remain the most important catalysts for improving business productivity and efficiency amongst SMMEs. In light of the study findings, it can be said that these tools have

significantly proved to be the needed solution to handling information and ensuring efficient communication among these small businesses with their clientele.

Taking into consideration the role of the diffusion of innovation theory (DoI) in the analysis of the study findings, the findings, therefore, suggest that ICTs were perceived to have a relative advantage and the participants resonated with them to improve their business services and offerings. It is also worth mentioning that computers and cell phones had a faster rate of diffusion among the participants' small businesses even though they raised concerns when it comes to the affordability of adopting even more advanced technologies. This then confirms the important role played by ICTs in the SMMEs and agribusiness sector in Tshwane in this regard. ICTs have proven beneficial and effective and can be seen to be playing a significant role in the development of these small businesses and positively contributing to the economy by the creation of jobs at the core.

Many of the participants did concede to the fact that ICTs do add value to a business hence it is necessary to adopt them and get the needed support from the government. This support should mainly focus on funding and training programmes for these small business owners to have a grasp of how ICTs can significantly improve their business growth and help create jobs. Moreover, it can be said that ICTs should be implemented as part of a business strategy and goal to support the business processes and lead to a competitive advantage in the sector or market. It is, therefore, even more, it is critical for small firms to adopt and implement this policy in an informed manner as this will help improve their competitive advantage.

It can be concluded that ICTs do play an important role in the development and operation of SMMEs if applied in the right manner. ICTs can improve the economy of a country, especially when infused within small businesses in the agribusiness sector given the key role that this sector plays. It can also be said that the government's efforts to improve the rate of ICT adoption by small businesses in the agribusiness sector in Tshwane have not been effective but there exists room for improvement.

In concluding on the role of ICTs in advancing SMMEs in the Agri sector, it was proven that ICTs do play a significant role in the advancement of SMMEs in the agribusiness sector in Tshwane. Most of the participants confirmed that their businesses managed



to improve in the provision of services ever since they adopted various ICT tools in their businesses. The study findings proved this role in that, participants mentioned that they employ ICTs in their enterprises, despite the fact that the rate of adoption has been slow.

Considering the study findings, it can be said that the majority of these businesses would do even greater if they had the requisite tools in their businesses. At the time of the study, the majority of these enterprises relied on the most basic technologies, such as mobile phones and computers, to manage their operations. Furthermore, amongst the key barriers to these businesses' success are the following recurring challenges: delay in the level of growth, lack of funding, limited government support, lack of funds to hire ICT specialists, limited ICT knowledge, and high cost of technology implementation and maintenance. Therefore, some of the participants indicated that they would prefer to infuse even more advanced technologies in their businesses than the normal use of basic desktop computers and cell phones, but they do not have the needed capacity yet.

In addition, it can be concluded that most of these small businesses are where they are because of a lack of awareness of the government's available support towards SMMEs. They would therefore require improved support and awareness programmes from the government for them to partake and grow significantly. Some of the participants confirmed that they are not satisfied with the role of government in this regard and pointed out that there should be various targeted programmes, improved funding support and mentorship to help develop these businesses. The majority of the participants agreed and emphasised that the government should promote the development of newly formed small businesses and help maintain existing ones.

#### **5.4 RECOMMENDATIONS**

Based on the findings of the study above, the study recommends that:

The government should implement effective and realistic policies to encourage the development of South African SMMEs. . The study also recommend that adequate funding be provided for SMMEs to develop ICT infrastructure as this will increase competition, especially in the agribusiness sector. The significance of education cannot be overemphasised. Therefore, for SMME owners to appreciate the role of

ICTs in their businesses, they should invest in learning about the various ICT tools that are available and how to diffuse them in their respective businesses. Business owners should also invest in the recruitment of knowledgeable IT personnel to assist in establishing their business needs. For SMMEs to do well and grow rapidly, they need to engage the government regularly in pursuit of addressing their existing challenges. A communication channel must be established to facilitate easy and reasonable interaction between SMMEs and government. The government should make effective plans when it comes to the maintenance of ICT infrastructure for SMMEs to succeed and save on costs. The government should take a lead in supporting SMMEs in various forms, including mentorship, awareness and training programmes. The most urgently required form of support is sufficient funding. Moreover, the government should establish various platforms where SMME owners can discuss their challenges and reach solutions.

## **5.5 LIMITATIONS OF THE STUDY**

The main limitation of this study was that data collection took place during the Covid-19 pandemic which had hit the whole world. Therefore, the collection of data proved to be a challenge because it was difficult to meet with some of the participants face-to-face due to the stigma that still existed because of this pandemic. Most people lost their loved ones as a result of this pandemic. A subset of the intended participants opted to reply to the semi-structured face-to-face interview questions online. This was done in an effort to eliminate all risk of the Covid-19 virus spreading. Moreover, some participants who had promised to take part in the study simply pulled out at the last minute reducing the sample size. Thus, risking the potential findings of this study. Furthermore, owing of the small sample size, the study concentrated primarily on the agricultural industry in the City of Tshwane. Moreover, the findings are not generalisable to the entire Agribusiness sector in South Africa because of the small sample size.

## **5.6 RECOMMENDATIONS FOR FURTHER RESEARCH**

The study suggests the following: An in-depth investigation into the adoption of ICTs amongst other SMMEs in different sectors and cities to establish the existing similarities and differences in these businesses. Further in-depth research into the

government policy frameworks toward SMME development that are in place and how they impact the development of these businesses should be carried out. Also, the study focused on SMMEs in the Gauteng province, therefore, another study should be done with a special focus on other provinces, especially the rural-oriented ones to establish the strides being made to adopt ICTs in those provinces. Another study should also be conducted to focus on other relevant stakeholders than SMME owners and policymakers. These can include; employees, communities, suppliers, and customers. Another study may look at a comparison of SMMEs' ICT adoption in other African countries and developing countries and the barriers that exist. A future extension of this study should be conducted to explore the diffusion and adoption of ICTs by an emerging competitive sector other than the agribusiness one. This will help establish the key role of ICTs in helping even the most struggling sectors of the economy to take shape and contribute effectively to the economy of this country. Moreover, an in-depth needs analysis must be done on the SMME sector in South Africa to establish the main challenges facing these businesses and how the government's policy interventions can be used to address those challenges.

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## APPENDICES

### APPENDIX A

### ETHICAL CLEARANCE



#### COLLEGE OF HUMAN SCIENCES RESEARCH ETHICS REVIEW COMMITTEE

28 September 2021

Dear Kwena Dominic Kgaabi, Mr

**Decision:**  
Ethics Approval from 28 September  
2021 to 28 September 2024

NHREC Registration # :  
Rec-240816-052  
CREC Reference # :  
68933126\_CREC\_CHS\_2021

**Researcher(s):** Name: Kwena Dominic Kgaabi, Mr  
Contact details: [68933126@mylife.unisa.ac.za](mailto:68933126@mylife.unisa.ac.za)  
**Supervisor(s):** Name: Prof BT Mbatha  
Contact details: [mbathbt@unisa.ac.za](mailto:mbathbt@unisa.ac.za)

**Title: Tracking the Diffusion and adoption of ICTs among SMMEs in the Agribusiness sector in Tshwane, South Africa.**

**Degree Purpose: Masters**

Thank you for the application for research ethics clearance by the Unisa College of Human Science Ethics Committee. Ethics approval is granted for three years.

The *low risk application* was reviewed by College of Human Sciences Research Ethics Committee, in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the



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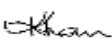
confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No fieldwork activities may continue after the expiry date (28 September 2024). Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

*Note:*

*The reference number 68933126\_CREC\_CHS\_2021 should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

Signature: 

Prof. KB Khan  
CHS Research Ethics Committee Chairperson  
Email: khankb@unisa.ac.za  
Tel: (012) 429 8210

Signature: PP 

Prof K. Masemola  
Exécutive Dean: CHS  
E-mail: masemk@unisa.ac.za  
Tel: (012) 429 2298



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## APPENDIX B

### ORGANISATIONAL REQUEST LETTER



#### APPENDIX A: ORGANISATIONAL REQUEST FOR DATA COLLECTION

To whom it may concern

RE: REQUEST FOR DATA COLLECTION

I hereby would like to request for your allowance to collect data through conducting face to face / virtual interviews/ completing questionnaire.

I am a postgraduate student at the University of South Africa reading for a Master degree in Communication Science. The title of my research is *Tracking the Diffusion and adoption of ICTs among SMMEs in the Agribusiness sector in Tshwane, South Africa*. The main purpose of this study is therefore to explore the role of Information and Communication Technologies among Small, Medium, and Micro-sized Enterprises (SMMEs) in the Agribusiness sector in South Africa, specifically in the City of Tshwane, and how these diffusion and adoption can help accelerate job creation and improve the efficiency of these SMMEs in their day-to-day operations.

I have chosen your organisation because I believe that it will help me obtain sufficient data for my research topic. I believe this study will be beneficial to both your organisation and me because the findings will help us understand the role of diffusion and adoption of ICTs among SMMEs. My presumed timeline for data collection is three weeks.

Looking forward to your favorable response.

Sincerely yours,

Kwena Dominic Kgaabi.



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# APPENDIX C

## PERMISSION LETTER



### City Strategy and Organisational Performance

Room D2E001 | 2<sup>nd</sup> Floor, Block D | Tshwane House | 320 Madiba Street | Pretoria | 0002  
PO Box 440 | Pretoria | 0001  
Tel: 012 359 4749/0478 | Fax: 086 851 9999  
Email: [info@cityof.tshwane.gov.za](mailto:info@cityof.tshwane.gov.za) | [www.tshwane.gov.za](http://www.tshwane.gov.za) | [www.facebook.com/CityOfTshwane](https://www.facebook.com/CityOfTshwane)

My Ref: **Research Permission Letter/D.Kgaabi** Tel: [REDACTED]  
Contact Person: [REDACTED] Email: [REDACTED]  
Section/Unit: **Knowledge Management** Date: **23 July 2021**

Mr. Dominic Kgaabi  
[REDACTED]  
[REDACTED]  
[REDACTED]  
Pretoria  
0183

Dear Mr Kgaabi,

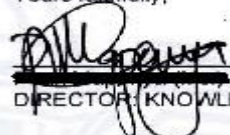
**RE: TRACKING THE DIFFUSION AND ADOPTION OF ICTS AMONG SMMES IN THE AGRIBUSINESS SECTOR IN TSHWANE, SOUTH AFRICA**

Permission is hereby granted to Mr Dominic Kgaabi, Master of Arts in Communication Sciences Degree Candidate at the University of South Africa (UNISA), to conduct research in the City of Tshwane Metropolitan Municipality.

It is noted that the purpose of the study is to explore the role of Information and Communication Technologies among Small, Medium, and Micro-sized Enterprises (SMMEs) in the Agribusiness sector in SA, specifically in the City of Tshwane. The City of Tshwane further notes that all ethical aspects of the research will be covered within the provisions of UNISA Research Ethics Policy. You will be required to sign a confidentiality agreement form with the City of Tshwane prior to conducting research.

Relevant information required for the purpose of the research project will be made available as per applicable laws and regulations. The City of Tshwane is not liable to cover the costs of the research. Upon completion of the research study, it would be appreciated that the findings in the form of a report and or presentation be shared with the City of Tshwane.

Yours faithfully,

  
\_\_\_\_\_  
DIRECTOR, KNOWLEDGE MANAGEMENT

# APPENDIX D

## CONFIDENTIALITY AGREEMENT



### City Strategy and Organisational Performance

Room D2E001 | 2<sup>nd</sup> Floor, Block D | Tshwane House | 320 Madiba Street | Pretoria | 0002  
 PO Box 440 | Pretoria | 0001  
 Tel: 012 358 4749/0478 | Fax: 086 651 9999  
 Email: [redacted] | www.tshwane.gov.za | www.facebook.com/CityOfTshwane

My ref: Confidentiality Agreement  
 Contact person: [redacted]  
 Section/Unit: Knowledge Management

Tel: [redacted]  
 Email: [redacted]@tshwane.gov.za

### CONFIDENTIALITY AGREEMENT BETWEEN THE RESEARCHER AND THE CITY OF TSHWANE MUNICIPALITY

*(To be completed by researchers who require access to conduct research within the City of Tshwane Municipality)*

<b>Name of Researcher</b>	Kwena Dominic Kgaabi
<b>Name of Institution</b>	University of South Africa
<b>ID Number</b>	[redacted]
<b>Research Topic/Title</b>	Tracking the diffusion and adoption of ICTs among SMMEs in the Agribusiness sector in Tshwane, South Africa.

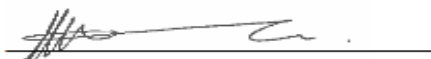
I, the undersigned, acknowledge, understand and agree to adhere to the following conditions of access.

*(Policy makers: City of Tshwane Employees and SMMEs contact details where relevant in relation to their work with CoT)*

- I will maintain the privacy and confidentiality of all accessible research data and understand that unauthorized disclosure of personal/confidential data is an invasion of privacy and may result in disciplinary, civil, and/or criminal actions against me.
- I will not disclose data or information to anyone other than those to whom I am authorized to do so.
- I will access data only for the purposes for which I am authorized explicitly. On no occasion will I use research data, including personal or confidential information, for my personal interest or advantage, or for any other business purposes.

City Strategy and Organisational Performance • Stadstrategie en Organisasionele Prestasie • Lefapha la Thulaganyo ya Tiro le Togamano ya Toropogole • Umyango wezokuSebenza namaQingha aMazipala • Egoro ya Lenopesakanyo la Toropogole le Bodiragati bja Mmasepala • Mahazho wa Vhupulani ka Dorobe kaTshwane na Machumela • Ndzawulo ya Maqinga ya Dorobakulu na Matirhele ya Mazipala • Umyango Wezeqinga Ledolobha Nokusebenza Kwezikhungo

- I will comply at all times with the City of Tshwane's data/information security policies and confidentiality code of conduct.
- I am informed that the references to personal, confidential and sensitive information in these documents are for my information and research purposes, and are not intended to replace my obligations under the Data Protection and Privacy policies and regulations of South Africa.
- I understand that where I have been given access to confidential information I am under a duty of confidence and would be liable under common law for any inappropriate breach of confidence in terms of disclosure to third parties and also for invasion of privacy if I were to access more information than that for which I have been given approval or for which consent is in place.
- Should my work in relation to the research discontinue for any reason, I understand that I will continue to be bound by this signed Confidentiality Agreement.

  
Signature

21 July 2021

Date



**APPENDIX E**  
**PARTICIPANT INFORMATION SHEET: INFORMED CONSENT**

18 August 2021

**Tracking the Diffusion and adoption of ICTs among SMMEs in the Agribusiness sector in Tshwane, South Africa.**

**Dear Prospective Participant**

My name is Kwena Dominic Kgaabi and I am doing research with Prof Blessing Mbatha, a senior lecturer in the Department of Communication Science towards a Master's degree in Communication Science at the University of South Africa. We are inviting you to participate in a study entitled: Tracking the Diffusion and adoption of ICTs among SMMEs in the Agribusiness sector in Tshwane, South Africa.

**WHAT IS THE PURPOSE OF THE STUDY?**

The main purpose of this study is therefore to explore the role of Information and Communication Technologies among Small, Medium, and Micro-sized Enterprises (SMMEs) in the Agribusiness sector in South Africa, specifically in the City of Tshwane, and how these diffusion and adoption can help accelerate job creation and improve the efficiency of these SMMEs in their day-to-day operations.

**WHY HAVE I BEEN INVITED TO PARTICIPATE?**

As a current employee of the City of Tshwane and an SMME owner/employee, you have been chosen to participate in the study. You were chosen from a list of

employees given by the City of Tshwane's research department. Ten policymakers and ten SMME owners/employees from Tshwane are required to engage in this study.

### **WHAT IS MY ROLE IN THIS STUDY?**

You are asked to take part in the interviews by answering a set of questions. There are 14 interview questions total, including demographic information. The questionnaire should take about 30 minutes to complete.

### **CAN I WITHDRAW FROM THIS STUDY AFTER I HAVE AGREED TO PARTICIPATE?**

Participation in this study is entirely voluntary, and you are under no obligation to do so. If you opt to participate, you will be handed this information sheet to retain and asked to sign a formal consent form. You have the right to withdraw at any moment and without explanation.

### **WHAT ARE THE POSSIBLE BENEFITS OF PARTICIPATING IN THIS STUDY?**

Your participation in the study will assist both the researcher and yourself in developing a better understanding of the diffusion and adoption of ICTs in SMMEs in the Agricultural sector in Tshwane, as well as how these can help accelerate job creation and improve the efficiency of these SMMEs in their day-to-day operations.

### **ARE THERE ANY DOWNSIDES TO MY PARTICIPATION IN THE RESEARCH PROJECT?**

At this time, no risks are associated with your participation in the study. If any unanticipated damage or harm occurs as a result of this study, agreements have been established with the City of Tshwane research department to give the required support.

## **WOULD THE INFORMATION I PROVIDE TO THE RESEARCHER, AS WELL AS MY IDENTITY, BE KEPT CONFIDENTIAL?**

You have the right to request that your name not be recorded anywhere and that no one, other than the researcher and identifiable members of the research team, is aware of your participation in this study. Nobody will be able to connect you to the answers you provide because your name will not be recorded anywhere. Your responses will be assigned a code number or a pseudonym, and you will be referred to in the data, any publications, or other research reporting techniques such as conference proceedings in this manner.

*Your responses may be evaluated by personnel in charge of ensuring the correct conduct of research, such as the transcriber, external coder, and members of the Research Ethics Review Committee. Otherwise, unless you grant permission for others to examine the information, records that identify you will be available exclusively to those working on the project. The study's findings may be published, but individual participants will not be identified.*

## **HOW WILL THE RESEARCHER(S) PROTECT DATA SECURITY?**

The researcher will store hard copies of your replies in a locked cabinet at home for five years for future research or academic reasons; electronic data will be maintained on a password-protected computer. Further Research Ethical Assessment and, if necessary, permission will control future usage of the preserved data. Electronic copies will be permanently removed from the computer's hard drive using the proper software package, and physical copies will be shredded.

## **WILL I BE COMPENSATED FOR TAKING PART IN THIS STUDY?**

Because participants are not expected to incur any costs as a result of their participation, no incentives will be provided.

## **HAS THE STUDY RECEIVED ETHICAL APPROVAL?**

The researcher has obtained formal permission from the Research Ethical Review Committee. If you like, you may request a copy of the permission letter from the researcher.

## **HOW WILL I BE INFORMED OF THE RESEARCH'S FINDINGS/RESULTS?**

If you want to be notified when the final study findings are available, please contact Kwena Dominic Kgaabi at 072 692 7635 or [dkkgaabi@gmail.com](mailto:dkkgaabi@gmail.com). The findings are available for 12 months after the final report is submitted. If you require any further information or wish to contact the researcher about any element of this work, please use the above-mentioned contact details. If you have any issues regarding how the research was performed, please contact Prof Blessing Mbatha at [mbathbt@unisa.ac.za](mailto:mbathbt@unisa.ac.za) or 012 429 8264.

Thank you for reading this information brief and participating in this study.

Thankyou.

Kwena Dominic Kgaabi

## CONSENT TO TAKE PART IN THIS STUDY

I, \_\_\_\_\_ (participant name), confirm that the individual requesting my permission to participate in this research informed me of the nature, process, possible advantages, and expected inconvenience of participation.

I read (or had explained to me) and comprehended the research as described in the information sheet.

I have had ample time to ask questions and am ready to take part in the study.

I realise that my participation is entirely voluntary and that I may withdraw at any moment without consequence (if applicable).

I understand that the results of this study will be published in a research report, journal articles, and/or conference proceedings, but that my participation will be kept anonymous unless otherwise indicated.

I consent to the recording of the interviews.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname..... (please print)

Participant Signature.....Date.....

Researcher's Name & Surname.....(please print)



Researcher's signature.....Date.....

**APPENDIX F**  
**INTERVIEW GUIDE FOR SMME OWNERS**

**Demographical information:**

- A. Age:
- B. Gender:
- C. Educational qualification:
- D. Working experience:

*Special focus on agricultural sector.*

ICTs also referred to as **'new' innovations**.

1. Please describe Information Communication Technologies (ICTs) in your own words as per your understanding.

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2. In your understanding, what is the purpose of adopting ICTs by small businesses, especially in the Agricultural sector?

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3. Which type of ICTs currently exists in your business?

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4. Amongst the type of ICTs that exist in your business, which ones do you use often and why?

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5. How often does the business make use of e-mails, e-commerce, online catalogue of products and services, processing orders, banking transactions, e-invoicing and customer support as part of its day to day functions?

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6. Please describe how your business has or aims to introduce ICTs in its day to day activities and how you intend to benefit from that process if not already done.

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7. Given you do not have ICTs in your business currently, if you were to introduce them, which ones would be most appropriate and why?

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8. Please comment on the efficiency and importance of ICTs in a small business, with reference to yours.

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9. Please comment on the use of ICTs in your business currently and explain any tangible results that you have experienced, if any?

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10. What would you say are the benefits of adopting ICTs in your business?

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11. What are your recommendations for improving ICT usage in small businesses, with reference to yours?

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**APPENDIX G**  
**INTERVIEW GUIDE FOR POLICY-MAKERS**

**Demographical information:**

- E. Age
- F. Gender
- G. Educational qualification
- H. Working experience

*Special focus on agricultural sector.*

ICTs also referred to as **'new' innovations**.

1. Please describe the role of government towards SMME development, especially the agricultural sector in South Africa.

---

---

2. How would you describe the relationship and support that exist between SMMEs and government in small businesses' intention to adopt ICTs in their day to day operations?

---

---

3. Would you say the government has done enough to transform SMMEs and help adopt ICTs in their businesses? Please elaborate.

---

---

4. Please outline and describe existing legislations that seeks to support SMMEs in their pursuit to adopt ICTs and succeed in their endeavours.

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5. How has the government fared in transforming SMME infrastructure in Tshwane?

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6. Please describe the government's future plans when it comes to transforming the agricultural sector in Tshwane.

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7. Please describe how the government supports SMMEs with business skills training.

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8. Please describe how the government supports SMMEs with access to funding.

---

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9. Please describe how the government supports SMMEs with market access.

---

---

10. Please describe how business and technology incubation centres have helped SMMEs improve in their business and technology management.

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---

**APPENDIX H  
CONFIRMATION LETTER**

56 Daphne Road  
Maroelana  
Pretoria 0081  
Tel: 0027123466198  
Cell: 0027724331090  
Fax: 0027866265604

**Sandra Duncan**



**Professional Editing services**

---

22/10/2022

To whom it may concern:

This is to certify that I Sandra Duncan have language edited the below thesis and the onus is therefore on the author to make the additional changes and address any comments made.

Prepared by,

**KWENA DOMINIC KGAABI**

**Titled**

**TRACKING THE DIFFUSION AND ADOPTION OF ICTS AMONG  
SMMES IN THE AGRIBUSINESS SECTOR IN TSHWANE, SOUTH AFRICA.**

Yours sincerely

*Sandra Duncan*

Sandra Duncan

# APPENDIX I

## DIGITAL RECEIPT



### Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author: Kwena Dominic Kgaabi  
Assignment title: Revision 3  
Submission title: 68933126 dissertation  
File name: Full\_dissertation\_Kgaabi\_KD\_68933126\_edited.docx  
File size: 2.25M  
Page count: 99  
Word count: 22,310  
Character count: 125,293  
Submission date: 24-Oct-2022 06:31PM (UTC+0200)  
Submission ID: 1934102948



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