

**DEVELOPING A FRAMEWORK TO ENHANCE THE USE OF M-COMMERCE AMONG
SOUTH AFRICAN SMES IN THE RETAIL SECTOR**

by

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ABSTRACT

The aim of this study was to synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities. An extensive review of relevant literature was conducted, resulting in the development of a preliminary conceptual framework for the adoption of m-commerce among South African retail SMEs. The preliminary conceptual framework formed the basis of the study, consisting of 18 factors and 81 items that were classified under four contexts: technological, organisational, environmental and managerial. The preliminary conceptual framework was refined and tested by conducting an empirical investigation, which was carried out in two phases: phase 1 (qualitative research) and phase 2 (quantitative research).

Phase 1 of the research encompassed online focus groups, online in-depth interviews and a short, self-administered web-based questionnaire. Phase 1 focused on identifying factors that influence the adoption of m-commerce, specific to the context of South African retail SMEs. The preliminary conceptual framework was revised to include 22 factors, comprising 97 items classified under five contexts: technological, organisational, environmental, managerial and integrated. The revised conceptual framework served as the foundation for phase 2 of the research. Phase 2 incorporated self-administered web-based questionnaires and employed structural equation modelling (SEM) as well as multiple regression to evaluate the validity of the revised conceptual framework. The proposed conceptual framework includes eight factors that influence the adoption of m-commerce among South African retail SMEs, namely, perceived benefits, perceived complexity, perceived cost, organisational innovativeness, government support, customer pressure, global trends and top management support.

The study contributes to the existing body of knowledge by developing a conceptual framework which may provide a better understanding of m-commerce adoption among South African retail SMEs. Additionally, the conceptual framework could assist SMEs in enhancing their understanding and use of m-commerce, enabling them to make informed decisions and improving their marketing strategies. Furthermore, the study offers insight for government and technology vendors in their

efforts to support and promote the adoption of m-commerce among South African retail SMEs.

Key terms:

M-commerce; e-commerce; digital marketing; ICT; internet; adoption; mobile device; SME; retail; mobile shopping; South Africa; TOE framework; conceptual framework

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ABBREVIATIONS

Abbreviation	Description
AMOS	Analysis of Moment Structures
AVE	Average variance extracted
BCG	Boston Consulting Group
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CR	Composite reliability
DOI	Diffusion of Innovations Theory
DSBD	Department of Small Business Development
E-commerce	Electronic commerce
FVM	Fit-Viability Model
ICT	Information and communication technology
IFI	Incremental fit index
IS	Information Systems
M-commerce	Mobile commerce
NDP	The National Development Plan
OECD	Organisation for Economic Co-operation and Development
RBT	Resource-Based Theory
RMSEA	Root mean square error of approximation
Seda	The Small Enterprise Development Agency
Sefa	Small Enterprise Finance Agency
SEM	Structural equation modelling
SEO	Search engine optimisation
SME	Small and medium enterprise
SPSS	Statistical Package for Social Sciences

SRMR	Standardised root mean square residual
TAM	Technology Acceptance Model
TOE	Technology-Organisation-Environment
TRA	Theory of Reasoned Action
TPB	Theory of Planned Behaviour
TTF	Task-Technology Fit
UTAUT	Unified Theory of Acceptance and Use of Technology
VIF	Variance inflation factor

KEY TERMS

Key term	Definition/description
Adoption	The act of choosing to take up or use something.
Conceptual framework	Informed by existing theories and justifies why a particular study should be conducted, the specific direction that the research will take and describes the relationship between concepts.
Digital marketing	“All activities, institutions and processes facilitated by digital technologies for creating, communicating and delivering value for customers.”
E-commerce	Using a computer-mediated network to conduct sale or purchase transactions and the exchange of information and products.
Framework	“...structure, overview, outline, system or plan consisting of various descriptive categories” such as concepts, constructs or variables and the relationships between them that are thought to describe (but not explain) a specific phenomenon.”
ICT	Digital technologies for the collection, capturing, storing, processing and communication of information.
Internet	A global electronic communications network.
M-commerce	All the activities related to commercial transactions conducted through mobile devices.
Mobile device	A handheld computer such as mobile phones, PDAs, tablets/iPads and laptops using wireless technology.
Mobile shopping	Mobile shopping involves the buying and selling of products and services via mobile devices.

Retail/Retail trade

“...the resale (sale without transformation) of new and used goods and products to the general public for household use”.

SME

“...a separate and distinct business entity, together with its branches or subsidiaries, if any, including co-operative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy mentioned in column 1 (Table 2.1) of the Schedule and classified as a micro, a small or a medium enterprise by satisfying the criteria mentioned in columns 3 and 4 of the Schedule.” (Table 2.1)

TOE framework

An organisational-level theory that depicts how the organisation’s context influences the adoption of technological innovations.

CHAPTER 1: INTRODUCTION TO THE STUDY

Mobile commerce (m-commerce) involves the buying and selling of products and services via mobile devices (Al-Naimat, Alnuaimi, Abdulaal & Almuet, 2020). M-commerce has been attracting a lot of attention worldwide from organisations, including small and medium enterprises (SMEs) due to the benefits it provides. These include, among others, improved productivity, reduced costs, customer satisfaction, better promotion of products and services, and increased competitiveness (Al-Qirim, 2006; Chimaobi & Chizoba 2014; Otieno & Kahonge, 2014; Khaskheli, Jun & Bhuiyan, 2017; Li & Wang, 2018; Pankomera & van Greunen, 2018; Rana, Barnard, Baabdullah, Rees, Roderick, 2019; Fatoki, 2020; Fahriawan, 2020; Chau, Deng & Tay, 2021). However, despite these benefits, the adoption of m-commerce by SMEs in developing countries is low (Omonedo, 2016; Fahriawan, 2020; Chau et al., 2021; Salimon, Kareem, Mokhtar, Aliyu, Bamgbade & Adeleke, 2021). According to Chau et al. (2021), the low rate of m-commerce adoption among SMEs may be due to the complex adoption process of m-commerce which involves various factors. Chau et al. (2021) further state that m-commerce adoption among SMEs may improve if SMEs attain a better understanding of the factors that influence m-commerce adoption. Therefore, the focus of this study is the development of an m-commerce adoption framework that could assist South African retail SMEs in enhancing the use of m-commerce in their marketing activities.

Chapter 1 serves as an outline to the study. A brief overview on the retail sector, SMEs as well as e-commerce and m-commerce is provided, leading to the problem statement and research objectives. The research methodology employed to achieve the research objectives is discussed briefly. Thereafter, the significance of the study, its delimitations and ethics are emphasised. Chapter 1 concludes with an outline of the chapters that is covered in this thesis.

1.1. BACKGROUND

The retail sector has seen significant shifts in recent years with changing economic conditions across the globe (Grimmer, 2022; Verhoef, Noordhoff & Sloot, 2023; Mordor Intelligence, 2023). The outbreak of COVID-19 in 2020 was a major restraint on the retail sector causing disrupted supply chains due to trade restrictions and a

decline in retail sales owing to stringent lockdowns imposed by governments worldwide (OECD, 2021a; Verhoef et al., 2023). Many businesses were negatively affected by the suppressed economic activity, reduced customer mobility, restrictions placed on in-store shopping and lower spending on discretionary products such as apparel and entertainment (Deloitte, 2021; Grimmer, 2022; Verhoef et al., 2023). On the contrary, lockdown measures such as the closure of restaurants may have been beneficial for grocery retailers (Deloitte, 2021). In addition, online retailers experienced a growth in sales due to customer aversion to in-store shopping (Deloitte, 2021). Based on recent research reports on the retail sector, economic activity continues to recover and customer demand is anticipated to drive the retail sector; however, customer behaviour and the way that individuals shop may not return to pre-pandemic patterns (Deloitte, 2021; Mordor Intelligence, 2023).

The global retail sector grew from around \$23.7 trillion in 2020 to over \$27.0 trillion in 2022 (Statista, 2023a) and is forecasted to reach approximately \$30.0 trillion by 2024 (Statista, 2023b). One of the most important developments and trends in the retail sector was the upsurge in e-commerce sales as a result of the COVID-19 pandemic (Euromonitor International, 2021; Šostar & Ristanović, 2023). In addition, the increased usage of the internet, growing smartphone penetration, a change in customer purchasing behaviour and the increase in organisations selling online is driving the e-commerce channel and reshaping the overall retail sector (Mordor Intelligence, 2023). According to research by Boston Consulting Group (BCG) (2023), it is forecasted that e-commerce will account for 41% of global retail sales by 2027. One of the key factors in the sphere of e-commerce is the unparalleled usage of mobile devices, particularly smartphones (Statista, 2022; Mordor Intelligence, 2023). As the adoption of mobile devices accelerates, especially in areas that lack other digital infrastructure, mobile integration and m-commerce will start moulding online shopping of the future (Statista, 2022). Organisations, including SMEs, will need to accelerate digitalisation and respond to changing customer trends and the shift to online shopping (OECD, 2021b; Costa & Castro, 2021; Euromonitor International, 2022).

SMEs play a significant role in both developing and developed countries (Moise, Khoase & Ndayizigamiye, 2019) and are key contributors to global economic growth

through increased employment opportunities and innovation (Afolayan & de la Harpe, 2020). Globally, SMEs account for about 90% of enterprises across all sectors, contribute approximately 50% to gross domestic product (GDP) and around 70% to employment (Sabanidze, Kivenko, Benics, Kalkan & Tick, 2021; Kumar & Gajakosh, 2022; Gu, 2022; Marughu & Akintoye, 2023). Similarly, in South Africa, it is estimated that 90% of all enterprises are SMEs (Musabayana & Mutambara, 2022). However, there are wide-ranging estimates regarding the contribution of SMEs to the South African economy. It is estimated that SMEs in South Africa contribute approximately 37.4% to 50% to the country's GDP and generate around 47% to 59% of employment (Musabayana & Mutambara, 2022; Kuhlase, 2022; Neklyudova, 2022; Seda, 2023). It has been envisioned by the National Development Plan (NDP) that South African SMEs will contribute approximately 90% of the 11 million expected new jobs by 2030 (DSBD, 2023). Hence, providing support and assistance to SMEs plays a substantial role in promoting the inclusive transformation of the economy (DSBD, 2023). According to Imbadu (2016) and Liedtke (2019), South Africa's future economic success largely depends on new and growing SMEs. However, research indicates that the failure rate among South African SMEs is extremely high (Qeke & Dubihlela, 2018; Mankgele, 2023). It is estimated that over 70% of new SMEs fail in less than two years (Nkosi, 2019; Kriel, 2020; Cromhout & Duffett, 2022). SMEs that survive lack the ability to increase revenue and employment opportunities (Ansara, Endres & Mothibatsela, 2019). It has been highlighted that South Africa has one of the lowest formation rates of established and successful SMEs (Muriithi, 2017; OECD, 2020). The abovementioned statistics and the critical nature of the economic role that SMEs play makes the SME sector a key area for academic discussion.

Researchers have highlighted that the adoption of information and communication technology (ICT), e-commerce and m-commerce remains a key competitive tool for enabling SMEs to survive and enhance their competitiveness in an ever-changing business environment (Fahriawan, 2020; Benard, 2021; Chingapi & Steyn, 2022; As'ad, Alwi, Anitasari, Sinlae, Nugroho & Anwar, 2022). E-commerce involves buying and selling products and services using electronic channels such as the internet or other computer-mediated networks (Gu, 2022). E-commerce offers various benefits to customers and businesses; for SMEs particularly, adopting e-commerce can

reduce operational costs, increase efficiency in processes, improve customer and supplier relationships and may enable SMEs to compete with larger organisations (As'ad et al., 2022). However, it has been emphasised that m-commerce can provide specific benefits to SMEs over and above e-commerce, such as new product development stimulation, new services, wider markets and improved communication channels (Al-Adwan, Alrousan, Al-Soud & Al-Yaseen, 2019; Rana et al., 2019).

Turban, Outland, King, Lee, Liang and Turban (2018) state that m-commerce is the execution of e-commerce using mobile devices and wireless networks. Khaskheli et al. (2017) propose that m-commerce depends considerably on e-commerce technologies and define m-commerce as an online channel for the selling and buying of products, services and information through smartphones, tablets/iPads and laptops using wireless technology. Compared to e-commerce, m-commerce and mobile technologies have overcome time and place restrictions to access products and services, information and communication (Li & Wang, 2018). Moreover, Khaskheli et al. (2017) state that m-commerce has been increasing at a much quicker rate than conventional e-commerce which uses PCs as its key equipment. It is more common to witness individuals in developing countries with smartphones instead of PCs, as they are more affordable, convenient and a necessity for staying in touch virtually 24/7 (Khaskheli et al., 2017).

Globally, the number of active internet users recorded in January 2023 was 5.16 billion, 64.4% of the world's population (8.01 billion) (Kemp, 2023a). The number of global internet users grew by 98 million between January 2022 and January 2023 – a year-on-year growth of 1.9% (Kemp, 2023a). Furthermore, based on the number of global active internet users (5.16 billion), 92.3% accessed the internet using a mobile phone (Kemp, 2023a). Similarly, in South Africa, the percentage of active internet users recorded in January 2023 was 72.3%, 43.48 million of the total South African population (60.14 million) (Kemp, 2023b). The number of internet users in South Africa rose by 357 000 (0.8%) between January 2022 and January 2023 (Kemp, 2022b). From the number of active internet users in South Africa (43.48 million), 97.6% accessed the internet using a mobile phone (Kemp, 2023b). These statistics reveal that a significant proportion (97.6%) of active internet users in South Africa

access the internet using a mobile phone, making South Africa a dynamic market for m-commerce.

Through its characteristics of ubiquity, convenience, personalisation, instant connectivity and localisation, m-commerce may bring exclusive value to both customers and businesses (Li & Wang, 2018). According to Li and Wang (2018) as well as Sparks, Adeniyi and Jokonya (2019), m-commerce offers numerous benefits to SMEs without requiring major adjustments to business processes or investments. As previously stated, m-commerce can assist SMEs in stimulating new product development, expanding markets, creating new services and enhancing communication with stakeholders (Al-Adwan et al., 2019; Rana et al., 2019). In addition, Khaskheli et al. (2017) highlight that m-commerce can help SMEs enhance productivity, increase revenue and improve business image. Nevertheless, researchers have asserted that m-commerce has not been fully exploited by SMEs in many developing countries, despite its potential benefits (Omonedo, 2016; Fahriawan, 2020; Chau et al., 2021; Salimon et al., 2021). Chau et al. (2021) argue that the adoption of m-commerce is a complex process, influenced by numerous factors that directly affect its adoption. Salimon et al. (2021) states that SMEs have not been adequately equipped with guidelines on how to implement m-commerce in their business. The purpose of this study is, therefore, to identify the factors that influence m-commerce adoption in the SME sector, and to synthesise a framework based on these factors to support South African retail SMEs in adopting m-commerce.

1.2. PROBLEM STATEMENT

Although research on the adoption of m-commerce has received considerable attention in the last decade (Chauhan, Kumar & Jaiswalb, 2021; Makelana, De Swardt & Segooa, 2022; Wasiq, Johri & Singh, 2022), scholars have acknowledged that existing literature mostly focuses on the perspective of customers, while studies from an organisational perspective, specifically SMEs, are limited (Li & Wang, 2018; Rana et al., 2019, Fatoki, 2020; Chau et al., 2021; Makelana et al., 2022; Yahaya, Hamid & Nafi, 2022; Alaskar & Alsadi, 2023).

Existing literature on the adoption of m-commerce from an organisational perspective, specifically SMEs, reveals that the most of the studies have been conducted in Southeast Asia, China and the United Kingdom, (Prasarry, Astuti & Suyadi, 2015; Li & Tao, 2016; Nakhoul, Safieddine & Ismail, 2017; Li & Wang, 2018; Pipitwanichakarn & Wongtada, 2019; Chau & Deng, 2018; Rana et al., 2019; Alqatan, Noor, Man & Mohamad, 2019; Fahriawan, 2020; Chau, Deng & Tay, 2020; Chau, 2020; Chau et al., 2021; Pipitwanichakarn & Wongtada, 2021; Salimon et al., 2021). In South Africa, limited research has been conducted on the factors that influence m-commerce adoption among SMEs in the retail sector (as searched on Google Scholar and databases such as Emerald, EBSCOhost, ScienceDirect, Sabinet and Sage). More specifically, researchers have investigated the determinants of mobile marketing adoption in SMEs (Maduku, 2015), m-commerce usage among SMEs (Chakuzira, Kadyamatimba & Shambare, 2017) and the barriers that hinder the adoption of m-commerce among SMEs (Sparks et al., 2019).

The abovementioned research does not provide a framework that can assist South African retail SMEs in understanding the factors that influence m-commerce adoption. Fatoki (2020) investigated the determinants of intention to adopt m-commerce in SMEs in South Africa. However, emphasis was placed on the predictors of intention to adopt m-commerce and not actual adoption (Fatoki, 2020). Furthermore, Fatoki (2020) focused on SMEs specifically in the hospitality sector. Similarly, Matlakala (2021) investigated the determinants of m-commerce adoption among SMEs in South Africa. However, the population of the study included all registered SMEs, across all sectors within one city (Polokwane). Additionally, in exploring the factors that influence the adoption m-commerce in South African SMEs, the findings of Makelana et al. (2022) included both adopters and non-adopters which could possibly generate biased research findings. Moreover, the absence of a specific sector being mentioned may imply that the study focused on SMEs across all sectors. It appears that the adoption of m-commerce has not been extensively explored in the context of South African SMEs in the retail sector, hence there is a need to conduct empirical research to shed light on this topic.

M-commerce has rapidly expanded and is predicted to continue to grow due to the widespread usage of mobile devices and advanced infrastructure (Liao, Wu, Truong

& Do, 2022). Moreover, the interest in and adoption of m-commerce among businesses has gained massive traction during the COVID-19 pandemic (Alaskar & Alsadi, 2023). However, despite the expansion of m-commerce in recent years, it has been argued that the adoption rate of m-commerce among SMEs is low in many developing countries such as South Africa (Sparks et al., 2019; Rana et al., 2019; Fatoki, 2020; Matlakala, 2021; Makelana et al., 2022). Researchers have argued that the low adoption rate of m-commerce among SMEs may be attributed to the complex nature of adopting m-commerce which involves various factors (Chau et al., 2021; Iuga & Wainberg, 2023). Creating awareness of the factors that influence m-commerce adoption is imperative and could encourage South African retail SMEs to embrace m-commerce and take advantage of the benefits and competitive edge that m-commerce can offer (Sissing, Dlamini & Johnston, 2017; Boateng, 2020; Iuga & Wainberg, 2023).

The main research question emanating from the literature review is, therefore:

- What are the factors that influence the adoption of m-commerce in South African retail SMEs?

This study seeks to address the identified shortcomings in the literature by investigating the factors that may influence the adoption of m-commerce in South African retail SMEs with the aim of synthesising a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities.

The research question led to the formulation of primary and secondary objectives, which are stated in the next section.

1.3. THE RESEARCH OBJECTIVES

The following primary and secondary objectives emanated from the research question (section 1.2).

1.3.1. Primary objective

The primary objective of this study is to synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities.

1.3.2. Secondary objectives

The secondary objectives of this study are:

- To determine the extent of m-commerce adoption among South African retail SMEs.
- To investigate the main reasons influencing the adoption and non-adoption of m-commerce among South African retail SMEs.
- To examine the predominant m-commerce platforms used by South African retail SMEs.
- To identify the factors that influence the adoption of m-commerce among South African retail SMEs.
- To establish the relationship between the identified factors and the adoption of m-commerce.
- To identify areas for future research.

To achieve the research objectives, sound methodology needs to be considered. The research methodology for the study is discussed in the next section.

1.4. RESEARCH METHODOLOGY

Research methodology refers to the techniques for identifying, collecting and analysing data regarding a specific phenomenon (Yakkaldevi, 2021). Based on the research objectives that were presented in the previous section, the research methodology employed in this study (as presented in Figure 1.1) has been guided by the pragmatic paradigm. The pragmatic paradigm was deemed appropriate as it supports the use of a mixed methods approach – a combination of qualitative and quantitative research (Ugwu, Ekere & Onoh, 2021).

The study commenced with a collection of secondary data (literature review) to identify factors that could support the development of a preliminary conceptual

framework for m-commerce adoption among South African retail SMEs. The study adopted an extended Technology-Organisation-Environment (TOE) framework to examine the factors that influence m-commerce adoption in SMEs based on four contexts (technological, organisational, environmental and managerial). The preliminary conceptual framework (Figure 3.12, chapter 3; Figure 7.2, chapter 7) is refined through empirical research, the collection of primary data using qualitative (phase 1) and quantitative (phase 2) research methods (Figure 1.1).

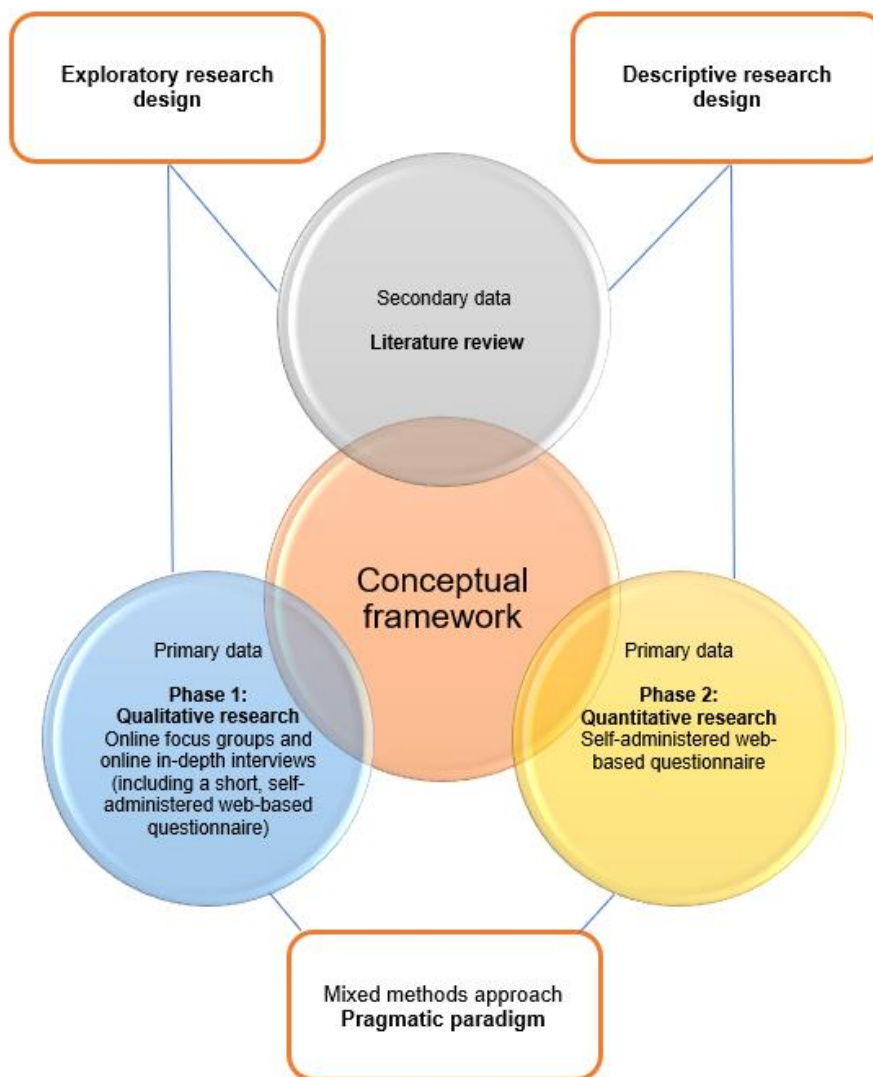


Figure 1.1: Research methodology employed

Source: Author's own compilation

In the next section, an overview of the research methodology selected for the study is provided. A comprehensive discussion of the research methodology can be found in chapter 4.

1.4.1. Research paradigm and research design

As depicted in Figure 1.1, the collection of primary data for this study consists of two phases: phase 1 of the research implements an exploratory research design where qualitative research is conducted and phase 2 of the research employs a descriptive research design where quantitative research is executed.

According to Wiid and Diggins (2021), exploratory research can create insight into the research problem and assist in developing concepts more clearly and improving the final research design. Exploratory research is undertaken to obtain insight from SME owners/managers and experts in the field of m-commerce regarding the factors that influence m-commerce adoption. The aim of phase 1 of the research is to identify any additional factors influencing the adoption of m-commerce unique to South African retail SMEs. The findings obtained from phase 1 are used to refine the preliminary conceptual framework and enhance the research instrument in phase 2. As previously mentioned, phase 2 adopts a descriptive research design. Descriptive research is employed to describe, explain or validate research findings (Karamagi, 2021). Descriptive research is undertaken to describe the findings and highlight possible relationships between variables.

1.4.2. Research instrument, sample plan, data collection and data analysis

As discussed in section 1.4.1 and illustrated in figure 1.1, the collection of primary data was carried out in two phases: phase 1 (qualitative research) and phase 2 (quantitative research). Table 1.1 provides a summary of each phase based on the research instrument, sample plan, data collection and data analysis.

Table 1.1: Summary of phase 1 (qualitative) and phase 2 (quantitative)

Category	Sub-category	Methodology	
		Phase 1	Phase 2
Research method		Qualitative	Quantitative
Research instrument		Online focus groups and online in-depth interviews (including a short, self-administered web-based questionnaire)	Self-administered web-based questionnaire
Sample plan	Population	South African SME owners/managers operating in the retail sector and experts in the field of m-commerce	South African SME owners/managers operating in the retail sector, on the database of ANKA Insights
	Sample frame and sample inclusion criteria	<p>No sample frame</p> <p>Sample inclusion criteria:</p> <p><i>Group 1: South African m-commerce experts</i></p> <ul style="list-style-type: none"> • South African m-commerce experts that are between the ages of 18-65 • South African m-commerce experts that can read, write and speak English • South African m-commerce experts who are willing to, and have the time to, participate • South African m-commerce experts who have access to the internet <p><i>Group 2: South African SME owners/managers who have adopted m-commerce in their business</i></p> <ul style="list-style-type: none"> • South African SME owners/managers operating in the retail sector • South African SME owners/managers that are between the ages of 18-65 • South African SME 	<p>Sample frame - ANKA Insights</p> <p>Sample inclusion criteria:</p> <p><i>South African SME owners/managers who have either adopted m-commerce or not in their business</i></p> <ul style="list-style-type: none"> • South African SME owners/managers operating in the retail sector • South African SME owners/managers that are between the ages of 18-65 • South African SME owners/managers that can read, write and speak English • South African SME owners/managers who are willing to, and have the time to, participate • South African SME owners/managers who have access to the internet

	<p>owners/managers that can read, write and speak English</p> <ul style="list-style-type: none"> • South African SME owners/managers who are willing to, and have the time to, participate • South African SME owners/managers who have access to the internet <p><i>Group 3: South African SME owners/managers who have not adopted m-commerce in their business</i></p> <ul style="list-style-type: none"> • South African SME owners/managers operating in the retail sector • South African SME owners/managers that are between the ages of 18-65 • South African SME owners/managers that can read, write and speak English • South African SME owners/managers who are willing to, and have the time to, participate • South African SME owners/managers who have access to the internet 	
Sampling method	Non-probability sampling: Judgement sampling method	Non-probability sampling: Judgement sampling method
Sample size	<p>28 participants</p> <ul style="list-style-type: none"> • Two online focus groups (6 participants each) with South African m-commerce experts • Eight online in-depth interviews with South African SME owners/managers operating in the retail sector (who have adopted m-commerce in their business) • Eight online in-depth interviews with South African SME owners/managers operating in the retail sector (who have not adopted m-commerce in their business) 	<p>301 participants</p> <ul style="list-style-type: none"> • South African SME owners/managers operating in the retail sector

Data collection		<ul style="list-style-type: none"> • South African SME owners/managers and m-commerce experts who fall under the sample inclusion criteria receive an e-mail/phone call to participate in the online focus group sessions (approximately 90 minutes each) and online in-depth interviews (approximately 30 minutes each) • Online focus group sessions and online in-depth interviews take place via online platforms such as Teams or Zoom and are recorded with permission • Participants are required to complete a short, self-administered web-based questionnaire before the online focus group sessions and online in-depth interviews 	<p>South African SME owners/managers who fall under the sample inclusion criteria are sent a link to the questionnaire via e-mail (approximately 15 minutes)</p>
Data analysis		<ul style="list-style-type: none"> • Thematic analysis • Descriptive statistics • SPSS 23 	<ul style="list-style-type: none"> • Descriptive statistics • Inferential statistics <ul style="list-style-type: none"> ○ Structural equation modelling (SEM) ○ Multiple regression • SPSS 23 • AMOS Graphics 22

Source: Author's own compilation

The section that follows provides a brief discussion of each phase as presented in Table 1.1.

1.4.2.1. Phase 1 – qualitative research

Phase 1 of the research employs a qualitative research method; data is collected by means of online focus groups with m-commerce experts and online in-depth interviews with SME owners/managers in the retail sector. Prior to the online focus group sessions and online in-depth interviews, participants must complete a short, self-administered web-based questionnaire.

Online focus groups and online in-depth interviews are deemed to be appropriate research methods as they may enable the researcher to gain a deeper

understanding into the topic of investigation from the perspective of South African m-commerce experts and South African SME owners/managers. Online focus groups and online in-depth interviews enable participants to express their views in the comfort of their own space (Burns, Veeck & Bush, 2017). Online focus groups allow participants to piggyback off each other's opinions and ideas while online in-depth interviews permit one-to-one probing which can produce rich, insightful responses (Burns et al., 2017; Sarstedt & Mooi, 2019; Nunan, Malhotra & Birks, 2020).

A non-probability sampling method, judgement sampling, is employed to select the participants for both the online focus groups and online in-depth interviews. Judgement sampling involves selecting a sample based on the researcher's judgment (Hair, Page & Brunsveld, 2020). For this study, the participants for the online focus groups and online in-depth interviews are selected based on the sample inclusion criteria specified in Table 1.1.

Based on the justification highlighted in chapter 4, two online focus group sessions (approximately 90 minutes each) are held with South African experts in the field of m-commerce, each consisting of 6 participants. Sixteen online in-depth interviews (approximately 30 minutes each) are held with SME owners/managers in the retail sector, eight with SME owners/managers who have adopted m-commerce in their business and eight with SME owners/managers who have not adopted m-commerce in their business.

A discussion guide (including four sections) is prepared for the online focus groups and online in-depth interviews. The discussion guide incorporates semi-structured questions that are based on the research objectives and the identified m-commerce adoption factors derived from the literature review (see preliminary conceptual framework – Figure 3.12, chapter 3). Before each online focus group session and online in-depth interview, each participant is asked to complete a short, self-administered web-based questionnaire which composed of three sections including multiple-choice, open-ended and scaled-response questions. The discussion guides and short, self-administered web-based questionnaire are pretested with 9 participants (three with South African m-commerce experts, three with South African retail SME owners/managers who adopt m-commerce in their business and three

with South African SME retail owners/managers who do not adopt m-commerce in their business) to determine their opinions regarding instructions and question clarity. The main aim of the pretest is to minimise any errors that could occur and to fix any questions that participants may find difficult to respond to. Once the pretest is conducted, South African m-commerce experts and SME owners/managers in the retail sector that meet the inclusion criteria are sent an invitation via e-mail to participate in the online focus group sessions and online in-depth interviews which take place via online platform such as Teams or Zoom.

Once the online focus group sessions and online in-depth interviews are finalised and completed, the qualitative data is analysed through thematic analysis whereby relevant patterns/themes regarding m-commerce adoption are identified. A detailed analysis of the qualitative data and findings is provided in chapter 5. The trustworthiness of the qualitative data is assessed using the following criteria: credibility, dependability, conformability, transferability and authenticity. The closed-ended questions in the short, self-administered web-based questionnaire are analysed using the Statistical Package for the Social Sciences version 23 (SPSS 23). The findings acquired from the online focus groups and online in-depth interviews are used to refine the preliminary conceptual framework and enhance the research instrument in phase 2 of the research (quantitative).

1.4.2.2. Phase 2 – quantitative research

Phase 2 of the research employs a quantitative research method; data is collected by means of self-administered web-based questionnaires that are distributed to South African SME owners/managers in the retail sector. Self-administered web-based questionnaires are regarded as the most suitable quantitative research method for the topic of investigation as it is considered a valuable research instrument and allows for large samples of data to be collected and analysed in a quick, easy and cost-effective manner (Zazpe, Santiago, De la Fuente-Arrillaga, Nuñez-Córdoba, Bes-Rastrollo & Martínez-González, 2019).

Judgement sampling (a non-probability sampling method) is applied in the selection of participants for phase 2 of the research. As previously stated, judgement sampling is a sampling method in which the researcher relies on his or her own judgment

when selecting the sample (Hair et al., 2020). Respondents for the self-administered web-based questionnaires are selected from the ANKA Insights database and the sample inclusion criteria is specified in Table 1.1. The ANKA Insights database consists of approximately 10 000 South African SMEs in the retail sector. A minimum sample size of 300 was deemed acceptable for this study based on the recommendations and guidelines discussed in chapter 4, the nature of the study as well as the researcher's budget, time and resources.

The self-administered web-based questionnaire is finalised upon the completion of phase 1 of the research to incorporate any additional m-commerce adoption factors that may have been identified from the online focus group and online in-depth interview discussions. The self-administered web-based questionnaire is composed of eight sections which include multiple-choice, open-ended and scaled-response questions. A pretest is conducted with 42 South African retail SME owners/managers to minimise the occurrence of errors throughout the self-administered web-based questionnaire. Feedback regarding instructions, question clarity and ease of answering allows the researcher to fix any problems or questions that participants may misunderstand or may find challenging to respond to. Once the pretest is carried out and the self-administered web-based questionnaire is revised, the questionnaires are distributed. South African SME owners/managers who fall under the inclusion criteria are sent a link to the questionnaire via e-mail.

The quantitative data is analysed using statistical analysis (SPSS 23 in combination with Analysis of Moment Structures (AMOS) Graphics 22). The data is edited, coded and cleaned and various data analysis techniques are used to address the research objectives. Descriptive and inferential statistics (structural equation modelling [SEM] and multiple regression) are presented. A detailed analysis of the quantitative data and findings is provided in chapter 6.

1.5. RESEARCH SIGNIFICANCE AND CONTRIBUTION TO KNOWLEDGE

The significance of the study stems from the significance of SMEs to the economy and the rise of m-commerce. This study contributes to the existing body of knowledge by developing a conceptual framework to enhance the use of m-

commerce among retail SMEs in South Africa. It may be used by researchers and academics as a basis for further research.

The study may provide a valuable contribution to South African retail SMEs in enhancing their understanding of m-commerce. The findings of this study may be used to assist SME owners/managers make informed decisions and improve their marketing strategies. In addition, this study may serve as a general guide to understanding SMEs behaviour and the factors that influence their adoption of m-commerce. This may present key insights for government and technology vendors that can facilitate and promote the adoption of m-commerce among SMEs.

1.6. DELIMITATIONS

Various delimitations can be associated with this study:

- The study focused on the adoption of m-commerce in South African SMEs with a particular focus on the retail sector which may affect the applicability and generalisability of the findings to other sectors.
- The findings are based on SME owners/managers, thereby excluding the perspectives and experiences of employees on the factors that influence m-commerce adoption among South African retail SMEs.

1.7. ETHICS

This study has been classified as low risk and has been approved by the Department of Marketing and Retail Management Ethics Review Committee, in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The researcher has been granted ethics approval for the period 2020 to 2023.

1.8. CHAPTER OUTLINE

Chapter 1 presents an introduction and background to the study. A brief overview is provided on the retail sector, SMEs as well as e-commerce and m-commerce. Thereafter, the problem statement and research objectives of the study are addressed followed by a description of the research methodology employed. The significance of the study and its contribution to knowledge as well as the

delimitations and ethics approval are highlighted. This is followed by the chapter outline which lays the foundation for the thesis.

Chapters 2 and 3 presents a broad overview of existing literature. Chapter 2 provides a discussion on the SME sector and the role of ICT in marketing and SME development, with specific focus on e-commerce and m-commerce. Chapter 3 focuses on an analysis of literature on m-commerce adoption in organisations (including SMEs). A preliminary conceptual framework is developed for investigating the factors that influence m-commerce adoption among South African retail SMEs.

Chapter 4 describes the research methodology selected for the study. The research paradigm adopted is highlighted, followed by a brief discussion on the framework development. Subsequently, the research process is outlined, and each step is discussed, underlining the research design, data collection, sampling methods and data analysis techniques.

Chapter 5 provides a detailed discussion of the findings obtained from phase 1 of the research (qualitative). The data from the online focus groups and online in-depth interviews is analysed through thematic analysis and presented according to relevant patterns/themes regarding m-commerce adoption. The short, self-administered web-based questionnaire is analysed through statistical analysis (SPSS 23). The findings obtained from phase 1 are used to refine the preliminary conceptual framework and enhance the research instrument in phase 2 of the research (quantitative).

Chapter 6 provides a detailed discussion of the findings obtained from phase 2 of the research (quantitative). The data obtained from the self-administered web-based questionnaires is analysed by means of SPSS 23 and AMOS Graphics 22 as well as illustrated by means of tables and graphs. The validity of the revised conceptual framework was tested.

Chapter 7 presents the findings, conclusions and recommendations of the study. An overview of the findings is provided to address each of the research objectives. Thereafter, recommendations are made to augment the body of knowledge pertaining to the topic of investigation. Lastly, the significance of the study and contribution to knowledge as well as limitations are highlighted.

Figure 1.2 illustrates the overall structure of the study.

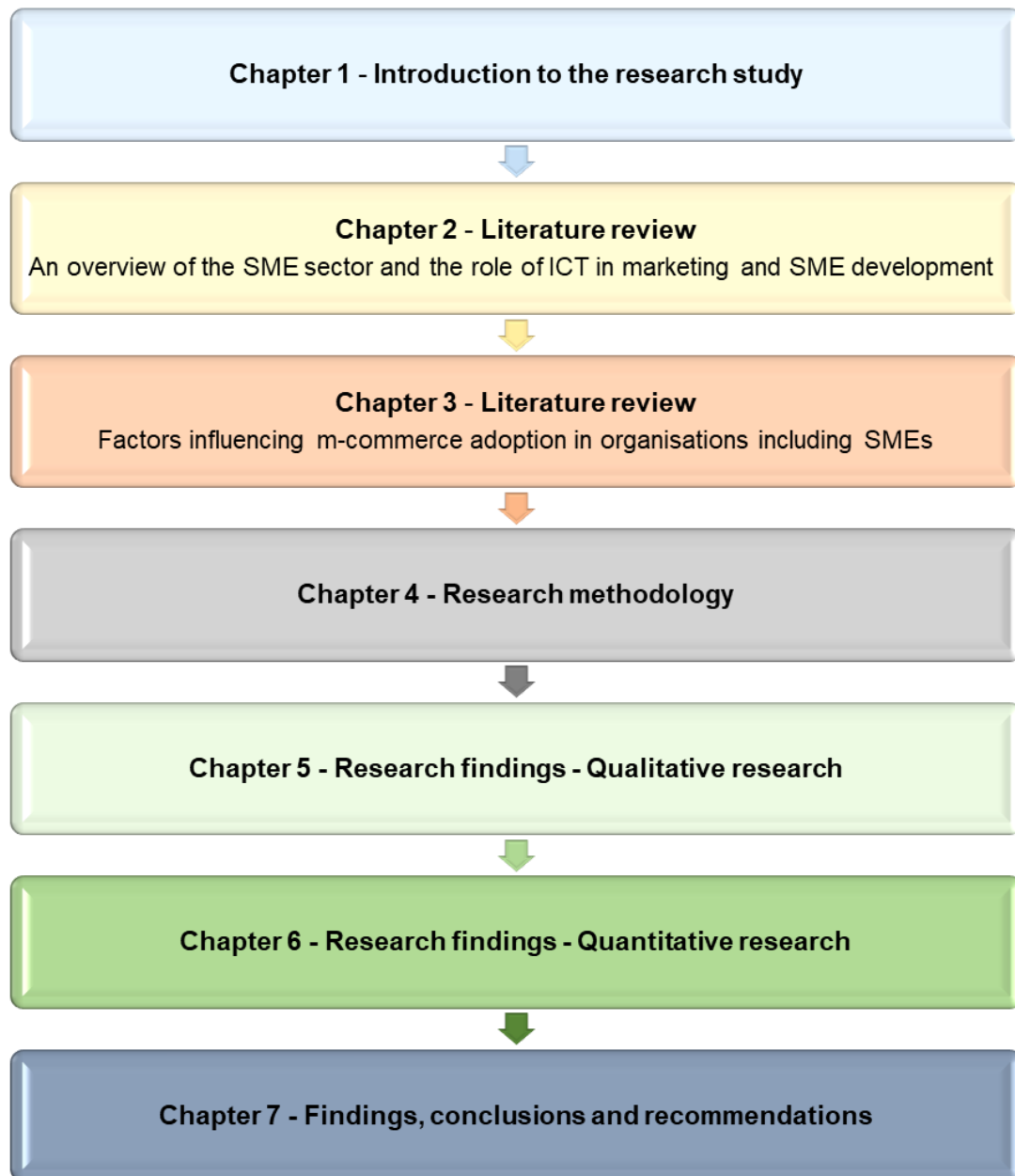


Figure 1.2: Thesis structure

Source: Author's own compilation

1.9. SUMMARY

Chapter 1 presented an overview of the study and what it aimed to achieve. A brief background discussion was provided on the retail sector, SMEs, e-commerce and m-commerce to establish the context of the research. Thereafter, the problem statement and research objectives were stated, followed by a description of the

research methodology that is implemented to address the research objectives. The significance of the study, its delimitations and ethics approval were highlighted and lastly, an outline of the chapters of the study was provided. In the next chapter (chapter 2), an overview of the SME sector is provided. The role of ICT in marketing and SME development is highlighted particularly in relation to e-commerce and m-commerce.

CHAPTER 2: AN OVERVIEW OF THE SME SECTOR AND THE ROLE OF ICT IN MARKETING AND SME DEVELOPMENT

2.1. INTRODUCTION

Small and medium enterprises (SMEs) form an essential part of an economy in many countries and contribute significantly towards economic growth and financial stability (Legoabe, 2017; Moise et al., 2019; Afolayan & de la Harpe, 2020; Gu, 2022). However, the ever-changing business environment in which SMEs operate brings about intense pressure on these businesses (Ibarra, Bigdeli, Igartua & Ganzarain, 2020). SMEs encounter many challenges (such as insufficient funding, inadequate skills, lack of innovation and investment in current technologies, unfavourable regulatory environment, poor infrastructure and competitive pressure) that may have an impact on their growth and long-term survival (Muriithi, 2017; Ramdan, Abd Aziz, Abdullah, Samsudin, Singh, Zakaria, Fuzi & Ong, 2022). As mentioned in chapter 1, more than 70% of new SMEs fail in less than two years (Nkosi, 2019; Kriel, 2020; Cromhout & Duffett, 2022). Therefore, it is critical for SMEs to adapt to the ever-changing business environment and to remain competitive in order to survive and promote economic growth (Bushe, 2019; Jayasundara, Rajapakshe, Prasanna, Kumara, Ekanayake & Abeyrathne, 2019; Ramdan et al., 2022). It has been accentuated that the adoption of ICT remains a key competitive tool for enabling SMEs to survive, grow and enhance their competitiveness in the ever-changing business environment (Mbuyisa, 2017; Okundaye, Fan & Dwyer, 2018; Nyangarika & Ngasa, 2020; Acosta-Prado & Tafur-Mendoza, 2021; Benard, 2021). ICT has transformed and revolutionised business activities and provides organisations, including SMEs, with opportunities to improve business performance (Fosu, 2018; Her, Ahmad & Hee, 2020). E-commerce, and m-commerce specifically, has brought about new opportunities for SMEs through advanced ICT and is seen as the most significant technological development in the retail sector (Khaskheli et al., 2017; Kern, 2018; Cheng Hon Lam, 2021).

Chapter 2 provides an overview of the SME sector by defining SMEs, assessing the role of SMEs in the economy and highlighting the challenges that SMEs face. Chapter 2 will further expand on the discussion by emphasising the role of ICT in

marketing and SME development, with a focus on e-commerce and m-commerce specifically.

2.2. OVERVIEW OF THE SME SECTOR

The global recognition of the SME sector is due to its substantial contribution to economic growth, entrepreneurship and job creation (Legoabe, 2017; Afolayan & de la Harpe, 2020). This section (2.2) provides an overview of the SME sector, by first defining an SME, specifically in the context of South Africa followed by the role and contribution of SMEs to the economy. Lastly, the challenges faced by SMEs are discussed.

2.2.1. Definition of SMEs

Different countries use specific criteria and guidelines to define an SME which may also vary by industry sector. Some of the commonly used criteria are the number of employees and annual turnover (Muriithi, 2017). The European Commission, for instance, defines an SME in the European Union (EU) as an enterprise with less than 250 employees and an annual turnover of less than €50 million (European Commission, 2019). In Malaysia, an SME can be defined as an enterprise that employs less than 200 individuals and has an annual turnover of less than RM50 million, approximately €9,7 million (Xe Currency Converter, 2023/11/29 14:35 PM) (Whah & Lim, 2018). In India, an SME can be defined as an enterprise that has an annual turnover of less than ₹1 billion, approximately €10,9 million (Xe Currency Converter, 2023/11/29 14:35 PM) and an investment of less than ₹200 million, approximately €2,1 million (Xe Currency Converter, 2023/11/29 14:35 PM) (Rastogi, 2020). An SME in the United States (US) is defined as an enterprise that employs fewer than 500 employees (Deloitte, 2017) while in China, an SME is defined as an enterprise that has fewer than 3000 employees with an annual turnover of less than ¥300 million, approximately €38.4 million (Xe Currency Converter, 2023/11/29 14:35 PM) and has total assets of less than ¥400 million, approximately €51,1 million (Xe Currency Converter, 2023/11/29 14:35 PM) (Shi & Iqbal, 2021). Evidently, there is no uniform definition of an SME. Different countries have various definitions of an SME and this will depend on the level of development in each country. For instance, an

SME in the US or China may be referred to as a large enterprise in South Africa. It is, therefore, not feasible to have one definition of an SME for all countries.

In South Africa, the most widely used framework for defining SMEs is set out by the National Small Enterprise Act, 1996 (Act No. 102 of 1996). The Act defines a small enterprise as (DSBD, 2019:1):

“...a separate and distinct business entity, together with its branches or subsidiaries, if any, including co-operative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy mentioned in column 1 (Table 2.1) of the Schedule and classified as a micro, a small or a medium enterprise by satisfying the criteria mentioned in columns 3 and 4 of the Schedule.” (Table 2.1).

Table 2.1: The National Small Enterprise Act thresholds for a small enterprise

Column 1	Column 2	Column 3	Column 4
Sectors or subsectors in accordance with the standard industrial classification	Size or class of enterprise	Total full-time equivalent of paid employees	Total annual turnover (R)
Agriculture	Medium	51 - 250	≤ 35,0 million
	Small	11 - 50	≤ 17,0 million
	Micro	0 - 10	≤ 7,0 million
Mining and Quarrying	Medium	51 - 250	≤ 210,0 million
	Small	11 - 50	≤ 50,0 million
	Micro	0 - 10	≤ 15,0 million
Manufacturing	Medium	51 - 250	≤ 170,0 million
	Small	11 - 50	≤ 50,0 million
	Micro	0 - 10	≤ 10,0 million
Electricity, Gas and Water	Medium	51 - 250	≤ 180,0 million
	Small	11 - 50	≤ 60,0 million

	Micro	0 - 10	≤ 10,0 million
Construction	Medium	51 - 250	≤ 170,0 million
	Small	11 - 50	≤ 75,0 million
	Micro	0 - 10	≤ 10,0 million
Retail, Motor Trade and Repair Services	Medium	51 - 250	≤ 80,0 million
	Small	11 - 50	≤ 25,0 million
	Micro	0 - 10	≤ 7,5 million
Wholesale	Medium	51 - 250	≤ 220,0 million
	Small	11 - 50	≤ 80,0 million
	Micro	0 - 10	≤ 20,0 million
Catering, Accommodation and other Trade	Medium	51 - 250	≤ 40,0 million
	Small	11 - 50	≤ 15,0 million
	Micro	0 - 10	≤ 5,0 million
Transport, Storage and communications	Medium	51 - 250	≤ 140,0 million
	Small	11 - 50	≤ 45,0 million
	Micro	0 - 10	≤ 7,5 million
Finance and Business Services	Medium	51 - 250	≤ 85,0 million
	Small	11 - 50	≤ 35,0 million
	Micro	0 - 10	≤ 7,5 million
Community, Social and Personal Services	Medium	51 - 250	≤ 70,0 million
	Small	11 - 50	≤ 22,0 million
	Micro	0 - 10	≤ 5,0 million

Source: Government Gazette (2019)

Table 2.1 provides the National Small Enterprise Act thresholds for enterprise classes by 11 sectors, based on the number of full-time equivalent employees and annual turnover. Within a South African context, an enterprise can be defined as an SME if it has fewer than 250 employees and an annual turnover of up to R220 million, approximately €10.8 million (Xe Currency Converter, 2023/11/29 14:35 PM), depending on the sector. This study will investigate South African SMEs in the retail sector.

The retail sector is a significant contributor to South Africa's economy, with retail trade accounting for 15-20% of gross domestic product (GDP) and employing approximately 20% of the national labour force (Toyana, 2021; Botha, 2022). The South African retail sector has grown from just over 1,07 trillion in 2018 to approximately 1,17 trillion in 2021 (Stats SA, 2022). The South Africa retail market research report reveals that the retail market size was 1.61 trillion in 2022 and is projected to grow at an annual growth rate of more than 4% from 2022 to 2027 (GlobalData, 2023). Due to the widespread accessibility of smartphones across Africa, online platforms have revolutionised the retail sector (Mputle, 2020). According to the Online Retail in South Africa 2023 report, online retail in South Africa achieved a substantial milestone in 2022 by surpassing R50 billion, reaching to a total of R55 billion from R42.3 billion in 2021 (Mastercard, 2023). This growth was mostly fuelled by the increasing demand for home deliveries (Mastercard, 2023). With the abovementioned statistics in mind, the retail sector has been targeted by the government as a foundation for economic recovery and development (Toyana, 2021), positioning retail as a key sector in the overall South African economy.

According to Stats SA (2023:16), retail trade involves "...the resale (sale without transformation) of new and used goods and products to the general public for household use". Retail enterprises (including SMEs) can be categorised according to the different types of retailers as shown in Table 2.2. The largest proportion of retail trader sales is "general dealers" followed by "textiles, clothing, footwear and leather goods" and "all 'other' retailers" (Stats SA, 2023). Based on the latest statistics, South Africa's retail trade decreased by 2.5% year-on-year in October 2023 (Stats SA, 2023). Retail trade sales declined by 0.6% in the three-month period ending in

October 2023, as compared to the same period in October 2022 (Stats SA, 2023). The main negative contributors to this decrease were “general dealers” (-1,5%) and retailers in “hardware, paint and glass” (-0,5%). The main positive contributor was attributed to retailers in textiles, clothing, footwear and leather goods (contributing 1,6%) (Stats SA, 2023). According to a South African Consumer & Retail Report by BMI research, there is a positive outlook on consumer spending in South Africa in 2024 (Thorne, 2024).

Table 2.2: Types of South African retailers

Type of retailer
<p>General dealers</p> <ul style="list-style-type: none"> • Retail trade in non-specialised stores with food, beverages and tobacco as predominant products • ‘Other’ retail trade in non-specialised stores
<p>Retailers in food, beverages and tobacco in specialised stores</p> <ul style="list-style-type: none"> • Retailers in fresh fruit and vegetables • Retailers in meat and meat products • Retailers in bakery products • Retailers in beverages • Retailers in tobacco • Retailers in ‘other’ food in specialised stores
<p>Retailers in pharmaceutical and medical goods, cosmetics and toiletries</p>
<p>Retailers in textiles, clothing, footwear and leather goods</p> <ul style="list-style-type: none"> • Retailers in men’s and boys’ clothing • Retailers in ladies’, girls’ and infants’ clothing • General outfitters • Retailers in footwear
<p>Retailers in household furniture, appliances and equipment</p>
<p>Retailers in hardware, paint and glass</p>
<p>All ‘other’ retailers</p> <ul style="list-style-type: none"> • Retailers in reading matter and stationery • Retailers in jewellery, watches and clocks • Retailers in sport goods and entertainment requisites • Retailers in ‘other’ specialised stores

- Repair of personal and household goods
- Retail trade in second-hand goods in stores
- Retail trade not in stores

Source: Stats SA (2023)

According to Madzimure, Mafini and Dhurup (2020), SMEs in the retail sector are key contributors to technical innovation, new product development and the growth of the South African economy. It is recorded that the most prominent businesses are within the trade and accommodation sector, boasting a contribution of more than a third (39%) to the SME sector (Seda, 2023). However, statistics on the size and composition of the SME sector in South Africa differs, and information regarding their contribution to the retail sector is lacking. Nevertheless, the importance of SMEs to the overall economy is widely acknowledged and is highlighted in the next section.

2.2.2. The role and contribution of SMEs to the economy

As discussed in chapter 1, SMEs play a key role in both developing and developed countries (Moise et al., 2019) and are identified as significant contributors to global economic development and employment (Afolayan & de la Harpe, 2020). SMEs account for approximately 90% of enterprises worldwide (across all sectors) and contribute about 50% to gross domestic product (GDP) and around 70% to employment (Sabanidze et al., 2021; Kumar & Gajakosh, 2022; Gu, 2022; Marughu & Akintoye, 2023).

SMEs are critical economic growth accelerators in many countries as they constitute most businesses and contribute significantly to GDP and employment (Kuhlase, 2022). In the EU, for instance, approximately 99% of enterprises are SMEs, contributing over 50% to GDP (Rotar, Pamić & Bojnec, 2019; Kovács, Bittner, Huzsvai & Nábrádi, 2022; Vrontis, Thrassou, Weber, Shams, Tsoukatos & Efthymiou, 2022). SMEs account for approximately two thirds (67%) of employment within the EU, with micro enterprises accounting for 30%, small enterprises accounting for 20% and medium enterprises accounting for 17% (Rotar et al., 2019, Kovács et al., 2022; Vrontis et al., 2022). SMEs in wholesale and retail trade are key contributors to the EU economy. According to Turcan and Turcan (2020), SMEs in wholesale and retail trade in the EU account for about 70% of employment and of

gross value added (GVA). In Malaysia, SMEs account for about 98.5% of all enterprises, contributing approximately 38.2% to GDP and 50% to employment (Hamid, Ismail, Yunus, Jali & Rosly, 2022). The contribution of SMEs to economic growth in Malaysia is driven predominantly by the services sector, specifically wholesale and retail trade (Kamaruddin, 2020; Mansor, Abu, Halim & Ahmad, 2021). India's economy consists of more than 90% of SMEs, contributing approximately 30% and 50% to the country's GDP and employment respectively (Singh, 2021). In the US, around 99% of all enterprises are SMEs contributing to approximately 56% to the country's GDP and 52% to employment (Lamido, Bogoro & Ahmad, 2022; Neklyudova, 2022). In China, SMEs account for over 90% of enterprises (Li, Liu, Xia, Yan, Xiong, Sakka & Li, 2022). SMEs in China continue to demonstrate their resilience by recording a significant contribution of 60% to the country's GDP and more than 80% to employment (Li et al., 2022).

In South Africa, there are varying estimates regarding the contribution of SMEs to the economy; as a result, further research is required (Seda, 2023). Based on recent statistics, SMEs in South Africa account for over 90% of formalised enterprises, contributing between 37.4% and 50% toward the GDP and 47-59% to employment (Musabayana & Mutambara, 2022; Kuhlase, 2022; Neklyudova, 2022; Seda, 2023). The National Development Plan (NDP) has envisioned that South African SMEs will contribute approximately 90% of the 11 million expected new jobs by 2030 (DSBD, 2023). In support of this NDP goal, the Department of Small Business Development (DSBD) coordinates and promotes the creation of a favourable environment for SMEs to thrive (Kelly, Shumba, Zindiye & Donga, 2021). The DSBD houses support agencies such as the Small Business Development Agency (Seda) and the Small Business Finance Agency (Sefa) to ensure the promotion of SMEs (Baloyi & Khanyile, 2022; Zhou, Masuku, Chimucheka & Ayandibu, 2023). Seda provides non-financial support to SMEs while Sefa provides financial support services (Baloyi & Khanyile, 2022; Zhou et al., 2023). Although there are government initiatives in place to support SMEs, there is still a need to increase awareness of these initiatives and their level of effectiveness in implementation (Kelly et al., 2021; Nomafu, Van Vuuren & Davies, 2023). According to Kriel (2020), the SME sector in South Africa is not flourishing at an efficient pace and would need to grow at an annual rate of at least 20% in order to achieve the targets set out by the NDP. South Africa's future

economic success depends mostly on new and growing SMEs (Imbadu, 2016; Liedtke, 2019). It is argued that the sustainability of SMEs is imperative for the economy of South Africa; SMEs play a crucial role in resolving the country's developmental challenges (Musabayana & Mutambara, 2022).

Jili, Masuku and Selepe (2017), Muriithi (2017) and Vuba (2019) highlight several key benefits of SMEs to the economy of developing countries such as South Africa:

- SMEs are the key engine of growth: reducing the unemployment rate and driving economic growth and development.
- SMEs foster competitive markets: discovering new markets and introducing new products and services. SMEs can adapt to changing preferences and trends more rapidly compared to larger enterprises.
- SMEs are vital for poverty alleviation: providing opportunities for aspiring entrepreneurs and creating a source of income.
- SMEs play a more significant role in developing countries: generating wealth, developing infrastructure and increasing business opportunities for local communities.

Yadav, Jain, Mittal, Panwar and Sharma (2018) argue that SMEs have very distinct characteristics. Compared to larger enterprises, SMEs are more flexible, open to change and have a simple, flat/organic organisational structure (Yadav et al., 2018). It is argued that having a flat/organic organisational structure may result in higher visibility, quick decision-making, rapid implementation of management strategies and a better understanding of and swift response to customer needs (Wilson & Makau, 2017; Yadav et al., 2018). According to Bigliardi and Galati (2018), a flat/organic organisational structure is characterised by a lower level of specialisation, standardisation and formalisation which may inspire innovativeness and allow SMEs to respond and adapt to the environment better than larger enterprises (Bigliardi & Galati, 2018). Bigliardi and Galati (2018) further indicate that SMEs have a greater willingness to take risks and are more result oriented. Cronje, Ferreira and Van Antwerpen (2017) add that SMEs can establish strong relationships with the community through increased personalisation. In addition, SMEs provide employees with diverse learning experiences compared to larger enterprises that are more focused on specialised jobs (Cronje et al., 2017). While some characteristics of

SMEs make them more flexible, other characteristics such as size may increase the vulnerability of SMEs to internal and external events (Klein & Tedesco, 2021). SMEs operate in a context where there is growing uncertainty due to factors such as the global pandemic (COVID-19), economic and political stability, rapid advancements in technology and laws and regulations (Shafi, Liu & Ren, 2020; Kalidas, Magwentshu & Rajagopaul, 2020). As a result, SMEs continue to face several challenges that may deter their growth and impact their long-term survival (Muriithi, 2017; Ramdan et al., 2022). The main challenges faced by SMEs are highlighted in the next section.

2.2.3. Challenges facing SMEs

While the contribution of SMEs in fostering economic growth and development is universally recognised, SMEs encounter many challenges that may impede their growth. The main challenges include limited access to finance, inadequate skills and knowledge, lack of innovation and investment in appropriate technologies, unfavourable regulatory environment, poor infrastructure and competitive pressure (Gongxeka, 2020; Zide & Jokonya, 2022; Selelo & Khwela, 2022).

- **Limited access to finance:** access to finance remains a hope for many SMEs globally (Selelo & Khwela, 2022). The main source of income for SMEs stems from savings, family and friends. It is often difficult for SMEs to obtain accessible and affordable finance from financial institutions (Selelo & Khwela, 2022). SMEs may face financial constraints as a result of high interest rates and a restricted capacity to provide collateral (Muriithi, 2017; Gongxeka, 2020). SMEs with limited access to finance may be further discouraged from investing in appropriate technologies (Zide & Jokonya, 2022). A lack of access to finance is widely acknowledged as a major burden to the survival and growth of SMEs (Muriithi, 2017; Zide & Jokonya, 2022; Selelo & Khwela, 2022).
- **Inadequate skills and knowledge:** the scarcity of skills, knowledge and experience can present a significant barrier for the growth of SMEs (Gongxeka, 2020). SMEs with an educated workforce and suitable skills perform competently (Muriithi, 2017). In addition, SMEs that are highly developed in terms of human resource capacities are more successful and may experience higher productivity, long-term survival and sustainability

(Muriithi, 2017; Selelo & Khwela, 2022). However, numerous SMEs experience a lack of skills and knowledge in respect to marketing and current technological developments, making SMEs more vulnerable to failure in comparison to larger enterprises (Van Scheers, 2018; Selelo & Khwela, 2022).

- Innovation and investing in appropriate technologies: innovation is crucial for businesses to improve business performance and sustain its market position (Mustafa & Yaakub, 2018). Failure to innovate may render SMEs uncompetitive and obsolete in their operating environment (Gongxeka, 2020). Gongxeka (2020) states that lower levels of investments are directed towards innovation in developing countries compared to developed countries. Financial, environmental and human resource challenges prevent SMEs from becoming innovative (Mustafa & Yaakub, 2018). In addition, the limited adoption of appropriate technologies may also hinder SMEs from becoming innovative. It has been said that successful SMEs practice innovation by adopting technologies that create a competitive edge (Rahman, Yaacob & Radzi, 2016). Gachara and Munjuri (2018) found that SMEs experience technology challenges due to high costs and inability to use the technology. SMEs that do not embrace innovation and technology can have a detrimental effect on their business performance (Mustafa & Yaakub, 2018).
- Unfavourable regulatory environment and poor infrastructure: according to Muriithi (2017), the environment presented by the government in relation to wages, tax rates, licences, technological support and infrastructure can lead the way to the success or failure of SMEs. High rules and regulations as well as unfavourable tax rates can hinder the growth of SMEs (Muriithi, 2017; Gongxeka, 2020). The quality of infrastructure in developing countries can pose a significant obstacle to the growth prospects for SMEs (Gongxeka, 2020). Infrastructure challenges include key barriers such as poor service delivery of electricity, water and poor infrastructure (Gongxeka, 2020). Khaskheli et al. (2017) points out that poor infrastructure such as undeveloped roads, railways, bridges and airports make transportation less dependable in terms of timely delivery and increases costs for SMEs. In

addition, Muriithi (2017) highlights that electricity supply is central to SME operation and cost efficiency.

- Competitive pressure: increased and robust competition may pose a threat to SME growth (Gongxeka, 2020). SME competitiveness may be obstructed due to lack of skills and training, access to finance and increased production costs (Andalib & Halim, 2019). SMEs face competition from larger, well-established enterprises which can make it challenging for them to increase their market share (Gongxeka, 2020). Muriithi (2017) argues that SMEs should focus on well-developed strategies to effectively withstand competitive pressure.

As discussed in chapter 1 and section 2.1, the adoption of ICT, and specifically the use of e-commerce and m-commerce technologies, remains a key competitive tool for SMEs to ensure the survival and success of their businesses (Fahriawan, 2020; Benard, 2021; Chingapi & Steyn, 2022; As'ad et al., 2022). ICT has transformed and revolutionised business activities and provides organisations, including SMEs, with opportunities to improve business performance (Fosu, 2018; Her et al., 2020).

In the next section, the role of ICT in marketing and SME development is discussed, with specific focus on e-commerce and m-commerce.

2.3. THE ROLE OF ICT IN MARKETING AND SME DEVELOPMENT

The world and the way in which businesses operate and compete in the marketplace have changed radically due to the increased infiltration of ICT (Fosu, 2018). ICT is defined as digital technologies for the collection, capturing, storing, processing and communicating of information (Mbuyisa, 2017; Fosu, 2018). ICT can be seen as “a collective term for a series of hardware, software, telecommunication, and information management techniques, applications and equipment” (Lu, Pishdad-Bozorgi, Wang, Xue & Tan, 2019:3).

ICT has paved the way for an array of information resources and facilitates the collection of valuable competitive knowledge and customer-related information that may assist in, and simplify, decision-making (Acosta-Prado & Tafur-Mendoza, 2021). ICT can improve the effectiveness of existing business processes and activities by facilitating the adoption of innovative technologies that are capable of business

transformation (Nyangarika & Ngasa, 2020; Acosta-Prado & Tafur-Mendoza, 2021). The use of ICT has influenced every aspect of business, not only how business is conducted but its contribution to increased competitiveness and job creation as well (Nyangarika & Ngasa, 2020; Acosta-Prado & Tafur-Mendoza, 2021). According to Okundaye et al. (2018), businesses, including SMEs must use ICT to thrive in the modern business economy. The use of ICT can provide several benefits to SMEs (Mbuyisa, 2017; Okundaye et al., 2018):

- Competitive advantage – SMEs can embrace the power of ICT in order to enhance product and service innovations and remain competitive within the industries in which they operate.
- Access to markets – SMEs capacity to leverage ICT can enable them to compete against larger enterprises and on a global scale.
- Reduced costs – ICT can enhance efficient and effective business processes and transform existing business models.
- Sustainable development – ICT may increase sustainable economic and social development in developing countries.

Arguably, ICT can provide SMEs with increased knowledge and information, improved business efficiency and performance as well as enhanced relationships with stakeholders (Gbadegeshin, Solomon, Sunday, Ismaila, Dandison, Olayemi & Ayobami, 2019). ICT further unlocks profitable opportunities by enabling SMEs to obtain effective management processes (Nyangarika & Ngasa, 2020).

ICT usage in SMEs can be categorised into three groups: general-user, production-integration and market-oriented (Makiwa, 2018; Mohamed, 2020):

- The general-user group involves the use of basic technologies such as e-mail and the internet, to carry out administrative tasks of SMEs.
- The production-integration group relates to the production processes and functionality of SMEs. ICTs such as local area network (LAN), wide area network (WAN) and electronic funds transfer (EFT) are included in this group.
- The market-oriented group involves the use of ICT in SMEs to market its products and services to create an online presence which may include e-commerce functionality.

Makiwa (2018) emphasises that for ICT to be used as a competitive tool, SMEs need to ensure that all three groups (general-user, production-integration and market-oriented) are represented in their business processes.

Khan and Mukit (2022) highlight four levels of ICT adoption in SMEs:

- The basic level involves the use of basic communication methods via mobile phones and smartphones.
- The low ICT adoption level involves using computers that are equipped with basic software and hardware.
- The medium ICT adoption level involves using advanced communication through e-mail, internet, video conferencing, file sharing, websites and e-commerce.
- The high ICT adoption level involves advanced software, resource planning, customer relationship management and inventory management.

Elephant and Maphela (2018) highlight that SMEs should specifically explore mobile technologies as it improves business performance and increases the probability of success. Furthermore, the infiltration of mobile devices is considered one of the main driving forces behind the need for mobility (Rana et al., 2019; Al-Adwan et al., 2019).

As specified in chapter 1, the number of active internet users, and specifically the percentage of active internet users who access the internet via a mobile phone, is quite significant, both internationally and in South Africa. According to Kemp (2023a), there were 5.16 billion active internet users, accounting for 64.4% of the world's population (8.01 billion) in January 2023 (Kemp, 2023a) and 92.3% of whom used a mobile phone to access the internet (Kemp, 2023a). In South Africa alone, the percentage of active internet users was 72.3%, accounting for 43.48 million people from the total population of 60.14 million (Kemp, 2023b). A substantial 97.6% of South Africa's active internet users used a mobile phone to access the internet (Kemp, 2023b) making m-commerce a viable option.

When observing SME ICT usage specifically, Fosu (2018) conducted a study on 54 SMEs in the Buffalo City Metropolitan, South Africa, and found that SMEs do have means of access to ICT, with the mobile phone being the most popular. The study

(Fosu, 2018) concluded that while SMEs have technological skills to use ICT functions/programs on their devices, they do not utilise it for business growth.

The SME Landscape Report (2019), a survey of 1157 SMEs in South Africa, revealed the following findings regarding SMEs and ICT:

- Most SMEs (86%) specified that they use smartphones in their business “all the time” followed by laptops (77%), LTE mobile networks (71%) and desktop computers (49%). It is interesting to note the correlation compared to global individual statistics as identified by Kemp (2023a).
- A total of 50% of the SMEs indicated that technological limitations do not pose an obstacle to business growth, while the remaining 50% cited “stable and reliable internet access” as the primary obstacle.
- In terms of the Fourth Industrial Revolution (4IR) and readiness for disruption, 67% of SMEs indicated that they were ready for innovation, a positive indication that they were willing to take advantage of growth opportunities.

The SME Landscape Report (2019) further indicates that ICT has enabled South African SMEs to access new markets, decrease costs and enhance business efficiency. Gono, Harindranath and Özcan (2016) explored the adoption and impact of ICT among South African SMEs and found that SMEs were confident, mature users of ICT, with owners/managers mostly engaged in business decision-making. The results of the study by Elephant and Maphela (2018) revealed that SMEs in Noordwyk, South Africa had sufficient access to mobile technology, with the majority of SMEs owning approximately three devices on average indicating that mobile technology is used extensively in running their businesses and is considered a success factor. Additionally, majority of the SMEs indicated that mobile devices play a crucial role in the marketing and branding of their businesses (Elephant & Maphela, 2018).

While ICT has brought about a transformation in all functional areas of business, marketing has been one of the core beneficiaries (Ansari, Jain & Kaur, 2017). Advances in ICT has led to the revolution of digital marketing (Wierenga, 2020) which refers to “all activities, institutions and processes facilitated by digital technologies for creating, communicating and delivering value for customers”

(Herhausen, Miočević, Morgan, Kleijnen, 2020). There are several ICT solutions that exist in the field of digital marketing such as website design and development, e-commerce, mobile marketing, e-mail marketing, social media marketing, search engine marketing and online advertising (Wierenga, 2020:22; Knežević, 2018).

According to Kern (2018), e-commerce represents the most significant technological development in the retail sector. The OECD (2019) asserts that e-commerce is seen as a key driver of transformation in retail trade business practices for SMEs. E-commerce is discussed in the next section.

2.3.1. E-commerce

E-commerce involves the buying and selling of products and services over the internet. E-commerce can be defined as “the sale or purchase of goods or services, whether between businesses, households, individuals, governments, and other public or private organisations, conducted over computer mediated networks” (Dahbi & Benmoussa, 2019:811). According to Govinnage and Sachitra (2019:3), the definition of e-commerce has varied over the years, initially being defined as the process of “buying and selling products and services over the internet”, and later developed as the “exchange of information” in addition to “buying and selling of products and services”. Govinnage and Sachitra (2019:3) further argue that e-commerce includes “all the processes and activities, which facilitate the exchange of information (financial and non-financial) in an electronically mediated environment with the organisation’s stakeholders via computer networks...”. Al-Adwan et al. (2019) concur, specifying that e-commerce involves using a computer-mediated network to conduct sale or purchase transactions and the exchange of information and products.

E-commerce is considered a global phenomenon, generating new opportunities through ICT (Sanchez-Torres & Juarez-Acosta, 2019). Sanchez-Torres and Juarez-Acosta (2019) point out that internet technologies and e-commerce have altered the way businesses operate by reducing costs and improving business processes. Sanchez-Torres and Juarez-Acosta (2019) further assert that SMEs have not been excluded from the effect of this viable e-commerce market which uses advanced ICT allowing businesses to compete internationally and effectively in their target markets.

It has been found that the use of e-commerce has a significant influence in improving the operational performance of SMEs (Octavia, Indrawijaya, Sriayudha, Heriberta, Hasbullah & Asrini, 2020; Hussain, Shahzad & Hassan, 2020). Susanty, Handoko and Puspitasari (2020) argue that SMEs have realised the potential of e-commerce. E-commerce can increase the ability of SMEs to compete with larger businesses (Susanty et al., 2020). Digitalisation and e-commerce technologies can reduce operational disadvantages that SMEs face in achieving economies of scale by enabling them to reach scale without mass (OECD, 2019). Similarly, Raharja, Kostini, Muhyi and Rivani (2019) state that businesses that successfully use e-commerce can enlarge economies of scale by expanding new markets. In addition, e-commerce provides an increased incentive for innovation by allowing SMEs to launch new products in a cost-effective manner (Susanty et al., 2020; Sombultawee, 2020). E-commerce allows SMEs to market their business, increase communications with customers and provides opportunities to access new markets and untapped customer segments (Susanty et al., 2020; Sombultawee, 2020; Al-Tit, 2020; Tolstoy, Nordman, Hånell & Özbek, 2021).

Since the transformation of e-commerce, many researchers have developed e-commerce growth adoption models due to the increased use and relevance of information technology and its role in global business (Hu, Ocloo, Akaba & Worwui-Brown, 2019). Hu et al. (2019) cited several scholars who identified four stages of e-commerce adoption. However, while these stages involve a sequence of processes in which businesses gradually change and enhance their e-commerce capabilities, scholars have described the sequence within the four stages differently (Hu et al., 2019). The initial stages of e-commerce adoption involve the use of internet, e-mail, a static web presence and simple online transactions, followed by a dynamic online presence and electronic integration (Hu et al., 2019). Rahayu and Day (2017) proposed five stages of e-commerce adoption: stage 0 (no internet and no e-mail), stage 1 (e-mail but no website), stage 2 (static website), stage 3 (interactive website but does not allow transactions), stage 4 (website that allows transactions) and stage 5 (integrated website). In their study on e-commerce adoption among SMEs in developing countries, Rahayu and Day (2017) found that in a developing country, specifically Indonesia, e-commerce adoption was still low with most SMEs using e-mail and websites (static and interactive).

Conversely, Kowanda, Firdaus, Nuryanto and Pasaribu, 2020) proposed six stages of e-commerce adoption: stage 0 (e-mail), stage 1 (web presence), stage 2 (online marketing), stage 3 (online ordering), stage 4 (online payment), stage 5 (business integration and online sales support) and stage 6 (business transformation). A higher stage of e-commerce adoption will require a greater investment; however, more benefits may be reaped in this regard (Otoo, Zhiwen, Otoo & Antwi, 2018).

Research based on the Mastercard MEA SME Confidence Index 2021 which surveyed 1 533 SME decision-makers in seven countries, revealed that 46% of Middle Eastern and African SMEs use a business website and 55% use social media platforms. However, these figures are lower than the global average of 70% (Mastercard, 2021). The research further indicated that more than a third of South African SMEs (35%) make use of online stores, 22% sell products through online channels and only 1% specified that they have no digital presence (Mastercard, 2021). In terms of digitalisation, South Africa is leading, compared to other countries in the Middle Eastern and African region. South African SMEs utilise the highest average number of digital payment options, including mobile payments (41%), online payments (79%) and card payments (48%) (Mastercard, 2021). Although 17% of South African SMEs do not have any digital payment method implemented, 5% indicate that they plan to do so in the future and 12% have no intention of implementing digital payment methods (Mastercard, 2021). The majority of South African SMEs (64%) believe that e-commerce will have a positive impact towards their business; however, it is noteworthy that 31% believe that it will have no impact on their business while 5% believe that it will have a negative impact on their business (Mastercard, 2021).

While e-commerce opportunities have revolutionised the way organisations operate, there is an increasing favour of m-commerce attributed to the advancements of mobile technologies and the infiltration of mobile devices (Rana et al., 2019; Al-Adwan et al., 2019). M-commerce provides many benefits for SMEs, specifically, such as improved productivity, reduced operational costs and new product development stimulation (Chau & Deng, 2018) which has further expanded the boundaries of the revolution in e-commerce (Al-Adwan et al., 2019). The topic of m-commerce is addressed in the next section.

2.3.2. M-commerce

M-commerce can generally be regarded as a division or extension of e-commerce as both mediums involve the same functionalities in terms of the facilitation of electronic transactions (Al-Adwan et al., 2019). However, there are fundamental differences. Table 2.3 highlights 13 key factors that differentiate m-commerce from e-commerce.

Table 2.3: Differences between m-commerce and e-commerce

Factors	M-commerce	E-commerce
Domain	Extended form of e-commerce	Wider scope
Technology	Mobile phones, PDAs, tablets/iPads, laptops using wireless technology	Computers, laptops
Reachability	Push notifications, wider audience can be reached due to mobile device portability	Limited due to non-portability
Convenience	Accessible any time and any place, anywhere	Fixed infrastructure
Platform	Online store (mobile-friendly) and mobile apps	Online store
Payment	Mobile wallets, mobile banking, credit card, QR code payments, mobile web-based	Credit card, web-based
Location tracking	Easier to track users via GPS and WiFi	Limited, IP address
Security	More secure due to availability of authentication number and biometric technologies (facial recognition, fingerprints, retina scans)	Less secure comparatively (mostly credit card transactions)
Internet connectivity	All time internet facility available on mobile phones	Internet and infrastructure required
Electricity required	Battery backup required	Required for functioning of computer
Video conferencing	Possible	Not possible
Location tracking	Possible	Not possible

Source: Adapted from Duhan and Singh (2019) and SimiCart (2020)

Compared to e-commerce, m-commerce and mobile technologies have successfully overcome the restrictions of time and location to access products and services, information and communication (Li & Wang, 2018). Phumphongkhochasorn (2019:35) defines m-commerce as “any transaction with the monetary value induced by the telecommunications network through mobile phones”. However, Al-Adwan et al. (2019) argues that some m-commerce transactions can be performed through other means of wireless channels without monetary value. Chau et al. (2020) state that m-commerce refers to the buying and selling of products and services by means of wireless handheld devices, while AlQahtani, Beloff and White (2020) refer to m-commerce as conducting transactions through mobile and internet technologies to access information, interact with a service provider or purchase a product. While the definitions of m-commerce vary, the core principle remains; conducting transactions over a wireless network. M-commerce can, therefore, be defined as all the activities related to commercial transactions conducted through mobile devices.

Globally, there is a drive towards the use of mobile and wireless technologies as the basis of advancing e-commerce applications (Al-Adwan et al., 2019). These mobile and wireless technologies present substantial advantages for e-commerce applications and activities that are specifically accessible through mobile devices (Al-Adwan et al., 2019). According to Al-Adwan et al. (2019), the rapid progress and developments of mobile technologies such as high-speed data transmission, advanced mobile devices, adequate data storage dimensions and an enhanced user-interface have resulted in innovative mobile services. Additionally, the infiltration of mobile devices, particularly smartphones and tablets that has been entrenched in various aspects of daily life and economic globalisation, is considered among the main driving forces behind the need for mobility. This has paved the way for m-commerce as the leading business model in the future (Al-Adwan et al., 2019; Rana et al., 2019).

The proliferation of applications being developed can only be expected to increase as smartphone usage grows across the world. With a myriad of mobile devices on the market, developers are competing to put forward applications that are designed optimally with content to enhance the customer online experience (Duhan & Singh, 2019). The applications of m-commerce are discussed in the following section.

2.3.2.1. Applications of m-commerce

There are various m-commerce applications in the market used by organisations to engage customers while transacting (see Table 2.4) (Cullen & Kabanda, 2018; Pandey & Chawla, 2018; Duhan & Singh, 2019).

Table 2.4: M-commerce applications

M-commerce applications	
Mobile shopping	Mobile shopping refers to the buying and selling of products and services via mobile devices. The nature of shopping has changed with retailers providing their customers with access to all services via their mobile devices either through apps or optimised websites to facilitate mobile shopping.
Mobile banking	Convenience is one of the principal factors influencing the growth of mobile banking and has become an essential part of m-commerce. Most of the leading banks have developed their own mobile banking apps which offer a wide range of transactional and non-transactional services such as payments, fund transfers, viewing account history and accessing statements.
Mobile entertainment	Mobile entertainment involves providing enjoyable services via wireless technology to mobile devices, such as TV, gaming, music, movies and gambling. Mobile entertainment apps obtain a maximum share in the m-commerce market.
Mobile learning/education	The use of mobile devices and wireless transmission in education is becoming an increasing trend worldwide, especially in higher education due to technical and societal reasons.
Mobile ticketing	Mobile ticketing involves the process in which customers can purchase, receive and verify tickets through mobile devices with immediate accessibility. Mobile ticketing is used widely for booking flights, sporting events, concerts, movies and theme parks.
Location-based services	With the use of GPS technology, organisations can provide information and functionality to customers based on their geographical location. Location-based services include traffic updates, weather reports and requesting nearby points of interest.

Source: Adapted from Cullen and Kabanda (2018), Pandey and Chawla (2018) and Duhan and Singh (2019)

This study focuses on mobile shopping that enables customers to purchase a product using a mobile device through an application which includes, but not limited to, online store (mobile-friendly), own mobile app, social media platforms, third-party

platforms such as Uber Eats, Mr D Food, Takealot, bidorbuy and Yaga. In Europe, Middle East and Africa, the mobile channel has been growing at an exponential rate and is considered to be the main driver towards internet growth (Lowes, 2021). In South Africa (as of January 2022) specifically, 29.3% of active internet users (aged 16-64) make online purchases each week using a mobile phone (Kemp, 2022b), which is in line with global statistics (30.6%) (Kemp, 2022a). According to iKhokha (2022), mobile devices account for 72% of all retail commerce transactions in South Africa. With the upsurge of mobile internet traffic, desktop websites are no longer sufficient; online shopping is shifting away from desktop to mobile (Bayhack, 2020; Delport, 2020; iKhokha, 2022). Approximately 70% of e-commerce transactions are abandoned due to a low user experience; it is, therefore, suggested that the success of e-commerce should be based on a seamless mobile experience (iKhokha, 2022). Mobile connections are becoming considerably faster (Kemp, 2022a). Moreover, social media channels such as Facebook and Instagram Shopping are becoming lucrative sales channels (also known as social commerce) which SMEs, especially those with established followings, can take advantage of (iKhokha, 2022). In South Africa, WhatsApp, Facebook, and Instagram are the main social media platforms used by individuals (as of January 2023) (Kemp, 2023b). A total of 35.7% South African users indicated that the main reason for using social media was finding products to purchase (Kemp, 2023b), which is above global statistics of 25.9% (Kemp, 2023a).

Mobile banking and payment systems have catapulted m-commerce (Khaskheli et al., 2017). As discussed in section 2.3.1, research based on the Mastercard MEA SME Confidence Index 2021 indicated that a significant 41% of South African SMEs implement/accept mobile payments in their business (Mastercard, 2021). Moreover, approximately 8 out of 10 SMEs make use of contactless payments (Mastercard, 2021). Elephant and Maphela (2018) investigated the use of mobile technology in South African SMEs. The findings of their study revealed that 91% of SMEs use their mobile devices for banking purposes such as conducting financial transactions, receiving payments as well as managing their accounts and/or statements of the business (Elephant & Maphela, 2018). Similarly, Omonedo (2016) investigated the factors that influence the m-commerce adoption Nigerian SMEs. The primary findings of Omonedo (2016) reveal that the use of websites is limited, SMEs

increasingly use mobile money for receiving and making payments; there is a growing recognition of mobile apps and mobile-enabled platforms, and lastly the increased adoption of m-commerce by customers and businesses is being driven by the cashless policy.

The abovementioned statistics indicate that m-commerce is becoming more mainstream and through its distinct characteristics, it may provide customers and businesses with unique value. M-commerce offers five value-added characteristics that allow it to transcend geographical and time barriers: ubiquity, convenience, instant connectivity, personalisation and localisation (Li & Wang, 2018; Duhan & Singh, 2019; Rout, 2019). Using a mobile device paves the way for business to be conducted at any time and in any location, regardless of temporal and spatial constraints (*ubiquity*) (Rout, 2019). Users can access the web, intranets, and other mobile devices quickly and effortlessly from any location with an internet-enabled mobile device (*convenience* and *instant connectivity*) (Rainer & Prince, 2022). Due to growing smartphone penetration, the ability of capturing location data and tracking online customer behaviour, mobile devices have become a great tool for target marketing (*personalisation*) (Duhan & Singh, 2019; Rainer & Prince, 2022). Wireless technology in mobile devices enables businesses to identify and track the location of user through GPS, enabling them to identify the location of the customer and send messages according to their present location in real time (*localisation*) (Duhan & Singh, 2019).

Researchers have emphasised numerous benefits that businesses (including SMEs) may reap from m-commerce and its various applications. These benefits include improved productivity and communication channels, reduced operational costs, stimulation of new product development, increased revenue and customer satisfaction (Chau & Deng, 2018; Rana et al., 2018). The benefits of m-commerce to SMEs are discussed in the next section.

2.3.2.2. *Benefits of m-commerce to SMEs*

M-commerce is recognised as a cost-efficient method for businesses to promote their offerings online (Chau & Deng, 2018). According to Fetaji, Fetaji and Snopce (2020), the key benefits of using m-commerce in businesses include global reach,

suitability for both large and small enterprises, ease in reaching customers through smartphones, customer satisfaction, online store opportunities and improved accessibility. In terms of small enterprises, Li and Wang (2018) state that m-commerce can considerably benefit SMEs without requiring large investments and changes to business processes. Furthermore, m-commerce appears to be particularly suitable for SMEs (Li & Wang, 2018). Khaskheli et al. (2017) highlight that m-commerce could assist SMEs in the following areas:

- Expanding market reach – SMEs may be able to target more customers due to the online nature of the business.
- Increased income – broadened markets lead to an increased customer base which in turn may increase sales revenue.
- Enhanced communication with stakeholders – m-commerce offers SMEs the opportunity to improve communication with customers and suppliers, leading to improvements in service quality, stronger relationships and less likelihood of ambiguity in distributing the right product or service timeously.
- Improved company image – the use of m-commerce may portray the business as a modern entity.
- Improved staff productivity – technology may enable staff/employees to perform tasks more efficiently.

Although m-commerce offers numerous benefits, SMEs in many developing countries have not entirely embraced m-commerce (as discussed in chapter 1) (Omonedo, 2016; Fahriawan, 2020; Chau et al., 2021; Salimon et al., 2021). It has been argued that the adoption of m-commerce is a complex process involving several factors impacting businesses (Chau et al., 2021). Salimon et al. (2021) state that SMEs have not been furnished with adequate guidelines on implementing m-commerce. The purpose of this study is, therefore, to identify the factors that influence the adoption of m-commerce adoption in South African retail SMEs and to synthesise a framework based on these factors to support South African retail SMEs in enhancing the use of m-commerce in their marketing activities. The factors that influence the m-commerce adoption in organisations and SMEs in particular are discussed in chapter 3.

2.4. SUMMARY

Chapter 2 provided an overview of the SME sector. The definition of an SME was provided from a global perspective and within the South African context. The role and contribution of SMEs to the economy was emphasised followed by a brief discussion on the challenges faced by SMEs. Lastly, the role of ICT in marketing and SME development was highlighted, with a particular focus on e-commerce and m-commerce. In the next chapter (chapter 3), a literature review on m-commerce adoption in organisations including SMEs is conducted. Common theories and models that have been applied in research to better understand the adoption of m-commerce are reviewed and a preliminary conceptual framework is presented.

CHAPTER 3: FACTORS INFLUENCING M-COMMERCE ADOPTION IN ORGANISATIONS INCLUDING SMEs

3.1. INTRODUCTION

Chapters 1 and 2 provided an overview of m-commerce and its benefits such as enhanced productivity, lower costs, improved customer satisfaction, better product and service promotion and increased competitiveness to SMEs (Al-Qirim, 2006; Chimaobi & Chizoba 2014; Otieno & Kahonge, 2014; Khaskheli et al., 2017; Li & Wang, 2018; Pankomera & van Greunen, 2018; Rana et al., 2019; Fatoki, 2020; Fahriawan, 2020; Chau et al., 2021). M-commerce is seen as a particularly important aspect of business and a strategic tool for SMEs (Yahaya et al., 2022). SMEs in developing countries, however, fall behind in terms of m-commerce adoption (Omonedo, 2016; Fahriawan, 2020; Chau et al., 2021; Salimon et al., 2021). The adoption of m-commerce by SMEs may be a challenging process because it is influenced by various internal and external factors (Chau et al., 2021). Gaining a deeper knowledge of the factors that drive the adoption of m-commerce may assist SMEs enhance their use and acceptance of m-commerce (Chau et al., 2021). Several theories and models have been used in the literature to investigate the factors that influence adoption of m-commerce among SMEs.

Chapter 3 provides an extensive review of the literature in the context of m-commerce adoption in organisations including SMEs. The most prevalent theories and models that have been used to better understand the adoption of m-commerce are outlined. Thereafter, a preliminary conceptual framework is presented, highlighting the factors that may influence m-commerce adoption in SMEs.

3.2. M-COMMERCE ADOPTION – A REVIEW OF THEORIES AND MODELS APPLIED

The literature reveals various theories and models that have been used and modified to understand the adoption of m-commerce among individuals and organisations. These include the Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Task-Technology Fit (TTF), Fit-Viability Model (FVM),

Diffusion of Innovations Theory (DOI), Technology-Organisation-Environment Framework (TOE), Institutional Theory, Resource-Based Theory (RBT), Relational Context and Information Systems (IS) Success Model (Alfahl et al., 2017; Van den Berg & Van der Lingen, 2019; Chau, 2020; Al-Naimat, Alnuaimi, Abdulaal & Almuiet, 2020; Taherdoost, 2022; Yahaya et al., 2022). The essence of each of these theories and models is highlighted in the following sections (3.2.1 – 3.2.12).

3.2.1. Theory of Reasoned Action

The Theory of Reasoned Action (TRA) was introduced by Fishbein and Ajzen (1975) to predict behavioural intention. It explains the connection between attitude and behaviour of individuals (Tuffour, Akuffo, Kofi, Frimpong & Sasu, 2018; Aziz, Harun, Baharom & Kamaruddin, 2020), and assumes that specific behaviour in individuals is determined by their intention to perform (behavioural intention) which, in turn, is a function of two determinants: attitude toward behaviour and subjective norm (Fishbein & Ajzen, 1975). TRA was later extended to TPB which includes a new determinant, perceived behavioural control (the individual belief that one has control over a specific behaviour) (Figure 3.1) (Ajzen, 1991). TPB is explained in section 3.2.2.

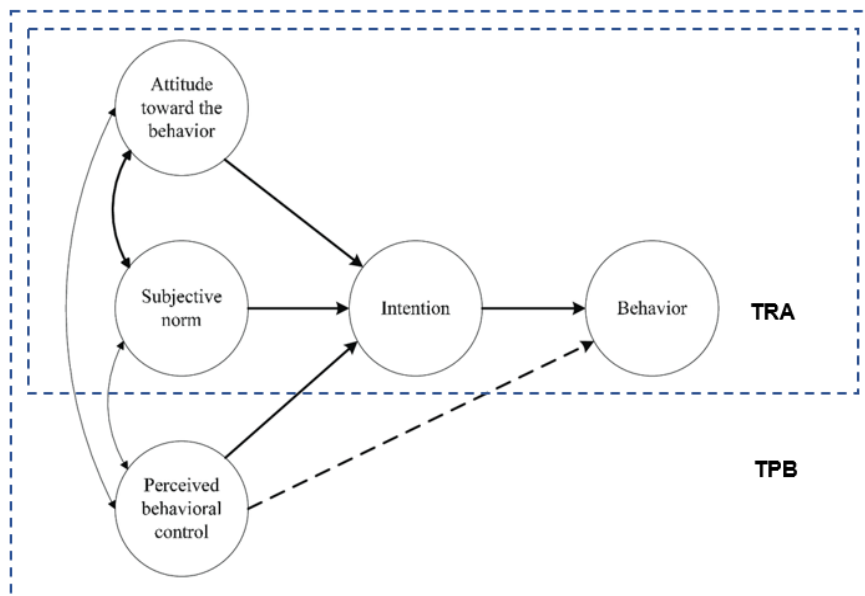


Figure 3.1: Theory of Reasoned Action and Theory of Planned Behaviour

Source: Adapted from Fishbein and Ajzen (1975) and Ajzen (1991)

3.2.2. Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB), an extended version of TRA, was necessitated by the limitations of the TRA to deal with individuals that have incomplete volitional control (Ajzen, 1991). TPB predicts deliberate behaviour as that which can be meditative and planned (Tuffour et al., 2018). TPB suggests that attitude toward behaviour, subjective norm, and perceived behavioural control have a significant impact on behavioural intention and actual behaviour (Figure 3.1) (Ajzen, 1991).

3.2.3. Technology Acceptance Model

The Technology Acceptance Model (TAM) is one of the most influential models of technology acceptance (Fahriawan, 2020; Taherdoost, 2022) with perceived usefulness and perceived ease of use being the two main factors that influence an individual's intention to accept and use new technology (Davis, 1986). TAM assumes that when technology is viewed as both useful and user-friendly then individuals may be willing to use that technology (Davis, 1986). TAM was originally formulated by Davis (1986) using the TRA as a foundation (Figure 3.1) (Varajão, Carvalho, Silva & Pereira, 2022). Later research by Venkatesh and Davis (1996) discovered that perceived usefulness and perceived ease of use had a direct impact on behaviour intention, removing the attitude construct from the original TAM.

Through further development to improve the model, an extended version of TAM was proposed by Venkatesh and Davis (2000), Technology Acceptance Model 2 (TAM2). TAM2 integrated two additional processes, namely, social influence processes (subjective norm, image and voluntariness) as well as cognitive instrumental processes (job relevance, result demonstrability and output quality) (Taherdoost, 2022). Based on the foundation of TAM2, Venkatesh and Bala (2008) proposed Technology Acceptance Model 3 (TAM3) (Figure 3.2). The evolution of TAM to TAM3 included variables for antecedents that influence perceived ease of use, namely, anchors (computer self-efficacy, computer anxiety, computer playfulness and perceptions of external control) and adjustments (objective usability and perceived enjoyment) (Varajão et al., 2022).

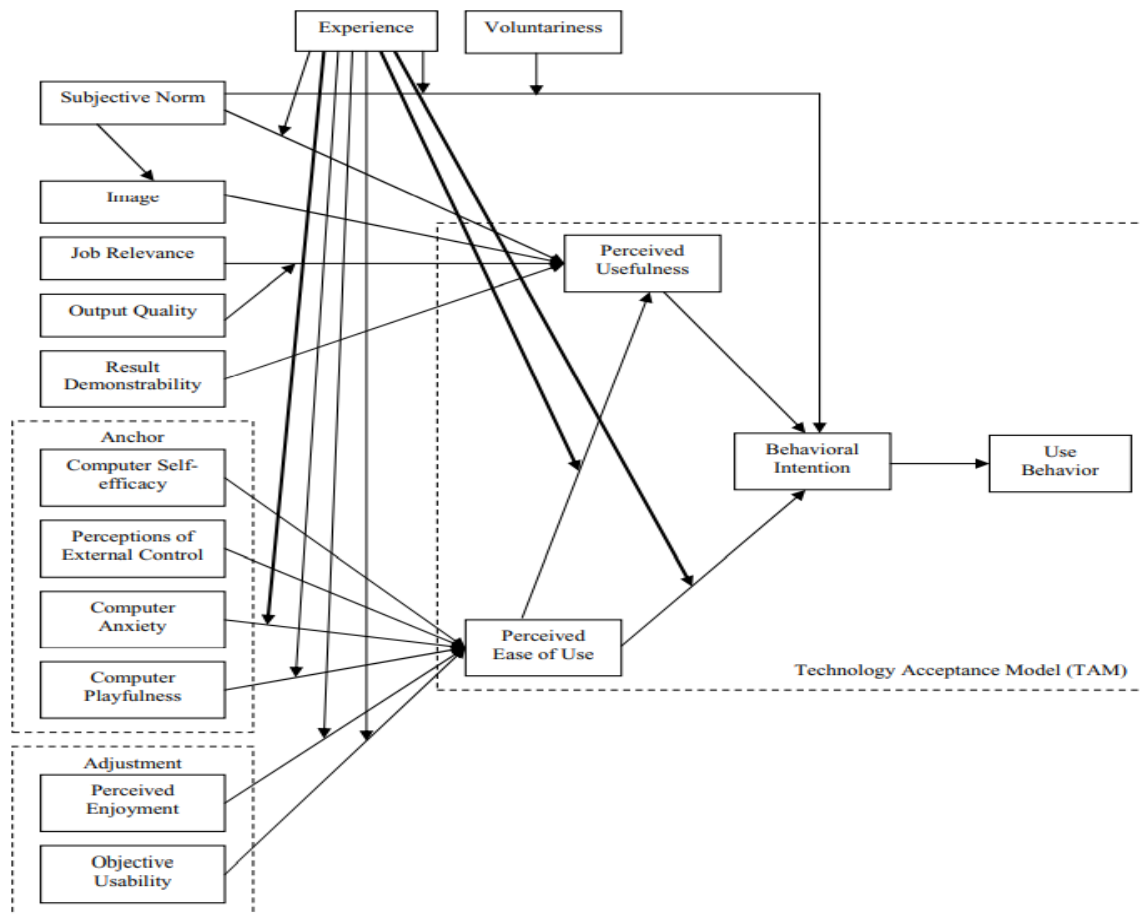


Figure 3.2: Technology Acceptance Model 3

Source: Venkatesh and Davis (1996)

3.2.4. Unified Theory of Acceptance and Use of Technology

Venkatesh, Morris, Davis and Davis (2003) developed Unified Theory of Acceptance and Use of Technology (UTAUT) by integrating eight theories and models: DOI, TRA, TAM, TPB, C-TAM-TPB (a combination of the TAM and TPB) MM (Motivational Model), MPCU (Model of PC Utilization) and SCT (Social Cognitive Theory). In this unified theory, four constructs are proposed as predictors of behavioral intent: facilitating conditions, social influence, effort expectancy and performance expectancy (Venkatesh et al., 2003). UTAUT was extended by Venkatesh, Thong and Xu (2012) to investigate technology adoption and application in a consumer environment. The proposed theory, Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) incorporates three additional constructs to UTAUT: habit, price value and hedonic motivation (Figure 3.3).

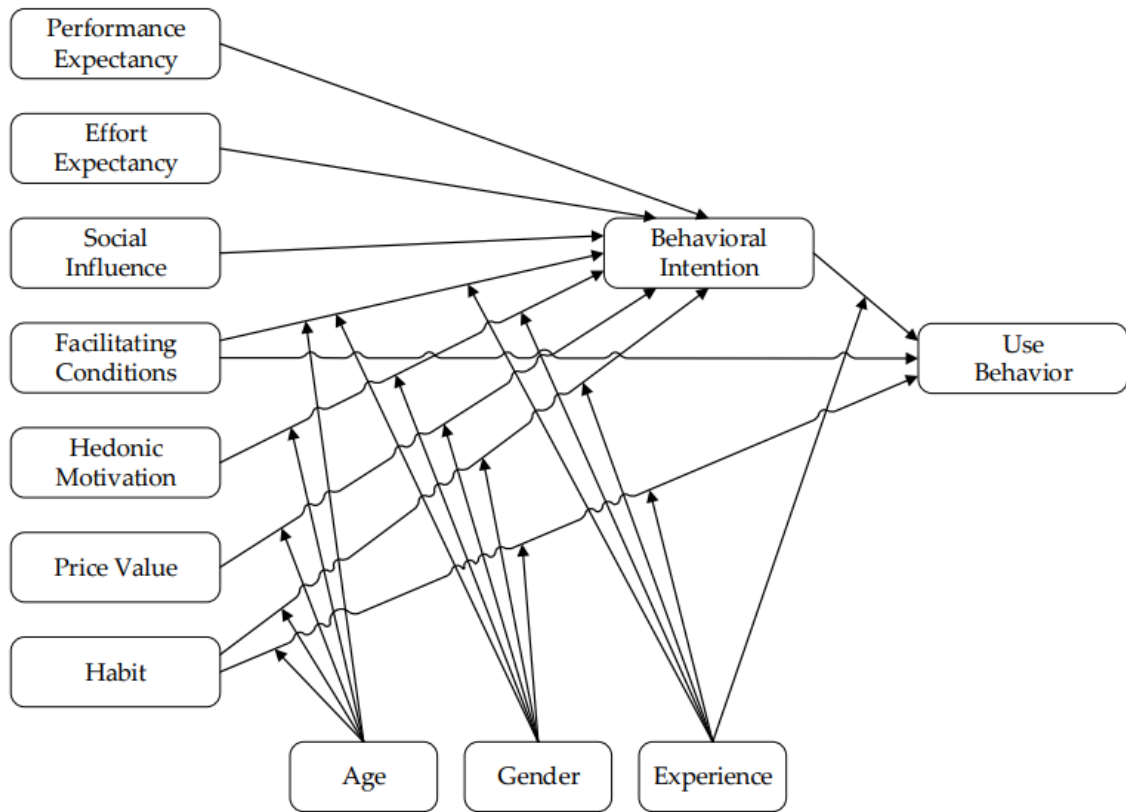


Figure 3.3: Unified Theory of Acceptance and Use of Technology 2

Source: Venkatesh et al. (2012)

3.2.5. Task-Technology Fit

The Task-Technology Fit (TTF) model was established by Goodhue and Thompson (1995), which suggests that technology must be well-suited to the task in order to have a beneficial impact on individual performance. The TTF model, Figure 3.4, illustrates that both task and technology characteristics have an influence on the task-technology fit, which in turn affects individual performance and actual utilisation.

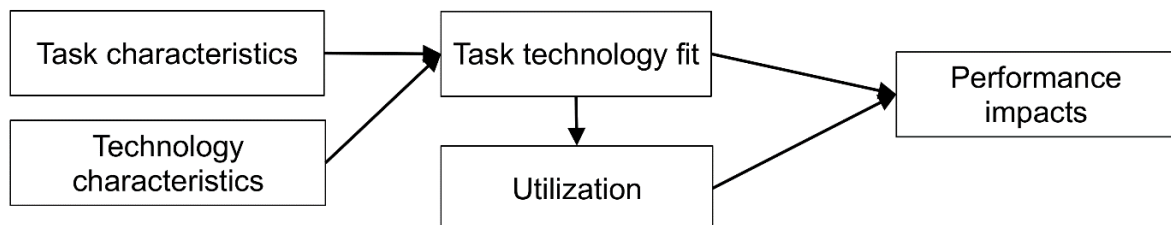


Figure 3.4: Task-Technology Fit model

Source: Goodhue and Thompson (1995)

3.2.6. Fit-Viability Model

Tjan (2001) proposed the Fit-Viability Model (FVM) which consists of two dimensions for evaluating internet initiatives – fit and viability – to study m-commerce applications (Figure 3.5) (Liang & Wei, 2004; Liang, Huang, Yeh & Lin, 2007). As shown in Figure 3.5, fit examines task and technology and viability is measured by using the economic, IT infrastructure and organisation readiness for technology adoption.

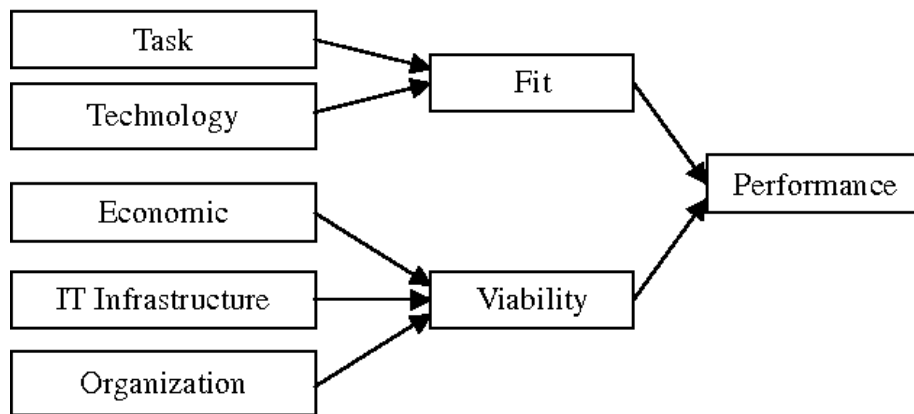


Figure 3.5: Fit-Viability Model

Source: Liang et al. (2007)

3.2.7. Diffusion of Innovations Theory

The Diffusion of Innovations Theory (DOI), also referred to as the Innovation Diffusion Theory (IDT), was developed to describe the rate of technology adoption through various channels and stages as can be seen in Figure 3.6 (Rogers, 1962; Rogers, 2003). DOI is a useful systemic framework that aims to explain how, why and at what rate at which new ideas and technology is adopted among individuals and organisations (Rogers, 1962; Taherdoost, 2022). DOI assumes that individuals and organisations may have varied degrees of enthusiasm for adopting innovation, and their decision-making characteristics would alter over time or based on where they are in the adoption process (Van den Berg & Van der Lingen, 2019).

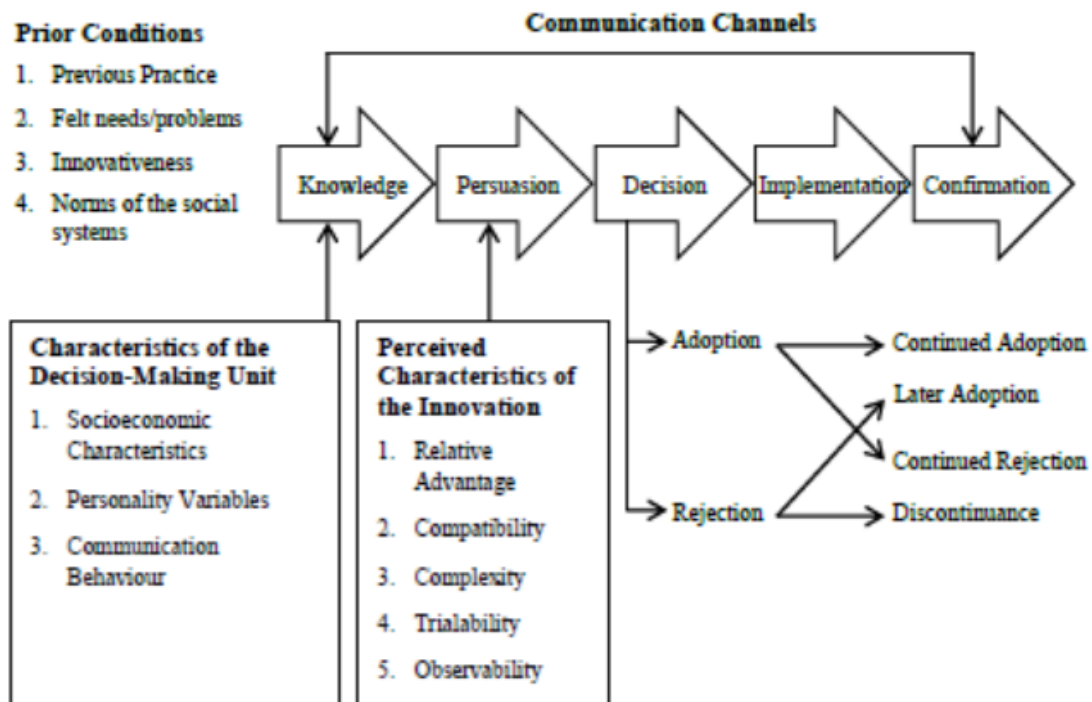


Figure 3.6: Diffusion of Innovations Theory

Source: Rogers (2003)

3.2.8 Technology-Organisation-Environment Framework

The Technology-Organisation-Environment (TOE) framework introduced by Tornatzky and Fleischer (1990), recognises three contexts that influence the acceptance and adoption of technological innovations: technological, organisational and environmental (Figure 3.7). The TOE framework serves as a valuable analytical framework for examining technology adoption (Van den Berg & Van der Lingen, 2019; Malik, Chadhar, Vatanasakdakul & Chetty, 2021).

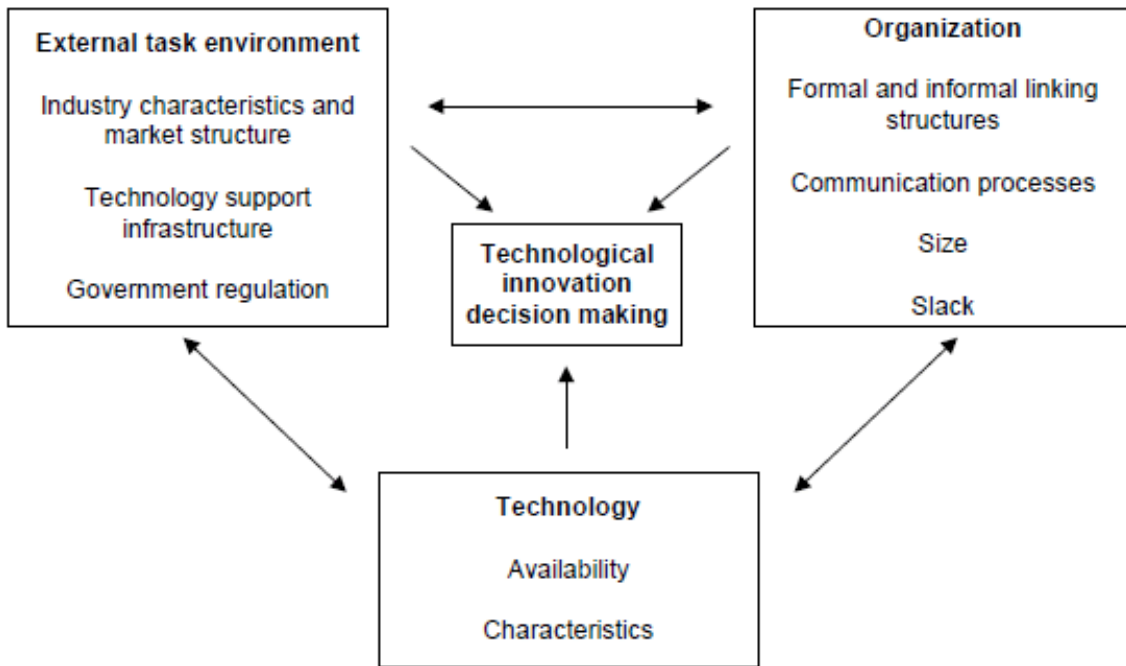


Figure 3.7: Technology-Organisation-Environment Framework

Source: Tornatzky and Fleischer (1990)

3.2.9. Institutional Theory

Institutional Theory assumes that organisations attempt to respond to the demands of their institutional environment to gain legitimacy (DiMaggio & Powell 1983). An organisation may be influenced by three primary types of institutional pressures, namely, mimetic, normative and coercive (Figure 3.8) (DiMaggio & Powell 1983).

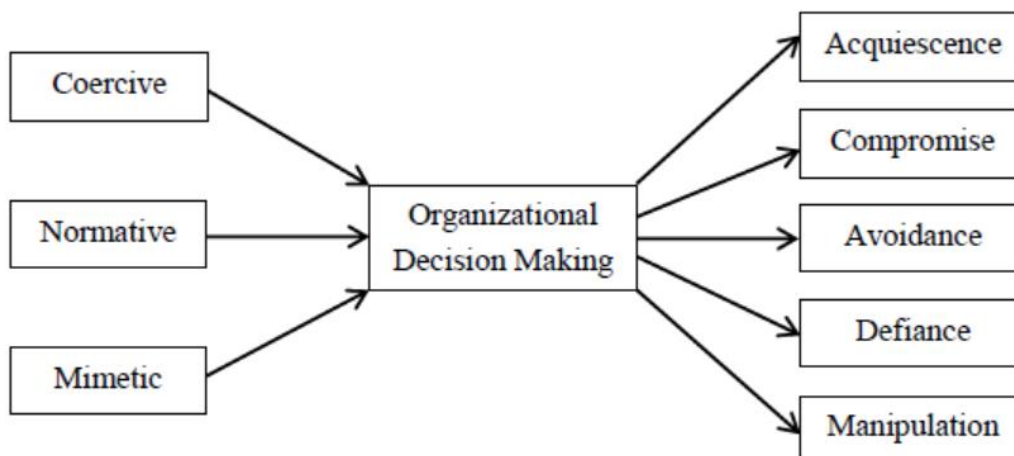


Figure 3.8: Institutional Theory

Source: DiMaggio and Powell (1983)

3.2.10. The Resource-Based Theory (RBT)

The Resource-Based Theory (RBT), also referred to as the Resource-Based View (RBV), suggests that an organisation can create value and develop a sustainable competitive advantage by exploiting resources that are: economically valuable, relatively scarce, difficult to imitate and immovable across organisations. It creates performance advantages by integrating resources that collaborate in enhancing organisational capabilities (Figure 3.9) (Barney, 1986).

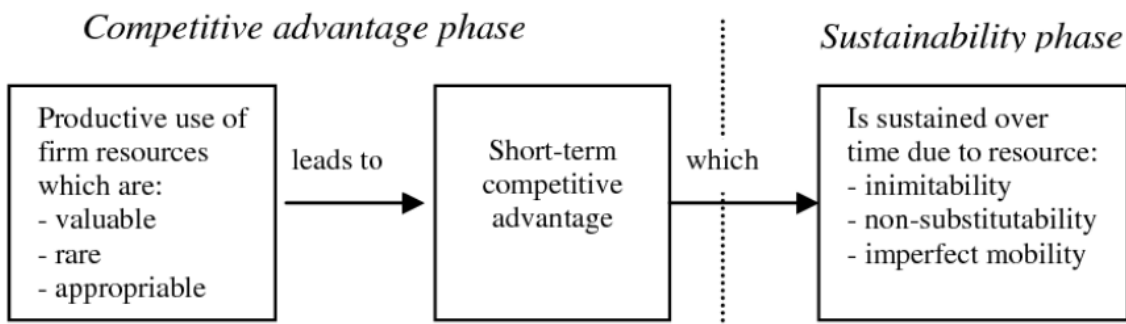


Figure 3.9: The Resource-Based Theory

Source: Calvert and Seddon (2004)

3.2.11. Relational Context

Relational Context is used to examine four sources of inter-organisational competitive advantage: relation-specific assets, knowledge sharing routines, complementary resources and capabilities, and informal self-enforcing governance mechanism (Figure 3.10) (Dyer & Singh, 1998).

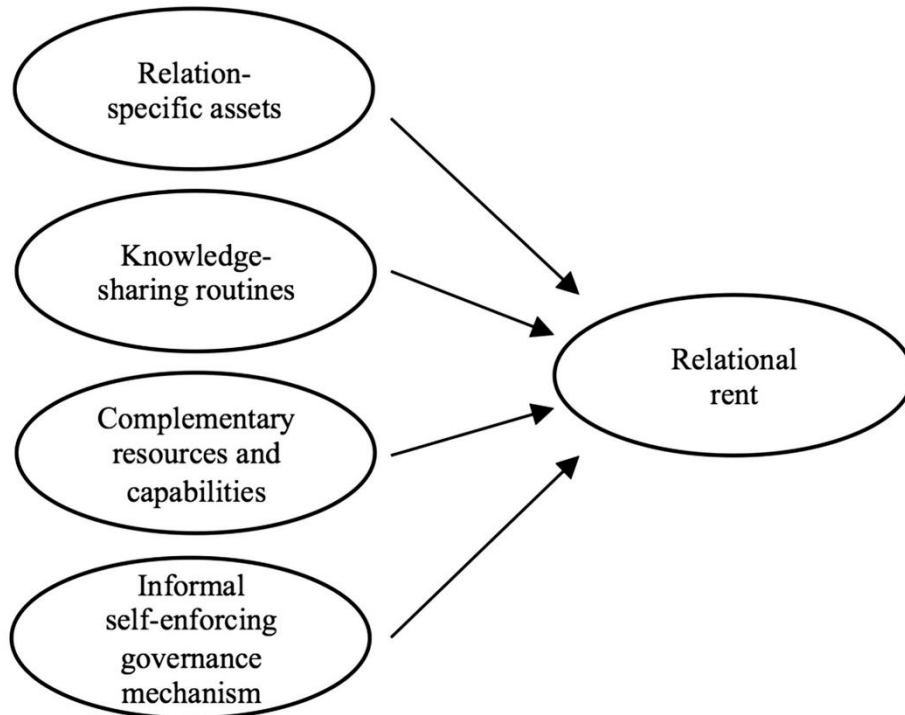


Figure 3.10: Relational Context

Source: Dyer and Singh (1998)

3.2.12. Information Systems (IS) Success Model

The Information Systems (IS) Success Model was presented by DeLone and McLean (1992) to provide framework for IS research and to identify key factors that influence IS success. DeLone and McLean (1992) identified six factors of IS success: system quality, information quality, user satisfaction, use, organisational impact and individual impact. DeLone and McLean (2003) updated the IS Success Model (Figure 3.11) to include six interrelated factors that influence IS success: service quality, system quality, information quality, user satisfaction, (intention to) use and net benefits.

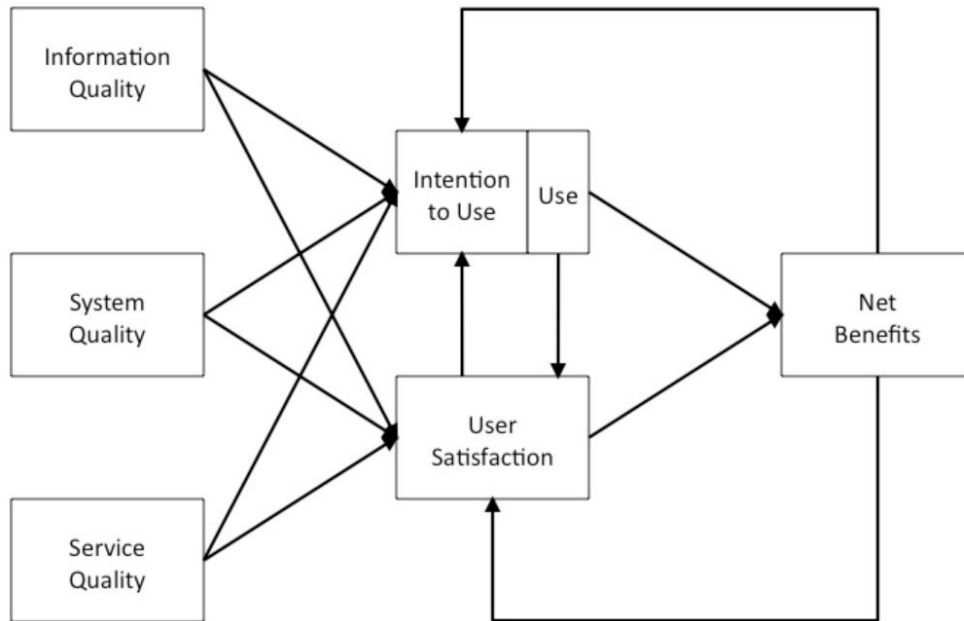


Figure 3.11: Information Systems Success model

Source: DeLone and McLean (2003)

The above theories and models have been applied in research to acquire a better understanding of the adoption of m-commerce in two contexts: organisational and individual. The focus of this study is on m-commerce adoption at an organisational level (specifically SMEs). TOE and DOI have been widely used in research to explore and investigate the factors that influence m-commerce adoption in organisations (including SMEs), while individual-level theories and models such as TAM have been exploited in both individual and organisational contexts due to their robustness and ease of application (Song & Sohn, 2022). Previous research conducted on the adoption of m-commerce in organisations (including SMEs) is highlighted in the next section.

3.3. M-COMMERCE ADOPTION IN ORGANISATIONS (INCLUDING SMES)

Table 3.1 presents a summary of research studies conducted on the adoption of m-commerce in organisations and highlights the theories and models that have been applied in each study.

Table 3.1: Research studies conducted on m-commerce adoption in organisations

Authors/date	Title	Theories/ models	Sample
Iuga & Wainberg (2023)	Factors that influence the implementation of m-commerce by Romanian SMEs during the COVID-19 pandemic	Not explicitly stated	SMEs (Romania)
Alaskar & Alsadi (2023)	Drivers of mobile commerce adoption intention by Saudi SMEs during the COVID-19 pandemic	TOE	SMEs (Saudi Arabia)
Justino, Tengeh & Twum-Darko (2022)	A revised technology–organisation–environment framework for brick-and-mortar retailers adopting m-commerce	TOE	SMEs (Angola)
Makelana, De Sward & Segooa (2022)	Optimizing mobile commerce to improve small and medium enterprises markets	DOI	SMEs (South Africa)
Matlakala (2021)	Determinants of mobile commerce adoption by small and medium enterprises in Polokwane municipality	TOE + TAM	SMEs (South Africa)
Yahaya, Hamid & Nafi (2022)	Determinants for m-commerce adoption in Malaysian SMEs: A conceptual framework	UTAUT + TTF	SMEs (Malaysia)
Rahman & Islam (2022)	Identifying factors affecting adoption of mobile payment system by SMEs in Bangladesh	UTAUT	SMEs (Bangladesh)
Chingapi & Steyn (2022)	SMEs in South Africa: The era of adopting mobile payment solutions	TOE	SMEs (South Africa)
Salimon, Kareem, Mokhtar, Aliyu, Bamgbade & Adeleke (2021)	Malaysian SMEs m-commerce adoption: TAM 3, UTAUT 2 and TOE approach	TAM + UTAUT + TOE	SMEs (Malaysia)
Pipitwanichakarn & Wongtada (2021)	Leveraging the technology acceptance model for mobile commerce adoption under distinct stages of adoption	TAM	Street vendors (Thailand)

Chau, Deng & Tay (2021)	A perception-based model for mobile commerce adoption in Vietnamese small and medium-sized enterprises	TOE	SMEs (Vietnam)
Chau, Deng & Tay (2020)	Critical determinants for mobile commerce adoption in Vietnamese small and medium-sized enterprises	TOE + DOI	SMEs (Vietnam)
Chau (2020)	Critical determinants for mobile commerce adoption in Vietnamese small and medium-sized enterprises	TOE + DOI	SMEs (Vietnam)
Fatoki (2020)	Determinants of intention to adopt mobile commerce by small hospitality firms	DOI + TOE	Hospitality SMEs (South Africa)
Al-Naimat, Alnuaimi, Abdulaal & Almuiet (2020)	Determinants of m-commerce usage in Jordanian hospitality industry	TAM + IS Success Model	Hospitality SMEs (Jordan)
Fahriawan (2020)	Determinant factors of m-commerce adoption by SME in Indonesia: The TAM model approach	TAM	SMEs (Indonesia)
Sparks, Adeniyi & Jokonya (2019)	Investigating the barriers of m-commerce adoption within SMMEs in Cape Town	TOE	SMEs (South Africa)
Utami, Astuti, Ramadhan, Trialih & Aprilian (2019)	The interests of small- and medium-sized enterprises (SMEs) actor in using mobile commerce in effort to expand business network	Grounded theory	SMEs (Surabaya City)
Rana, Barnard, Baabdullah, Rees & Roderick (2019)	Exploring barriers of m-commerce adoption in SMEs in the UK: Developing a framework using ISM	TOE	SMEs (UK)
Alqatan, Noor, Man & Mohammad (2019)	An empirical study on factors affecting the acceptance of M-commerce application among small and medium-sized tourism enterprises by integrating TTF with TAM	TFF + TAM	Tourism SMEs (Jordan)
Van den Berg & Van der Lingen (2019)	An empirical study of the factors affecting the adoption of mobile enterprise applications	TOE + TAM + DOI + FVM +	Organisations – All sizes (South Africa)

		UTAUT	
Pipitwanichakarn & Wongtada (2019)	Mobile commerce adoption among the bottom of the pyramid: A case of street vendors in Thailand	TAM	Street vendors (Thailand)
Chau & Deng (2018)	Critical determinants for mobile commerce adoption in Vietnamese SMEs: A conceptual framework	DOI + TOE	SMEs (Vietnam)
Li & Wang (2018)	M-commerce adoption in SMEs of China: The effect of institutional pressures and the mediating role of top management	Institutional Theory	SMEs (China)
Tuffour, Akuffo, Kofi, Frimpong & Sasu (2018)	Adoption of mobile commerce and service in Adentan Municipality of Ghana: An examination of factors influencing small scale enterprises	Not explicitly stated	Small enterprises (Ghana)
Alfahl, Houghton & Sanzogni (2017)	Mobile commerce adoption in Saudi organizations: A qualitative study	TAM + DOI + TPB + TRA + TOE + UTAUT	Telecommunication and banking organisations (Saudi Arabia)
Amegbe, Hanu & Nuwasiima (2017)	Small-scale individual entrepreneurs (SIEs) and the usage of mobile money (m-money) and mobile commerce (m-commerce) in facilitating business growth	TAM	SMEs (Ghana)
Chakuzira, Kadyamatimba & Shambare (2017)	A review of mobile commerce applications for small medium enterprises in South Africa	Grounded theory	SMEs (South Africa)
Alqatan, Noor, Man & Mohammad (2017)	A theoretical discussion of factors affecting the acceptance of m-commerce among SMTEs by integrating TTF with TAM	TFF + TAM	Tourism SMEs (Jordan)
Omonedo (2016)	Factors that influence the successful adoption of m-commerce via sim-enabled devices in Nigeria	Not explicitly stated	SMEs (Nigeria)
Grandhi & Wibowo (2016)	Mobile commerce adoption in North American organizations: An empirical study of organizational factors	TAM + DOI	Organisations – All sizes (North America)

Li & Tao (2016)	Institutional pressures, top management and m-commerce adoption in organizations: An empirical study of SMEs in China	Institutional Theory	SMEs (China)
Njenga, Litondo & Omwansa (2016)	A theoretical review of mobile commerce success determinants	Not explicitly stated	Organisations – All sizes
Lu, Hu, Huang & Tzeng (2015)	Evaluating the implementation of business-to-business m-commerce by SMEs based on a new hybrid MADM model	TOE	SMEs (Taiwan)
Maduku (2015)	Determinants of mobile marketing adoption among SMEs in South Africa.	TOE + TPB	SMEs (South Africa)
Martin & Jimenez (2015)	A typology of firms regarding m-commerce adoption	TOE	Organisations – All sizes (Spain)
Prasarry, Astuti & Suyadi (2015)	Factors affecting the adoption of mobile commerce (A study on SMEs in Malang)	UTAUT + TTF	SMEs (Malang)
Alrawabdeh (2014)	Environmental factors affecting mobile commerce adoption - An exploratory study on the telecommunication firms in Jordan	TAM + DOI + TRA	Telecommunication organisations (Jordan)
Otieno & Kahonge (2014)	Adoption of mobile payments in Kenyan businesses: A case study of small and medium enterprises (SME) in Kenya	TOE	SMEs (Kenya)
Picoto, Belanger, & Palma-dos-Reis (2014)	An organizational perspective on m-business: Usage factors and value determination	TOE + DOI + RBT	Organisations – All sizes (Portugal)
Mashagba, Mashagba & Nassar (2013)	Exploring technological factors affecting the adoption of M-commerce in Jordan	TAM	Telecommunication organisations (Jordan)
Martín, López-Catalán & Ramón-Jerónimo (2012)	Factors determining firms' perceived performance of mobile commerce	TOE + Relational Context	Organisations – All sizes (Spain)
Picoto, Belanger, &	Leveraging on mobile business to	TOE + DOI	Organisations –

Palma-dos-Reis (2012)	enhance firm performance: An organizational level study	+ RBT	All sizes (Portugal)
Alfahl, Sanzogni & Houghton (2012)	Mobile commerce adoption in organizations: A literature review and future research directions	TAM + DOI + TPB + TRA + TOE + UTAUT	Organisations – All sizes
Jain, Le, Lin & Cheng (2011)	Exploring the factors favoring m-commerce adoption among Indian MSMEs: A TOE perspective	TOE	SMEs (India)
Chen (2010)	An exploratory research on adoption of mobile commerce technology in the supply chain	TOE	Organisations – All sizes (China)
Mbogo (2010)	The impact of mobile payments on the success and growth of micro-business: The case of M-Pesa in Kenya	TAM	SMEs (Kenya)
Zeeshan, Cheung & Scheepers (2009)	Influencing factors for the adoption of m-commerce applications: A multiple case study	Not explicitly stated	Organisations – All sizes (Australia)
Doolin & Ali (2008)	Adoption of mobile technology in the supply chain: An exploratory cross-case analysis	TOE	Organisations – All sizes (New Zealand)
Lee, Cheng & Cheng (2007)	An empirical study of mobile commerce in insurance industry: Task-technology fit and individual differences	TTF	Insurance organisations (Asia Pacific group)
Liang, Huang, Yeh & Lin (2007)	Adoption of mobile technology in business: A fit-viability model	FVM	Organisations – All sizes (Asia Pacific group)
Swilley (2007)	An empirical examination of the intent of firms to adopt mobile commerce as a marketing strategy	Institutional Theory + Relational Context	Organisations – All sizes (United States)
Zeeshan, Cheung & Scheepers (2007)	Developing a collaborative organizational mobile commerce model	Not explicitly stated	Organisations – All sizes

Al-Qirim (2006)	Mobile commerce technologies penetration in small to medium-sized enterprises in New Zealand	DOI	SMEs (New Zealand)
Snowden, Spafford, Michaelides & Hopkin (2006)	Technology acceptance and m-commerce in an operational environment	TAM	Engineering SME (North-west England)

Source: Author's own compilation

Table 3.1 summarises 55 research studies on the adoption of m-commerce that were conducted in different countries and organisations. Researchers have used, extended and integrated the various theories and models (as discussed in section 3.1) to understand and examine the factors that influence the adoption of m-commerce in organisations. Based on the literature review, TOE, TAM, and DOI are the most extensively utilised theories and models in studying the adoption of m-commerce in organisations (Table 3.1). The application of these three theories/models (TOE, TAM and DOI) in previous studies is presented next.

3.3.1. TOE-based research studies on m-commerce adoption in organisations

The TOE framework has been widely explored from different perspectives in the adoption of m-commerce in organisations (refer to Table 3.1). For instance, Doolin and Ali (2008) adopted TOE for investigating the adoption of m-commerce in organisations in New Zealand. In their study, Doolin and Ali (2008) revealed relative advantage, compatibility, information intensity, top management support, organisational readiness, partner influence and competitive intensity as important factors influencing m-commerce adoption. Similarly, Chen (2010) employed TOE to explore the adoption of m-commerce in organisations in China and identified the same factors supported by Doolin and Ali (2008). Jain et al. (2011) identified ten factors influencing the adoption of m-commerce among SMEs in India including IS infrastructure, relative advantage, trialability, complexity, financial commitment, firm size, IS expertise, readiness, trading partner and external IS support. Otieno and Kahonge (2014) applied TOE for investigating the adoption of mobile payments in SMEs in Kenya and identified 11 critical factors including operational friendliness, perceived benefits, security concerns, top management support, organisation

readiness, organisation size, organisation scope, mimetic pressure, normative pressure, coercive pressure and competition intensity. Martin and Jimenez (2015) revealed that motives to adopt m-commerce, perceived benefits, impediments, propensity to innovation, perceived customer value, manager and employee support and competitive pressure are key factors that drive m-commerce in Spanish organisations. Lu et al. (2015) found network reliability, data security, technology complexity, competitive pressure, top management, organisation size, employees' IS knowledge, partner support and regulatory support as important factors influencing the decision to adopt m-commerce by SMEs in Taiwan. In the UK, Rana et al. (2019) also used TOE to explore m-commerce adoption in SMEs and identified ten impeding factors, namely, unawareness of benefits, inconvenience of use, perceived risk, perceived cost, lack of customer trust and confidence, lack of technology knowledge, lack of external pressure, compatibility issues and privacy, security issues and business strategy changes. Sparks et al. (2019) identified the barriers that have a significant effect of m-commerce adoption among SMEs in Cape Town as relative advantage, complexity, compatibility, top management support, organisational readiness, organisation size, competitive pressure, privacy and security. Chau et al. (2021) found that the five critical factors influencing m-commerce adoption among SMEs in Vietnam are perceived benefits, perceived security, perceived compatibility, perceived customer pressures and perceived organisational readiness (Chau et al., 2021). Chingapi and Steyn (2022) revealed that convenience, ease of use, risk, trust in service providers, device features and issues, system features, cost of fees, Bluetooth connection, company image and credibility, customer service and integrated systems have an impact on mobile payment adoption in South African SMEs. Alaskar and Alsadi (2023) found that the key drivers of m-commerce adoption intention among Saudi Arabian SMEs include perceived benefits, top management support and environmental uncertainty. Justino et al. (2022) extended the TOE framework and revealed that data security, technology competence, top management support, relative advantage, mobile distribution system readiness and critical mass were determinants for the use of m-commerce among retail SMEs in Angola.

While TOE provides a solid framework for investigating m-commerce adoption in organisations and is proven to be validated, it has been argued that the framework

does not delve into the managerial factors that have been confirmed as critical factors in technology adoption at an organisational level (Chau, 2020). Alfahl et al. (2017), Fatoki (2020), Zeeshan et al. (2009), Chau (2020) and Chau et al. (2021) extended the TOE framework to incorporate the managerial context in addition to the three existing contexts (technological, organisational, environmental) (Figure 3.7).

The use of TAM in research studies on organisational m-commerce adoption is highlighted in the next section.

3.3.2. TAM-based research studies on m-commerce adoption in organisations

Although TAM was originally developed to study technology adoption at an individual level, its application at an organisational level is not uncommon (Van den Berg & Van der Lingen, 2019). Several studies have applied and extended TAM in various contexts to understand m-commerce adoption behaviour in organisations (refer to Table 3.1). Snowden et al. (2006), for example, extended TAM to investigate m-commerce in an operations management environment and identified that perceived usefulness, complexity, perceived ease of use, individual differences, social influences, facilitating conditions and wireless trust environment are important factors for m-commerce adoption in organisations. Mbogo's (2010) study revealed that convenience, cost, accessibility, support and security can be attributed to behavioural intention to use and actual usage of mobile payment services by micro businesses. Mashagba et al. (2013) modified TAM to explore technological factors that impact the intention to adopt m-commerce in Jordan. Mashagba et al. (2013) found that perceived ease of use, perceived usefulness, e-commerce adoption level, trust, security and IT infrastructure have a significant effect on the intention to adopt m-commerce. Amegbe et al. (2017) extended TAM to explore the usage of m-money and m-commerce in small-scale individual entrepreneurs in Ghana and found five significant factors related to the use of m-money and m-commerce services, namely, perceived trust, perceived usefulness, perceived risk, perceived ease of use and perceived cost-effectiveness. Pipitwanichakarn and Wongtada (2019) extended TAM to investigate m-commerce adoption among street vendors in Thailand, revealing that perceived usefulness, perceived ease of use and trust are critical factors for the m-commerce adoption. Furthermore, Pipitwanichakarn and Wongtada (2021)

investigated m-commerce adoption under two distinct stages of adoption – initial and advanced adoption stages – and revealed significant similarities and dissimilarities between the two groups. The factors identified include perceived ease of use, perceived enjoyment, perceived usefulness and trust. Similarly, Fahriawan (2020) revised TAM to identify the factors that influence the adoption of m-commerce in Indonesian SMEs and found that intention to use m-commerce was directly influenced by perceived usefulness, external encouragement and resource factors.

While these studies applied TAM in identifying various factors that influence the adoption of m-commerce in organisations, internal and external factors such as technological influences, organisation size, organisational readiness, organisational innovativeness, and security have not been adequately investigated.

The following section focuses on DOI-based research studies on m-commerce adoption in organisations.

3.3.3. DOI-based research studies on m-commerce adoption in organisations

Al-Qirim (2006) applied DOI for examining m-commerce adoption in New Zealand SMEs and identified five factors that influence m-commerce adoption, namely, relative advantage, complexity, compatibility, cost and technology vendor support. Makelana et al. (2022) employed DOI for investigating the factors that influence m-commerce adoption in South African SMEs, trialability was found to be a significant factor.

While DOI has been widely publicised for investigating the adoption of innovation in organisations (Van den Berg & Van der Lingen, 2019), the validity of DOI for complex technological innovations in organisations has been questioned (Maduku, 2015; Van den Berg & Van der Lingen, 2019; Chau, 2020). Several scholars (Al-Qirim, 2006; Alfahl, Sanzogni & Houghton, 2012) have argued that DOI should be used together with other theories and models to provide a more holistic adoption model. As such, Table 3.1 summarily illustrates studies that have applied DOI together with other theories and models.

Researchers believe that integrating theories and models into a unified framework can yield a comprehensive understanding of m-commerce adoption in organisations

(Fatoki, 2020; Chau et al., 2020). Consequently, the integration of theories and models has been applied in numerous studies to investigate m-commerce adoption in organisations (Fatoki, 2020; Chau et al., 2020), as is highlighted in the next section.

3.3.4. Integration-based studies on m-commerce adoption in organisations

Various studies have integrated theories and models to provide a stronger theoretical base for understanding m-commerce adoption in organisations (refer to Table 3.2). Swilley (2007), for instance, integrated Institutional Theory and the Relational Context to examine the intention of organisations (in the United States) to adopt m-commerce. Swilley (2007) identified seven factors namely, perceived competitor success, perceived competitor adoption, perceived governmental regulations, top management championship, perceived customer pressure, perceived supplier pressure and perceived social network adoption as being conducive to m-commerce adoption. Alfahl et al. (2017) combined TAM, DOI, TPB, TRA, TOE and UTAUT to investigate factors that influence m-commerce adoption in Saudi Arabian organisations, revealing 15 factors including relative advantage, compatibility, perceived usefulness, perceived ease of use, complexity, organisational culture, organisational policy, top management support, ICT infrastructure, job-fit, policy and legal environment, subjective norm, trust, security and social factors. Picoto et al. (2012) combined TOE with DOI and RBT to determine the factors that impact the use of mobile business (m-business) in organisations in Portugal. Picoto et al. (2012) revealed that technology competence, relative advantage, technology integration, competitive pressure, managerial obstacles, partner pressure and mobile environment affect the adoption of m-business. Martín et al (2012) integrated TOE and the Relational Context to analyse the factors that have an impact on the organisations' perceived performance of m-commerce and confirmed three significant factors: fit (perceived compatibility), technological competence and customer value. The findings of Alrawabdeh (2014) after using TAM together with DOI and TRA suggest that regulatory environment, support industries, social influence, customer pressure, competitive pressure and government pressure influence the decision to adopt m-commerce in organisations in Jordan. Prasarry et al. (2015) applied UTAUT and TTF and found that effort

expectancy, performance expectancy and task-technology fit have a significant effect on m-commerce adoption in SMEs in Malang. Maduku (2015) integrated TOE with TPB for investigating determinants of mobile marketing adoption among South African SMEs. The results revealed that perceived cost, financial resources, perceived competitive pressure, relative advantage/compatibility, employee capability, perceived complexity, perceived vendor support and perceived enterprise size are critical determinants of mobile marketing adoption. Grandhi and Wibowo (2016) combined TAM with DOI to investigate m-commerce in North American organisations. They confirmed that perceived benefits, organisational strategy, inhibitors and interface design features are key factors of an organisation's willingness to adopt m-commerce. Alqatan et al. (2019) integrated TAM with TTF to determine the factors affecting the acceptance of m-commerce among SMEs in Jordan. The findings of the study (Alqatan et al., 2019) revealed four critical factors: perceived usefulness, perceived ease of use, trust and task-technology fit. Chau (2020) incorporated TOE and DOI to examine the critical determinants for m-commerce adoption in Vietnamese SMEs and confirmed eight critical determinants for m-commerce adoption, namely, perceived benefits, perceived security, perceived compatibility, organisational innovativeness, organisational readiness, government support, customer pressures and managers' IT knowledge. Van den Berg and Van der Lingen (2019) integrated TAM, DOI, TOE, FVM, and UTAUT to study the factors that influence IT adoption in South African organisations. They revealed that perceived technology usefulness, ease of use, organisational policies processes and systems, organisational resources, perceived competitive pressure, employee knowledge and readiness, IT infrastructure and industry trends are critical factors that influence the adoption of mobile enterprise applications. Al-Naimat et al. (2020) incorporated TAM and IS success model to explore the critical determinants of m-commerce among SMEs in Jordan. Al-Naimat et al. (2020) found four critical determinants having a significant impact on intention to adopt m-commerce: perceived usefulness, perceived ease to use, service quality and system quality. Fatoki (2020) integrated DOI and TOE to investigate the determinants of intention to adopt m-commerce by SMEs in South Africa. Fatoki (2020) found that perceived benefits, technological readiness, compatibility, employee capability, customer

pressure and top management support have a significant effect on the intention to adopt m-commerce.

Salimon et al. (2021) combined TAM, UTAUT and TOE to examine the factors that influence the adoption of m-commerce. Their study (Salimon et al., 2021) revealed that result demonstrability, computer self-efficacy, computer anxiety, knowledge of m-commerce, trading partner pressure and competitor pressure significantly influence the adoption of m-commerce in Malaysian SMEs. After integrating UTAUT with TTF, Yahaya et al. (2022) identified six factors that may influence the adoption of m-commerce among SMEs in Malaysia: effort expectancy, performance expectancy, facilitating conditions, social influence, perceived credibility and task-technology fit. Matlakala (2021) integrated TOE and TAM to investigate the determinants of m-commerce adoption among SMEs in South Africa. The findings of Matlakala (2021) indicated that perceived compatibility, perceived benefits, perceived costs, technology readiness, supplier pressure, customer pressure, competitor pressure and perceived usefulness significantly predicted m-commerce adoption among SMEs.

The theoretical underpinning for this study is highlighted in the following section.

3.4. THEORETICAL UNDERPINNING OF THE STUDY

This study was underpinned by the TOE framework. Although other theories/models have made significant contributions to technology adoption research, the TOE framework is said to have more explanatory power and a strong theoretical and empirical validation compared to other adoption theories/models at an organisation level, particularly SMEs (Handayani & Er, 2019; Eze, Chinedu-Eze, Bello, Inegbedion, Nwanji & Asamu, 2019; Malik et al., 2021; Eze, Chinedu-Eze & Awa, 2022).

The TOE framework distinguishes between three contexts (technological, organisational, and environmental) (Figure 3.7) for investigating technology adoption in organisations. The consideration of these three contexts has made the TOE framework invaluable as it provides a comprehensive understanding of the factors that affect technology adoption (Handayani & Er, 2019; Julies & Tranos, 2021).

Researchers have further acknowledged the overlapping nature between adoption theories and models (Eze et al., 2022). For instance, the Institutional Theory explains the Impact of the environmental context on technology adoption which is already included in the TOE framework (Malik et al., 2021). Similarly, the DOI explores technological and organisational contexts, both of which are included in the TOE framework (Malik et al., 2021; Eze et al., 2022). TOE is, therefore, a robust framework for studying m-commerce adoption in SMEs.

However, as mentioned earlier in the chapter (section 3.3.1), the TOE framework does not delve into identifying managerial factors in depth which have been confirmed as critical factors in technology adoption at an organisational level (Chau, 2020). Researchers such as Alfahl et al. (2017), Fatoki (2020), Zeeshan et al. (2009) as well as Chau (2020) extended the TOE framework to include the managerial context. Consequently, to provide a holistic overview, this study extended the TOE framework by incorporating the managerial context and conducting an extensive review of the literature to uncover the factors that influence m-commerce adoption. A preliminary conceptual framework for investigating the factors that may influence the adoption of m-commerce in South African SMEs is presented in the next section.

3.5. PRELIMINARY CONCEPTUAL FRAMEWORK – M-COMMERCE ADOPTION

A framework refers to a “structure, overview, outline, system or plan consisting of various descriptive categories” such as concepts, constructs or variables and the relationships between them that are thought to describe (but not explain) a specific phenomenon (Esmail, Hanson, Holroyd-Leduc, Brown, Strifler, Straus, Niven & Clement, 2020:3). Frameworks can be “simple or elaborate, commonsensical or theory driven, descriptive or causal” (Miles, Huberman & Saldana, 2014:20). A conceptual framework is the current version of a researcher’s map based on the topic of investigation, and as the researcher’s knowledge of the topic improves, the map becomes more integrated (Miles et al., 2014). Therefore, a conceptual framework may evolve as the research progresses (Miles et al., 2014). For this study, a preliminary conceptual framework was developed by reviewing existing literature and theories and models on m-commerce adoption in organisations (including SMEs). The aim of the preliminary conceptual framework was to provide a

robust baseline for m-commerce adoption among South African retail SMEs. Consequently, the preliminary conceptual framework is refined by applying qualitative and quantitative research methods. The research methodology behind the development of the conceptual framework is discussed in more detail in chapter 4 and the revised and proposed conceptual frameworks is illustrated in chapters 5, 6 and 7.

The preliminary conceptual framework and proposed hypotheses for the study are presented in Figure 3.12 and comprises 18 factors, classified under four main contexts: technological, organisational, environmental and managerial. Each of these contexts, along with the identified factors and proposed hypotheses is highlighted in the next section.

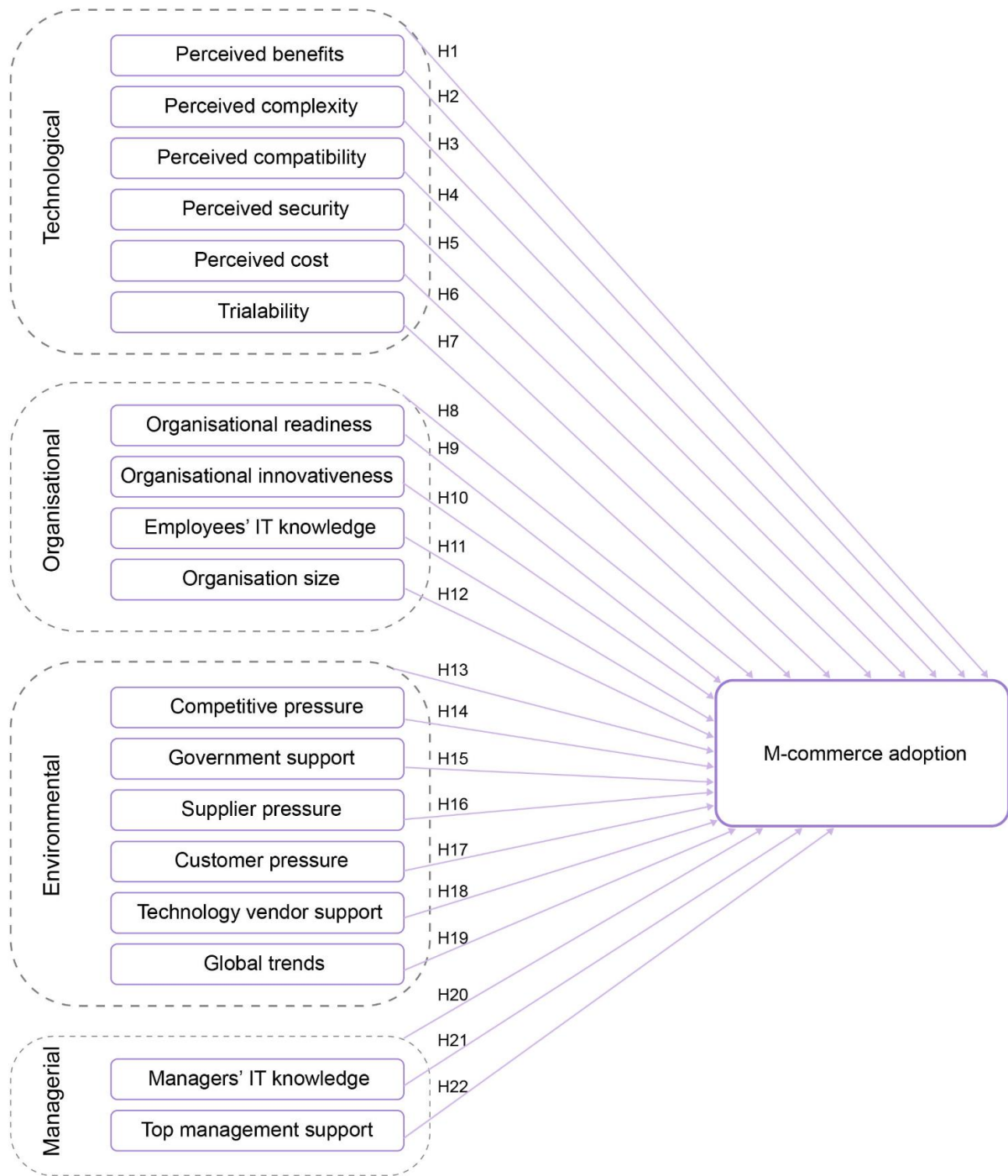


Figure 3.12: Preliminary conceptual framework – m-commerce adoption

3.5.1. Technological context

The technological context of the preliminary conceptual framework (Figure 3.12) refers to the characteristics of the technology (internal and external to the organisation) that are suitable for the organisation (Sparks et al., 2019; Eze et al.,

2022). The technological context extends to technologies that are currently in use or available in the marketplace but not used by the organisation (Sparks et al., 2019; Eze et al., 2022). According to Eze et al. (2022), the technological context represents both the internal and external advantages of technology attributed to enhancing organisational productivity and operational efficiency. Furthermore, the knowledge acquired by the organisation, whether internal or external, may inspire innovation that may contribute positive changes to the organisation (Eze et al., 2022). From the literature review, 22 factors that influence the adoption of m-commerce were identified within the technological context, as presented in Table 3.2.

Table 3.2: Factors within the technological context that influence m-commerce adoption in organisations

Technological factors identified	Description	Supporting literature
Perceived benefits	The advantages that may be obtained from adopting m-commerce and the degree to which m-commerce is anticipated to yield better performance.	Zeeshan et al. (2009); Otieno & Kahonge (2014); Martin & Jimenez (2015); Grandhi & Wibowo (2016); Chau & Deng (2018); Fatoki (2020); Chau (2020); Chau et al. (2020); Matlakala (2021); Chau et al. (2021); Alaskar & Alsadi (2023)
Perceived usefulness	The benefits that may be obtained from adopting m-commerce and the extent to which m-commerce can enhance job performance.	Alqatan et al. (2012); Amegbe et al. (2017); Alfahl et al. (2017); Van den Berg & Van der Lingen (2019); Pipitwanichakarn & Wongtada (2019); Alqatan et al. (2019); Fahriawan (2020); Al-Naimat et al. (2020); Pipitwanichakarn & Wongtada (2021)
Perceived ease of use	The degree to which m-commerce is relatively free of effort.	Snowden et al. (2006); Alfahl et al. (2012); Mashagba et al. (2013); Njenga et al. (2016); Alqatan et al. (2017); Amegbe et al. (2017); Alfahl et al. (2017); Van den Berg & Van der Lingen (2019); Pipitwanichakarn & Wongtada (2019); Alqatan et al. (2019); Al-Naimat et al. (2020); Pipitwanichakarn & Wongtada (2021)
Relative	The degree of perceived benefits from	Al-Qirim (2006); Doolin & Ali (2008); Chen (2010) Alfahl et al. (2012);

advantage	adopting m-commerce.	Picoto et al. (2012); Picoto et al. (2014); Maduku (2015); Alqatan et al. (2017); Sparks et al. (2019); Justino et al. (2022); Makelana et al. (2022); Alaskar & Alsadi (2023)
Perceived compatibility	The degree to which m-commerce is consistent with the business's values, work practices, culture and infrastructure. Compatibility also refers to the fit between m-commerce and organisations suppliers, customers and business structure.	Al-Qirim (2006); Doolin & Ali (2008); Chen (2010); Alfahl et al. (2012); Martín et al. (2012); Alfahl et al. (2017); Chau & Deng (2018); Rana et al. (2019); Sparks et al. (2019); Fatoki (2020); Chau (2020); Chau et al. (2020); Chau et al. (2021); Matlakala (2021); Makelana et al. (2022)
Perceived complexity	The degree of perceived difficulty in using m-commerce.	Snowden et al. (2006); Al-Qirim (2006); Jain et al. (2011); Alfahl et al. (2012); Maduku (2015); Lu et al. (2015); Alfahl et al. (2017); Chau & Deng (2018); Sparks et al. (2019); Makelana et al. (2022)
Trialability	The degree to which m-commerce may be tested for a limited period.	Jain et al. (2011); Makelana et al. (2022)
Operational friendliness	The effort required to use m-commerce.	Otieno & Kahonge (2014)
Performance expectancy	The belief that m-commerce will be advantageous.	Prasarry et al. (2015)
Effort expectancy	The level of ease associated with m-commerce.	Prasarry et al. (2015)
Result demonstrability	The level of individuals' belief that the benefits of m-commerce will be tangible, observable and communicable.	Salimon et al. (2021)
Computer self-efficacy	The degree to which individuals believe that they can perform a specific task using a computer.	Salimon et al. (2021)
Computer anxiety	The degree to which individuals experience apprehension when they are confronted with the possibility of using a computer.	Salimon et al. (2021)

Interface design features	The distinct characteristics of m-commerce sites and creating a user user-friendly environment.	Grandhi & Wibowo (2016)
Perceived cost	The costs associated with m-commerce.	Al-Qirim (2006); Maduku (2015); Amegbe et al. (2017); Chau & Deng (2018); Rana et al. (2019); Matlakala (2021); Alaskar & Alsadi (2023)
Job-fit	The capabilities of m-commerce to enhance individuals job performance and enable them to reach their job-related tasks.	Alfahl et al. (2012); Alfahl et al. (2017)
Task-technology fit	The extent to which the capabilities of m-commerce match the individuals' tasks.	Liang et al. (2007); Lee et al. (2007); Prasarry et al. (2015); Alqatan et al. (2017); Alqatan et al. (2019)
Suitability for business	The perception that the adoption of m-commerce may not be suitable for the specific type of business.	Omonedo (2016)
Perceived security	The level of security and privacy related to the use of m-commerce.	Alfahl et al. (2012); Mashagba et al. (2013); Otieno & Kahonge (2014); Njenga et al. (2016); Alfahl et al. (2017); Chau & Deng (2018); Chau (2020); Chau et al. (2020); Chau et al. (2021); Justino et al. (2022)
Perceived risk	The security concerns related to the use of m-commerce. The potential cost of m-commerce is weighed against the benefits of m-commerce.	Amegbe et al. (2017); Sparks et al. (2019); Rana et al. (2019)
Trust	The privacy concerns of using m-commerce and the level of trust in m-commerce and technology vendors.	Alqatan et al. (2012); Mashagba et al. (2013); Amegbe et al. (2017); Alfahl et al. (2017); Pipitwanichakarn & Wongtada (2019); Sparks et al. (2019); Rana et al. (2019); Pipitwanichakarn & Wongtada (2021)
Privacy and security	The privacy of information and security of financial data in relation to the use of m-commerce.	Sparks et al. (2019); Rana et al. (2019)

Source: Author's own compilation

Table 3.2 demonstrates that there are numerous overlapping factors among researchers regarding the technological context. Consequently, all the factors that shared the same purpose were categorised together using content analysis. The factors identified are specified below:

- *Perceived benefits*: Perceived benefits, perceived usefulness, relative advantage, performance expectancy and result demonstrability express the benefits of m-commerce.
- *Perceived complexity*: Perceived complexity, perceived ease of use, operational friendliness, effort expectancy, computer self-efficacy, computer anxiety and interface design features reflect the amount of effort required to use m-commerce.
- *Perceived compatibility*: Perceived compatibility, task-technology fit, job-fit and suitability for business refer to fit between m-commerce, the organisation, individuals and tasks.
- *Perceived security*: Perceived security, privacy and security, trust and perceived risk reflect the level of security and privacy related to the use of m-commerce.
- *Perceived cost*
- *Trialability*

The above six factors within the technological context that may influence the adoption of m-commerce among South African retail SMEs were included in the preliminary conceptual framework for investigation (Figure 3.12). Hence, the following hypothesis was proposed:

H1: There is a statistically significant relationship between the technology context and m-commerce adoption among South African retail SMEs.

The six factors within the technological context are discussed next in the context of an SME.

3.5.1.1. *Perceived benefits*

Perceived benefits refer to the advantages that SMEs may obtain when adopting m-commerce (Al-Naimat et al., 2020; Chau et al., 2021). The adoption of m-commerce may deliver various benefits to SMEs such as reduced costs, opportunities to reach new markets, enhanced productivity, increased revenue, expansion of communication channels to reach customers, improved customer service, stimulation of new product development, improved inventory control, better promotion of products and services, enhanced business image and the creation of a competitive advantage (Al-Qirim, 2006; Chimaobi & Chizoba 2014; Otieno & Kahonge, 2014; Khaskheli et al., 2017; Pankomera & van Greunen, 2018; Rana et al., 2019; Fatoki, 2020; Fahriawan, 2020; Chau et al., 2021). According to Rana et al. (2019), the opportunities and benefits of m-commerce are not always clear to SMEs, and for this reason, many SMEs place themselves in a disadvantageous position by not adopting m-commerce. Several studies have found that perceived benefits is a significant influencer of m-commerce adoption in SMEs (Pipitwanichakarn & Wongtada, 2019; Fahriawan, 2020; Al-Naimat et al., 2020; Fatoki, 2020; Chau, 2020; Matlakala, 2021; Salimon et al., 2021; Justino, Tengeh & Twum-Darko, 2022; Alaskar & Alsadi, 2023). Hence, the following hypothesis was proposed:

H2: There is a statistically significant relationship between perceived benefits and m-commerce adoption among South African retail SMEs.

3.5.1.2. *Perceived complexity*

Perceived complexity refers to the extent to which SMEs perceive m-commerce as difficult to understand and use (Sparks et al., 2019). It has been found to be an important factor affecting m-commerce adoption in SMEs (Lu et al., 2015; Prasarry et al., 2015; Omonedo, 2016; Pipitwanichakarn & Wongtada, 2019; Sparks et al., 2019). SMEs who regard m-commerce as difficult for themselves or for their customers may have a lower likelihood of adopting m-commerce (Omonedo, 2016). This led to the following proposed hypothesis:

H3: There is a statistically significant relationship between perceived complexity and m-commerce adoption among South African retail SMEs.

3.5.1.3. *Perceived compatibility*

Perceived compatibility is the degree to which m-commerce aligns with the SMEs' values, culture, work practices and infrastructure (Sparks et al., 2019; Fatoki, 2020). More specifically, it refers to the fit between the technology and SMEs suppliers, customers, organisational structure and the SMEs' suitability to adopt the technology (Herzallah & Mukhtar, 2015; Chau et al., 2020). Perceived compatibility is a significant determinant for m-commerce adoption in SMEs (Fatoki, 2020; Chau, 2020; Matlakala, 2021). SMEs may be more encouraged to adopt technologies that are compatible with the organisations processes. Consequently, the following hypothesis was proposed:

H4: There is a statistically significant relationship between perceived compatibility and m-commerce adoption among South African retail SMEs.

3.5.1.4. *Perceived security*

Perceived security is the SMEs' awareness relating to the security concerns of m-commerce (Chau et al., 2020). Khaskheli et al. (2017) highlighted security concerns as an obstacle in the way of SMEs in emerging economies. In addition, other researchers have found that SMEs generally have concerns related to security, trust, privacy and risk of m-commerce which affect its adoption (Sparks et al., 2019; Pipitwanichakarn & Wongtada, 2019; Chau, 2020; Justino et al., 2022; Iuga & Wainberg, 2023). Chau (2020) found that perceived security is the most critical factor influencing the adoption of m-commerce in SMEs in Vietnamese. A higher level of perceived security may increase the propensity of SMEs to embrace m-commerce (Chau, 2020). The following hypothesis was, therefore, proposed:

H5: There is a statistically significant relationship between perceived security and m-commerce adoption among South African retail SMEs.

3.5.1.5. *Perceived cost*

Perceived cost refers to the relative cost to the benefits in adopting m-commerce (Chau et al., 2020). It includes the cost to install and maintain the technology, and to train staff on the use of the technology (Rana et al., 2019; Chau et al., 2020). Many SMEs experience major financial constraints which create cautiousness about their investment in adopting specific technology; the costs of technology adoption are perceived to be too high, with no immediate benefit (Maduku, 2015). In previous studies, perceived cost is directly associated with m-commerce adoption in SMEs (Fatoki, 2020; Matlakala, 2021; Iuga & Wainberg, 2023). Based on the above discussion, the following hypothesis was proposed:

H6: There is a statistically significant relationship between perceived cost and m-commerce adoption among South African retail SMEs.

3.5.1.6. *Trialability*

Trialability is the degree to which m-commerce may be tested or trialed prior to adopting the technology (Jain et al., 2011). Trialability has been found to be a critical determinant of m-commerce adoption (Avirutha, 2009; Makelana et al., 2022). Avirutha (2009) investigated the factors that influence the adoption of m-commerce in SMEs in Thailand. Avirutha (2009) found that most SMEs are of the opinion that m-commerce requires a trial period. Makelana et al. (2022) found trialability to be the most significant factor in predicting the adoption of m-commerce in South African SMEs. Accordingly, the following hypothesis was proposed:

H7: There is a statistically significant relationship between trialability and m-commerce adoption among South African retail SMEs.

The organisational context of the preliminary conceptual framework (Figure 3.4) is discussed in the next section.

3.5.2. Organisational context

The organisational context refers to the characteristics of the organisation (Eze et al., 2019; Sparks et al., 2019) and represents the internal factors that affect technology

adoption (Lu et al., 2015). The literature review identified 22 factors that influence m-commerce adoption within the organisational context (as shown in Table 3.3).

Table 3.3: Factors within the organisational context that influence m-commerce adoption in organisations

Organisational factors identified	Description	Supporting literature
Organisational readiness	The availability of technological, financial and human resources for adopting m-commerce.	Doolin & Ali (2008); Chen (2010); Otieno & Kahonge (2014); Chau & Deng (2018); Sparks et al. (2019); Van den Berg & Van der Lingen (2019); Chau (2020); Chau et al. (2020); Chau et al. (2021)
Technological readiness	The extent to which technical expertise, technology infrastructure and human resources are available to support the adoption of m-commerce.	Sparks et al. (2019); Fatoki (2020); Matlakala (2021)
IS expertise	The business's level of IS expertise in m-commerce.	Jain et al. (2011)
Technology competence	The business's technological readiness and availability of technological resources to support the adoption of m-commerce.	Picoto et al. (2012); Martín et al. (2012); Picoto et al. (2014); Justino et al. (2022)
Technology integration	The business's capability to integrate m-business applications with its existing systems.	Picoto et al. (2012); Picoto et al. (2014)
Resource factors	The availability of business resources to adopt m-commerce.	Fahriawan (2020)

Financial commitment	The financial resources for adopting m-commerce.	Jain et al. (2011)
Organisational innovativeness	The ability to adapt, innovate and continually improve business processes.	Chau (2020); Chau et al. (2020)
Innovation orientation	The ability to implement new technologies by making resource commitments and creating new products.	Zeeshan et al. (2007); Zeeshan et al. (2009)
Propensity for innovations and new technologies	The acceptance of ICT and ability to adopt new technologies.	Martin & Jimenez (2015)
Employee capability	The competence and IT knowledge of employees.	Maduku (2015); Fatoki (2020)
Firm/organisation size	The size of the organisation based on turnover and/or number of employees.	Zeeshan et al. (2007); Jain et al. (2011); Otieno & Kahonge (2014); Maduku (2015); Lu et al. (2015); Sparks et al. (2019)
Employees' IT knowledge	The employees' understanding of m-commerce and their proficiency in IT.	Chau & Deng (2018)
Employees' IS knowledge	The employees' attitude, experience and training of m-commerce.	Lu et al. (2015)
Employee knowledge and readiness	The employees' attitude towards change, skill level and their perceptions of the benefits of using m-commerce.	Van den Berg & Van der Lingen (2019)

Source: Author's own compilation

As is evident from Table 3.3, there are several factors that overlap regarding the organisational context. Consequently, all the factors with a common purpose were categorised together using content analysis. This led to the following factors within the organisational context that may influence m-commerce adoption in SMEs:

- *Organisational readiness*: organisational readiness, resource factors, technological readiness, technology competence, financial commitment and technology integration are related to the organisations availability of resources for adopting m-commerce.
- *Organisational innovativeness*: organisational innovativeness, innovation orientation and propensity for innovation reflect the ability of the organisation to implement new technologies.
- *Employees' IT knowledge*: employees' IT knowledge, employee capability, employees' IS knowledge, employee knowledge and readiness and IS expertise reflect the IT knowledge and expertise of employees.
- *Organisation size*

As such, the above discussion reflects the four factors within the organisational context that that may influence the adoption of m-commerce among South African retail SMEs. Consequently, the following hypothesis was proposed:

H8: There is a statistically significant relationship between the organisational context and m-commerce adoption among South African retail SMEs.

The four factors within the organisational context were included the preliminary conceptual framework (Figure 3.12) for investigation. Each of these factors is discussed next in the context of an SME.

3.5.2.1. *Organisational readiness*

Organisational readiness refers to the SMEs' availability of resources (technological, financial and human) to adopt m-commerce (Sparks et al., 2019; Fatoki, 2020; Chau et al., 2020). An organisation must have adequate funds and suitable facilities in order to adopt specific technologies (Fahriawan, 2020). A greater level of organisational readiness and available resources is a key determinant of successful technology adoption in SMEs (Kurnia, Karnali & Rahim, 2015; Fahriawan, 2020).

Studies have confirmed that organisational readiness and resource availability has a significant influence on m-commerce adoption in SMEs (Fahriawan, 2020; Fatoki, 2020; Chau, 2020; Matlakala, 2021). Based on the above discussion the following hypothesis was proposed:

H9: There is a statistically significant relationship between organisational readiness and m-commerce adoption among South African retail SMEs.

3.5.2.2. *Organisational innovativeness*

Organisational innovativeness is related to the introduction and application of new technologies, ideas, products and processes by SMEs for enhanced performance (Salimon, Bamgbade, Nathaniel & Adekunle, 2017). Salimon et al. (2017) highlight that those organisations which contest and resist innovation may fail due to decreased performance while organisations that are innovative will experience enhanced performance that would further improve the adoption rate of m-commerce. Innovativeness was found to have a positive influence on organisational performance, revenue and competitive advantage (Herzallah & Mukhtar, 2015). Due to m-commerce being a significant model that is encouraged by technological innovation, organisational innovativeness can significantly affect m-commerce adoption in SMEs (Martin and Jimenez, 2015; Chau, 2020). SMEs that are innovative may have a higher chance of progressing towards technology adoption (Herzallah & Mukhtar, 2015). Hence, the following hypothesis was proposed:

H10: There is a statistically significant relationship between organisational innovativeness and m-commerce adoption among South African retail SMEs.

3.5.2.3. *Employees IT knowledge*

Employees' IT knowledge refers to the employees' attitude, experience and training of m-commerce (Lu et al., 2015). This further ties in with organisational readiness in terms of the availability of human resources. Organisations equipped with IT expertise and staff who are knowledgeable in m-commerce should be expected to outperform those that are not (Martín et al., 2012). While SMEs are less likely to adopt advanced technologies when their employees have a lack of IT knowledge (Chau et al., 2020), a higher level of employees' IT knowledge may increase m-

commerce adoption. It has been found that the lack of IT knowledge serves as a significant barrier for m-commerce adoption among SMEs (Sparks et al., 2019). Rana et al. (2019) argue that a lack of IT knowledge of the SMEs employees may negatively affect m-commerce processes and the effectiveness thereof. Employees' IT knowledge is thus a significant factor that influences the adoption of m-commerce among SMEs (Rana et al., 2019; Fatoki, 2020; Iuga & Wainberg, 2023). This led to the following hypothesis:

H11: There is a statistically significant relationship between employees IT knowledge and m-commerce adoption among South African retail SMEs.

3.5.2.4. Organisation size

The size of SMEs is based on turnover and/or number of employees. SMEs may find it more difficult to adopt technologies due to their size, since larger organisations are characterised by having sufficient resources and better capability to survive failures than smaller organisations (SMEs) (Jain et al., 2011; Lu et al., 2015; Maduku, 2015; Sparks et al., 2019). Conversely, the size of SMEs could be a motivator to adopt technologies as risk management may be easier to implement (Sparks et al., 2019). Organisational size has been found to be a significant determinant of m-commerce adoption in SMEs (Otieno & Kahonge, 2014; Lu et al., 2015). Based on the above discussion the following hypothesis was proposed:

H12: There is a statistically significant relationship between organisational size and m-commerce adoption among South African retail SMEs.

In the next section the environmental context of the preliminary conceptual framework (Figure 3.12) is discussed.

3.5.3. Environmental context

The environmental context refers to the organisation's industry and explores how variables such as competitors, customers, government and suppliers have an impact on the organisation and the adoption of technology (Eze et al., 2019; Sparks et al., 2019). Highlighted in Table 3.4, 13 factors within the environmental context that

influence m-commerce adoption in organisations were identified from the literature review.

Table 3.4: Factors within the environmental context that influence m-commerce adoption in organisations

Environmental factors identified	Description	Supporting literature
Competitive intensity	Pressure on the business to adopt m-commerce in order to maintain competitiveness.	Doolin & Ali (2008); Chen (2010); Otieno & Kahonge (2014)
Perceived competitor adoption	The degree to which competitors have adopted m-commerce.	Swilley (2007)
Perceived competitor success	Competitors that have embraced m-commerce and are perceived favourably by customers.	Swilley (2007)
Competitive pressure	The degree of pressure experienced by the business from competitors in the industry to adopt m-commerce.	Zeeshan et al. (2007); Zeeshan et al. (2009); Picoto et al. (2012); Picoto et al. (2014); Otieno & Kahonge (2014); Alrawabdeh (2014); Martin & Jimenez (2015); Maduku (2015); Lu et al. (2015); Li & Wang (2018); Chau & Deng (2018); Van den Berg & Van der Lingen (2019); Sparks et al. (2019); Salimon et al. (2021); Matlakala (2021); Justino et al. (2022)
Customer pressure	The degree of pressure experienced by the business due to customers' expectations or requests regarding the use of m-commerce.	Swilley (2007); Otieno & Kahonge (2014); Alrawabdeh (2014); Maduku (2015); Li & Wang (2018); Chau & Deng (2018); Fatoki (2020); Chau (2020); Chau et al. (2020); Chau et

		al. (2021); Matlakala (2021)
Government support	The availability of government initiatives aimed at promoting the adoption of m-commerce, encompassing policies and legislation, financing and infrastructure.	Maduku (2015); Chau & Deng (2018); Chau (2020); Chau et al. (2020)
Government pressure	The degree of pressure experienced by the business related to the level of government support, national infrastructure and government promotion for the adoption of m-commerce.	Alrawabdeh (2014); Li & Wang (2018)
Regulatory support	The availability of government policies that affect the adoption of m-commerce.	Lu et al. (2015)
Policy and legal environment	The governmental regulations that influence m-commerce adoption.	Alfahl et al. (2012); Alfahl et al. (2017)
Global trend	The alignment of business practices with globally recognised standards.	Omonedo (2016)
Technology vendor support	The assistance provided by technology vendors to facilitate the use of m-commerce.	Maduku (2015); Al-Qirim (2006)
Supplier pressure	The degree of pressure experienced by the business from its suppliers to adopt m-commerce.	Swilley (2007); Matlakala (2021)
Supplier reluctance	The influence of supplier willingness or unwillingness to accept m-commerce.	Omonedo (2016)

Source: Author's own compilation

Based on the environmental context, there are several factors that overlap regarding the adoption of m-commerce (Table 3.4). As with the technological and organisational context, all the factors that shared the same purpose were categorised together using content analysis. The following factors within the environmental context were identified:

- *Competitive pressure*: competitive pressure, competitive intensity, perceived competitor adoption and perceived competitor success relate to the pressure from competitors to adopt m-commerce.
- *Government support*: government support, policy and legal environment, government pressure and regulatory support reflect the level of government support, infrastructure, policies and regulations that affect m-commerce adoption.
- *Supplier pressure*: supplier pressure and supplier reluctance express the degree of pressure experienced by the organisation from its suppliers to adopt m-commerce.
- *Customer pressure*
- *Technology vendor support*
- *Global trend*

From the above discussion, six factors within the environmental context that may influence the adoption of m-commerce among South African retail SMEs were included in the preliminary conceptual framework (Figure 3.12) for investigation. This led to the following hypothesis:

H13: There is a statistically significant relationship between the environmental context and m-commerce adoption among South African retail SMEs.

The six factors within the environmental context are discussed next in the context of an SME.

3.5.3.1. *Competitive pressure*

Competitive pressure is the degree to which SMEs are influenced by competitors in the industry (Alrawabdeh, 2014; Maduku, 2015; Sparks et al., 2019). SMEs may feel

threatened by competitors that have adopted m-commerce and are, consequently, pressured to adopt m-commerce to maintain market share and remain competitive (Salimon et al., 2021; Sparks et al., 2019). Competitive pressure may influence organisational innovativeness, even if an organisation does not perceive many advantages in adopting m-commerce (Martín et al., 2012; Maduku, 2015). Moreover, competitive pressure may impact the way organisations adapt their strategies to new situations, specifically when there is fierce competition and uncertainty in terms of what the competition is doing (Martín et al., 2012). Competitive pressure is a significant factor that influences m-commerce adoption in SMEs (Li & Wang, 2018; Matlakala, 2021; Salimon et al., 2021; Iuga & Wainberg, 2023). Based on the above discussion, the following hypothesis was proposed:

H14: There is a statistically significant relationship between competitive pressure and m-commerce adoption among South African retail SMEs.

3.5.3.2. Government support

Government support refers to the availability of government initiatives and support aimed at promoting the adoption of m-commerce among SMEs, through policies, finance and ICT infrastructure (Alrawabdeh, 2014; Chau et al., 2020). The level of available support from the government can significantly influence SMEs' decision to adopt m-commerce (Chau, 2020; Iuga & Wainberg, 2023; Yahaya, Ahmad, Tan & Kamal, 2023). Fahriawan (2020) emphasises the government's ability to implement programmes that can motivate SMEs to embrace technology. This led to the following hypothesis:

H15: There is a statistically significant relationship between government support and m-commerce adoption among South African retail SMEs.

3.5.3.3. Supplier pressure

Supplier pressure refers to the degree of pressure from the SMEs suppliers to adopt m-commerce (Swilley, 2007). Omonedo (2016) found that the impact of supplier acceptance or reluctance of m-commerce usage could influence the SMEs' decision to adopt m-commerce. For instance, if suppliers demand cash payments and the SMEs offer their customers virtual payment methods, then the SMEs may

experience difficulties in paying their suppliers due to money being “in the air” (Omonedo, 2016). On the contrary, suppliers that have adopted m-commerce may put pressure on SMEs to do the same (Swilley, 2007). Matlakala (2021) found a significant relationship between supplier pressure m-commerce adoption among SMEs. The following hypothesis was, therefore, proposed:

H16: There is a statistically significant relationship between supplier pressure and m-commerce adoption among South African retail SMEs.

3.5.3.4. *Customer pressure*

Customer pressure relates to customers who have adopted m-commerce and expect SMEs with whom they have a relationship with to do the same (Maduku, 2015). If customers do not expect or request the use of specific technologies, then there is no reason for SMEs to adopt it (Rana et al., 2019). Perceived customer pressure has been found to be a critical factor for the adoption of m-commerce by SMEs (Li & Wang, 2018; Fatoki, 2020; Chau, 2020; Matlakala, 2021; Iuga & Wainberg, 2023). The greater the perceived customer pressure by SMEs to adopt m-commerce, the greater the adoption rate (Chau et al., 2020; Chau et al., 2021). Hence, the following hypothesis was proposed:

H17: There is a statistically significant relationship between customer pressure and m-commerce adoption among South African retail SMEs.

3.5.3.5. *Technology vendor support*

Technology vendor support refers to the assistance provided by technology vendors to facilitate the use of m-commerce by SMEs (Maduku, 2015). Fahriawan (2020) asserts that support from IT developers can substantially influence technology adoption among SMEs. Technology vendors can provide quality services and support to SMEs at affordable costs (Al-Qirim, 2006). This can potentially lead to a higher adoption of m-commerce (Al-Qirim, 2006). The availability of vendor support is thus an important factor in influencing m-commerce adoption among SMEs (Al-Qirim, 2006; Maduku, 2015; Fahriawan, 2020). Based on the above, discussion the following hypothesis was proposed:

H18: There is a statistically significant relationship between technology vendor support and m-commerce adoption among South African retail SMEs.

3.5.3.6. Global trends

The impact of global trends reflects the appeal of SMEs to align their business practices with international standards (Omonedo, 2016). Omonedo (2016) found that global trends is an important factor that influences the adoption of m-commerce among Nigerian SMEs. Omonedo (2016) further states that SMEs that adopt m-commerce based on global trends are effectively positioning themselves to capitalise on the benefits of m-commerce. Consequently, the following hypothesis was proposed:

H19: There is a statistically significant relationship between global trends and m-commerce adoption among South African retail SMEs.

The managerial context of the preliminary conceptual framework indicated in Figure 3.12, is discussed next.

3.5.4. Managerial context

The managerial context relates to managers who play a vital role in their organisations to adopt technologies (Chau et al., 2020). As indicated in Table 3.5, two factors within the managerial context that influence m-commerce adoption in organisations have been identified from the literature.

Table 3.5: Factors within the managerial context that influence m-commerce adoption in organisations

Managerial factors identified	Description	Supporting literature
Managerial obstacles	The barriers related to top management such as insufficient support and inability to link m-commerce to the overall strategy of the business.	Picoto et al. (2012); Picoto et al. (2014)

Organisational strategy	The plans developed by businesses to achieve their long-term goals and their preparedness in adopting m-commerce. The business strategy includes identifying champions to carry out the core activities and aligning m-commerce to the overall strategy.	Grandhi & Wibowo (2016)
Changes in business strategy	The alternation of business strategies to accommodate and successfully implement m-commerce.	Rana et al. (2019)
Organisational culture	The business's shared assumptions, values and beliefs.	Alfahl et al. (2012); Alfahl et al. (2017)
Personal innovativeness	The ability of the manager/owner to be open to new trends and technologies such as m-commerce.	Omonedo (2016)
Top management championship	Top management support and positive attitude towards the adoption of m-commerce. The ability of top management to define norms and values and to link m-commerce to the overall business strategy.	Swilley (2007)
Managers' IT knowledge	The IT knowledge and skills of the manager relating to m-commerce.	Chau (2020); Chau et al. (2020)
Top management support	The owner's readiness, commitment, vision and support to adopt m-commerce. Top management support also includes the responsibility of management to alter culture and norms to enable employees to adapt to new technologies such as m-	Doolin & Ali (2008); Zeeshan et al. (2009); Chen (2010); Alfahl et al. (2012); Otieno & Kahonge (2014); Martin & Jimenez (2015); Lu et al. (2015); Alfahl et al. (2017); Sparks et al. (2019); Fatoki (2020); Chau (2020); Chau et al. (2020); Alaskar

	commerce.	& Alsadi (2023); Justino et al. (2022)
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Source: Author's own compilation

As shown in Table 3.5, there are several factors that overlap regarding the managerial context. Consequently, all the factors with a common purpose were grouped together using content analysis. This led to the following factors within the managerial context that may influence m-commerce adoption in SMEs:

- *Top management support*: top management support, top management championship, managerial obstacles, personal innovativeness, organisational strategy, changes in business strategy and organisational culture express managements readiness, commitment, vision and support to adopt m-commerce and includes the ability of top management to define norms and values, and to link m-commerce to the overall organisational strategy.
- *Managers' IT knowledge*

Based on the discussion above, two factors within the managerial context that may influence the adoption of m-commerce among South African retail SMEs were identified and included in the preliminary conceptual framework (figure 3.12) to be investigated. Hence, the following hypotheses was proposed:

H20: There is a statistically significant relationship between the managerial context and m-commerce adoption among South African retail SMEs.

The two factors within the managerial context are discussed next in the context of an SME.

3.5.4.1. *Managers' IT knowledge*

Managers' IT knowledge refers to the skills of SME managers that may influence the adoption of m-commerce (Chandra & Kumar, 2018). Managers equipped with knowledge, experience and innovation have a positive influence on the adoption of new technology (Chandra & Kumar, 2018). The knowledge and skills that managers have regarding the use of a particular technology may determine their attitude towards that technology, reduce the uncertainty associated with it and thus lower the risk of adoption (Herzallah & Mukhtar, 2015; Matikiti, Mpinganjira & Roberts-

Lombard, 2018; Chau et al., 2020). Managers' IT knowledge has been found to be a critical factor of m-commerce adoption in SMEs (Tuffour et al., 2018; Chau, 2020; Chau et al., 2020; Salimon et al., 2021). SMEs may be more inclined to adopt m-commerce if managers possess knowledge of the functionalities and benefits that m-commerce may provide (Chau et al., 2020). Consequently, the following hypotheses was proposed:

H21: There is a statistically significant relationship between managers IT knowledge and m-commerce adoption among South African retail SMEs.

3.5.4.2. *Top management support*

Top management support relates to the contribution, motivation and inspiration of SME managers towards the adoption of m-commerce (Li & Wang, 2018). The decisions made by SMEs are reflected and guided by top management's attitudes and beliefs; thus, their support plays an important role in the adoption of m-commerce (Li & Wang, 2018). Chandra and Kumar (2018) highlight that employees may show resistance towards adopting new technology when top management fails to effectively communicate the associated benefits of that technology. Furthermore, top management should be supportive of organisational innovativeness and introduce new technologies within an organisation's overall strategy. Several scholars have identified top management support as a critical factor affecting the adoption of m-commerce in SMEs (Li & Wang, 2018; Fatoki, 2020; Justino et al., 2022; Alaskar & Alsadi, 2023). Hence, the following hypothesis was proposed:

H22: There is a statistically significant relationship between top management support and m-commerce adoption among South African retail SMEs.

As previously highlighted, the preliminary conceptual framework (Figure 3.12) developed for this study is refined based on the findings from the qualitative and quantitative research, leading to a proposed conceptual framework (Figure 7.3, chapter 7) for m-commerce adoption among South African retail SMEs.

3.6. SUMMARY

Chapter 3 provided an extensive review of the literature in the context of m-commerce adoption in organisations including SMEs. The prevailing theories and models applied in research to gain a deeper understanding of m-commerce adoption in organisations were examined. The study extended the TOE framework to examine the factors that influence the adoption of m-commerce among South African retail SMEs. A preliminary conceptual framework was presented, highlighting 22 hypotheses. In the next chapter (chapter 4), the research methodology employed in the study is discussed.

CHAPTER 4: RESEARCH METHODOLOGY

4.1. INTRODUCTION

An extensive literature review was presented in the preceding chapters (Chapters 1, 2 and 3). Chapter 1 presented an introduction and background to the study while Chapter 2 provided an overview of the SME sector and the role of ICT in marketing and SME development, with a particular focus on e-commerce and m-commerce. Chapter 3 examined the various theories and models that have been employed in research to explore the factors that influence the adoption of m-commerce in organisations, including SMEs. Additionally, a preliminary conceptual framework for m-commerce adoption was developed, which presents the factors that may influence m-commerce adoption among South African retail SMEs.

This chapter (chapter 4) discusses the research methodology undertaken to achieve the research objectives. The primary objective of this study was to synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities. Hence, empirical research was required to shed light on the topic of investigation. The research methodology can serve as a guideline for conducting research (Thomas, 2021). Therefore, selecting a suitable research methodology is crucial for carrying out an effective scientific study and is essentially determined by aligning the research objectives with the various research methods (Basias & Pollalis, 2018). Chapter 4 begins with a brief discussion on framework development, drawing a distinction between theory, model and framework. Thereafter, the chapter delves into research process followed for the empirical investigation, underlining the research design, data collection and sampling methods as well as data analysis. Lastly, chapter 4 addresses the ethical considerations for this study.

4.2. FRAMEWORK DEVELOPMENT

Theories, models and frameworks organise ideas, concepts and observations, and can aid the researcher in understanding a specific phenomenon (Tittlemier, Cooper, Steliga, Woodgate & Sibley, 2022). This study aimed to develop a *framework*;

therefore, it is essential to define a framework and to distinguish a framework from closely related terms: theory and model.

A *theory* is broad and deep in scope and can describe, explain and predict a specific phenomenon (Fried, 2020; Passey, 2020; Tittlemier et al., 2022). A theory can be defined as a collection of interrelated concepts and statements that make sense of a specific phenomenon by describing the relationship between two or more concepts (Tittlemier et al., 2022; Vetrivel & Priyadarsini, 2022; Voorheis, Bhuiya, Kuluski, Pham & Petch, 2023; Grove & Gray, 2023).

A concept is the basic element of a theory. A concept may be classified as a construct or variable based on the degree of abstractness.

- Constructs are more abstract in nature. A construct may incorporate several concepts and can be measured by one or more variables.
- Variables are used at a more concrete level. Variables are measurable and can be assigned categorical values. The term “variable” is often used interchangeably with the construct being measured. This study sought to identify the factors that influence m-commerce adoption in South African retail SMEs, therefore the terms constructs, variables and factors are used interchangeably.

A *model* involves an intentional simplification of a specific phenomenon; it is narrower and more specific in scope (Esmail et al., 2020). Although a model and theory are closely connected, a model is only descriptive whereas a theory is both explanatory and descriptive (Voorheis et al., 2023).

A *framework* (as mentioned in chapter 3) refers to a “structure, overview, outline, system or plan consisting of various descriptive categories” such as concepts, constructs or variables and the relationships between them that are thought to describe (but not explain) a specific phenomenon (Esmail et al., 2020:3). In addition, a distinction can be drawn between a theoretical framework and a conceptual framework. Scholars hold various perspectives on a theoretical framework and conceptual framework, and their potential differences and similarities. Mensah, Agyemang, Acquah, Babah and Dontoh (2020) argue that a theoretical framework

and conceptual framework are often used interchangeably and incorrectly in research. Mensah et al. (2020) further state that many researchers fail to recognise that a theoretical framework and conceptual framework can inform each other which can lead to more informed judgements and logical progression in research. Therefore, for this study, a theoretical framework refers to one or more existing theories that serves as a blueprint, guide or foundation for the study (Kivunja, 2018; Mensah et al., 2020). A conceptual framework is a graphical depiction of how the fundamental concepts underpinning the study relate to each other (Mensah et al., 2020). A conceptual framework forms the “underlying thinking, structures, plans and practices and implementation” of the study (Kivunja, 2018:47). A conceptual framework justifies why a particular study should be conducted and the specific direction that the research will take.

Through an extensive review of existing literature on the adoption of m-commerce in organisations, this study proposed a preliminary conceptual framework on m-commerce adoption (Figure 3.12, chapter 3). The factors which emerged from the 55 research studies (Table 3.1, chapter 3) were grouped together using content analysis i.e., factors with a common theme (that shared the same purpose) were categorised together (Section 3.5, chapter 3). The preliminary conceptual framework in Figure 3.12 (chapter 3) comprises 18 factors, classified under four main contexts: technological, organisational, environmental and managerial. The preliminary conceptual framework was refined through the empirical research – the collection of primary data using qualitative (phase 1) and quantitative (phase 2) research techniques.

The development of the conceptual framework was guided by the steps in the research process. The research process and application, thereof, is discussed in the next section.

4.3. RESEARCH PROCESS

The research process can be described as a series of steps that specify the tasks to be completed in carrying out a study (Malhotra, 2019). The series of steps, however, may differ between researchers. According to Cooper (2019), some steps in the research process may begin out of sequence, some may be carried out concurrently

and some may be excluded. For this study, the steps followed are illustrated in Figure 4.1 and have been adapted from various authors.



Figure 4.1: Steps in the research process

Source: Adapted from Iacobucci and Churchill (2018), Malhotra (2019), McDaniel and Gates (2021) and Wiid and Diggins (2021)

Each of the steps in the research process, as depicted in Figure 4.1, are discussed next, to provide a conceptual basis and application to the study.

4.3.1. Define the research problem

The first step of the research process, as depicted in Figure 4.1, is to clearly define the research problem (or opportunity). A research problem can be defined as a “clear expression (statement) about an area of concern, a condition to be improved upon, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory or within existing practice that points to a need for meaningful understanding and deliberate investigation” (Mukherjee, 2019:25). According to McDaniel and Gates (2021), the research problem determines the essential information required to address the problem at hand and the most efficient means of obtaining that knowledge. The formulation of the research problem is noted as the most important step in the research process (Kumar, 2019; Wiid & Diggines, 2021), because if the research problem is misunderstood or inaccurately defined, it may lead to wasted effort, time and money (Burns et al., 2017; Malhotra, 2019). When the research problem is clearly defined, the research can be conducted in a precise and appropriate manner (Malhotra, 2019).

The research problem for this study was outlined in chapter 1. The research investigated on the adoption of m-commerce (through Google Scholar and academic databases such as Emerald, EBSCOhost, ScienceDirect, Sabinet and Sage) (Table 3.1, chapter 3) revealed a lack of literature on the factors that influence the adoption of m-commerce, particularly with regard to retail SMEs in a South African context. It is worth noting that m-commerce adoption has primarily been explored outside of South Africa. Notwithstanding, a few research studies have investigated the adoption of m-commerce among SMEs in South Africa (Chakuzira et al., 2017; Sparks et al., 2019; Fatoki, 2020; Matlakala, 2021; Makelana et al., 2022). However, the aforementioned studies have several limitations (refer to chapter 1) or do not focus specifically on developing a conceptual framework that could assist South African SMEs, particularly in the retail sector, in understanding the factors that influence m-commerce adoption.

Moreover, it has been argued that the rate of m-commerce adoption in SMEs in developing countries such as South Africa is low (Sparks et al., 2019; Rana et al., 2019; Fatoki, 2020; Matlakala, 2021; Makelana et al., 2022). According to Iuga and

Wainberg (2023) the adoption of m-commerce in SMEs is not an easy process, and there are various factors that could impede it. In addition, Salimon et al. (2021) state that SMEs have not been adequately equipped with guidelines on how to implement m-commerce. Therefore, an investigation into the key factors that influence the adoption of m-commerce in SMEs is significant (Iuga & Wainberg, 2023).

The lack of research on the adoption of m-commerce among South African retail SMEs and the low adoption rate highlighted shortcomings in the literature. Generating awareness of the factors that may influence the adoption of m-commerce in South African retail SMEs may not only contribute to the body of knowledge in the field of m-commerce but may also encourage SMEs operating in the retail sector to enhance the use of m-commerce technologies in their marketing activities.

The research question was, therefore, formulated as:

- What are the factors that influence the adoption of m-commerce in South African retail SMEs?

The abovementioned research question aided the formulation of research objectives, the second step of the research process (Figure 4.1).

4.3.2. Identify the research objectives

Research objectives are formulated based on the research problem identified in the previous step and should be stated with reference to the precise information that is required to address the research problem (or opportunity) (McDaniel & Gates, 2021). Research objectives are seen as a broad indication of what the research hopes to achieve and should, therefore, be well-articulated to avoid any misunderstandings regarding the purpose of the research (Wiid & Diggines, 2021).

Research objectives can be classified as (Saha & Paul, 2021; Wiid & Diggines, 2021):

- Primary objective – the focus of the study and the main purpose of the research.

- Secondary objectives – sub-objectives relating to specific aspects of the topic to be investigated that may contribute, either directly or indirectly, to the attainment of the primary objective.

As indicated in chapter 1, the primary research objective of this study was to synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities.

From the primary research objective, the following secondary research objectives were devised:

- To determine the extent of m-commerce adoption among South African retail SMEs.
- To investigate the main reasons influencing the adoption and non-adoption of m-commerce among South African retail SMEs.
- To examine the predominant m-commerce platforms used by South African retail SMEs.
- To identify the factors that influence the adoption of m-commerce among South African retail SMEs.
- To establish the relationship between the identified factors and the adoption of m-commerce.
- To identify areas for future research.

Once the research objectives are formulated, the research design needs to be determined, which is the third step of the research process (Figure 4.1).

4.3.3. Determine the research design

A research design can be considered as a framework or road map for conducting research. It details the necessary techniques and methods for acquiring the requisite information to solve the research problem (or opportunity) (Burns et al., 2017; Malhotra, 2019).

This study adopted an exploratory and descriptive research design that was guided by a pragmatic paradigm.

4.3.3.1 *Research paradigm*

A research paradigm is defined as a set of beliefs and agreements among researchers regarding how problems should be investigated (Brown & Dueñas, 2020). According to Kamal (2019:1389), a paradigm represents researchers' "beliefs and values about the world, the way they define the world and the way they work within the world". Essentially, the researcher's thoughts and beliefs regarding any matter or topic explored would consequently guide the researcher's behaviour and actions (Kamal, 2019). Thus, clearly defining the research paradigm is fundamental, as it should guide how the research problem can be addressed and may directly influence the researcher's choice of data collection methods and analysis procedures (Brown & Dueñas, 2020).

Guba and Lincoln (1989) state that there are three components or philosophical foundations connected to a research paradigm, namely: ontology, epistemology and methodology. Ontology is concerned with the nature of reality (Park, Konge & Artino, 2020) and proposes the ontological question "what is there that can be known?" (Guba & Lincoln, 1989:83). McBride, Misnikov and Draheim (2021) argue that epistemology is vastly dependent on ontology. It focuses on the nature of knowledge, more specifically, how knowledge is conceived and what can be considered as "knowledge" (Park et al., 2020; Ugwu et al., 2021). The epistemological question arising from this philosophical foundation is "what is the relationship of the knower to the known (or the knowable)?" (Guba & Lincoln, 1989:83). Epistemological assumptions inform the methodology (Ugwu et al., 2021) which gives rise to the methods and processes needed to investigate the problem at hand and generate new knowledge (Park et al., 2020; Ugwu et al., 2021). The methodological question usually asked is "what are the ways of finding out knowledge?" (Guba & Lincoln, 1989:83).

According to Ugwu et al. (2021), the three commonly used paradigms in existing literature are positivist, interpretivist and pragmatic. Table 4.1 highlights the core attributes of each of these paradigms based on the three philosophical foundations discussed above.

Table 4.1: Positivism, interpretivism and pragmatism based on philosophical foundations

	Ontology	Epistemology	Methodology
Positivist	Objective (single reality)	Positivism assumes objectivism, which is free from bias stemming from the researcher's values/beliefs and participant influence. Knowledge is obtained through measurement and statistics.	Quantitative: surveys, questionnaires, experiments etc.
Interpretivist	Subjective (multiple realities)	Interpretivism assumes subjectivism; knowledge can be generated through the researcher's beliefs/values, personal experiences and interaction with participants.	Qualitative: grounded theory, focus groups, interviews, case studies etc.
Pragmatic	Objective/subjective (non-singular reality)	Pragmatism is relational and knowledge is obtained by doing and acting on what the researcher decides is appropriate or the study.	Mixed methods: quantitative and qualitative.

Source: Adapted from Ugwu et al. (2021) and McBride et al. (2021)

A pragmatic paradigm was deemed appropriate in order to build a sound, philosophical foundation for this study. One of the main advantages of the pragmatic paradigm is that it allows for a combination of research approaches and methods to adequately address the research problem (Alturki, 2021). The study relies on both qualitative and quantitative data (mixed methods approach) to develop a conceptual framework on m-commerce adoption that could assist South African retail SMEs in enhancing the use of m-commerce in their marketing activities.

4.3.3.2 *Research design*

According to Malhotra (2019) and Wiid and Diggines (2021), there are two main research designs, namely exploratory and conclusive (Figure 4.2). An exploratory research design is undertaken to gain more knowledge about the research problem or to explore ideas that could create potential opportunities (Zikmund & Babin, 2016; Burns et al., 2017; Wiid & Diggines, 2021). A conclusive research design is considered more formal and structured than the exploratory research design and is further categorised into descriptive and causal research. Descriptive research is

conducted to describe specific phenomena, characteristics or functions (Sarstedt & Mooi, 2019) and provides answers to the “who”, “what”, “where”, “when” and “how” questions (Burns et al., 2017). Descriptive research may also reveal possible links or relationships between variables (Wiid & Diggines, 2021). Causal research, on the other hand, is employed to understand the relationships between variables and determine cause-and-effect relationships (Sarstedt & Mooi, 2019; Malhotra, 2019).

While each research design has different uses and applications, the choice should be based on the nature of the research, the research problem and objectives (Sarstedt & Mooi, 2019). Burns et al. (2017) state that researchers may even be required to use multiple research designs, as is the case with this study whereby an exploratory and descriptive research design were selected (Figure 4.2) to gain a deeper understanding of the research problem.

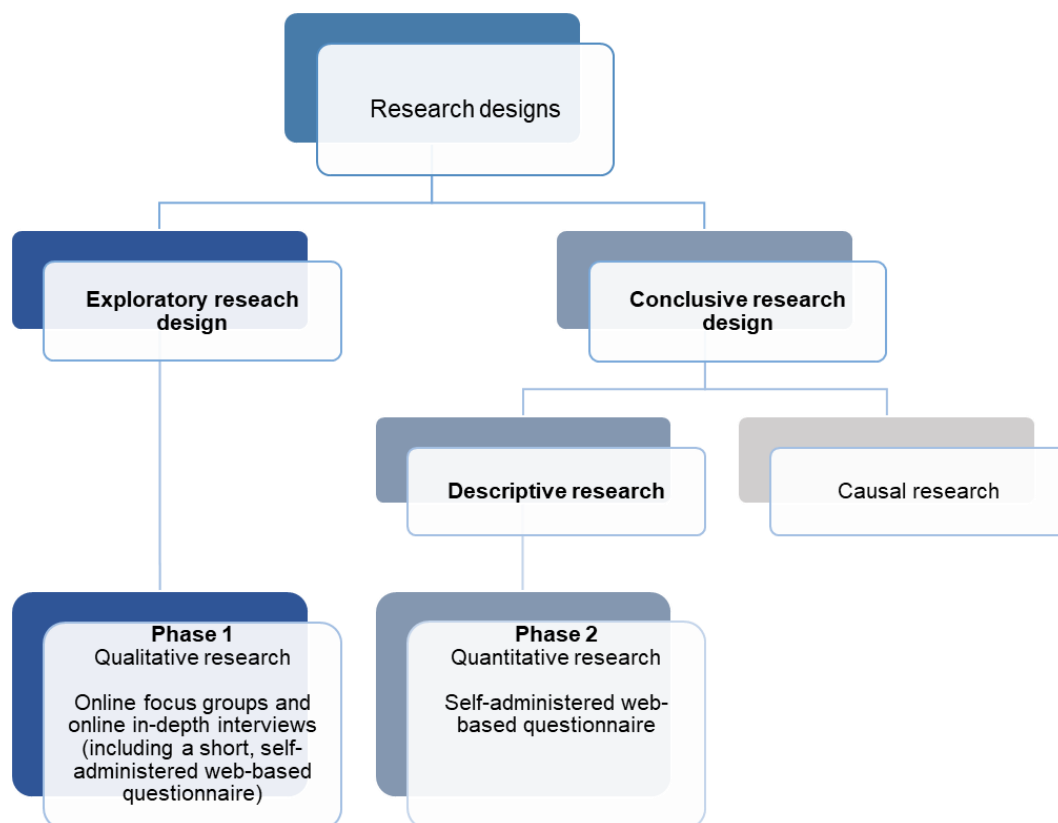


Figure 4.2: Types of research designs and selection for the study

Source: Adapted from Malhotra (2019) and Wiid and Diggines (2021)

This study aimed to synthesise a framework of factors that could assist South African retail SMEs in enhancing the use of m-commerce in their marketing activities. Firstly,

secondary data was collected by conducting a literature review to develop a preliminary conceptual framework. The collection of secondary data is discussed in Section 4.3.4.1. The collection of primary data (Section 4.3.4.2) involves two phases. As illustrated in Figure 4.2, phase 1 of the research adopted an exploratory research design using a qualitative research method. Online focus groups were conducted with South African experts in the field of m-commerce and online in-depth interviews were held with SME owners/managers in the retail sector to obtain insight regarding the factors that influence the adoption of m-commerce.

The findings obtained from phase 1 were used to revise the preliminary conceptual framework by identifying factors unique to South African retail SMEs and to enhance the research instrument for phase 2 of the research. Phase 2 employed a descriptive research design using a quantitative research method. Self-administered web-based questionnaires were distributed to SME owners/managers in the retail sector to collect data regarding m-commerce adoption. The main purpose of undertaking descriptive research was to describe the findings and reveal possible relationships between the factors that influence m-commerce adoption. The findings obtained from phase 2 were used to validate the conceptual framework for m-commerce adoption among South African retail SMEs.

The fourth step of the research process (Figure 4.1) (information types and sources) is discussed in the next section.

4.3.4. Identify information types and sources

Data can be sourced in two ways depending on the availability of existing information (secondary data) or whether new information will need to be collected (primary data) to address the research problem. Both secondary and primary data were required (Figure 4.3) to achieve the objectives formulated for the study.

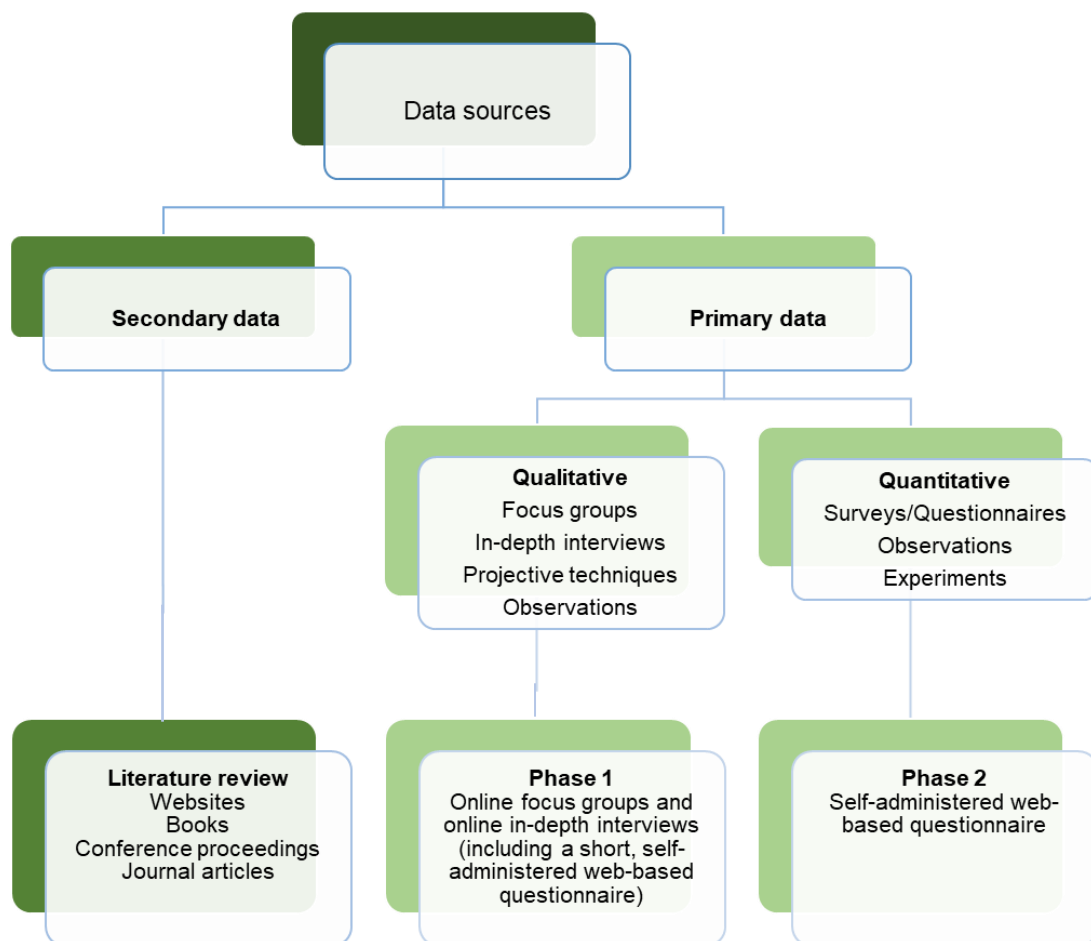


Figure 4.3: Data sources and selection for the research study

Source: Adapted from Malhotra (2019) and Wiid and Diggines (2021)

4.3.4.1. Secondary data

Secondary data, also referred to as existing information, is collected by someone else and/or for some other purpose than the topic of investigation (Bairagi, & Munot, 2019) but may be applicable to the research problem at hand (McDaniel & Gates, 2021). The use of secondary data can assist the researcher in obtaining information that is easily accessible and inexpensive to gain initial insight into a research problem (Bairagi & Munot, 2019; Nunan et al., 2020).

As indicated in Figure 4.3, secondary data was collected by reviewing sources such as websites, books, conference proceedings and journal articles from Google Scholar and databases such as Emerald, EBSCOhost, ScienceDirect, Sabinet and Sage which formed the literature review (chapters 1, 2 and 3):

- Chapter 1 provided an introductory overview and background on the retail sector, SMEs as well as e-commerce and m-commerce.
- Chapter 2 offered an overview of the SME sector and the role of ICT in marketing and SME development, with a specific focus on e-commerce and m-commerce.
- Chapter 3 focused on the existing theories and models that have been used and modified to understand the adoption of m-commerce in organisations. Furthermore, the factors that may influence the adoption of m-commerce in South African retail SMEs were identified, together with the development of a preliminary conceptual framework (Figure 3.12).

According to Snyder (2019), a literature review is a fundamental task in a study as it may help clarify the research problem and discover areas in which more research is required, a significant constituent of developing theoretical and conceptual frameworks. A preliminary conceptual framework for the adoption of m-commerce among retail SMEs in South Africa was developed from the literature review conducted. The preliminary conceptual framework (Figure 3.12, chapter 3) was refined through the collection of primary data. Therefore, it was necessary to collect primary data in order to achieve the study's research objectives.

4.3.4.2. *Primary data*

Primary data refers to information collected by the researcher for the particular purpose of addressing the research problem (Nunan et al., 2020). Compared to secondary data, primary data collection requires more time and effort and may result in higher costs; however, the data is generally more specific and relevant to the research problem (Sarstedt & Mooi, 2019). Primary data can be obtained through qualitative and/or quantitative research (as shown in Figure 4.3). Qualitative research provides in-depth information, insight and understanding about a specific phenomenon while quantitative research focuses on quantifying data and empirical assessments involving statistical analysis (Nunan et al., 2020).

For this study, a mixed methods approach was followed (as specified in Figure 4.3) integrating qualitative and quantitative research to achieve the research objectives. As noted in Section 4.3.3, phase 1 of the research (qualitative) was conducted using

online focus groups with South African experts in the field of m-commerce and online in-depth interviews with South African SME owners/managers in the retail sector. According to Nunan et al. (2020), qualitative research may be used to identify variables/factors that ought to be incorporated in quantitative research. The main purpose of the online focus groups and online in-depth interviews was to obtain insights on the factors that influence the adoption of m-commerce. More specifically, to identify additional m-commerce adoption factors that may be unique and relevant to South African retail SMEs. The findings acquired from the qualitative research were used to revise the conceptual framework and enhanced the research instrument for phase 2 of the research (quantitative). Phase 2 was conducted using self-administered web-based questionnaires which were distributed to SME owners/managers in the retail sector. The research instruments for phases 1 and 2 are further elaborated upon in the next section.

4.3.5. Design the research instrument

The fifth step of the research process (Figure 4.1) pertains to the research instrument and can be described as a method of collecting data (Patrick, 2021). As shown in Figure 4.3, data can be collected from participants through various qualitative methods (such as focus groups, in-depth interviews, projective techniques and observations) and quantitative methods (such as surveys/questionnaires, observations and experiments). The research instruments selected for phase 1 (qualitative) and phase 2 (quantitative) of the study are discussed next.

4.3.5.1. Phase 1 – Qualitative research instrument

The research methods used in phase 1 of the research are online focus groups with South African experts in the field of m-commerce and online in-depth interviews with SME owners/managers in the retail sector. Participants were requested to complete a short, self-administered web-based questionnaire prior to the online focus group sessions and online in-depth interviews commence. An online focus group is referred to as a contemporary focus group in which participants communicate through an online platform (Burns et al., 2017). Online focus groups generally consist of 6-10 participants that participate in an informal and interactive discussion on a specific topic that usually lasts between 1 to 2 hours (Silverman & Patterson, 2022). An

online in-depth interview centres on a one-to-one setting and usually lasts between 30 minutes to 2 hours (Burns et al., 2017; Wiid & Diggines, 2021).

Online focus groups and online in-depth interviews were deemed suitable qualitative research techniques for this study because the participants were afforded the convenience of joining from different geographical locations and from the comfort of their own space (Burns et al., 2017). More specifically, online focus groups (just as traditional focus groups) allow participants to interact with each other which enables the creation of insights and unfolding ideas that the researcher may not have thought of (Sarstedt & Mooi, 2019; Nunan et al., 2020). Online in-depth interviews foster interaction between the interviewer and the participant; they also enable a high potential for insight generation as they are conducive for probing on a one-to-one basis. The aim of the short, self-administered web-based questionnaire was to establish the consistency of findings between the data collection methods.

Discussion guides were prepared for the online focus groups and online in-depth interviews. The discussion guides included semi-structured questions based on the research objectives and the identified m-commerce adoption factors in the preliminary conceptual framework (Figure 3.12; chapter 3). A discussion guide (also referred to as a topic guide) includes the topics and questions that the researcher/moderator will ask during the online focus group session (Aurini, Heath & Howells, 2021). Aurini et al. (2021) argue that a discussion guide should include four sections:

- Section A (Introduction) – General discussion to provide participants with background information about the topic of investigation.
- Section B (Opening) – General questions relating to the topic of investigation to get participants to warm up and feel comfortable.
- Section C (Body) – Key questions pertaining to the topic of investigation
- Section D (Closing) – General statements/questions to provide closure and summarise key points.

For this study, three discussion guides were prepared, each of which included the aforementioned sections (Addendum A).

4.3.5.1.1. Discussion guide 1: M-commerce experts

The discussion guide prepared for m-commerce experts included semi-structured questions pertaining to:

- Participants' experience with m-commerce.
- Participants' opinion on the drivers of m-commerce adoption among businesses.
- Participants' opinion on the reasons/factors that prevent businesses from adopting m-commerce.
- Participants' opinion on the minimal requirements needed for a business to start using m-commerce.
- Participants' perception of the factors that may influence a business's decision to adopt m-commerce.

The discussion focused on the 18 factors identified from the literature review and presented in the preliminary conceptual framework in Figure 3.12 (chapter 3). Participants were asked to indicate the importance of each factor and the influence of each factor on the likelihood of a business adopting m-commerce.

4.3.5.1.2. Discussion guide 2: SME owners/managers in the retail sector who have adopted m-commerce in their business

The semi-structured questions in the discussion guide were targeted to SME owners/managers in the retail sector who have adopted m-commerce in their business. The questions focused on:

- Participants' understanding of m-commerce.
- Participants' experience with the use of m-commerce.
- Participants' main reasons for using m-commerce in their business.
- Difficulties faced by participants when using m-commerce in their business, and how they overcame those difficulties.
- Participants' perception of the factors that may influence a business's decision to adopt m-commerce.

As mentioned in the section above, the discussion was centred on the 18 factors identified from the literature review, presented in the preliminary conceptual

framework in Figure 3.12 (chapter 3). The participants were asked to indicate the importance of each factor and whether it influenced their decision to adopt m-commerce in their business.

4.3.5.1.3. Discussion guide 3: SME owners/managers in the retail sector who have not adopted m-commerce in their business

This discussion guide was for SME owners/managers in the retail sector who have not adopted m-commerce in their business. The semi-structured questions included:

- Participants' understanding of m-commerce.
- Participants' main reasons for not using m-commerce in their business.
- Participants' opinion on what would make them consider using m-commerce in their business.
- Participants' perception of the factors that may influence a business's decision to adopt m-commerce.

The discussion was centred on the 18 factors identified from the literature review, presented in the preliminary conceptual framework in Figure 3.12 (chapter 3). The participants were asked to indicate the importance of each factor and whether it would increase or decrease their likelihood of adopting m-commerce in their business.

The three discussion guides can be viewed in Addendum A.

Prior to each of the online focus group sessions and online in-depth interviews, the participants were requested to complete a short, self-administered web-based questionnaire consisting of three sections (sections A, B and C). The sections comprised multiple-choice, open-ended and scaled-response questions. The three short, self-administered web-based questionnaires developed can be viewed in Addendum A.

4.3.5.1.4. Self-administered web-based questionnaire 1: M-commerce experts

Section A made use of a scaled-response question (question 1) and an open-ended question (question 2). Question 1 was developed to determine the participants' perception of the 18 factors identified from the literature review and presented in the preliminary conceptual framework in Figure 3.12 (chapter 3). The participants were asked to indicate the importance of each factor in a business's decision to adopt m-commerce on a 4-point Likert scale ranging from 1 (unimportant) to 4 (very important). Question 2 aimed to identify additional factors or aspects that participants believed would influence a business's decision to adopt m-commerce.

Section B focused on the participants' m-commerce profile using a multiple-choice (single response) question (question 3) and two open-ended questions (questions 4 and 5). The purpose of questions 3, 4, and 5 was to determine the duration of participants involvement in m-commerce activities/services, the approximate proportion of m-commerce inquiries that are received from SMEs as opposed to large businesses and the industry/sector from which most m-commerce inquiries originate.

Section C incorporated two multiple-choice (single response) questions to assess the participants demographic profile, age and gender (questions 6 and 7).

4.3.5.1.5. Self-administered web-based questionnaire 2: SME owners/managers in the retail sector who have adopted m-commerce in their business

Section A consisted of a scaled-response question (question 1) and two open-ended questions (questions 2 and 3). The purpose of question 1 was to ascertain the participants' perceptions of the 18 factors identified from the literature review, presented in the preliminary conceptual framework in Figure 3.12 (chapter 3). Question 1 was measured through a 4-point Likert scale ranging from 1 (unimportant) to 4 (very important). The participants were asked to indicate the importance of each factor in influencing their decision to adopt m-commerce in their business. The aim of question 2 was to identify additional factors or aspects that the participants believed would influence a business's decision to adopt m-commerce. Question 3 asked participants to indicate what contributed to the success of m-commerce in their business.

Section B comprised of two open-ended questions (questions 4 and 5) and three multiple-choice (single response) questions (questions 6, 7 and 8) to determine the participants business profile. Questions 4 and 5 were aimed at obtaining information about the business's location and duration of operation. Questions 6, 7 and 8 were to determine the retail category in which the business operates, the number of full-time employees that the business has and the business's estimated annual turnover.

Section C focused on the demographic profile of the participants and used multiple-choice (single response) questions, identifying the age and gender (questions 9 and 10).

4.3.5.1.6. Self-administered web-based questionnaire 3: SME owners/managers in the retail sector who have not adopted m-commerce in their business

Section A consisted of a scaled-response question (question 1) and an open-ended question (question 2). The purpose of question 1 was to discover the participants' perceptions of the 18 factors identified from the literature review, presented in the preliminary conceptual framework in Figure 3.12 (chapter 3). The participants were asked to indicate the importance of each factor in influencing their decision to adopt m-commerce in their business on a 4-point Likert scale ranging from 1 (unimportant) to 4 (very important). Question 2 aimed to identify additional factors or aspects that the participants believed would influence a business's decision to adopt m-commerce.

Section B focused on the SME owners/managers' business profile and made use of two open-ended questions (questions 3 and 4) and three multiple-choice (single response) questions (questions 5, 6 and 7). The purpose of questions 3 and 4 was to elicit information regarding the business's location and duration of operation. Questions 5, 6 and 7 determined the retail category in which the business operated in, the number of full-time employees the business had and the business's estimated annual turnover.

Section C addressed the demographic profile of the participants and used multiple-choice (single response) questions to determine the age and gender (questions 8 and 9).

The three short, self-administered web-based questionnaires can be viewed in Addendum A.

4.3.5.2. *Pretesting the qualitative research instrument*

The discussion guides and the short, self-administered web-based questionnaires were pretested with 9 participants (three with South African m-commerce experts, three with South African retail SME owners/managers that adopted m-commerce in their business and three with South African SME retail owners/managers who have not adopted m-commerce in their business). A pretest simulates the formal data collection process using a small sample of participants (representative of the target population under investigation) to identify and eliminate any potential issues with the research instrument (Burns et al., 2017; Wiid & Diggines, 2021). Pretesting can enable the researcher to determine whether the questions and instructions are clear and understandable before data collection commences (Burns et al., 2017; Wiid & Diggines, 2021). A general rule for determining the pretest sample size for qualitative research does not exist. However, it has been found that 5 to 10% of the sample size selected for a study can be considered sufficient for a pretest (Saha & Paul, 2021; Gustavo, Pronto, Carvalho & Belo, 2022), confirming that the sample size of 9 participants (three for each group) for pretesting was adequate for phase 1 of the research (qualitative).

The results of the pretest conducted for the discussion guides and short, self-administered web-based questionnaires confirmed that the questions were clear and easy to understand. Errors related to grammar, sentence structure and ambiguous wording were corrected before qualitative data collection commenced.

4.3.5.3. *Phase 2 – Quantitative research instrument*

The research instrument used in phase 2 of the research (quantitative) was self-administered web-based questionnaires which were distributed to SME owners/managers in the retail sector who either adopted m-commerce or not in their business. The self-administered web-based questionnaire was finalised upon the completion of phase 1 of the research (qualitative) to enhance the research instrument and incorporate additional factors that were identified by m-commerce

experts and SME owners/managers in the retail sector. The self-administered web-based questionnaire was designed to be completed using software programs without any intervention from the researcher (interviewer) (Edlund & Nichols, 2019). Advanced technology and extensive internet usage have made self-administered web-based questionnaires a viable option, allowing researchers to collect data from large samples in a quick, easy and cost-effective manner (Zazpe et al., 2019). Hence, self-administered web-based questionnaires were considered as an appropriate quantitative research method for the study.

The self-administered web-based questionnaire included a brief cover letter that explained the purpose of the study and provided pertinent information that would enable the participants to make informed consent. The self-administered web-based questionnaire consisted of eight sections (Sections A, B, C, D, E, F G and H) including multiple-choice, open-ended and scaled-response questions (Addendum B):

Section A of the self-administered web-based questionnaire consisted of one multiple-choice (single response) question (question 1) and one dichotomous question which comprised two options (question 2). Section A included qualifying questions pertaining to:

- Employment status (including organisation size)
- Sector

Section B consisted of one dichotomous question: two options (question 3), two multiple-choice (single response) questions (questions 4 and 5), an open-ended question (question 6) and a scaled-response question (question 7). Section B sought to ascertain whether participants have adopted m-commerce or not in their business (question 3) and focused specifically on non-adopters. Section B included questions pertaining to:

- Participants' main reason for not adopting m-commerce in their business (question 4).
- Participants' intention to adopt m-commerce in their business in the future (question 5).

- What would increase participants likelihood of adopting m-commerce in their business in the future if they do not already have plans to adopt m-commerce (question 6).
- The extent to which participants use particular platforms in their business including a basic website (accessible or not on a mobile device), Facebook and Instagram (question 7). Question 7 was measured on a 5-point Likert scale ranging from 1 (to no extent) to 5 (to a very large extent). Participants were also given the opportunity to mention any additional platforms that they use in their business (question 7).

Section C comprised two scaled-response questions (questions 8 and 11) and two multiple-choice (single response) questions (questions 9 and 10). Section C focused on the m-commerce activities undertaken by participants who adopted m-commerce in their business and related to questions related to:

- The extent to which participants used specific m-commerce platforms in their business including e-commerce website (accessible on a mobile device), mobile app, Facebook Marketplace, Instagram Shopping, Instagram (website/online store link in bio), Instagram Direct messaging, WhatsApp messenger/WhatsApp Business, WhatsApp Business cart feature, Uber Eats and/or Mr D Food, Takealot, bidorbuy and Yaga (question 8). Question 8 was measured on a 5-point Likert scale ranging from 1 (to no extent) to 5 (to a very large extent). Question 8 further allowed participants to indicate whether there were other specific platforms that they used in their business.
- Participants' main reason for adopting m-commerce in their business (question 9).
- Participants' duration of m-commerce usage in their businesses (question 10).
- The extent to which participants thought that the adoption of m-commerce had contributed to sales in their business (question 11). Question 11 was measured on a 5-point Likert scale ranging from 1 (to no extent) to 5 (to a very large extent). Question 11 further included an open-ended response, whereby participants were required to give one or more reasons for their rating.

Section D included a scaled-response question (question 12). Its purpose was to determine the participants' perceptions of the factors that may influence the adoption

of m-commerce, regardless of whether they have adopted it or not in their business. As highlighted in chapter 3, this study extended the TOE framework to investigate the factors that influence the adoption of m-commerce in South African retail SMEs based on four contexts (technological, organisational, environmental and managerial). The literature review led to the identification of 18 factors (Figure 3.12, chapter 3) and included a total of 81 items. Four additional factors and 16 items (grouped under the integrated context) were derived from the qualitative research findings (phase 1) and incorporated in the self-administered web-based questionnaire (chapter 5 provides a detailed discussion on the qualitative research findings). The item generation for each of the factors was developed on the basis of previously validated scales and the qualitative research findings (Table 4.2). Participants were asked to indicate on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5), whether each of the 97 items were important in the decision to adopt m-commerce in their business.

Section E focused on participants who have adopted m-commerce and their intention to continue using m-commerce in their business (question 13). Question 13 used a scaled-response question with five items (Table 4.2) which was measured on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Section F focused on participants who have not adopted m-commerce and their intention to adopt m-commerce in the future (question 14). Question 14 used a scaled-response question which was measured on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5) and included four items (Table 4.2).

Section G aimed to determine the participants' business profile and made use of five multiple-choice (single response) questions (questions 15 to 19). Questions 15 to 19 collected information pertaining to:

- The location of the business
- How long the business has been operating
- Retail category in which the business operates
- The number of full-time employees the business has
- The business's estimated annual turnover

Section H focused on the demographic profile of the participants and used multiple-choice (single response) questions to identify the participants' age and gender (questions 20 and 21).

The self-administered web-based questionnaire distributed in phase 2 (quantitative) can be viewed in Addendum B.

4.3.5.4. *Pretesting the quantitative research instrument*

The self-administered web-based questionnaire was pretested with 42 South African SME owners/managers in the retail sector to determine the time for completion and reduce the likelihood of errors in the questionnaire design and wording. According to Howard (2018), the sample size for pretesting a questionnaire usually ranges between 10 and 30 respondents. Perneger, Courvoisier, Hudelson and Gayet-Ageron (2015) state that pretests of questionnaires using a small sample size (between 5 and 15 participants) may fail to identify common problems; a default sample size of 30 participants is advised. A sample size of 42 for pretesting was therefore sufficient for this study. Feedback from the pretest regarding the instructions, question clarity and ease of answering enabled the researcher to correct any problems or questions that participants misinterpreted or found difficult to respond to.

Table 4.2: Measurement items for m-commerce adoption factors

Independent variables/factors		
Technological context	Items	Source
Perceived benefits	<ul style="list-style-type: none"> • Reduction of costs (e.g. administrative, maintenance, storage and distribution costs) • Increased customer loyalty • Improved customer service • Growth in profitability • Enhancement of the business's image • Improved business decision-making • Provision of unique business opportunities (e.g. leveraging new technology and marketing channels) 	Adapted from Al-Qirim (2006), Otieno & Kahonge (2014), Fatoki (2020), Chau (2020), Al-Naimat, Alnuaimi, Abdulaal & Almuet (2020) and Justino et al. (2022).

	<ul style="list-style-type: none"> • Increased competitiveness • Convenience (e.g. saving time and reducing administrative duties for the business) • Being able to do business anywhere and at any time 	
Perceived complexity	<ul style="list-style-type: none"> • Amount of effort required to set up m-commerce • Amount of effort required to integrate m-commerce with current business practices • Amount of effort required by employees to use/operate m-commerce • Amount of effort required by customers to use m-commerce 	Adapted from Al-Qirim (2006), Picoto, Belanger, & Palmdos-Reis (2014) and Fatoki (2020).
Perceived compatibility	<ul style="list-style-type: none"> • Compatibility of m-commerce with the business's existing information and communication technology (ICT) infrastructure (e.g. internet connectivity, server, router, operating system, business website, personal computers and mobile devices) • Compatibility of m-commerce with the business's values and culture • Compatibility of m-commerce with current business practices • Compatibility of m-commerce with the business's existing distribution channels • Compatibility of m-commerce with current marketing activities 	Adapted from Picoto et al. (2014), Maduku (2015), Fatoki, (2020) and Chau (2020).
Perceived security	<ul style="list-style-type: none"> • Awareness of the security of m-commerce • Availability of adequate security data standards/industry standards for m-commerce • Availability of laws and regulations for m-commerce • Security policies that the business has in place for m-commerce 	Adapted from Picoto et al. (2014) and Chau (2020).
Perceived cost	<ul style="list-style-type: none"> • Cost of setting up m-commerce • Cost of maintenance of m-commerce • Cost of training employees to use/operate m-commerce • Cost of outsourcing m-commerce services/expertise 	Adapted from Al-Qirim (2006) and Fatoki (2020).

	<ul style="list-style-type: none"> • Positive cost-benefit trade-off (the expected benefits of m-commerce outweigh the costs) 	
Trialability	<ul style="list-style-type: none"> • Opportunity to try out m-commerce for a specific period before deciding to adopt it • Opportunity to test the suitability of m-commerce for the business before deciding to adopt it • Opportunity to experience different m-commerce platforms and what they can deliver for the business before deciding to adopt it • Knowing what is required (e.g. ICT infrastructure) to try out m-commerce satisfactorily 	Adapted from Kamaroddin, Cheong & Ahmad (2008) and Avirutha (2009).
Organisational context	Items	Source
Organisational readiness	<ul style="list-style-type: none"> • Business's availability of financial resources (e.g. funding and capital) • Financial support from banks and other financial institutions • Business's availability of technological resources (e.g. ICT infrastructure) • Business's availability of human resources (e.g. staff skills and expertise in m-commerce) 	Adapted from Otieno & Kahonge (2014) and Fatoki (2020).
Organisational innovativeness	<ul style="list-style-type: none"> • Ability to innovate and generate ideas • Ability to continually improve business processes • Ability to easily experiment with and accept new technology • Ability to adopt new management approaches 	Adapted from Chau (2020).
Employees' IT knowledge	<ul style="list-style-type: none"> • Employees' understanding of m-commerce • Employees' ability to use m-commerce to interact with customers and suppliers • Employees' information technology (IT) skills (e.g. computer and mobile literacy skills) • Employees' capability to learn new technology 	Adapted from Maduku (2015) and Fatoki, (2020).

Organisation size	<ul style="list-style-type: none"> • Organisation size in terms of the number of employees in the business • Organisation size in terms of business annual turnover • Organisation size in terms of business assets 	Adapted from Otieno & Kahonge (2014) and Maduku (2015)
Environmental context	Items	Source
Competitive pressure	<ul style="list-style-type: none"> • Awareness of the competitive advantages of m-commerce • Awareness of competitors currently adopting m-commerce to conduct business • Awareness of competitors currently adopting m-commerce to conduct business and benefitting significantly • Awareness of competitors currently adopting m-commerce to conduct business and being favourably perceived by customers 	Adapted from Li & Wang (2018) and Salimon et al. (2021).
Government support	<ul style="list-style-type: none"> • Government financial support (e.g. providing funding to SMEs) • Government provision of ICT infrastructure • Government training and educational programmes to assist SMEs with m-commerce adoption • Reduced regulatory burden (e.g. less red tape) 	Adapted from Chau (2020).
Supplier pressure	<ul style="list-style-type: none"> • Suppliers currently using m-commerce to conduct business • Requirement from suppliers for the business to adopt m-commerce • Encouragement from suppliers for the business to adopt m-commerce • Improved business with suppliers by adopting m-commerce (e.g. enhanced communication, effective product distribution) 	Adapted from Picoto et al. (2014), Li & Wang (2018) and Matlakala (2021).
Customer pressure	<ul style="list-style-type: none"> • Customers currently using m-commerce • Demand from customers for the business to adopt m-commerce • Customer expectation for the business to adopt m-commerce 	Adapted from Li & Wang (2018) and Fatoki (2020).

	<ul style="list-style-type: none"> • Increased purchase of products and services by customers using m-commerce • Improved relationships with customers 	
Technology vendor support	<ul style="list-style-type: none"> • Technology vendors delivering technical assistance and support • Technology vendors actively marketing m-commerce technologies/platforms • Technology vendors offering reasonable pricing for their m-commerce services • Technology vendors encouraging businesses to adopt m-commerce by providing free training sessions • Technology vendors skills and expertise in m-commerce 	Adapted from Maduku (2015) and Al-Qirim (2006).
Global trend	<ul style="list-style-type: none"> • Keeping up with global trends • Alignment of business practices with global standards • Acceptance of m-commerce globally • Increased use of mobile devices globally 	Adapted from Omonedo (2016) and Justino, Tengeh & Twum-Darko (2022)
Managerial context	Items	Source
Managers' IT knowledge	<ul style="list-style-type: none"> • Owners/managers' understanding of m-commerce • Owners/managers' competence in m-commerce • Owners/managers' IT skills (e.g. computer and mobile literacy skills) • Owners/managers' capability to learn new technology 	Adapted from Chau (2020).
Top management support	<ul style="list-style-type: none"> • Owners/managers' support of m-commerce adoption • Owners/managers' awareness of m-commerce benefits for the business • Owners/managers' willingness to provide the necessary resources to adopt m-commerce • Owners/managers' belief that adopting m-commerce will create a competitive advantage for the business 	Adapted from Otieno & Kahonge (2014) and Li & Wang (2018).
Additional factors identified from phase 1 grouped under the integrated context	Items	Source

Age	<ul style="list-style-type: none"> • Employing a younger generation who may be more open to adopting m-commerce • Employing a younger generation who may better realise the benefits of m-commerce • Employing a younger generation who may be more willing to take risks • Employing a younger generation who may be more likely to engage with new technology 	Adapted from qualitative research findings, Muathe & Muraguri-Makau (2020) and Matlakala (2021).
Instant gratification	<ul style="list-style-type: none"> • Providing customers with instant gratification (what they want and when they want it) • Providing customers with a pleasurable online shopping experience • Meeting and exceeding customer expectations without delay • Satisfying customers' immediate desires to shop online via their mobile devices 	Adapted from qualitative research findings and Lim & Ting (2012).
Crisis-related pressure such as COVID-19	<ul style="list-style-type: none"> • Responding to global pressures • Changes in the retail landscape • Impact of the COVID-19 pandemic • Establishing a secure and safe environment for customers to shop 	Adapted from qualitative research findings, Salem & Nor (2020) and Iuga & Wainberg (2023).
Willingness to learn	<ul style="list-style-type: none"> • Willingness to adapt • Willingness to learn how to use/operate m-commerce • Willingness to learn about IT • Willingness to embrace new technology 	Adapted from qualitative research findings, Wymer & Regan (2005) and Szczepańska-Woszczyzna (2014).
Dependent variables/factors		
M-commerce adoption	Items	Source
Intention to continue using m-commerce	<ul style="list-style-type: none"> • Our business uses m-commerce in our current business practices • Our business uses m-commerce for most of our marketing activities • Our business intends to continue using m-commerce • Our business has a strong commitment to using m-commerce • Our business would recommend the adoption of m-commerce to other businesses 	Adapted from Maduku (2015) and Chau (2020).

Source: Author's own compilation

In the next section, the sample plan is discussed. This constitutes the sixth step of the research process (Figure 4.1).

4.3.6. Design the sample plan

Hair et al. (2020) state that in order to obtain a representative sample, a set of well-defined steps must be followed before the execution of data collection, namely, defining the population, choosing the sample frame, selecting the sampling method and determining the appropriate the sample size. Each of these steps are discussed next.

4.3.6.1 Define the population

The target population is described as the total collection of elements (participants, subjects or objects) that are of interest to the researcher, and from which data may be collected to meet the research objectives (Malhotra, 2019; Cooper, 2019). The target population for this study is South African SME owners/managers operating in the retail sector and experts in the field of m-commerce.

4.3.6.1.1. Phase 1: Qualitative research target population

- South African experts in the field of m-commerce (industry members that make use of, develop and implement strategies etc. for any business transaction via mobile devices).
- South African SME owners/managers operating in the retail sector who have adopted m-commerce in their business.
- South African SME owners/managers operating in the retail sector who have not adopted m-commerce in their business.

4.3.6.1.2. Phase 2: Quantitative research target population

- South African SME owners/managers operating in the retail sector who have adopted m-commerce or not in their business.

4.3.6.2 *Choose the sample frame*

A sample frame is a list of the elements (of the target population) from which a sample is drawn (Hair et al., 2020). Since the study employed a non-probability sampling method, a sample frame was not required (Sargeant & George, 2022). Participants for phase 1 of the research (qualitative) were selected based on the researcher's discretion and the sample inclusion criteria specified next.

4.3.6.2.1. Phase 1: Qualitative research inclusion criteria

Group 1

- South African m-commerce experts.
- South African m-commerce experts that are between the ages of 18-65.
- South African m-commerce experts that can read, write and speak English.
- South African m-commerce experts who are willing to and have the time to participate.
- South African m-commerce experts who have access to the internet.

Group 2

- South African SME owners/managers who have adopted m-commerce in their business.
- South African SME owners/managers operating in the retail sector.
- South African SME owners/managers that are between the ages of 18-65.
- South African SME owners/managers that can read, write and speak English.
- South African SME owners/managers who are willing to and have the time to participate.
- South African SME owners/managers who have access to the internet.

Group 3

- South African SME owners/managers who have not adopted m-commerce in their business.
- South African SME owners/managers operating in the retail sector.
- South African SME owners/managers that are between the ages of 18-65.
- South African SME owners/managers that can read, write and speak English.

- South African SME owners/managers who are willing to and have the time to participate.
- South African SME owners/managers who have access to the internet.

Participants for phase 2 of the research (quantitative) were selected from the ANKA Insights database and based on the sample inclusion criteria specified next.

4.3.6.2.2. Phase 2: Quantitative research inclusion criteria

- South African SME owners/managers who have adopted m-commerce or not in their business.
- South African SME owners/managers operating in the retail sector.
- South African SME owners/managers that are between the ages of 18-65.
- South African SME owners/managers that can read, write and speak English.
- South African SME owners/managers who are willing to and have the time to participate.
- South African SME owners/managers who have access to the internet.

4.3.6.3 *Select the sampling method*

Sampling methods can be categorised into two main groups, namely, probability and non-probability sampling (Malhotra, 2019). In probability sampling, every member of the population has a known, non-zero likelihood of being selected (Babin, D'Alessandro, Winzar, Lowe & Zikmund, 2020). There are four primary types of probability sampling methods: systematic sampling, cluster sampling, stratified sampling and simple random sampling (Wiid & Diggines, 2021). In non-probability sampling, the likelihood of a member of the population being selected is unknown (Babin, et al., 2020). Non-probability sampling methods include snowball sampling, convenience sampling, quota sampling and judgement sampling (Wiid & Diggines, 2021).

The sample for both phases (1 and 2) of the study were selected by means of judgement sampling – a non-probability sampling method. Judgement sampling, also known as purposive sampling, involves selecting members of the population for a specific purpose and is based on the researcher's judgment (Hair et al., 2020). The

sample selected were based on specific inclusion criteria as mentioned in the previous section.

4.3.6.4 *Determine the sample size*

Sample size refers to the number of observations or individuals from the target population that is included in a study (Nunan et al., 2020). The sample size for phases 1 and 2 of the research are specified next.

4.3.6.4.1 Phase 1: Qualitative research sample size

In contrast to quantitative research, there are no formulas in qualitative research for determining the number of online focus groups and online in-depth interviews that should be conducted (Morgan, 2018). The conceptual benchmark for determining and evaluating the sample size in qualitative research is data saturation (Guest, Namey & Chen, 2020). It has been suggested that once data saturation is reached (the point where there is no new data emerging), then the data collection can be concluded (Tracy, 2020; Clark, Foster, Sloan & Bryman, 2021).

In qualitative research, samples need to be large enough to enable the unfolding of a new and richly textured comprehension of the topic of investigation, while still small enough to facilitate a thorough case-oriented analysis (Sandelowski, 1996; Zelčāne & Pipere, 2023). It is recommended to conduct at least two focus groups with participants who share similar characteristics as it allows for some validation of the findings (Maison, 2018; Borbasi, Jackson & East, 2019; Remler & Van Ryzin, 2021). For in-depth interviews, a sample size between 5 and 25 participants may be sufficient (Ciulla & Scharding, 2019; Vigoda-Gadot & Vashdi, 2020). Several researchers believe that the sample size depends on the research objectives, useful data choices, trustworthiness of the data and what can be accomplished given the time and resources available (Ngulube, 2021; Hall & Roussel, 2022). It has been stressed that the strength of qualitative research rests on the researcher's capability to obtain, analyse, and disseminate data in a well-founded and trustworthy manner, rather than placing emphasis on the number of participants (Hall & Roussel, 2022).

In phase 1 of the research, two online focus group sessions, each consisting of 6 participants were held with South African experts in the field of m-commerce. Sixteen

online in-depth interviews were held with SME owners/managers in the retail sector, eight with SME owners/managers who have adopted m-commerce in their business and eight with SME owners/managers who have not adopted m-commerce in their business.

4.3.6.4.2 Phase 2: Quantitative research sample size

Determining the appropriate sample size for quantitative research is crucial in producing consistent and credible statistical findings. A sample size that is too large may be a waste of resources such as time and materials, while a sample size that is too small may not be precise enough to provide reliable answers to achieve the research objectives (Rentala, 2018). Numerous recommendations and guidelines have been proposed regarding the appropriate sample size for quantitative research. For example, it has been suggested that a sample size between 30 and 500 is suitable for most research (Roscoe, 1975; Wilson, 2021; de Pablos, Zhang & Almunawar, 2022). Ahmad, Hamid and Wahab (2021) recommend either a minimum sample size of 200 (to ensure a sufficient statistical power for data analysis) or to determine the sample size based on the number of observed variables such as the parameters that need to be estimated and the required level of statistical power.

Wang and Wang (2020) state that within the literature on structural equation modelling (SEM), a consensus has not been reached regarding the appropriate sample sizes. Although evidence exists that simple structural equation models can be effectively tested with small sample sizes, usually between 100 and 150. The consideration of the sample size for SEM can be determined in relation to the number of observed variables. The minimum observation-to-variable ratio is 5:1, and preferably 10:1 (Wang & Wang, 2020; Arai, Kapoor & Bhatia, 2021). The sample size is calculated as $N \geq \text{total number of variables} * \text{observation-to-variable ratio}$ (Arai et al., 2021). This study has 22 factors, which makes 220 an appropriate sample size using the sample-to-variable ratio ($22 * 10 = 220$).

Memon, Ting, Cheah, Ramayah, Chuah and Cham (2020) state that the sample-to-item ratio is advised. The sample-to-item ratio is based on the number of items in a study and the minimum observation-to-item ratio is 5:1 (Memon et al., 2020). This study has 106 items and therefore would require a sample size of 530 based on the

sample-to-item ratio ($N \geq \text{total number of items} * \text{observation-to-item ratio}$). An alternative viewpoint, regarding the number of items, is that a higher number of items per factor could mitigate the limitations of a small sample size (Wang & Wang, 2020). Conversely, a large sample size could compensate for a limited number of items per factor (Wang & Wang, 2020). It is considered that a sample size of 50 is deemed sufficient for a confirmatory factor analysis (CFA) model comprising 6-12 items per factor, while a sample size of 100 is recommended for a CFA model consisting of 3-4 items per factor. Each of the factors included in this study consists of at least 3 items.

Another approach for determining the appropriate sample size is based on the use of calculators. Calculators such as the Raosoft sample size calculator have been commonly used in social science research (Memon et al., 2020). The Raosoft sample size calculator requires inputs for the confidence level, margin of error, population size and response distribution when computing the minimum recommended sample size (Raosoft, 2023). Based on the online database from ANKA Insights (approximately 15 000 South African SMEs across all sectors), a sample size of 375, with a confidence level of 95% and a margin of error of 5%, is considered as the recommended sample size according to the Raosoft calculator (Raosoft, 2023).

In determining the sample size for phase 2 of the research (quantitative), the recommendations and guidelines in the aforementioned discussion, the nature of the study as well as the researcher's budget, time and resources to carry out the research were taken into account. A minimum sample size of 300 was deemed acceptable after consulting a statistician.

Once the details of the sample plan have been finalised (target population defined, sample frame and sampling method selected and sample size determined), the sample plan can be implemented and the data can be collected (Hair et al., 2020). Data collection, the seventh step of the research process (Figure 4.1) is discussed in the next section.

4.3.7. Data collection

Data collection entails collecting the actual data from the sample using the research instrument as described in section 4.3.5. The collection of data for phases 1 and 2 and specified below.

4.3.7.1 Phase 1: Qualitative research data collection

As described in section 4.3.5.1, the research instrument used in phase 1 of the research (qualitative) was online focus groups and online in-depth interviews. Selected participants (South African m-commerce experts and SME owners/managers in the retail sector that met the inclusion criteria) received an e-mail invitation to the online focus group session or online in-depth interview which included information about the purpose of the study as well as important details such as the date and time. The online focus group sessions and online in-depth interviews took place via an online platform such as Teams or Zoom. The focus group sessions were scheduled for at least 90 minutes and the online in-depth interviews for at least 30 minutes each. A discussion guide was used for the online focus group sessions and online in-depth interviews (section 4.3.5.1 and Addendum A). Before each online focus group session and online in-depth interview, participants needed to complete a short, self-administered web-based questionnaire (section 4.3.5.1 and Addendum A). The findings of the qualitative research aided in refining the preliminary conceptual framework and enhancing the research instrument for phase 2 of the research.

4.3.7.2 Phase 2: Quantitative research data collection

The research instrument used in phase 2 (quantitative) was self-administered web-based questionnaires which were distributed to SME South African owners/managers in the retail sector that met the inclusion criteria (Section 4.4.5.2). Respondents registered on the ANKA Insights database were sent an e-mail invitation to complete the self-administered web-based questionnaire. The e-mail invitation provided information regarding the purpose of the study and a link that directed the respondents to ANKA Insights' online system for the completion the self-administered web-based questionnaire. The responses of the self-administered web-based questionnaires were automatically captured on ANKA Insights' online system.

The eighth step in the research process is processing and analysing the data (Figure 4.1), which is explained in the following section.

4.3.8. Process and analyse the data

The data collected for this study was edited, coded and cleaned to facilitate processing and analysis (Wiid & Diggines, 2021). Subsequently, the data was transformed into meaningful information. Zikmund and Babin (2016) define data analysis as the application of reasoning to understand the data obtained.

4.3.8.1 Phase 1: Qualitative research analysis

The data obtained from the online focus groups, online in-depth interviews and open-ended questions in the short, self-administered web-based questionnaire were analysed using thematic analysis. Thematic analysis is a method that involves identifying repeated themes/patterns or meanings that emerge from the data (Kiger & Varpio, 2020; Lochmiller, 2021; Finlay, 2021). According to Finlay (2021) and Kiger and Varpio (2020), the process of conducting thematic analysis involves six basic steps:

- Step 1: Familiarisation of the data set – repeatedly reading through the raw data until the researcher is completely familiarised with the data.
- Step 2: Creating initial codes – organising the data set through coding in a methodical and systematic manner.
- Step 3: Look for themes – searching for themes and grouping the data into different categories.
- Step 4: Assess the themes – making amendments to the themes; themes may need to be combined, further divided, or eliminated if not essential.
- Step 5: Describe and name themes – defining and providing meaningful and interesting titles to each theme.
- Step 6: Write the report – writing up the final report, which includes the analysis and findings of the data.

The abovementioned steps were followed to identify relevant patterns/themes regarding the adoption of m-commerce. Trustworthiness (i.e., validity and reliability

of qualitative data) was assessed using the following criteria (Lincoln & Guba, 1985; Skinner, Edwards & Smith, 2021; Hall & Brault, 2021):

- Credibility involves ensuring that the participants, backgrounds and methods are correctly identified and defined to assure meaningful research.
- Dependability emphasises the consistency of data over a period of time under various settings; the context and method of data collection should also be taken into account.
- Conformability demonstrates congruence in terms of data consistency and relevancy; ensuring that the research is objective, of high quality and free of bias.
- Transferability refers to the extent to which qualitative research findings can be generalised or applied to different situations.
- Authenticity involves genuine and unbiased research evaluations, as well as research that is meaningful and adds to the field of expertise.

The closed-ended questions in the short, self-administered web-based questionnaire distributed in phase 1 of the research were analysed using SPSS 23. The data was edited, coded and cleaned, and descriptive statistics were presented. A detailed analysis of the data and findings from phase 1 is provided in Chapter 5.

4.3.8.2 *Phase 2: Quantitative research analysis*

The self-administered web-based questionnaire distributed in phase 2 of the research included open-ended and closed-ended questions. As with phase 1, the open-ended questions were analysed using thematic analysis. The closed-ended questions were analysed using SPSS 23 in combination with Analysis of Moment Structures (AMOS) Graphics 22. The data was edited, coded and cleaned, and various data analysis techniques were applied to address each of the research objectives. The descriptive and inferential statistics are presented in chapter 6.

4.3.8.2.1 Descriptive statistics

Descriptive statistics involves summarising and describing a body of data (Mishra, Pandey, Singh, Gupta, Sahu & Keshri, 2019). Frequency distributions, percentages, the mean, and the standard deviation were drawn from the data and displayed in

tables and graphs. The descriptive statistics for phases 1 and 2 of the study are presented and discussed in chapters 5 and 6 respectively.

4.3.8.2.2 Inferential statistics

Inferential statistics go beyond describing a body of data. Inferential statistics can help researchers draw conclusions about a population from investigating a sample (Guetterman, 2019). Inferential statistics used in this study are explained next.

- Structural equation modelling (SEM)

SEM with maximum likelihood estimation was conducted to confirm and validate the revised conceptual framework for the study. Structural equation modelling (SEM) involves two phases: the first phase involves confirming the measurement model by performing confirmatory factor analysis (CFA) (Halder & Singh, 2018; Garson, 2023). Scholars have suggested that CFA is an appropriate methodological choice when sufficient theoretical and empirical evidence is available (Finch & French, 2018; Watkins, 2021). Therefore, CFA was deemed suitable for this study. CFA assesses the validity and reliability of the measurement model (Halder & Singh, 2018). The second part of SEM is the analysis of the structural model which explains the relationships between latent variables (i.e. factors) (Alaloul, Liew, Zawawi, Mohammed, Adamu & Musharat, 2020; Peugh & Feldon, 2020; Thakkar, 2020; Garson, 2023).

Goodness-of-fit indices were employed to assess the overall fit of the measurement and structural model. Normed chi-square (χ^2/df), comparative fit index (CFI), root mean square error of approximation (RMSEA), standardised root mean square residual (SRMR) and incremental fit index (IFI) are among the most commonly used indices to measure goodness of fit and were applied in this study. Table 4.3 displays the goodness-of-fit indices, along with its descriptions and respective acceptable values/interpretations.

Table 4.3: Goodness-of-fit indices

Index	Description	Value/Interpretation
Normed chi-square (χ^2/df)	Chi-square evaluates discrepancies between the data and model in terms of probability. However, normed chi-square (also known as relative chi-square) is often preferred as it is less influenced by sample size. Normed chi-square considers the degrees of freedom.	$\chi^2/df < 5.0$ indicates a good fit
Comparative fit index (CFI)	CFI compares the observed covariance matrix (the data) to the implied covariance matrix (covariances that arose from the model).	$CFI \geq 0.90$ indicates a good fit
Root mean square error of approximation (RMSEA)	A measure of fit to explain how well the model fits a population.	$RMSEA \leq 0.06$ indicates a good fit yet values below 0.08 may also indicate an acceptable fit
Standardised root mean square residual (SRMR)	SRMS is the average difference between the observed and implied covariances based on standardised residuals.	$SRMR \leq 0.08$ indicates a good fit
Incremental fit index (IFI)	IFI evaluates the fit of the model in comparison to a null model.	$IFI \geq 0.90$ indicates a good fit

Source: Adapted from Lee and Lee (2020), Subudhi and Mishra (2020), Collier (2020), Garson (2023), and Okumus, Rasoolimanesh and Jahani (2023)

- Reliability

The term “reliability” relates to measuring the internal consistency of a research instrument (Babin et al., 2020). In other words, reliability refers to the degree to which a research instrument yields consistent outcomes when employed repeatedly (Babin et al., 2020; Kumar, 2019). For this study, the coefficient alpha, also known as Cronbach’s alpha (α) as well as composite reliability (CR), was used for measuring internal consistency. Cronbach’s alpha (α) and CR can range between 0 and 1, with higher values signifying greater levels of reliability (Hair Jr, Hult, Ringle,

Sarstedt, Danks & Ray, 2021). It is important to acknowledge, however, that values above 0.9 are deemed undesirable as they may indicate redundancy (Hair Jr et al., 2021). Cronbach's alpha (α) and CR values are further explained in Table 4.4.

Table 4.4: Cronbach's alpha (α) and composite reliability values and interpretation

Value	Interpretation
$0.6 \leq \text{values} < 0.7$	Acceptable (for exploratory research)
$0.7 \leq \text{values} < 0.8$	Good
$0.8 \leq \text{values} < 0.9$	Excellent
$0.9 \leq \text{values} < 0.95$	Somewhat high
Values ≥ 0.95	Too high (indication of redundancy)

Source: Adapted from Hair et al. (2020) and Hair Jr et al. (2021)

- Validity

The term “validity” can be defined as the ability of a research instrument to measure what it is intended to (Ahmed & Ishtiaq, 2021). The categories of validity and application thereof to the study are indicated in Table 4.5.

Table 4.5: Categories of validity

Validity	Description	Application to the study	Value/Interpretation
Face validity	Face validity refers to whether a measure “appears” to assess what it is intended to measure.	Face validity and content validity were assessed by pretesting the research instrument.	Sections 4.3.5.2 and 4.3.5.4.
Content validity	Content validity is the degree to which a measure accurately represents a specific construct.		
Construct validity	Construct validity deals with whether a measure actually assesses what it is intended to measure. Construct validity can be assessed through convergent and	Goodness-of-fit indices were used to determine the overall fit of the measurement and structural model.	Table 4.3 displays the goodness-of-fit indices.

	discriminant validity.		
	Convergent validity is the demonstration of agreement between measures that are supposed to be conceptually related.	Convergent validity was determined by assessing factor loadings, the average variance extracted (AVE) and CR.	
		Factor loadings is the correlation between the item and the factor.	Factor loading ≥ 0.5 is acceptable while values ≥ 0.7 are ideal.
		AVE is the average percentage of variance explained by the items in a factor.	AVE ≥ 0.5 is acceptable.
		Composite reliability (refer to reliability).	Table 4.4 displays the CR values and interpretation.
	Discriminant validity (also known as divergent validity) refers to measures that are conceptually thought to be unrelated, are in fact unrelated.	Discriminant validity was assessed using the square root of AVE and correlation coefficients.	
		Square root of AVE (refer to AVE). The Fornell-Larcker criterion s one of the most popular methods to assess discriminant validity.	The square root of AVE for a particular factor should exceed the correlation value between the other factors.
		Correlation coefficients refers to the strength of the relationship between factors.	Correlation coefficients between the factors should not exceed 0.9.

Source: Adapted from Collier (2020), Lee and Lee (2020), Bougie and Sekaran (2020), Hair Jr et al, (2021), Devlin (2021), and Wijaya, Amin and Iqbal (2023).

- Multiple regression

Multiple regression is a statistical technique that can be used to investigate the relationship between a dependent variable and two or more independent variables (Roberts & Roberts Jr, 2021). The independent variables are referred to as predictor variables. Hence, multiple regression can be used to determine how well a set of independent variables is able to predict the dependent variable (Roberts & Roberts

Jr, 2021). For this study, a standard multiple regression analysis was conducted to establish the relationship between the five contexts (technological, organisational, environmental, managerial and integrated) and the adoption of m-commerce. There are several assumptions that must be met prior to conducting multiple regression analysis. Table 4.6 provides an overview of the assumptions of multiple regression analysis, along with the descriptions as well as acceptable values/interpretations associated with these assumptions.

Table 4.6: Assumptions of multiple regression analysis

Assumption	Description	Application to the study	Value/Interpretation
Multicollinearity	Multicollinearity refers to the relationship between the independent variables (factors).	Tolerance value	Tolerance value ≥ 0.10 indicates that there is no violation of multicollinearity.
		Variance inflation factor (VIF)	VIF values ≤ 10 indicates that there is no violation of multicollinearity.
Normality, linearity, homoscedasticity and outliers	Normality, linearity, homoscedasticity and outliers refer to various facets of score distribution and nature of the underlying relationship among the variables (factors).	<p>Normal Probability Plot (P-P) of regression standardised residual.</p> <p>Scatterplot of regression standardised residual.</p> <p>The scatterplot can identify the presence of outliers.</p>	<p>A moderately straight diagonal line indicates that there are no significant deviations from normality and no violation of linearity.</p> <p>Residuals that are rectangularly concentrated, with most of the scores situated in the centre (close to 0) indicates that there is no violation of homoscedasticity.</p> <p>Outliers have a standardised residual of more than 3.3 or less than -3.3. The presence of a few outliers may not necessarily warrant concern (particularly with larger sample sizes).</p>

Source: Adapted from Pallant (2020)

A detailed analysis of the qualitative and quantitative research is provided in Chapters 5 and 6 respectively. The final step of the marketing research process, as

depicted in Figure 4.1, is the presentation of the research findings and preparation of the report, discussed next.

4.3.9. Interpret the findings and prepare the report

In order to address each of the research objectives, a summary of the findings is provided along with recommendations made to contribute to the body of knowledge pertaining to the topic of investigation. The research findings are presented in chapters 5 and 6, and the conclusions and recommendations are presented in chapter 7. The next section stipulates ethical considerations and approval granted for the study.

4.4. ETHICAL CONSIDERATIONS

There are several ethical principles that should be taken into consideration through each stage of a study. These ethical principles emphasise the necessity to do good (beneficence) and to do no harm (non-maleficence) (Team Prabhat, 2023). In practice, this means that the researcher should (Team Prabhat, 2023):

- Obtain informed consent from the participants.
- Reduce the risk of harm to participants.
- Protect participants' anonymity and confidentiality.
- Refrain from using deceptive practices.
- Allow participants to withdraw from the study.

This study was classified as low risk and received approval from the Ethics Review Committee (Department of Marketing and Retail Management), in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The researcher was granted ethics approval for the period 2020 to 2023 (Addendum C).

4.5. SUMMARY

Chapter 4 provided a comprehensive discussion of the research methodology adopted to address the research objectives in the study. Chapter 4 commenced with an overview of the framework development. Thereafter, each step in the research process was discussed, further clarifying the approach followed for the study.

Secondary and primary research were combined to achieve the research objectives. Secondary research was conducted through a literature review and a preliminary conceptual framework of m-commerce adoption was proposed as the basis for the research. Primary research was divided into two phases: phase 1 of the research identified factors that influence the adoption of m-commerce unique to South African SMEs operating in the retail sector. The factors identified in phase 1 were used to refine the preliminary conceptual framework and to enhance the research instrument for phase 2 of the research. Chapter 4 concluded with a brief overview of the ethical considerations and approval for the study. The next chapter (chapter 5) will present the research findings obtained from phase 1 (qualitative).

CHAPTER 5: RESEARCH FINDINGS – QUALITATIVE RESEARCH

5.1. INTRODUCTION

Chapters 1, 2 and 3 provided a background to the study and an overview of existing literature within the field of m-commerce. Through an extensive review of existing literature, a preliminary conceptual framework for m-commerce adoption was developed (Figure 3.12, chapter 3). The preliminary conceptual framework was refined through the collection of primary data, qualitative research (phase 1) and quantitative research (phase 2). Chapter 4 described the research methodology chosen for the study, and as previously stated, a mixed methods approach was followed integrating qualitative research (phase 1) and quantitative research (phase 2) to achieve the research objectives. This chapter (chapter 5) focuses on the findings obtained from phase 1 (qualitative – online focus groups and online in-depth interviews including a short, self-administered web-based questionnaire).

Chapter 5 presents a detailed discussion of the qualitative research findings and concludes with a revised conceptual framework.

5.2. QUALITATIVE RESEARCH FINDINGS – PHASE 1

As shown in Figure 5.1 and discussed in chapter 4, the data for phase 1 of the research stemmed from two online focus groups consisting of 6 m-commerce experts each, and sixteen online in-depth interviews, eight with SME owners/managers operating in the retail sector (who have adopted m-commerce in their business) and eight with SME owners/managers operating in the retail sector (who have not adopted m-commerce in their business). Participants were also given a short, self-administered web-based questionnaire (customised to their specific group) to complete before the online focus group sessions and online in-depth interviews.

The qualitative data for the online focus groups and online in-depth interviews were analysed using thematic analyses. Thematic analysis entailed identifying and interpreting themes/patterns of meaning and categories that emerged from the data relating to the understanding and experiences of South African retail SMEs on the

adoption of m-commerce. A theme is defined as a meaningful, recurring pattern that emerges from the data while a category is referred to as codes grouped together under a single title/theme (Morgan & Nica, 2020; Skinner et al., 2021). “Themes” (factors) and “categories” (items) are used throughout Chapter 5. The closed-ended questions in the short, self-administered web-based questionnaire are analysed using statistical analysis (SPSS 23), and basic descriptive statistics using frequencies and percentages.

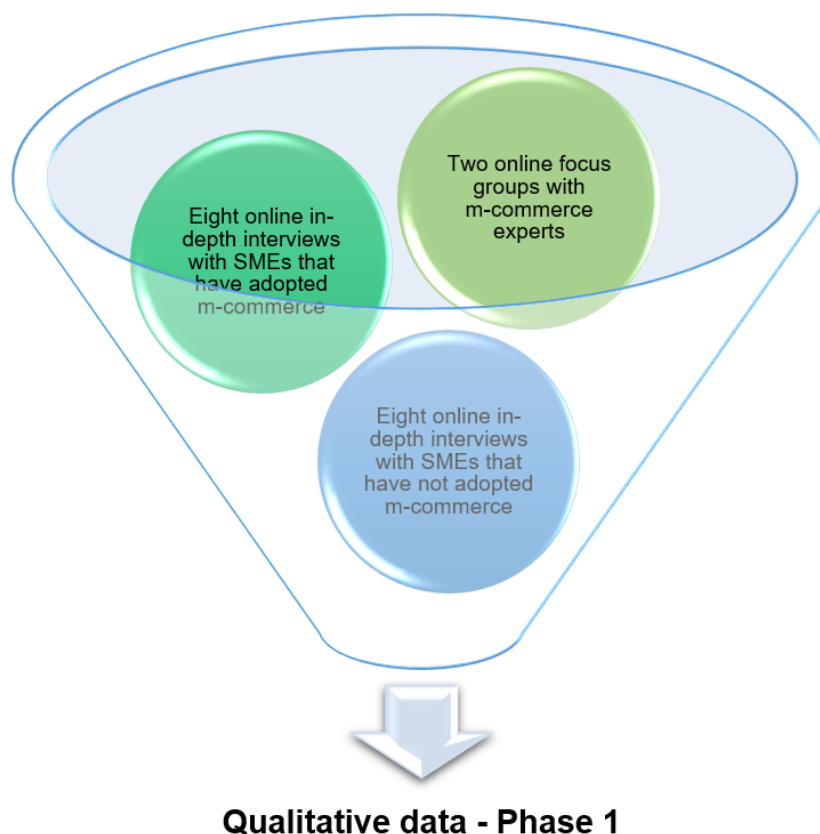


Figure 5.1: Qualitative research approaches selected for the study

Source: Author's own compilation

The qualitative research centred on the clarification and understanding of m-commerce use and adoption among South African retail SMEs. The aim was to explore the experiences and opinions of South African retail SMEs, with specific focus on the existing factors (as identified from the literature) that play a role in the decision to adopt m-commerce and identifying any additional factors from the participants during the discussions. Verbatim quotations are provided as evidence and justification that provides a more detailed perspective on the participants' views.

The discussion of the findings is presented in several sections. Section 5.2.1. examines the findings from the online focus groups (South African experts in the field of m-commerce). In sections 5.2.2 and 5.2.3, the discussion focuses on the findings from the online in-depth interviews of owners/managers who had either not adopted or adopted m-commerce in their business, respectively. Thereafter, a detailed thematic analysis on the factors that influence the adoption of m-commerce in South African retail SMEs is presented. Section 5.2.5 highlights the additional factors unique to South African retail SMEs that have been identified from the online focus groups, online in-depth interviews and short, self-administered web-based questionnaire. The final section (5.2.6) summarises the research findings obtained from the qualitative phase of this study and presents the revised conceptual framework.

5.2.1. South African experts in the field of m-commerce

Two online focus group sessions were held with each group consisting of 6 participants. The participants were selected according to the inclusion criteria as previously discussed in chapters 1 and 4. Prior to the online focus group sessions, the participants had to complete a short, self-administered web-based questionnaire (Addendum A), which included questions pertaining to opinions regarding the factors on the adoption of m-commerce, the m-commerce profile and demographic information. The demographic information and m-commerce profile of the South African experts in the field of m-commerce is presented in Table 5.1.

Table 5.1: Demographic breakdown and m-commerce profile of experts in the field of m-commerce

		n	%
Gender			
	Male	6	50
	Female	6	50
	Other	0	0
	Prefer not to answer	0	0

	TOTAL	12	100
Age			
	18–25	1	8.3
	26–45	9	75
	46–55	2	16.7
	56–65	0	0
	TOTAL	12	100
Number of years involved in m-commerce activities/services			
	Less than 1 year	0	0
	1–2 years	3	25
	3–4 years	3	25
	5 years and above	6	50
	TOTAL	12	100
Percentage of enquiries received from businesses			
	Small businesses (less than 250 employees)	N/A	80.6
	Large businesses (more than 250 employees)		19.4
	TOTAL		100
Industry where most enquiries are received from			
	Retail	11	91.7
	Manufacturing	1	8.3
	TOTAL	12	100

As indicated in Table 5.1, the sample of m-commerce experts in this study (n = 12) was equally distributed between female and male participants: female (50%, n = 6) and male (50%, n = 6) with most of the participants between 26 and 45 years old (75%, n = 9). A total of 50% of the participants (n = 6) had been involved in m-commerce activities/services for more than 5 years and over three quarters (80.6%) of the enquiries that m-commerce experts received for their services came from small businesses. Almost the entire m-commerce expert sample received enquiries from the retail sector (91.7%, n = 11).

The online focus group sessions were carried out using a semi-structured approach whereby the interviewer used a flexible discussion guide to conduct each session (Addendum A). The participants were asked to discuss their experience regarding m-commerce among SMEs in South Africa in terms of what drives businesses to adopt m-commerce, their opinion on specific reasons/factors preventing businesses from adopting m-commerce and the minimum requirements needed for a business to initiate m-commerce. The factors that have been identified as influencing the adoption of m-commerce among SMEs (as derived from literature) were also presented to the participants for discussion on the importance of these factors. The findings among participants regarding the factors that influence the adoption of m-commerce in South African retail SMEs is discussed in Section 5.2.4.

5.2.1.1. M-commerce experts' experiences regarding m-commerce usage among SMEs in South Africa

Regarding the adoption of m-commerce among South African retail SMEs, experts who were involved in the m-commerce industry experienced that many of their clients (comprised mostly of SMEs – Table 5.1) were uninformed about what m-commerce entails. Emphasis was placed on the lack of education regarding m-commerce. The participants found that SMEs did not understand what is required to set up their businesses for m-commerce which was experienced as a challenge. The findings were validated by the following quotes:

“... small clients, they don't understand what having an e-commerce site involves... the different frameworks, they don't know what they want”.

“... clients would want a website but they don't know the cost, they don't know the responsibility and requirements from their side”.

“a lot of small businesses would have heard of something like an app or just an e-commerce website, but they often then don't know what that means”.

“... from my experience with especially the SMEs, it is definitely the education thing and they really don't know if they actually need a website or if they just need a distribution channel”.

“... we have to hold their hands across the whole process”.

Furthermore, the participants also found that the SMEs had limited finances and resources leading to a lack of investment in developing their online presence. The following quotes supported the findings:

“... they’re not really involved in the process that much... until something’s broken, of course, then it’s chaos”.

“... nine out of ten times their products aren’t ready yet... so there’s a lot of back and forth in the beginning”.

“... we also need to hound clients to get... product photos, or just basic information they want on the website, and usually they also want the cheapest version which is always not the best version”.

“... we all seem to have the same challenges... where your client wants you to develop this great website... but they have the worst pictures, but then they want it to look amazing and to do it on the smallest budget, so... it’s very frustrating”.

5.2.1.2. *Drivers of m-commerce adoption*

When the participants were asked what the SME drivers for the adoption of m-commerce were, they emphasised the shift to online platforms and increased customer demand for businesses to establish an online presence in order to facilitate online sales of products and services. The following quotes confirmed the findings:

“... we saw a spike... for everybody to get online stores”.

“... over the last 9 years I’ve seen a big shuffle from desktop focus to mobile focus... more and more customers have access to mobile phones... and that will create demand”.

“... everybody’s had to shift to an online environment... and what has driven them it to actually get their product to market”.

Cost effectiveness emerged as a big driver for adopting m-commerce. The participants believed that adopting m-commerce was a more economical option compared to maintaining a physical store with its associated overhead expenses. In

addition, using a mobile phone facilitated the process of customers acquiring products or services. This was highlighted by the following quotes:

“... big motivation factor is they don’t actually need a store... they can house all their stuff all over the place... not pay any rental”.

“... this [m-commerce] is a cheaper way to get your product out there... you don’t have to pay rent, it’s just your online portal, and that’s it”.

“... mobile phones are cheaper to acquire and easier... to purchase goods online”.

5.2.1.3. *Reasons/factors preventing m-commerce adoption*

The participants identified several factors that prevented SMEs from adopting m-commerce. The first factor was having a lack of knowledge or having had a bad experience with not only adopting m-commerce, but also maintaining it as well. The following quotes were derived from the participants:

“... what prevents companies from successfully moving into m-commerce is its experience and knowledge... clients don’t have historical experience with building e-commerce and m-commerce focused sites and maintaining it. They’ve made mistakes”.

“being burnt before... having started something and then really didn’t understand what they were getting into and they never wanna go back... they are burnt by the experience”.

“... clients need to be enlightened a lot more on the benefits of e-commerce and m-commerce”.

Cost implications were also a significant barrier to businesses adopting m-commerce. This included the lack of adequate funds to develop a mobile-friendly online store, as well as the expenses associated with maintaining the online store once it is developed. The following quotes supported the findings:

“... issue that was mentioned was set-up costs”.

“... one of the biggest deterrents from my client base... going full e-commerce or m-commerce is the costs of maintenance”.

“... prevent companies to successfully move into m-commerce is... cost... because to do it at the standard required to beat your competitors... you need enough budget to be able to compete”.

5.2.1.4. *Minimum requirements needed to start off with m-commerce*

The participants were asked to discuss what they believed were the minimum requirements that an SME would require to adopt m-commerce. The first requirement was to maintain adequate stock on hand to fulfil online orders promptly and ensure timely product delivery to customers. The following quotes confirmed the findings:

“... and then obviously having your product available as well... that’s very important”.

“... stock availability... if someone’s shopping on their phone, they’re not going to wanna wait a week or two weeks for their product... you have to have immediate stock availability and deliver quick”.

Having a competent team/staff to assist from the moment customers enter the online store right through to the delivery of the product was raised as a key requirement. This was highlighted by the following quotes:

“... you’ll definitely need some sort of partnership with a courier... to get your product to the door of the customer”.

“... includes people who are able to package and send out those orders in order to create that smooth transition between order and delivery”.

Another minimum requirement mentioned was the availability of the SME, meaning that either the owner/manager or staff member was available to monitor and keep the website (online store) updated. These findings validated by the participants’ stating:

“... having someone who is monitoring and uploading products... able to monitor the stock and understand what needs to be done in order to secure and maintain the website”.

“... Also, availability of the SME, it becomes a challenge if the SME is not available”.

Understanding the SMEs’ brand, vision and approach was highlighted as a minimum requirement for adopting m-commerce in relation to the SMEs direction. Having this direction will lead to a more cohesive m-commerce experience, as captured by the following quotes:

“... research needs to be done in the m-commerce space and the SME needs to find its niche and direction, basically”.

“... I think for me... somebody who actually knows what they want... who knows their market is specifically... where their market is”.

The last requirement relates to SMEs’ organisational and physical infrastructure. Having an m-commerce platform, a chosen website domain, payment gateway, technology and internet connection to facilitate the online store were identified as the key infrastructure requirements for the adoption of m-commerce. The following quotes supported the findings:

“... you really only need a domain... some sort of tech to facilitate your online store and a stable internet connection”.

“... you’d also need your PayGate”.

“... I would say you need to select your m-commerce platform and create your website”.

The next section highlights the findings of the online in-depth interviews with South African SME owners/managers who have not adopted m-commerce in their business.

5.2.2. South African SME owners/managers operating in the retail sector (who have not adopted m-commerce in their business)

A total of eight online in-depth interviews were conducted with SME owners/managers who have not adopted m-commerce in their business. Participants were selected according to the inclusion criteria as previously discussed in chapters 1 and 4. Before each online in-depth interview, the participants had to complete a

short, self-administered web-based questionnaire (Addendum A), which included questions pertaining to opinions regarding the m-commerce adoption factors, business profile and demographic information. The demographic information and business profile of the SME owners/managers who have not adopted m-commerce in their business is presented in Table 5.2.

Table 5.2: Demographic breakdown and business profile of SME owners/managers in the retail sector (who have not adopted m-commerce in their business)

		n	%
Gender			
	Male	3	37.5
	Female	4	50
	Other	0	0
	Prefer not to answer	1	12.5
	TOTAL	8	100
Age			
	18–25	1	12.5
	26–45	6	75
	46–55	1	12.5
	56–65	0	0
	TOTAL	8	100
Business location			
	Gauteng, urban area	7	87.5
	Western Cape, urban area	1	12.5
	TOTAL	8	100

Years of operation			
	3 years	1	12.5
	4 years	3	37.5
	5 years	2	25
	7 years	1	12.5
	10 years	1	12.5
	TOTAL	8	100
Retail category			
	General dealers	0	0
	Food, beverages and tobacco in specialised stores	3	37.5
	Pharmaceutical and medical goods, cosmetics and toiletries	0	0
	Textiles, clothing, footwear and leather goods	1	12.5
	Household furniture, appliances and equipment	0	0
	Hardware, paint and glass	1	12.5
	Reading matter and stationery	0	0
	Jewellery, watches and clocks	2	25
	Other	1	12.5
	TOTAL	8	100
Number of employees			
	0–10	7	87.5
	11–50	1	12.5
	51-250	0	0

	TOTAL	8	100
Approximate annual turnover (ZAR)			
	Less than or equal to 7.5 million	8	100
	More than 7.5 million but less than or equal to 25 million	0	0
	More than 25 million but less than or equal to 80 million	0	0
	More than 80 million	0	0
	TOTAL	8	100

Table 5.2 displays the breakdown of SME owners/managers in the retail sector (who have not adopted m-commerce in their business). From the sample, 50% (n = 4) were female, 37.5% (n = 3) male and 12.5% (n = 1) preferred not to answer. The majority of the participants were between 26 and 45 years old (75%, n = 6). Of the 8 participants, 7 (87.5%) were located in Gauteng and one in the Western Cape (12.5%); they were all in urban areas and had been in operation for 3-10 years. The most popular retail categories were “food, beverages and tobacco in specialised stores” (37.5%, n = 3) followed by “jewellery, watches and clocks” (25%, n = 2). The “Other” retail category was listed as “electronics gaming and gadgets”. Most of the SME owners/managers had 0-10 employees (87.5%, n = 7) and had an approximate annual turnover of less than or equal to R7.5 million, making them primarily micro enterprises, based on the definition of SMEs set out by the National Small Enterprise Act (chapter 2).

The interviews were conducted using a semi-structured approach where the interviewer used a flexible discussion guide (Addendum A). SME owners/managers who have not adopted m-commerce were asked to share their understanding of m-commerce, the main reasons for not using m-commerce in their business and what would make them consider adopting m-commerce in their business. The discussion further focused on the factors that had been identified as influencing the adoption of m-commerce among SMEs (as derived from literature). The factors that influence the adoption of m-commerce in South African retail SMEs are discussed in Section 5.2.4.

5.2.2.1. *SME owners/managers understanding of m-commerce*

When asked about their understanding of m-commerce, 2 participants expressed uncertainty or a lack of familiarity with the concept. This was highlighted by the following quotes:

“... I've never heard of mobile commerce, until you, you mentioned the other time”.

“... I'm, I'm not going for it. I'm, uh, I'm, uh, old school”.

Other participants understood m-commerce as online business/online shopping. They perceived it as a means of "digitising" their business. It is noteworthy that only 1 participant mentioned the use of a mobile device. The findings were validated by the following quotes:

“... mobile commerce is something where you can go onto a platform and purchase an item”.

“... mobile commerce is all about... doing business on online”.

“...maybe the business being online”.

“... I would probably say an easier place to, like shopping on your phone as opposed to using your, uhm, a laptop. Just an easier way to get what you need”.

“... digitalise your business to make it more convenient for your consumers”.

“...it is something similar to e-commerce, I think”.

5.2.2.2. *The main reasons SME owners/managers have not adopted m-commerce in their business*

One of the main reasons expressed by SME owners/managers who have not adopted m-commerce in their business was a negative previous experience with technology vendors. Participants found that certain third-party platforms were unreliable and did not prioritise them when doing business together. The findings were supported by the following quotes:

“... we remove photos and upload... because for them to come out and take photos every time we get new stock is a headache”.

“... people screwing me over and not doing what's right... payments done, people are not pulling through with the websites”.

“... we tried, we did try with Takealot. But the problem, uhm, they're more lenient towards buyers than to sellers... it's kind of a loss of money for us if we sell some earphone to someone and then the packaging is too bad when they send it back”.

In addition, having an online store or adopting m-commerce would be incompatible with the business. Emphasis was placed on managing inventory both in-store and online and having to restock an item once it had been sold. The findings were validated by the following quotes:

“... it would be difficult for us to, sort of match all stock that we have on ground because we have an open store and then to have like an online as well. You would need to sort of merge the two in a way so that this stock won't over be, overbooked or oversold”

“... I work on mostly a customised basis. So, for me, every item is unique, it's different... the products I sell, the price is constantly fluctuating... it's constantly changing. Everything is customised...”

“... I need it to be more. Every time, like sometimes you sell a watch in store now... You sold it now like 5 minutes. And before we could even take it off, somebody put it on the Internet. Now, you don't have stock and don't have stock of a particular model... there's no more stock available now you're sitting with a headache, where you have to refund the customer. It's not good for business”.

Some participants raised time constraints and knowledge as challenges. They specifically mentioned difficulties in allocating sufficient time for learning and researching about m-commerce, as well as a lack of expertise in setting it up. The findings were validated by the following quotes:

“... I just really haven't had time to actually sit down and research”.

“... the time to actually set it up properly”.

“... a lack of knowledge in terms of what infrastructure is required to set it up properly. And then also trying to figure out which platform is best to, you know, kind of get the best return on investments”.

The final reason for not adopting m-commerce was related to financial reasons. The lack of necessary funds to set up the business for m-commerce was cited as a barrier. The findings were supported by the following quotes:

“... It's been funding”.

“...the set-up costs”.

“... I've spent so much money on these things...it's taking a lot on me, as a business”.

5.2.2.3. *What would make SME owners/managers consider adopting m-commerce*

According to the participants, they would be more open to using m-commerce if it were user friendly and they had more time to dedicate to m-commerce activities in their business. In addition, SME owners/managers would consider adopting m-commerce if there was a more convenient way to synchronise inventory via the online store. The following quotes confirmed the findings:

“... I think if it was more user friendly, I would do it myself then. Yes, if it was more user friendly, I would be more likely to use it”.

“... you need more time, more patient and extra time as well”.

“... it's the time consuming as well. You have to give your time as well”.

“... I think maybe, if, [sigh] it more straightforward to upload product”.

“... I guess if there's a way where you can match your stock which is on the floor with the stock shown on the web page, while it's going out in the, in the shop, that if it, or if goes out online that you book it out immediately”.

Furthermore, SME owners/managers would consider adopting m-commerce for business growth (in terms of sales and customers). The use of m-commerce by competitors may pressure SME owners/managers to follow suit in order to retain customers. Moreover, due to the accelerated digital transformation globally, participants may be more willing to adopt m-commerce. This was supported by the following quotes:

“... I'd like my clients to gain access to it.... nowadays, technology has shown that everything is convenient. So, I wouldn't want my clients only to gain access to my product through a retail shelf, I'd like to also be able to create a virtual shelf so that they can have access to it through and through”.

“... the potential reach, you know. So, I think maybe we might reach, using these platforms or websites and everything. So, whoever you might reach... makes a lot of sense and brings a lot capital or income into the company”.

“... what could make me consider... maybe the world is moving towards that thing... the future is online probably like, you know, after Corona there's many people who I know start working from home, so, physical offices are, uh, as well... not really working. Many people are working from home now”.

“... But we have looked into that. That is exactly what we were looking to do because our competitors are doing it”

The next section highlights the findings of the online in-depth interviews with South African SME owners/managers operating in the retail sector who have adopted m-commerce in their business.

5.2.3. South African SME owners/managers operating in the retail sector (who have adopted m-commerce in their business)

A total of eight in-depth interviews were conducted with SME owners/managers who have adopted m-commerce in their business. Participants were selected according to the inclusion criteria as previously discussed in chapters 1 and 4. Before each online in-depth interview, participants had to complete a short, self-administered web-based questionnaire (Addendum A), which included questions pertaining to opinions regarding the m-commerce adoption factors, business profile and

demographic information. The demographic information and business profile of the SME owners/managers is presented in Table 5.3.

Table 5.3: Demographic breakdown and business profile of SME owners/managers in the retail sector (who have adopted m-commerce in their business)

		n	%
Gender			
	Male	3	37.5
	Female	5	62.5
	Other	0	0
	Prefer not to answer	0	0
	TOTAL	8	100
Age			
	18–25	0	0
	26–45	8	100
	46–55	0	0
	56–65	0	0
	TOTAL	8	100
Business location			
	Gauteng, urban area	8	100
	TOTAL	8	100
Years of operation			
	3 years	1	12.5
	5 years	3	37.5
	6 years	2	25

	10.5 years	1	12.5
	11 years	1	12.5
	TOTAL	8	100
Retail category			
	General dealers	0	0
	Food, beverages and tobacco in specialised stores	3	37.5
	Pharmaceutical and medical goods, cosmetics and toiletries	0	0
	Textiles, clothing, footwear and leather goods	3	37.5
	Household furniture, appliances and equipment	1	12.5
	Hardware, paint and glass	0	0
	Reading matter and stationery	0	0
	Jewellery, watches and clocks	0	0
	Other	1	12.5
	TOTAL	8	100
Number of employees			
	0–10	7	87.5
	11–50	1	12.5
	51-250	0	0
	TOTAL	8	100
Approximate annual turnover (ZAR)			
	Less than or equal to 7.5 million	6	75
	More than 7.5 million but less than or equal to 25 million	2	25
	More than 25 million but less than or equal to 80 million	0	0

	More than 80 million	0	0
	TOTAL	8	100

Table 5.3 shows the breakdown of SME owners/managers in the retail sector (that have adopted m-commerce in their business). Most of the participants were female (62.5%, n = 5). The entire sample was between 26 and 45 years old; their businesses were in urban areas of Gauteng and had been in operation for 3-11 years. The two most popular retail categories were “food, beverages and tobacco in specialised stores” (37.5%, n = 3) and “textiles, clothing, footwear and leather goods” (37.5%, n = 3). The “other” retail category was listed as “home goods”. Many of the SME owners/managers operated micro enterprises based on the definition of SMEs by the National Small Enterprise Act (see chapter 2), with 87.5% (n = 7) having 0–10 employees and 75% (n = 6) with an approximate annual turnover of less than or equal to R7.5 million.

The interviews were conducted using a semi-structured approach where the interviewer used a flexible discussion guide (Addendum A). The SME owners/managers were asked to share their understanding of m-commerce, their experience of and how they use it in their business, the main reasons for using m-commerce in their business, and the difficulties they faced using m-commerce in their business. Furthermore, the discussion focused on the factors that were identified as influencing m-commerce adoption among SMEs (as derived from literature). The factors that influence m-commerce adoption in South African retail SMEs are discussed in section 5.2.4.

5.2.3.1. *SME owners/managers understanding of m-commerce*

Most of the participants stated that they understood the term “m-commerce” as involving some form of online shopping using a mobile device. The findings were validated by the following quotes:

“... it’s basically an online store where people, or consumers will come to buy your products”.

“...allowing technology to do most of the work... use your cell phone as a business tool”.

“... selling digitally onto a mobile device... either a cell phone or a tablet... completing the transaction on the internet browser on your mobile device”.

“...buying online using your mobile device”.

Two participants expressed a poor understanding of m-commerce and were unsure of what it truly entailed. This was highlighted by the following quotes:

“... I don't have much understanding... but I would like to believe it's... online work basically”.

“... I had to Google it to be honest”.

5.2.3.2. *SME owners/managers experience of and use of m-commerce in their business*

The participants' experiences with m-commerce and how they used it in their business varied. Emphasis was placed on m-commerce as a marketing tool to create brand awareness and increase customer base. Social media, specifically Facebook and Instagram, appeared to be the main platforms that SMEs used to market and sell their products. WhatsApp was also a predominant m-commerce platform and was viewed as a personal way to interact with customers. This was captured by the following quotes:

“... so, from a perspective of marketing and brand awareness, we communicate via social media as to what it is that's happening in the business”.

“... okay, then I've got Facebook which I do aggressive, uhm, organic posting, paid advertising, uhm, through Facebook and I've also got my store connected to Facebook”.

“I've then also got Instagram where, uhm, I don't do any paid, but I do have organic posts that go there, uhm, and there it's, it's also connected to my Shopify store where people can tap in the post and shop, you know, can see what the price is, etcetera”.

“... on Instagram and our Facebook page they have links to the website, and links to WhatsApp that bring customers”.

“... people just prefer to use the WhatsApp platform because it feels more personal... they feel like they can trust somebody who’s on WhatsApp”.

“... we’re mainly an online store... we don’t have very many purchases from Facebook and Instagram... but we do get a lot of traffic from those two and I spend quite a bit of money on ads to get the people to the website”.

The participants further highlighted the use of an online store (mobile friendly). The findings were validated by the following quotes:

“... then online, which would be more just e-commerce... we’d have our website which acts as a storefront so people can purchase directly off the site using their mobile device”.

“...my platforms that I use... is, obviously, I’ve got Shopify which is my e-commerce/m-commerce store”.

“... we’re mainly an online store’.

In addition to social media platforms, participants reported the use of third-party platforms such as Uber Eats and Mr D Food to sell their products or services. This was highlighted by the following quotes:

“... we’ve recently launched Uber Eats... pay a set-up fee and it involved some training as well... they would take a cut from your sales”.

“... then I moved to Uber Eats and Mr D Food... we were booming... I didn’t have to wait for customers”.

The participants perceived m-commerce as a convenient and advantageous tool for conducting business. Some participants kept the use, operation and maintenance of m-commerce in-house without using technology vendors. They indicated that they would make use of platforms like Shopify and WordPress to create their own websites and online stores for a monthly hosting fee. In addition, participants indicated that they would use WhatsApp as another platform of m-commerce (as previously mentioned). The following quotes confirmed the findings:

“...clients who are not in the country, who wanna get in touch with me... WhatsApp call me and they can be able to get in touch with me”.

“... we use WordPress... because it was the most familiar... we do pay a monthly domain hosting kind of fee”.

“... they do all the maintenance, but we do any site updates”.

... so, I run the business through WhatsApp, which is an easier channel”.

“... Shopify is very good on their customer service and tech support... it'll cost you R300 000 to build exactly what Shopify offers you”.

“... And to cut out, you know, the people just asked, 'Is this available? Can you tell me more details', then I decided, ag, I'm just gonna build a website”.

Conversely, some participants opted to use technology vendors to assist with the development and maintenance of an online store for a monthly fee. The findings are validated by the following quotes:

“...I tried myself and I was like, what? Like what is WordPress? Where do I put this? ... I just asked someone else to do it for me”.

“...so, it's a monthly maintenance... he charges me R200 a month to do hosting... he does everything, updates the backend of the websites”.

“... we use a third party who are essentially the domain hosts and they manage the operation of our online store, our e-mails and such”.

5.2.3.3. *The main reasons SME owners/managers adopt m-commerce in their business*

Establishing a more prominent online presence was one of the main reasons for using m-commerce. Participants revealed that they received more than two thirds of their online traffic from mobile devices. They emphasised that having an online presence is required to reach the bulk of their customers, who mostly utilised mobile devices. The findings were validated by the following quotes:

“... Online store sessions by device, my mobile devices account for 82% of my traffic”

“... I don't target mobile users, but with Instagram, I mean probably 99% of my users are on the phone”.

“... large number that uses Facebook on their phone and with an online store and even emails, you know, if we send out emails, people are checking their emails on their phones... 75% of our users are mobile”.

Additionally, using m-commerce proved to be convenient for the customer. SME owners/managers specified that individuals are occupied and not consistently available to shop in store, thus they prefer to shop online via their mobile devices. Hence, m-commerce can make it easier for customers to purchase the products and services offered by SMEs. The findings were validated by the following quotes:

“... the main reason is that we had to adjust to the fact that people are not always available”.

“... how busy people are and nobody, very few people wanna go in-store and shop”.

“... I was solely depending on Instagram and Facebook for sales... and in order for customers to order from me, they had to send me an email... it was long winded... with my website they can go, 'Okay, I want this'... and then they pay... they don't have to worry about anything else... So, I think it's much easier and much quicker to get sales that way”.

“... So, it's easier for people to be able to access something on their cell phone. That's the most convenient way... so first it's extremely important to be able to give them that option, but also to make it mobile friendly, essentially”.

Lastly, using m-commerce enables SME owners/managers to keep up with current trends. This was expressed by the following quotes:

“... well the value is that most people are conducting their purchases and such using cell phones, they're not always at a desktop”.

“... apps that... prefer to use on your phone other than on a desktop”.

“... people transact and communicate more with brands via social media platforms than the traditional websites”.

5.2.3.4. *Difficulties experienced by SME owners/managers in using m-commerce in their business and solutions to overcome these difficulties*

The difficulties arising from using m-commerce were discussed along with how the participants overcame them. A difficulty that arose was time-consumption, particularly when relying on third parties (such as Uber Eats) to implement necessary changes or updates. The findings were supported by the following quote:

“...The only difficulties were, uh, would be when you have to change the menu or update something from the business to the app guys... and then maybe it would just take longer than maybe you were planning”.

Additionally, the participants expressed that the cost of using m-commerce was a challenge. The financial implications related to the potential development of a mobile app, persuading customers of its importance and resolving technical issues. The findings were validated by the following quotes:

“... we would not have a mobile app due to the cost”.

“... it wouldn't be worth our while because we would have to market that app and then we would have to then educate people on the reason why the app is now relevant to them and also, deal with all of this software glitches along the way”.

Issues with infrastructure were also indicated as a difficulty, with specific mention of loadshedding in South Africa and the problems it creates within the business. Not having an actual retail space (and only an online store) added to the infrastructural problem because it meant that customers could not see, try on or test the product before purchasing. The following quotes supported the findings:

“... main problem is loadshedding... problems of Wi-Fi; issues like that, technicalities that are beyond your control”.

“... because we started at home and there is a lot of people that want to come see the product, then that was kind of a setback just because I didn't have a retail space... for the person to test out the product”.

Lastly, the customers mentioned an inability use the online store. Participants expressed that these difficulties were user- (or customer-) driven. This was highlighted by the following quotes:

“... it was more difficulties from the user’s perspective. People not understanding how the platforms work, what to click”.

“... there’ve been problems but when we hash it out, it’s user-based problems, not platform-based problems”.

Participants discussed the ways in which they overcame the difficulties in adopting m-commerce in their business. They addressed the challenge of not having their product visible to their customer base by attending markets and having a small retail space. This was expressed by the following quotes:

“... we decided to have this showroom”.

“... opportunity for people to come through and then we did a lot of markets”.

“... is you don't get walked by... if you're in Menlyn, then somebody will walk by your store and it'll catch their eye, and they'll come in. So, I now need to somehow figure out how to make our products visible”.

Furthermore, the participants expressed a strong willingness to learn, particularly due to the wealth of resources that may assist them in overcoming the challenges associated with adopting m-commerce. The participants stated the following:

“... there's lots of... YouTube and videos that show you how to do certain things”.

“... a lot of tutorials... I think it just comes down to an individual's ability and capacity to be able to take in that kind of information and be able to apply it. So, I'm, uh, I'm not really a tech person, but I'm someone who is easily able to take in information and try things. And because I run the business, I, I like to try and always understand how everything works”.

The factors that influence m-commerce adoption in South African retail SMEs are discussed in the next section.

5.2.4. Factors (themes) that influence m-commerce adoption among SMEs in South Africa

This section provides a detailed thematic analysis on the factors that influence m-commerce adoption among South African retail SMEs. A total of 18 factors were extracted from the literature and the participants were instructed to engage in discussions regarding the identified factors, with emphasis on the importance of each factor in terms of m-commerce adoption. Additionally, they were also asked to identify any other factors that might influence m-commerce adoption in South African retail SMEs.

Each factor was covered in the online focus group sessions, online in-depth interviews and short, self-administered web-based questionnaire to gain insight and understanding of m-commerce adoption in South African SMEs. For analytic purposes, the factors are referred to and viewed as themes throughout. As indicated in Figure 5.2, 18 themes were identified from a central story line, with each theme comprising various categories. Each of the themes, together with its categories is discussed next.

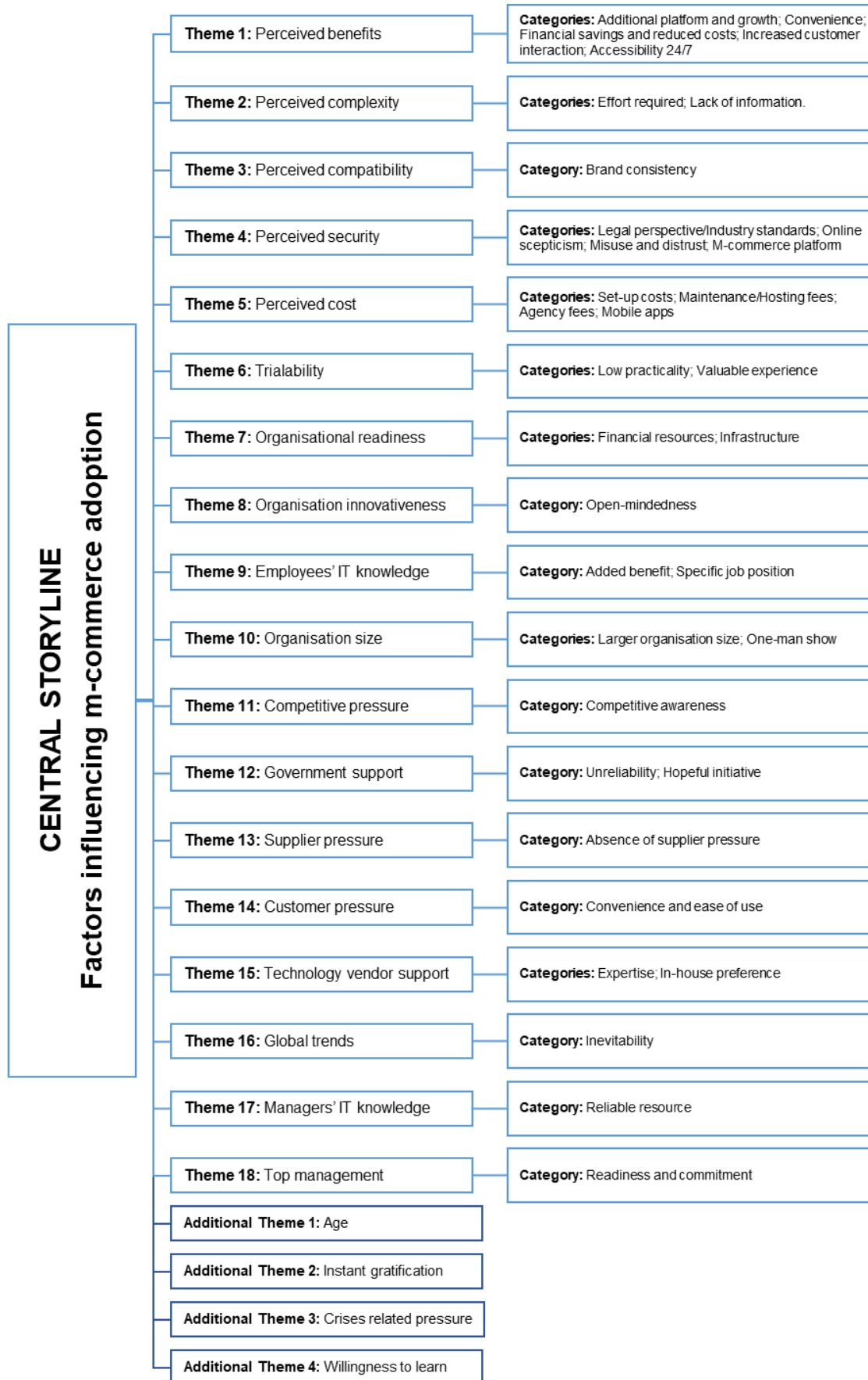


Figure 5.2: Factors influencing adoption of m-commerce (themes and categories)

5.2.4.1. *Theme 1: Perceived benefits*

Figure 5.3 depicts Theme 1 (perceived benefits) and highlights the categories associated with it as identified by the participants. The participants highlighted additional platform and growth, convenience, financial savings and reduced costs, increased customer interaction and accessibility 24/7 as important categories.

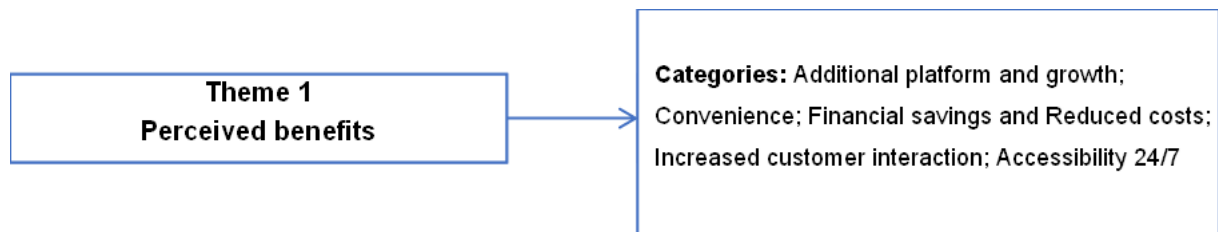


Figure 5.3: Theme 1: Perceived benefits

The participants’ level of importance of perceived benefits in adopting m-commerce is indicated in Table 5.4.

Table 5.4: Perceived benefits level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Perceived benefits	0	0	1	3.6	13	46.4	14	50

As specified in Table 5.4, most of the participants (96.4%, n = 27) believed that perceived benefits are important or very important (critical) in influencing the adoption of m-commerce. Each category listed in Figure 5.3 is discussed in the following section.

5.2.4.1.1. *Additional platform and growth*

The participants reported that adopting m-commerce offered SME owners/managers an additional platform from which to sell their products and services. They also mentioned that engaging in m-commerce makes it easier for the business to develop and flourish compared to traditional brick-and-mortar stores. The findings were validated by the following quotes:

“... allows your business to scale up easier than physical retailers”.

“... if it's a physical store, then you have another platform to drive your audience to and to make, uhm, to increase your sales each month”.

5.2.4.1.2. Convenience

Adopting m-commerce was seen as a way for SMEs to save time and reduce administrative duties. Participants believed that they were unrestricted and that they could conduct their business anywhere and at any time. They shared the following:

“... it's very much quick. It saves time. It saves admin”.

“... you can still run a business even though you are not in touch with human beings and it can still go on and you can carry your business everywhere you go, it's basically in your pocket”.

“... perception of convenience, you know, because it's a device that you have in your pocket and you can move around with it wherever you are with, with great ease. and you can pull it out of your, your pocket and access it, uhm, anytime that you want to”.

5.2.4.1.3. Financial savings and reduced costs

A crucial perceived benefit associated with m-commerce adoption, as identified by the participants, was financial savings. The reduction of expenses related to rent, employees and maintenance was a prevalent aspect. Participants believed that the business could generate more income as a result of the reduced costs. The findings were supported by the following quotes:

“...m-commerce eliminates the need for physical stores”.

“... your business can save money on utilities such as, rent, maintenance, as well as other costs associated with physical stores”.

“... being able to cut out a lot of the middleman. So, we've got a lot of clients who would, uhm, you know, open an online store in order to have higher margins because they are able to sell direct to the market”.

“... You don't need a store. You don't need, you don't, you don't need like, uh, the staff and, and those extra overheads”.

“... digital products can be sold online with little to no overhead costs”.

5.2.4.1.4. Increased customer interaction

The participants believed that adopting m-commerce could increase their customer base and boost customer interaction. Thus, m-commerce may create opportunities for a larger audience. The findings were validated by the following quotes:

“... allows businesses to expand their customer base”.

“... So, it's, ja I think they said it, it's just a further reach”.

“... it draws people into your store. People look at your site, they like something, and then they come in store, they might not purchase that product, but it's thousand other products and they're buying now that meant they're buying something before they leave”.

5.2.4.1.5. Accessibility 24/7

The participants indicated that adopting m-commerce and having a mobile-friendly online store offered their customers endless availability because it was accessible to them around-the-clock. They mentioned that customers were free to browse and make purchases at any time. The findings were validated by the following quotes:

“... it's also a 24-hour shop... you're available, always available”.

“... having a shop that's open all the time and having, and have, and, uhm, clients having access to what they want, when they want it, when they need it”.

“... there's been the increase in m-commerce in those times because they are sitting in front of the TV, on the couch, next to the sick child, wherever it is, on their phone and they are able to transact. So, I think the largest benefit in anything of m-commerce, would be, uhm, the, the increased availability to shop for the consumer at ridiculous hours”.

“... it does give the people a look into your business at any point and point in time”

Perceived benefits was seen as an important theme in relation to m-commerce adoption among SMEs. The participants cited several benefits of m-commerce, including greater platform and growth, convenience, reduced costs, increased consumer interaction and business accessibility 24/7.

The next theme, perceived complexity, is discussed.

5.2.4.2. Theme 2: Perceived complexity

The categories associated with perceived complexity (Theme 2) as identified by the participants are shown in Figure 5.4. Categories identified by participants include effort required and lack of information.

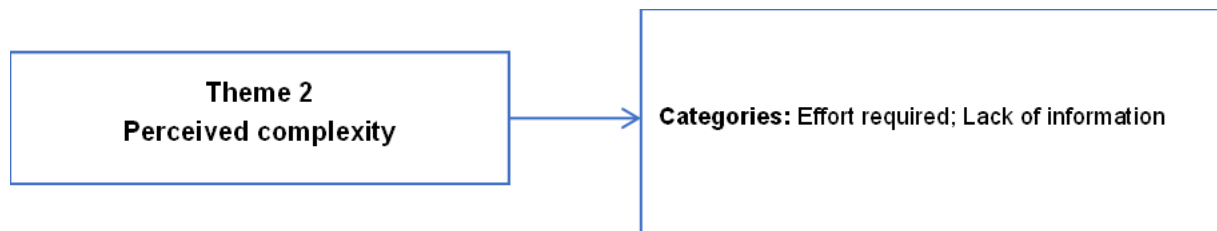


Figure 5.4: Theme 2: Perceived complexity

The participants' level of importance of perceived complexity in adopting m-commerce is reflected in Table 5.5.

Table 5.5: Perceived complexity level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Perceived complexity	0	0	7	25	12	42.9	9	32.1

Table 5.5 shows that the majority of the participants (75%, n = 21) believed that perceived complexity is important or very important (critical) in the decision to adopt m-commerce. The categories listed in Figure 5.4 are discussed next.

5.2.4.2.1. Effort required

Effort required was two-fold: those individuals who believed m-commerce was too complicated to use and those individuals who believed it was simple to use and considered it an investment. Some of the participants believed that adopting m-commerce would be challenging and would require too much of their time. Participants further expressed that they would be more open to adopting m-

commerce if less effort was required. The findings were supported by the following quotes:

“... Uhm, if they were able to do it by themselves, quite easily, then I think a lot more people would be able to adopt it”.

“... technical terms for me were little bit difficult and in the beginning because I didn't know anything about it. I had no idea. It's not my expertise. I've never tried to do online store websites. Uhm, so, I think, I think yes if there's less effort required”.

“... you know, a lot of people would definitely adopt it if less effort was required”.

“... I hate it. I can't do it, irritates the life out of me. Ja, tell me to sell an item or sell a product. Ja, good, face-to-face, ja. I can sell, but not sitting and spending time uploading pictures and, ja, no, it's not for me”.

On the contrary, some participants were of the opinion that the perceived level of complexity of m-commerce is just that: a perception. Participants believed that m-commerce adoption is simpler than they initially assumed and that the long hours and hard work will pay off; they viewed m-commerce adoption as an investment. The findings were validated by the following quotes:

“... it's so effortless, you know, a website that is your online store is a definite, definite, you have to, if you don't have a website, I almost feel like there's no credibility to your brand or your product. You know, it's, it's your business card of today”.

“... It's like putting in a lot of work in the beginning just to build something, but in the long run it, the benefits are greater than the effort that you put in”.

“... comes down to the majority of companies... don't understand how adopting that software early on comes, you know, what it comes up to... it's obviously long term going to save them money because they're operational, month-to-month costs will decrease. But it does require a lot of initial investment and it's often difficult to, for companies to understand that and to give up that initial capital, even though it is an investment”.

5.2.4.2.2. Lack of information

Another aspect contributing to participants' perceptions that m-commerce is difficult to understand and use was a lack of information. The participants believed that not being exposed to information regarding m-commerce (platforms, technology vendors, etc.) led the SME owners/managers to perceive m-commerce as complex. The following quotes confirmed the findings:

“... there's lack of exposure to business... small businesses are not exposed”.

“... I feel like it's a lack of information”.

“... There's not much information. There's no, the, the information that's out there about the m-commerce is not loud”.

Perceived complexity was recognised as an important theme which would impact on an SME's decision to adopt m-commerce. Participants expressed a greater inclination to adopt m-commerce if less effort was required and more information regarding m-commerce was available.

Perceived compatibility (Theme 3) is covered next.

5.2.4.3. *Theme 3: Perceived compatibility*

As depicted in Figure 5.5, the participants identified brand consistency as the category linked to perceived compatibility (Theme 3).

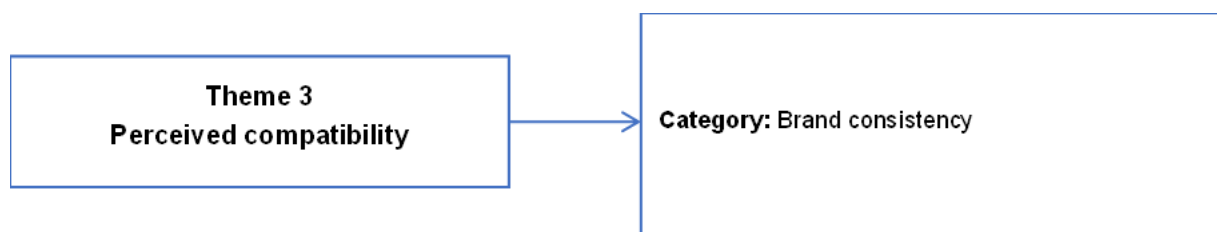


Figure 5.5: Theme 3: Perceived compatibility

Table 5.6 provides the findings of the participants' level of importance of perceived compatibility in adopting m-commerce.

Table 5.6: Perceived compatibility level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Perceived compatibility	0	0	5	17.9	11	39.3	12	42.9

As shown in Table 5.6, most of the participants (82,2%, n = 23) indicated that perceived compatibility is important or very important (critical) in the decision to adopt m-commerce. Almost a fifth (17.9%, n = 5) of participants, however, considered it to be less important. Each category listed in Figure 5.5 is discussed.

5.2.4.3.1. Brand consistency

Participants believed that being consistent with the business’s values, culture, work practices and infrastructure was important in the decision to adopt m-commerce. This compatibility was essential as it ensured that the business’s brand remained consistent across all platforms. The findings were validated by the following quotes:

“... You need brand consistency. So, if you have a certain way of communicating with your customers, a way of interacting with your customers, a way of portraying yourself, and they go onto a mobile app, for example, that does not look, feel and sound like you as a business, people are automatically gonna think that there’s something wrong”.

“... so if you do have an e-commerce site and an app, for example, you must make sure that there’s definitely a convergence of, of brand existence between the two”.

“... if you're behind that phone and, and the computer, you need to be available to provide them, just as you would as if they walked into your store”.

“... the importance for your m-commerce is to be as seamless as your in person experience. So, I think it's very important”.

“... extremely important to have a consistency for your brand across, you know, web, mobile, social media, uhm, if, you know, they buy something through the phone, you must treat that person exactly like they were in front of your face I think it's important to know, especially like when you say work

practices and culture, I think it's important to know who's behind the business, what, how, where they've come from, or, or not, not necessarily an essay about their life”.

“... it's nice to know who is making your stuff, or supplying your things, uh, whether it be a service or a product. I think that's one of the powerful things, is to know who it is and, you know, what they do that type of thing”.

“...very important to be, uh, compatible because people lose sight of their brand essence and what they stand for”.

Perceived compatibility was thus an important theme in relation to m-commerce adoption in SMEs. Participants placed emphasis on brand consistency.

The next theme, perceived security is discussed.

5.2.4.4. *Theme 4: Perceived security*

Figure 5.6 illustrates Theme 4 (perceived security) and specifies the categories that were identified by the participants, including legal perspective/industry standards, online scepticism, misuse and distrust as well as m-commerce platform.

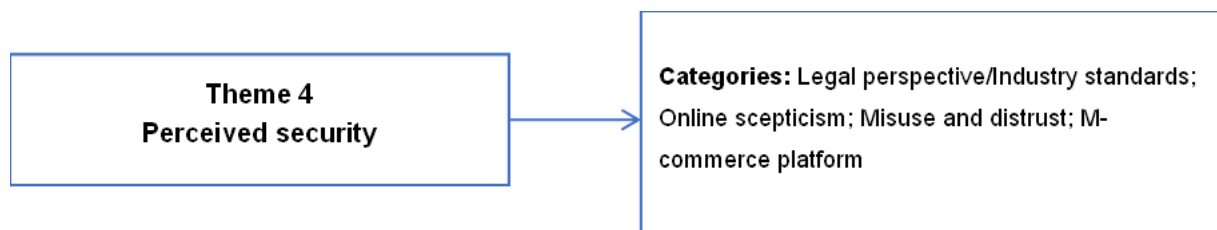


Figure 5.6: Theme 4: Perceived security

Table 5.7 illustrates the participants’ level of importance of perceived security in adopting m-commerce.

Table 5.7: Perceived security level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Perceived security	0	0	1	3.6	6	21.4	21	75

Table 5.7 illustrates that almost all (96.4%, n = 27) of the participants believed that perceived security is important in an SME’s decision to adopt m-commerce. Out of 28 participants, only one (3.6%) participant stated that it was less important. The categories listed in Figure 5.6 are discussed next.

5.2.4.4.1. Legal perspective/industry standards

The participants believed that adopting m-commerce may have legal concerns (such as the implementation of the Protection of Personal Information Act – POPI Act) as it could result in issues if customers' online identities were compromised or their information was not safeguarded. The findings were validated by the following quotes:

“... because the amount of attention POPI has received is crazy... part of the education for clients, for me, to say, “Yes, you need to secure your site, your clients’ information, uh, you need to make sure that you’ve got the right processes in place, the right offices in place” and so on. So, from my side, it feels like I’ve become more of a legal advisor in the last 6 months”.

“... I think maybe it does scare them because, uh, you don't want to be, you know, the one that gets charged, should someone within your company create fraud”.

5.2.4.4.2. Online scepticism

An additional security aspect that was mentioned during the discussions was the scepticism that both SME owners/managers and customers have towards online transactions. The legitimacy of online payments was questioned by participants. The findings were supported by the following quotes:

“... there’s some sceptics, scepticism... in terms of the idea of taking and receiving or giving money online”.

“... a lot of people would want to see that there is privacy and there is security and also especially with online payments, I think South Africans are still a little bit hesitant to spend their money online”.

5.2.4.4.3. Misuse and distrust

Regarding misuse and distrust, participants highlighted their concerns with m-commerce adoption and online transactions such as accounts being hacked to obtain secure information, fraud and card theft. They stated the following:

“... In my opinion... threats that impact the personal information of an e-commerce site visitor would basically, uhm, result in card data theft, as well as misuse and hacking as well”.

“... there’s a hell of a lot of fraud and people need to, I mean, I know, to, so, so on my website, you will see that I’ve actually got, uhm, an option for people to, uhm, pay with bank deposits. So, they don’t use any of the payment gateways and you’d be surprised how many people select that option because they are too afraid to put in their banking details or their card details into an app or a website”.

“... obviously, when you're dealing with money or transacting... you want your security there, so that you know people aren't hacking your account or, you know, stealing money from your account”.

“... so many people thinking that we’re scamming them and there’s people that never bought from a certain brand before... So, security is very important and we try to make it as safe as possible but, oh goodness me, there’s always somebody doing something out there”.

“... still a lot of untrust because of the amount of fraud that we have”.

5.2.4.4.4. M-commerce platform

When asked which platform participants believed was more secure – e-commerce or m-commerce – participants thought both platforms were equally secure. This was highlighted by the following quotes:

“... I don't think it's very important or there's a huge difference between desktop or mobile”.

“... I don't think there's a difference just because my computer is my computer. Nobody else uses it and same with my phone and if I enter my credit card details on a mobile site or on website... doesn't make any difference for me”.

However, 1 participant pointed out that a mobile phone has biometric capabilities. Consequently, they believe that shopping via a mobile phone is safer. This was highlighted by the following quote:

“... biometric use on your phone, that it, it would be safer to use your phone, where you can just have your fingerprint scanned, or your face scanned, and we know, these days how sophisticated these scanning devices”.

Ultimately, perceived security was identified as an important theme influencing the decision to adopt m-commerce in SMEs. Concerns raised by participants about adopting m-commerce include the protection of consumer information, scepticism of online payments, fraud and card theft.

Perceived cost (Theme 5) is discussed next.

5.2.4.5. *Theme 5: Perceived cost*

Theme 5 (perceived cost) along with the categories highlighted by the participants (set-up costs, maintenance/hosting fees, agency fees and mobile apps) are presented in Figure 5.7.

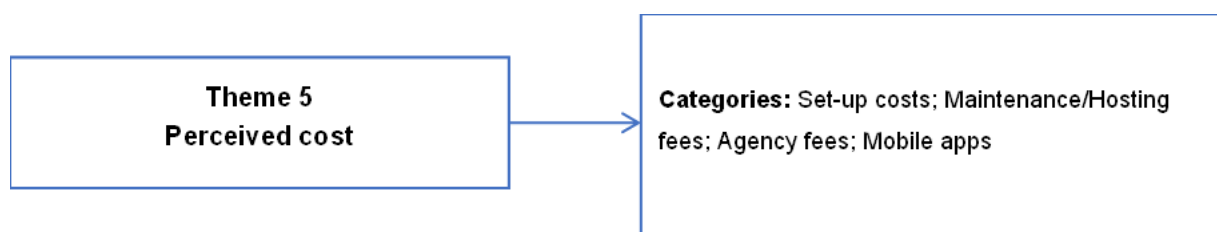


Figure 5.7: Theme 5: perceived cost

The participants' level of importance of perceived cost in adopting m-commerce is indicated in Table 5.8.

Table 5.8: Perceived cost level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Perceived cost	0	0	3	10.7	8	28.6	17	60.7

As specified in Table 5.8, most of the participants (89.3%, n = 25) believed that perceived cost is important or very important (critical) in the decision to adopt m-commerce. Each category listed in Figure 5.7 is discussed next.

5.2.4.5.1. Set-up costs

One of the identified categories in adopting m-commerce was the initial set-up costs. The participants identified making several decisions such as which platform to use, whether to include content photography and whether to keep m-commerce operations in-house or recruit a third party service provider for assistance. The following quotes of the participants validate the findings:

“... website that I charge a lot for, uh, because, for example, to build a store alone takes time”.

“... costs you more than building the website to take a few photos”.

“... choose and pay for the platform, cause not every business is the same. So, you sort of need to modify and edit it”.

“... main cost would be the infrastructure. Uhm, so, are you using an app? Are you going to use Instagram? Are you going to set up on a website? And then also, are you doing it yourself, or are you going to pay, like you had mentioned, are you gonna pay a third party to do it?”.

5.2.4.5.2. Maintenance/hosting fees

In addition to set-up costs, the participants identified costs associated with maintaining and hosting the online store. The participants emphasised a monthly fee paid to either the hosting platform or the third party through which they had sold their products. The findings were validated by the following quotes:

“... Shopify is great like that... I can just pay my monthly fee... Shopify is really good at just looking after itself... it's only been about 3 months in with Shopify and it just is a dream to manage and maintain”.

“... small monthly cost on Takealot... I don't think it's more than R1 000... it totally outweighs the number of sales that you can build through Takealot”.

“... the monthly R200, uhm, hosting fee... and then also, PayFast takes, I don't wanna lie to you, but I think it's 17% of the total”.

5.2.4.5.3. Agency fees

Some participants highlighted the recruitment of technology vendors or a skilled professional to develop the online store for the business. Although m-commerce may incur costs, participants viewed it as an investment and perceived a positive cost-benefit trade-off. This was highlighted by the following quotes:

“... Hire someone who knows about this... I don't have enough knowledge... I will have to hire someone who can work on my behalf”.

“... pay somebody to just build you a proper website at first because even if you hand me a business card, the first thing I'm going to do is go to your website”.

“... It's an investment... it looks like a lot but you can have it for years and years and years to come and you would have just paid once off”.

The m-commerce experts shared that building an online store that is mobile-friendly may be costly as it takes time and effort. They further indicated that they frequently had to redesign their clients' websites/online stores after they've tried less expensive methods of implementing m-commerce. This was highlighted by the following quotes:

“... people get suckered in; clients get suckered in. I tell the client straight up front. It depends on what you want. You're welcome to go elsewhere and get it cheaper, but these are my costs... I can refer you to other people who can do the work for a lot cheaper but we'll see you in six months' time”.

“... you get what you pay for”.

“... I have an online store that I’m working on now that was built by the cousin of the cousin of the uncle of the cousin and I’m gonna have to rebuild that sucker”.

5.2.4.5.4. Mobile apps

Developing or having an app specific to the business was perceived as a very high cost and participants were hesitant to pursue this route. Participants expressed the need for assistance and support in order to market the app and to resolve any app problems/glitches which would ultimately be very costly for the business. The findings were supported by the following quotes:

“... if you want to develop an app, it’s unbelievably expensive and I think that’s a barrier, an entry barrier for anybody who wants to do mobile commerce, uhm, via an app”.

“... if it’s an app, you’re going to need financial resources”.

“... if you are going the app route, then you, you definitely need proper support, uhm, and it becomes extremely expensive”.

“...the only thing that we don’t have as yet is, uhm, is an app and it’s just, it’s a great load of money for somebody to actually assemble it for you”.

“...we would not have a mobile app due to the cost of having the mobile app”.

“...it wouldn't be worth our while because we would have to market that app and then we would have to then educate people on the reason why the app is now relevant to them and also, deal with all of this software glitches along the way”.

Overall, perceived cost was recognised as an important theme that would impact an SME’s decision to adopt m-commerce. Costs related to initial set-up, maintenance of the online store, agency recruitment and mobile app development were identified by the participants.

The next theme, trialability is discussed.

5.2.4.6. Theme 6: Trialability

Figure 5.8 displays Theme 6, trialability, and shows the categories associated with it as identified by the participants, namely, low practicality and valuable experience.

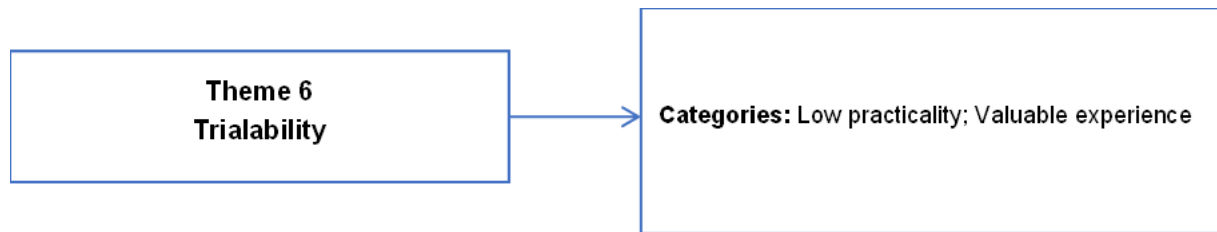


Figure 5.8: Theme 6: Trialability

Table 5.9 presents the participants’ level of importance of trialability in adopting m-commerce.

Table 5.9: Trialability level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Trialability	0	0	9	32.1	13	46.4	6	21.4

As illustrated in Table 5.9, just over two thirds of participants (67.8%, n = 19) indicated that trialability is important or very important (critical) in an SME’s decision to adopt m-commerce. Almost a third of participants (32.1%, n = 9), however, believed that it was less important. Each category listed in Figure 5.8 is discussed next.

5.2.4.6.1. Low practicality

Some participants found the idea of a trial to be impractical. M-commerce experts, specifically, believed that it was unfeasible as a lot of effort is invested into building m-commerce for SMEs regardless of whether it is a trial or not. From an SME owner/managers’ perspective, 1 participant indicated that if m-commerce was part of the business strategy then conducting a trial would be counterproductive. The findings were supported by the following quotes:

“... I don't think it's viable for, uhm, our business perspective because the client will try it for 3 months and then say, “No, thanks” and then from our perspective, all the work has been done”.

“... it can be very disruptive... I think if you had a trial... it's either in your strategy or it's not”.

“... I've never had to do anything like that either. I mean, you're spending all that money either way, whether you want to do it for trial or long term, it doesn't make sense to even do a trial”.

5.2.4.6.2. Valuable experience

Most of the participants agreed that it was necessary for businesses to experiment with m-commerce before commitment and adoption (e.g. platforms like Shopify offer a free trial). The findings were validated by the following quotes:

“... start with systems which are pre-built like your Spotify... just as a trial before we get into building something that belonged to the client”.

“... if any SME is given the opportunity to try it, they won't go back”.

“... I think trial and error is the way to go forward because then you can see if it works or not”.

“... I'm all about free trials... I'm not going to pay for something I haven't tried or seen”.

“... If I had the option, definitely... a trial basis which required no cost, certainly... definitely”.

“... if they see it at the beginning and how it works and the value that it will add to the business, it will help”.

Trialability was seen as an important theme in m-commerce adoption. Most of the participants were in favour of a free trial to experiment with m-commerce before adopting it.

In the following section, Theme 7 (organisational readiness) is discussed.

5.2.4.7. Theme 7: Organisational readiness

The categories associated with organisational readiness (Theme 7) as identified by the participants are shown in Figure 5.9. The categories identified by participants include financial resources and infrastructure.

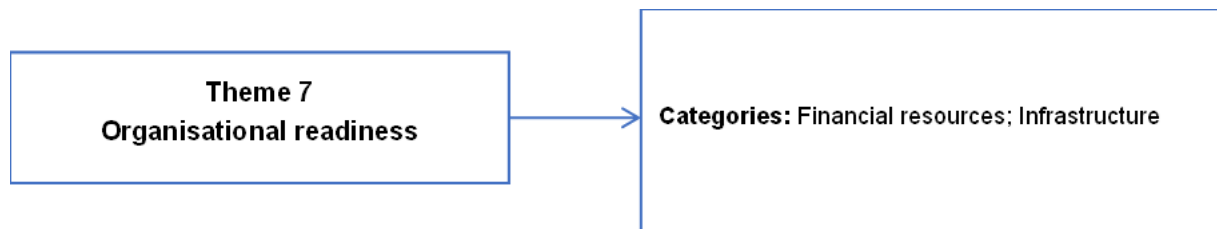


Figure 5.9: Theme 7: Organisational readiness

The participants' level of importance of organisational readiness in adopting m-commerce is indicated in Table 5.10.

Table 5.10: Organisational readiness level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Organisational readiness	0	0	1	3.6	9	32.1	18	64.3

As shown in Table 5.10, almost all of the participants (96.4%, n = 27) believed that organisational readiness is important or very important (critical) in the decision to adopt m-commerce. Each category listed in Figure 5.9 is discussed in the following section.

5.2.4.7.1. Financial resources

Participants emphasised that having sufficient financial resources is imperative in adopting m-commerce. This was highlighted by the following quotes:

“... money to develop your website, or your m-commerce store. So, you would need enough money for that”.

“...I think it is important to have the resources available to you... especially financial”.

“... I don't think I would need HR, but you would definitely need the capital”.

“... you have to have deep pockets if you're really gonna go for it”.

5.2.4.7.2. Infrastructure

Several infrastructure-related aspects that SMEs require to adopt m-commerce were identified by the participants. This included camera or photographic equipment for uploading content and a secure Wi-Fi or internet connection to guarantee the business's continued online operations. The findings were validated by the following quotes:

“...it's very difficult to photograph jewellery. It takes a long time... So you need a good camera. Yes, Wi-Fi is needed... more equipment too”.

“...so, of course you start on Wi-Fi... additionally... the devices needed for m-commerce”.

“...the main thing is product photos... getting the kind of lifestyle photos of people using your product”.

Organisational readiness was seen as an important theme which would impact an SME's decision to adopt m-commerce. Financial resources and infrastructure were identified as key requirements for adopting m-commerce.

Organisational innovativeness, Theme 8, is highlighted next.

5.2.4.8. *Theme 8: Organisational innovativeness*

Figure 5.10 displays the category (open mindedness) linked to organisational innovativeness (Theme 8), as identified by the participants.

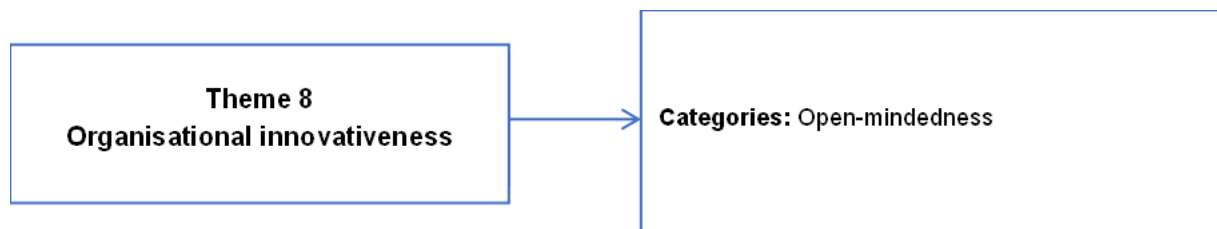


Figure 5.10: Theme 8: Organisational innovativeness

Table 5.11 indicates the participants' level of importance of organisational innovativeness in adopting m-commerce.

Table 5.11: Organisational innovativeness level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Organisational innovativeness	0	0	2	7.1	12	42.9	14	50

Table 5.11 shows that the majority of the participants (92.9%, n = 12) considered organisational innovativeness to be important or very important (critical) in the decision to adopt m-commerce. The categories listed in Figure 5.10 are discussed in the next section.

5.2.4.8.1. Open mindedness

The participants believed that the likelihood of adopting m-commerce increased with more openness to change and adapting to current trends. This was highlighted by the following quotes:

“... if a business owner is not wanting to keep up with innovation in the industry, they are going to be resistant to adopting mobile commerce”.

“... If your team is able to shift from one idea to the next and adapt to changes and so forth... I think that definitely helps when you're adopting m-commerce”.

“... I think that's [innovativeness] a no brainer”.

“... Innovation is key... it is something that SMEs need to be aware of... and need to do in order to grow and stay relevant”.

Overall, organisational innovativeness was an important theme in an SME's decision to adopt m-commerce. Being open-minded increases the likelihood for an SME owner/manager to implement m-commerce.

The next theme, employees' IT knowledge is discussed.

5.2.4.9. *Theme 9: Employees' IT knowledge*

Figure 5.11 illustrates Theme 9, employees' IT knowledge, and specifies the categories that were identified by the participants, which were added benefit and specific job position.

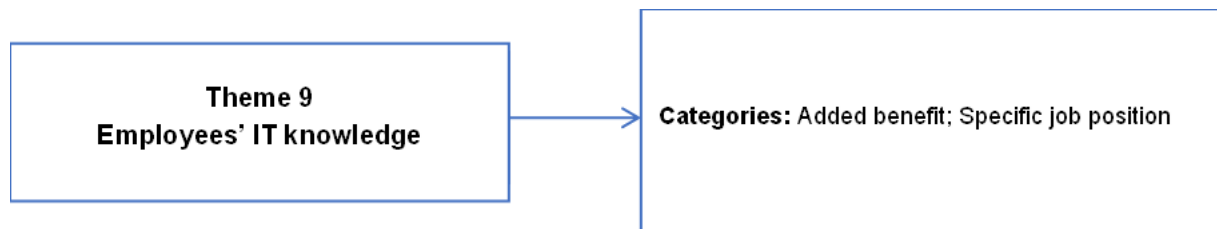


Figure 5.11: Theme 9: Employees' IT knowledge

The participants' level of importance of employees' IT knowledge in adopting m-commerce is indicated in Table 5.12.

Table 5.12: Employees' IT knowledge level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Employees' IT knowledge	0	0	4	14.3	13	46.4	11	39.3

As indicated in Table 5.12, 89.3% of participants (n = 24) stated that employees' IT knowledge is seen as important or very important (critical) factor in influencing the decision to adopt m-commerce. However, less than a fifth of participants (14.3%, n = 4) considered it as less important. Each category listed in Figure 5.11 is discussed next.

5.2.4.9.1. Added benefit

There was a consensus that while having employees with IT knowledge was important, it was not a requirement for some SME owners/managers; rather, it was as an added benefit to an individual's repertoire of skills. Basic IT expertise was considered to be sufficient. The following quotes supported the findings:

“... it’s an asset if you are IT savvy... but I don’t think it’s a necessity., more an added benefit”.

“... you can’t have staff that know nothing about it... you can’t really do it [m-commerce] if people don’t know how it works”.

“... obviously not the advanced sort of knowledge but just the basics are very essential”.

5.2.4.9.2. Specific job position

Participants believed that certain employees performed specific functions within a business. If an employee’s job description did not require them to work with the business’s online platforms, IT proficiency was not an essential requirement. Furthermore, in the absence of a specific job position, a third party with the relevant expertise will be hired:

“... my seamstress... not important for her to know how to use the back end of the website because it’s not what she’s been employed for... but my social media manager? Definitely. They should definitely know how to work with the IT side”.

“... Within the organisation you have somebody who knows how to do that... or you get a third party”.

“... I don’t think it’s an issue really... hire people to do it for them... don’t think that’s gonna stop them from having an online store”.

While employees’ IT knowledge was regarded as an important theme in an SME’s decision to adopt m-commerce, basic IT knowledge was viewed as sufficient by the participants.

Organisation size (Theme 10) is discussed in the next section.

5.2.4.10. *Theme 10: Organisation size*

Figure 5.12 illustrates Theme 10 (organisation size) and provides the categories associated with it as highlighted by the participants. Larger organisation size and inconsequentiality were identified as central categories.

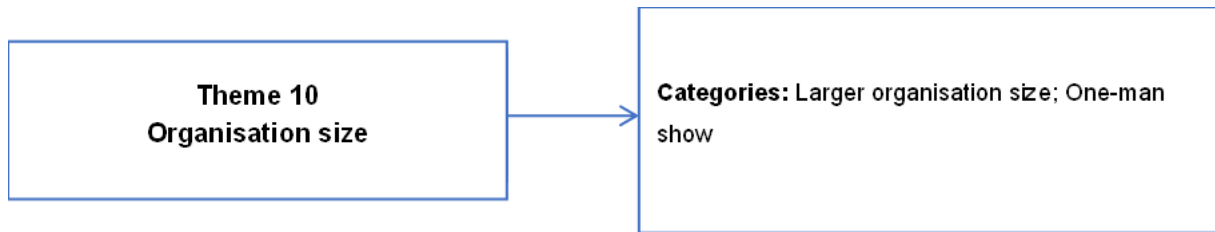


Figure 5.12: Theme 10: Organisation size

The participants' level of importance of organisation size in adopting m-commerce is indicated in Table 5.13.

Table 5.13: Organisation size level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Organisation size	7	25	5	17.9	10	35.7	6	21.4

As depicted in Table 5.13, just over a half of the participants (57.1%, n = 16) indicated that organisation size is important in the decision to adopt m-commerce among SMEs. It is interesting to note that 42.9% (n = 12) of the participants believed it to be of little or no importance. Each category listed in Figure 5.12 is discussed next.

5.2.4.10.1. Larger organisation size

The majority of the participants specified that organisation size, particularly relating to the number of employees, was an important consideration when adopting m-commerce. The participants believed that a business would be more streamlined, and it would be easier to manage m-commerce related activities if it employed more individuals. The findings were supported by the following quotes:

“... the bigger you get the more likely you'll adopt m-commerce”.

“... if I had more employees someone else could do it [m-commerce] for me”.

“... start off as a one man show, but you just can't manage everything, it's impossible”.

“... the larger you get the more you’re going to have to start considering creating internal technological systems”.

“... having more people down the line will really help you”.

5.2.4.10.2. One-man-show

Many participants owned or managed SMEs that employed either themselves or a minimal number of individuals; therefore, they believed that the size of the organisation did not play a substantial role in the success of adopting m-commerce. This was highlighted by the following quotes:

“... if you adopt m-commerce, you’ll probably need less people”.

“... I’m a one person show, and I don’t have any inclinations of growing and becoming bigger”.

“... I don’t think it plays a big role... I don’t think it’s a definite requirement of success”.

“... size doesn’t matter as long as you’ve got like a good client base”.

“... you can run a business by yourself with m-commerce which will be... less cost and less time”.

Overall, even though it was discovered that organisation size was an important theme in an SME’s decision to adopt m-commerce, several participants do not believe that it plays a substantial role in m-commerce adoption.

In the next section, Theme 11 (competitive pressure) is discussed.

5.2.4.11. *Theme 11: Competitive pressure*

The category associated with competitive pressure (Theme 11) as identified by the participants is competitive awareness (Figure 5.13).

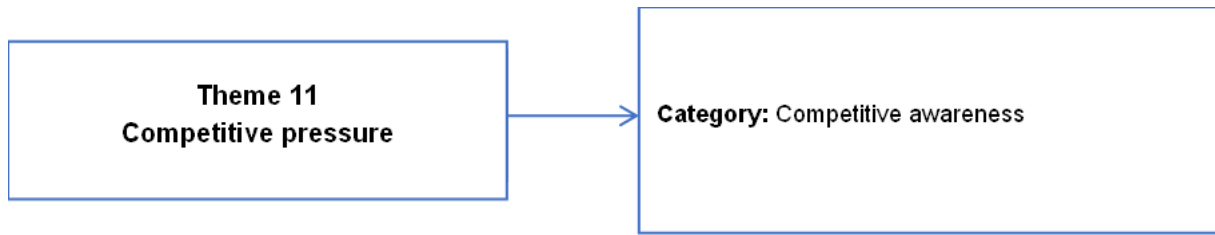


Figure 5.13: Theme 11: Competitive pressure

Table 5.14 indicates the participants' level of importance of competitive pressure in adopting m-commerce.

Table 5.14: Competitive pressure level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Competitive pressure	0	0	5	17.9	16	57.1	7	25

Table 5.14 illustrates that most of the participants (82.1%, n = 23) believed that competitive pressure is important in an SME's decision to adopt m-commerce. Out of 28 participants, five (17.9%) participants stated that it was less important. The categories listed in Figure 5.13 are discussed below.

5.2.4.11.1. Competitive awareness

An important consideration when adopting m-commerce was competitive awareness, as it ensured that the SME remained abreast of their competitors' activities and were constantly aware of it. Through monitoring competitors, SMEs may prevent the loss of customers due to competitors providing a better platform for browsing and shopping. These findings were corroborated by the participants stating:

"... they've seen their competition with a similar thing that they're looking for".

"... I would have to go onto it because everyone is using it at the moment".

"...as a small business, if your competitors have a competitive advantage by using m-commerce, then, yes, definitely, the pressure does start to matter and you, you know, then you need to kind of decide whether you wanna be in business or not for the long term".

“... being aware of what your competitors are doing and making sure that you’re able to keep up, or exceed what they’re doing, would definitely play a role in success online”.

“... so if we were not to do it and three of our competitors around us were doing it, that means basically they are taking our future customers”.

“...competitor aspect is something that influenced me to get it”.

Based on the discussion and responses from participants, it is evident that competitive pressure was an important theme in relation to m-commerce adoption among SMEs. The participants highlighted the importance of monitoring and keeping up with competitors.

The following section focuses on Theme 12 (government support).

5.2.4.12. *Theme 12: Government support*

Figure 5.14 illustrates Theme 12 (government support) and specifies the categories that were identified by the participants, including unreliability and hopeful initiative.

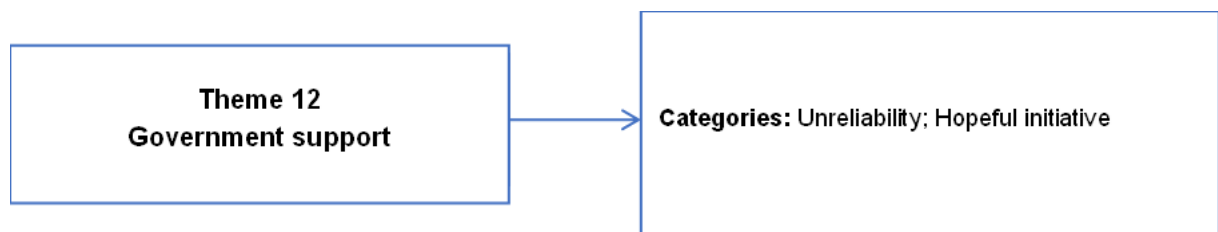


Figure 5.14: Theme 12: Government support

Table 5.15 below specifies the participants’ level of importance regarding government support in adopting m-commerce.

Table 5.15: Government Support level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Government support	10	35.7	5	17.9	7	25	6	21.4

Table 5.15 reveals that the majority of the participants (53.6%, n = 15) believe that government support has little or no importance in influencing m-commerce adoption in SMEs. Less than half of the participants (46.4%, n = 13) indicated that it is important. The categories shown in Figure 5.14 are discussed in detail below.

5.2.4.12.1. Unreliability

According to the participants, The South African government is untrustworthy and unreliable in terms of providing efforts to encourage the adoption of m-commerce among SMEs. This was validated by the following quotes:

“... a lot of the population has lost interest or reliability in what the government has to say”.

“... I wouldn't even worry about any kind of government initiative... you might as well do it yourself”.

“... don't trust the government for anything. That's all. Don't factor them into the success of my business”.

5.2.4.12.2. Hopeful initiatives

The participants agreed that they would deem government support more important if the South African government provided initiatives and support to SMEs in adopting m-commerce. They emphasised that it would be theoretically beneficial but they were also of the opinion that it would never materialise. The findings were validated by the following quotes:

“... in theory it's a good idea, but practically we know that we're not going to get any support from the government”.

“... if they can create an environment where the promotion of or access to m-commerce is more readily available, then I would say it would be an important factor”.

“... workshops and training and making sure small businesses have this information”.

“... I definitely think it would be worth it and of added value if people were given workshops or training”.

While government support could be seen as an important theme that could affect an SME's decision in adopting m-commerce, it was not critical as participants were simply hopeful that the South African government would offer initiatives and provide support to SMEs in adopting m-commerce.

The next theme, supplier pressure is discussed.

5.2.4.13. *Theme 13: Supplier pressure*

Figure 5.15 displays the category (absence of supplier pressure) linked to supplier pressure (Theme 13), as highlighted by the participants.

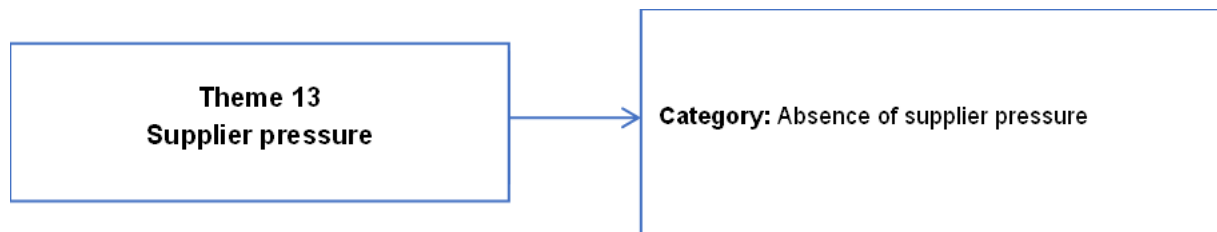


Figure 5.15: Theme 13: Supplier pressure

The participants' level of importance in relation to supplier pressure in adopting m-commerce is reflected in Table 5.16.

Table 5.16: Supplier pressure level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Supplier pressure	3	10.7	7	25	14	50	4	14.3

As specified in Table 5.16, many of the participants (64.3%, n = 18) believed that supplier pressure is important or very important (critical) in an SME's decision to adopt m-commerce. More than a third (35.7%, n = 10) of participants, however, thought it had little or no importance. Each category listed in Figure 5.15 is discussed in the following section.

5.2.4.13.1. Absence of supplier pressure

Contrary to Table 5.16, the results from the thematic analysis indicate that participants gave little weight to supplier pressure and its role in the adoption of m-commerce. Some participants were unfamiliar with supplier pressure. The findings were supported by the following quotes:

“... I have not seen or heard of a supplier pressure”.

“...No, the suppliers don't put pressure”.

“... if there's a mobile solution that a supplier provides to me, that is cost effective and will make my life easier, I would consider it... But I definitely won't be pressured into it”.

my suppliers don't care where I sell or what I sell”.

“...I don't know if suppliers matter too much. Uhm, you know, if it's working and your suppliers are demanding an app, or demanding to go mobile, uh, I don't think that's really a big justification”.

Overall, there is a contradiction as to whether supplier pressure is an important theme in influencing m-commerce adoption in SMEs. While participants rated supplier pressure as an important factor in the short, self-administered web-based questionnaire, the online focus groups and online in-depth interviews revealed that it does not play a substantial role in the adoption of m-commerce.

Customer pressure, Theme 14, is discussed next.

5.2.4.14. *Theme 14: Customer pressure*

Figure 5.16 shows that convenience and ease of use was highlighted by the participants as a category linked to customer pressure (Theme 14).

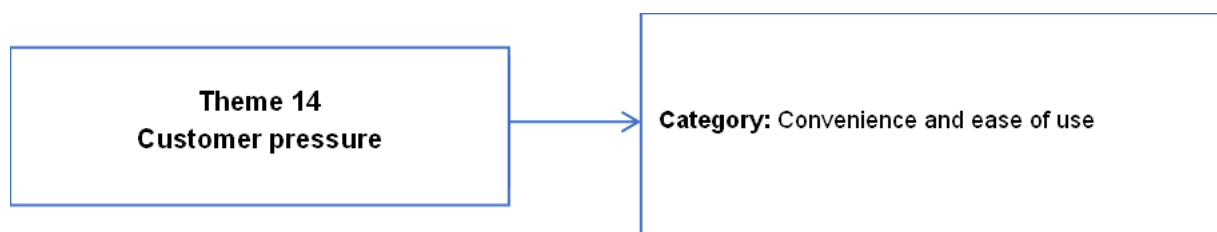


Figure 5.16: Theme 14: Customer pressure

The participants' level of importance of customer pressure in adopting m-commerce is indicated in Table 5.17.

Table 5.17: Customer pressure level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Customer pressure	0	0	3	10.7	13	46.4	12	42.9

Table 5.17 shows that the majority of the participants (89.3%, n = 25) indicated that customer pressure is important in influencing m-commerce adoption in SMEs, while only a few (10.7%, n = 3) of the participants stated that it was less important. The category listed in Figure 5.16 is discussed next.

5.2.4.14.1. Convenience and ease of use

The participants acknowledged that their customers occasionally put pressure on them to enter the m-commerce space since it simplified shopping, ordering and performing transactions. Customers want a simple, easy solution to purchasing products, and when they make this need known to SME owners/managers, the pressure to find a solution increases, which in this case, is m-commerce. The views were expressed by the participants as follows:

“... customers continually ask them if they are able to get their products online”.

“... I feel like it is very important for the customers because it is going to make their lives much easier”.

“...that I did have that pressure from my customers saying, cause I, I, I put my website out so, so everyone could see or my customers could see what I have, what the sizes are instead of going through Instagram or sending a direct message or sending an email. So, you know, when I got those emails from customers saying I can't check, out what's going on. Then I was like I have to, now it's time to have a proper website in place”.

“...definitely customers, if they want that solution and they're able to justify it with the, the spend that they currently have and the spend that they'll potentially have”.

“... So consumer pressure, definitely. You've gotta go where customers are going to give your business. So if customers wanna transact on that platform, that's where you're gonna have to be”.

Customer pressure was recognised as an important theme which would impact on an SME's decision to adopt m-commerce. Participants emphasised the necessity to meet customer needs and wants.

In the next section, a discussion on Theme 15 (technology vendor support) is provided.

5.2.4.15. Theme 15: Technology vendor support

Figure 5.17 illustrates Theme 15 (technology vendor support) along with the categories that the participants identified, namely expertise and in-house preference.

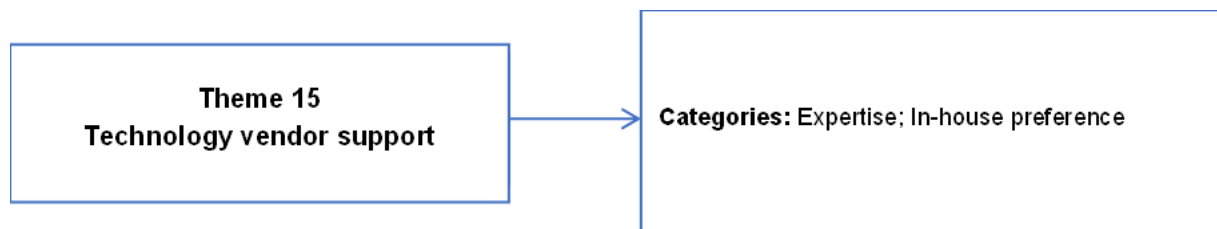


Figure 5.17: Theme 15: Technology vendor support

Table 5.18 provides the participants' level of importance of technology vendor support in adopting m-commerce.

Table 5.18: Technology vendor support level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Technology vendor support	0	0	1	3.6	13	46.4	14	50

As shown in Table 5.18, almost all of the participants (96.4%, n = 27) stated that technology vendor support is important or very important (critical) in influencing m-commerce adoption. Only 1 participant (3.6%), however, considered it to be less important. Each category listed in Figure 5.17 is discussed in detail below.

5.2.4.15.1 Expertise

The knowledge, experience and skill offered by technology vendors was highly valued amongst participants. They believed that the support received from technology vendors would influence a business's likelihood in adopting m-commerce. The expertise in conducting m-commerce activities was viewed as very important by the participants. The findings were validated by the following quotes:

"... if vendors show businesses that they are not going to leave them in the lurch, then I think they would be more willing to adopt".

"... the support of a knowledgeable agency or company would definitely assist if that agency or company is competent and has experience".

"... they realise there's massive holes in what they're doing and then need to hire someone anyway".

"...It's very important, you need them at all times, they doing your site and they doing this, you know what, these things, every time there is a breach on the site, there's this, always something goes wrong".

"... if your system crashed, you need somebody... can't split yourself in two".

"... outsourcing allowed us to focus more on the product and the brand and then the manufacturing itself".

"I can do it, but it's not a part-time job... it's a full-time job actually... why I believe third party is important".

5.2.4.15.2. In-house preference

Some participants viewed technology vendors as valuable, but they would prefer hiring an individual as a full-time employee to focus on m-commerce activities in their business. The reason for this was to protect intellectual property. The following quotes supported the findings:

“... companies rather prefer to train someone within the organisation, so that the person belongs to them”.

“... a third party might sell your ideas to somebody... or not even come back with the work that you’ve given them”.

Overall, technology vendor support was identified as an important theme in influencing the adoption of m-commerce in SMEs. The participants placed high importance on the experience and expertise provided by technology vendors.

Global trends (Theme 16) is covered next.

5.2.4.16. Theme 16: Global trends

Theme 4 (global trends) is illustrated in Figure 5.18 and specifies the category associated with it, as highlighted by the participants: inevitability.

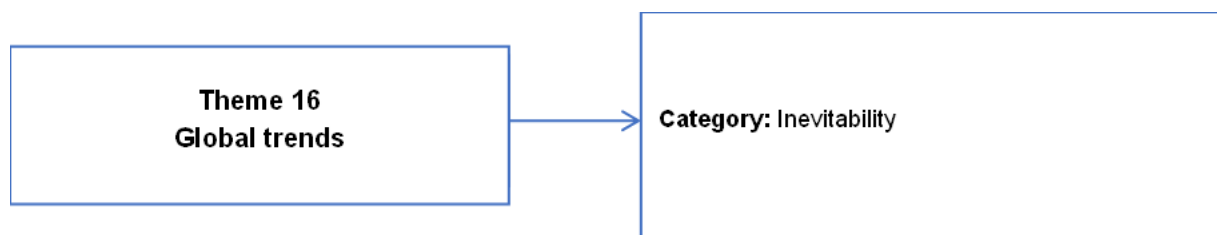


Figure 5.18: Theme 16: Global trends

The participants’ level of importance of global trends in adopting m-commerce is displayed in Table 5.19.

Table 5.19: Global trends level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Global trends	1	3.6	5	17.9	9	32.1	13	46.4

As illustrated in Table 5.19, most of the participants (78.5%, n = 22) indicated that global trends is important or very important (critical) in an SME’s decision to adopt m-commerce. A few of the participants (21.5%, n = 6), however, deemed that it had little or no importance. Each category listed in Figure 5.18 is discussed next.

5.2.4.16.1. Inevitability

The participants believed that the alignment of business practices with global standards for the adoption m-commerce was inevitable and mandatory. This was highlighted by the following quotes:

“... digital takes your business global and the moment you are on the internet, people expect you to operate on a global operating standard”.

“...I don't know if it's just so much pressure or if it's just, you know, the way the world is evolving”.

“...I don't think it's possible to not to be influenced by global trends at the moment. It's, the world is so small that everything seems like it is on a global level”.

“...definitely, we are influenced given the CMS platforms that we use, they are like developed by, uhm, international companies and stuff. Everything that we use, so, there's no way we can avoid this one”.

Global trends was thus an important theme in relation to m-commerce adoption. The participants held the view that the business environment is constantly changing and digital transformation is accelerating.

In the next section, managers' IT knowledge (Theme 17) is highlighted.

5.2.4.17. *Theme 17: Managers' IT Knowledge*

The category associated with managers' IT knowledge (Theme 17) as identified by the participants was reliable resource. This is illustrated in Figure 5.19.

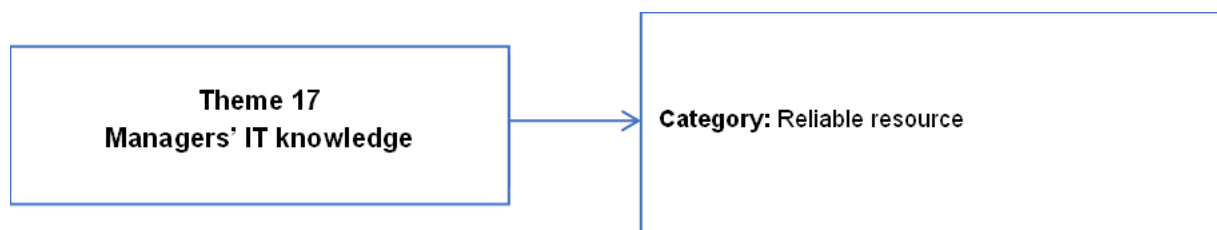


Figure 5.19: Theme 17: Managers' IT knowledge

Table 5.20 indicates the participants' level of importance of managers' IT knowledge in adopting m-commerce.

Table 5.20: Managers' IT knowledge level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Managers' IT knowledge	0	0	3	10.7	10	35.7	15	53.6

Table 5.20 illustrates that most participants (89.3%, n = 25) indicated that managers' IT knowledge played a substantial role in influencing the adoption of m-commerce among SMEs. Out of 28 participants, only 3 participants (10.7%) stated that it was less important. The categories listed in Figure 5.19 are discussed further below.

5.2.4.17.1. Reliable resource

While most of the participants specified that managers' IT knowledge was important or very important (critical) in the short, self-administered web-based questionnaire (Table 5.20), the online focus groups and online in-depth interviews revealed that participants believed that managers do not necessarily need to have IT knowledge themselves. The adoption of m-commerce by SMEs may not be hindered by the managers' lack of IT expertise, especially if the business has engaged in the services of a technology vendor or employs staff who possess knowledge of m-commerce. The findings were supported by the following quotes:

"...it's not the managers, it's who the managers surround themselves with that makes the influence".

"...they have specialists, or, uh, marketing managers, uhm, or agencies that they trust to, uh, look after those interests within the business. Uhm, so, I don't, I don't think it's limited by the managers' skills".

"...makes it a lot more difficult for the business that could succeed if, if they don't necessarily understand what's happening, but as long as they hire people who do, uhm, then I think it, it, it's fine".

Overall, managers' IT knowledge was identified as an important theme in an SME's decision to implement m-commerce. However, a lack of IT skills among managers may not prevent an SME from adopting m-commerce. Participants highlighted that technology vendors or employees may be hired for that particular position (m-commerce).

The next theme, top management support is discussed.

5.2.4.18. Theme 18: Top management support

Theme 18 (top management support) along with the category identified by the participants (readiness and commitment) is shown in Figure 5.20.

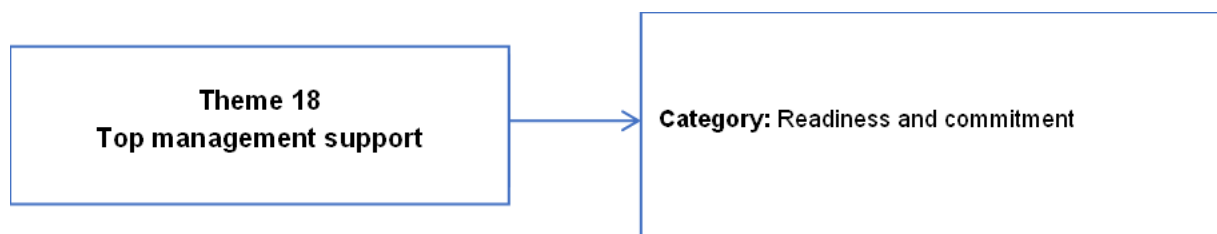


Figure 5.20: Theme 18: Top management support

The participants' level of importance of top management support in adopting m-commerce is indicated in table 5.21.

Table 5.21: Top management support level of importance

	Unimportant		Less important		Important		Very important (critical)	
	n	%	n	%	n	%	n	%
Top management support	1	3.6	1	3.6	8	28.6	18	64.3

Table 5.21 reveals that the majority of participants (92.9%, n = 26) believed that top management support is important or very important (critical) in an SME's decision to adopt m-commerce. Only two (7.2%) of the participants believed that it is less important or unimportant. The categories shown in Figure 5.20 are discussed in below.

5.2.4.18.1 Readiness and commitment

The participants agreed that the possibility of m-commerce being embraced in the business lay with the readiness and commitment of top management. This was highlighted by the following quotes:

“... they gonna then make the money available to make the, uh, to spend, you know, to spend whatever needs to be spent. And if they understand how important it is, they're gonna then make more money available and make a much better store. And, and make it very innovative you know, they'll, they'll still go the extra mile if they believe in it enough”.

“...values and drives come from top management. In fact, let me just say, the direction of most things come from top management... if top management is willing to adopt those things, everybody else should, ideally, fall in line”.

“...very important to have the buy in of top management to make the resources available. So even if frontline staff noticed that m-commerce is something that the customers want, or the competitors are doing, you still need to buy in and the readiness and commitment of top management to make it a success”.

Top management support was recognised as an important theme which could influence the adoption of m-commerce among SMEs. The participants believed that the adoption of m-commerce in the business must be driven by top management.

In addition to the 18 themes discussed, the participants were afforded the opportunity to highlight any other themes which they believed may influence their likelihood of adopting m-commerce. The additional themes identified are presented in the next section.

5.2.5. Additional themes (factors) identified from the online focus groups, online in-depth interviews and short, self-administered web-based questionnaire

In addition to the m-commerce adoption factors included in the preliminary conceptual framework, the participants were provided with an opportunity to discuss any other factors which they believed could influence their decision to adopt m-commerce. Consequently, the participants identified four additional factors: age,

instant gratification, crises related pressure such as COVID-19 and willingness to learn. These factors were collectively classified under the "integrated context". Consequently, the following hypothesis was proposed:

H23: There is a statistically significant relationship between the integrated context and m-commerce adoption among South African retail SMEs.

The preliminary conceptual framework was revised to include the four additional factors (Figure 5.21). The four factors within the integrated context are discussed next. For analytic purposes, the factors are referred to and viewed as themes. Each of the additional themes is corroborated with verbatim quotes from the online focus group and online in-depth interview discussions as well as the short, self-administered web-based questionnaire.

5.2.5.1. *Additional theme 1: Age*

Technological laggardism was linked to age as a contributing factor. This may be a result of a lack of confidence and drive to use technology and, consequently, the adoption of m-commerce. This was highlighted by the following quotes:

"... older people are scared of technology, hire younger people..."

"... I'm not that much for mobile... I'm old school".

"... South Africans may be a little nervous... if you are the older generation, you might be scared that it's never gonna show up".

"... there are certain principles that must just remain consistent so that they can build trust, especially for the older generation".

"... I was looking for someone younger because we're in that era of TikTok..."

Based on the above discussion, the following hypothesis was proposed:

H24: There is a statistically significant relationship between age and m-commerce adoption among South African retail SMEs.

5.2.5.2. *Additional theme 2: Instant gratification*

In a technologically advanced society where mobile devices have the capability to accomplish any task, society has grown accustomed to anticipating quick responses

and feedback. This emphasises the theme, instant gratification. The findings were supported by the following quotes:

“... clients having access to what they want, when they want it and when they need it... we live in a very instant gratification type of society”.

“...people who use online shopping have a higher expectation... the moment it's not loading or if their payment is taking just two seconds to go through... we hear about it”.

“... just being mobile comes with that mindset that everything is gonna happen yesterday”.

“... you know, with mobile commerce, the chances are that the person would respond almost immediately... it's on the phone, so you should answer me now”.

Consequently, the following hypotheses was proposed:

H25: There is a statistically significant relationship between instant gratification and m-commerce adoption among South African retail SMEs.

5.2.5.3. *Additional theme 3: Crises related pressure such as COVID-19*

Crises-related pressure such as COVID-19 emerged as an additional theme as participants reported that they were forced to migrate online in order to maintain business operations as a result of the pandemic. The following quotes confirmed the findings:

“... until I crashed due to COVID, when I closed the shop and I had to go set up a new environment”.

“... the future is online after Corona”.

“... people have become lazy since COVID... order everything online so if you don't do it you're also falling behind”.

“... COVID made me realise that it's something that I actually have to do sooner rather than later”.

The following hypothesis was therefore proposed:

H26: There is a statistically significant relationship between crises related pressure such as COVID-19 and m-commerce adoption among South African retail SMEs.

5.2.5.4. *Additional theme 4: Willingness to learn*

The final theme that emerged from the data was a willingness to learn and adapt to embrace m-commerce. This theme touches on the ease of adopting m-commerce if there is a strong will to do so by SME owners/managers and employees. The findings were validated by the following quotes:

“... You need willing people to learn but it’s not hard. So, the staff simply need to be willing to learn how to operate on mobile commerce”.

“...it's not necessarily for everybody to understand how IT works, uhm, you know, you just need a certain culture where people are willing to go the extra mile to make customers happy”.

“...it’s the, the willingness of the organisation to adapt, personally”.

“...it depends on how open-minded the manager is”.

“...the learning curve is substantial when there is no historical experience in running an ecommerce shop. Our first-time clients take a while to understand all the requirements to successfully run an e-commerce/m-commerce shop”.

The discussion above led to the following hypothesis:

H27: There is a statistically significant relationship between willingness to learn and m-commerce adoption among South African retail SMEs.

The revised conceptual framework is presented in the next section (Figure 5.21), along with a summary of the qualitative findings.

5.2.6. Discussion of the qualitative findings and revised conceptual framework

Each online focus group session included experts in the field of m-commerce and entailed a discussion of their experience and use of m-commerce. From the data collected, the experts experienced their clients (mostly SMEs) as being uneducated on m-commerce or what was required from them to enable the creation and maintenance of a professional website, mobile-friendly online store or any other m-

commerce related activities. The participants from the focus groups experienced an initial lack of investment, both financially and of their time, from SME owners/managers who would like to adopt m-commerce in their business. The m-commerce experts indicated that the key drivers of m-commerce adoption were consumer demand as well as the ease and relative affordability compared to having a physical retail space with additional costs. When the factors that prevented the adoption of m-commerce in SMEs were enquired, insufficient experience or knowledge on how m-commerce functioned and how to maintain an online store were raised. Lastly, the focus group sessions revealed that the minimum requirements for adopting m-commerce were a clear vision of the business direction and growth, having available stock, a competent team to ensure smooth operations and to resolve technical issues while also being constantly available and having the required infrastructure (relevant technology to facilitate an online store, internet connection and payment gateway etc.).

SME owners/managers who have not adopted m-commerce shared their reasons for not using it as well as what would make them consider adopting m-commerce in their business in the future. Some of the initial reasons why owners/managers have not adopted m-commerce were past negative experiences with technology vendors and financial loss. Others believed that the nature of their business was incompatible with m-commerce because they created custom stock, or they were unable to control stock that was both in-store and online. SME owners/managers also expressed that the effort required to adopt m-commerce was excessive. This included not only their time and conducting research on m-commerce, but also endeavoring to gain the knowledge and understanding required. Another reason why owners/managers have not adopted m-commerce was the cost, which their business could not afford. If adopting m-commerce was easier (less time consuming and more user friendly), SME owners/managers indicated that they would consider adopting it in their business. Additionally, it appears that SME owners/managers may be more receptive to adopting m-commerce as a result of improved sales, customer acquisition, competitor pressure and global digital transformation.

The findings from the online in-depth interviews with SME owners/managers who have adopted m-commerce in their business revealed that they understood “m-

commerce” as a term that involved shopping or transacting online using a mobile device. SME owners/managers used m-commerce in their business in several ways. They used it for marketing and brand awareness purposes, generally via social media platforms. SME owners/managers also mentioned the use of an online store (mobile friendly) as well as platforms such as Uber Eats, Mr D Food and WhatsApp. Shopify and WordPress was further highlighted as a means to conduct their m-commerce activities. They would pay these apps either a percentage of their sales or a monthly fee. Lastly, technology vendors were used by SMEs to provide support and maintain the business’s online platforms while acting as domain hosts for a monthly fee. Three main reasons for adopting m-commerce were identified from the online in-depth interview discussions. Using m-commerce meant that the SME could maintain current trends and have a stronger online presence (especially following the COVID-19 pandemic as many individuals had shown an increased desire for online shopping). The convenience offered by m-commerce was another reason that SME owners/managers opted for m-commerce meaning that customers could visit the online store whenever and wherever they desired, thus making the option to shop always available to the customer. The difficulties arising from adopting m-commerce were also discussed during the online in-depth interviews. SME owner/managers indicated that m-commerce was time consuming. Moreover, infrastructural problems like loadshedding, website technical issues and not having a physical retail space to showcase their products was highlighted. SME owner/managers further mentioned not having enough financial resources to develop their own apps, train staff or obtain professional content for their websites. Another difficulty mentioned was related to the customers being unable to use the relevant online platforms. When asked how these difficulties were overcome, SME owner/managers shared that they opened small showrooms or attended markets to deal with the issue of not having a physical space to showcase their products. They further highlighted the willingness to learn as an aid (YouTube videos and tutorials) to overcome some of the difficulties in adopting m-commerce.

The online focus groups, online in-depth interviews and short, self-administered web-based questionnaire centred on the 18 identified factors/themes (as identified from the literature) and their influence on SMEs in adopting m-commerce in their business. The themes are perceived benefits, perceived complexity, perceived

compatibility, perceived security, perceived cost, trialability, organisational readiness, organisational innovativeness, employees' IT knowledge, organisation size, competitive pressure, government support, supplier pressure, customer pressure, technology vendor support, global trends, managers' IT knowledge and top management support. The themes comprised of various categories that were identified by the participants.

Perceived benefits of m-commerce included additional platform and growth, convenience, financial savings and reduced costs, increased consumer interaction, and business accessibility 24/7 whereby customers could browse and shop at any time. A lack of information on m-commerce and the effort required to adopt m-commerce formed part of the perceived complexity theme. Regarding perceived compatibility, the consistency of m-commerce with the business's values, culture, work practices and infrastructure was perceived as important because it allowed the brand to maintain consistency across all platforms. Legal concerns, fraud, card theft and scepticism of transacting online were common aspects that were raised in relation to perceived security. Costs related to initial set-up, maintenance/hosting fees, agency recruitment and app development were identified by the participants as the perceived costs involved in adopting m-commerce. When a trial period to test m-commerce prior to its adoption was suggested to the participants, the m-commerce experts expressed that it was impractical from a developer's perspective; however, SME owners/managers believed it would serve as a good trial-and-error period where the value thereof would be experienced without any financial commitment. The availability of business resources (organisational readiness) was perceived as important for m-commerce adoption. These resources were identified as infrastructural (having the necessary equipment and a stable internet and Wi-Fi connection). Another aspect was having enough financial resources to meet the infrastructural requirements for the adoption of m-commerce. The participants also viewed organisational innovativeness as important as well as having an open-mind to adopt new technologies such as m-commerce. Having employees with IT knowledge was viewed as beneficial, rather than a requirement. The participants further believed that basic IT knowledge was sufficient and that individuals could be employed for specific IT tasks. The same was found for managers' IT knowledge: participants believed that it was beneficial; however, it was more important for the

managers to have reliable individuals to leverage IT support. In terms of organisation size, some participants were of the opinion that organisation size did not play a role in adopting m-commerce. Others, however, stated that as the business became more demanding, having more employees could reduce the effort load which would make it easier to manage any m-commerce-related activities.

Three types of pressure were covered: competitive pressure, supplier pressure and customer pressure. The participants believed that competitive and customer pressure played a substantial role in the likelihood of SMEs adopting m-commerce than pressure from their suppliers. The availability of government support and initiatives for promoting m-commerce was viewed as beneficial but something that would not materialise. Participants were clear about their mistrust and lack of support from the government regarding the adoption of m-commerce. Hiring technology vendors as support was a common occurrence for participants who adopted m-commerce. Some participants found that their expertise and support were invaluable, while others indicated that they preferred to keep their tech support in-house. While keeping up with global trends was viewed as an automatic, “evolutionary” practice. The participants believed that it was inevitable that their business practices needed to align with global standards. Lastly, the importance of top management in the adoption of m-commerce in SMEs lies in their ability to establish the business's approach to m-commerce, thus setting a precedent.

The additional themes that emerged (section 5.2.5) were age, crises-related pressure such as COVID-19, instant gratification and willingness to learn. As previously stated, the preliminary conceptual framework was revised to include these four additional themes. Figure 5.21 illustrates the revised conceptual framework based on the qualitative research of the study.

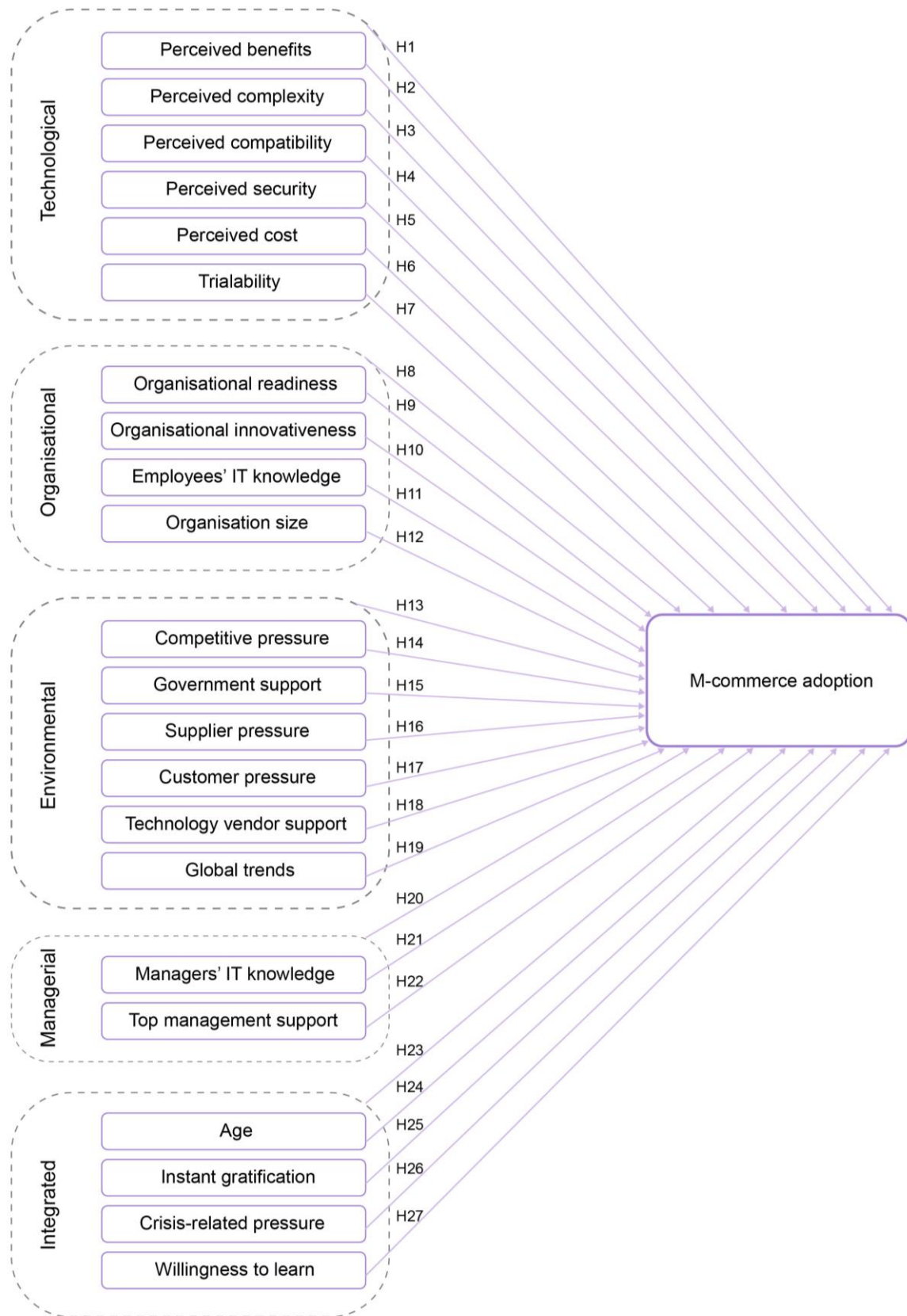


Figure 5.21: Revised conceptual framework

5.3. SUMMARY

Chapter 5 provided an in-depth discussion of the qualitative research findings and concluded with a revised conceptual framework. The factors in the revised conceptual framework were deemed important by the m-commerce experts and SME owners/managers and may influence the adoption of m-commerce among South African retail SMEs. The revised conceptual framework (Figure 5.21) was integrated into the next phase of data collection (phase 2 - quantitative). The findings of phase 2 is presented in the next chapter (chapter 6).

CHAPTER 6: RESEARCH FINDINGS – QUANTITATIVE RESEARCH

6.1. INTRODUCTION

The preceding chapter (chapter 5) focused on the findings derived from phase 1 of the study which employed qualitative research (online focus groups and online in-depth interviews including a short, self-administered web-based questionnaire). Phase 1 of the research involved the identification of factors that influenced m-commerce adoption, unique to South African retail SMEs. The findings obtained from phase 1 were used to refine the preliminary conceptual framework which formed the basis for phase 2 of the research (quantitative). The aim of phase 2 of the research was to confirm and validate the revised conceptual framework. The findings of phase 2 are presented in this chapter (chapter 6).

Chapter 6 provides a detailed analysis of the quantitative research findings. The discussion of the findings of the quantitative research is presented in several sections. Section 6.2 details the qualifying questions. The demographic breakdown and business profile of the sample in phase 2 of the research are presented in section 6.3. Thereafter, the findings from owners/managers who have adopted m-commerce in their business and those who have not adopted m-commerce in their business are covered in section 6.4. A descriptive analysis of the factors that influence the adoption of m-commerce among South African retail SMEs is presented in section 6.5. Section 6.6 focuses on the reliability and validity of the conceptual framework as well as hypotheses testing. The measurement and structural model are evaluated through the application of structural equation modelling (SEM). Chapter 6 concludes with a discussion of the quantitative research findings (section 6.7) and a summary of the chapter (section 6.8).

6.2. THE QUALIFYING QUESTIONS (QUESTIONS 1 AND 2)

The final sample for phase 2 of the research (quantitative), after the data cleaning process, consisted of 301 useful responses.

The self-administered questionnaire (Addendum B) was randomly distributed to 1501 SMEs that were selected from the ANKA Insights database. From the 1501 questionnaires that were distributed, a total of 301 questionnaires were deemed usable for further analysis. The 1200 questionnaires that were invalid consisted of respondents who did not meet the inclusion criteria based on the qualifying questions (Figures 6.1 and 6.2). Qualifying questions, also referred to as screening questions, are used to determine who is eligible to complete the self-administered questionnaire by targeting individuals who possess specific demographic, behavioural or attitudinal characteristics (McDaniel & Gates, 2021; Brace & Bolton, 2022). Two qualifying questions on employment status (including organisation size) and sector were included in the questionnaire as the focus of the study was to explore the perceptions of South African SME owners/managers operating in the retail sector. The findings of the qualifying questions are presented below.

The first qualifying question was on the employment status of respondents and organisation size. Figure 6.1 shows that 198 respondents (13.2%) identified themselves as owners or managers of a large business while 552 respondents (36.8%) selected "none" from the predetermined list of options. As a result of the first qualifying question, a total of 750 respondents (50%) were disqualified from continuing with the questionnaire as the study focused on retrieving information from owners or managers of an SME.

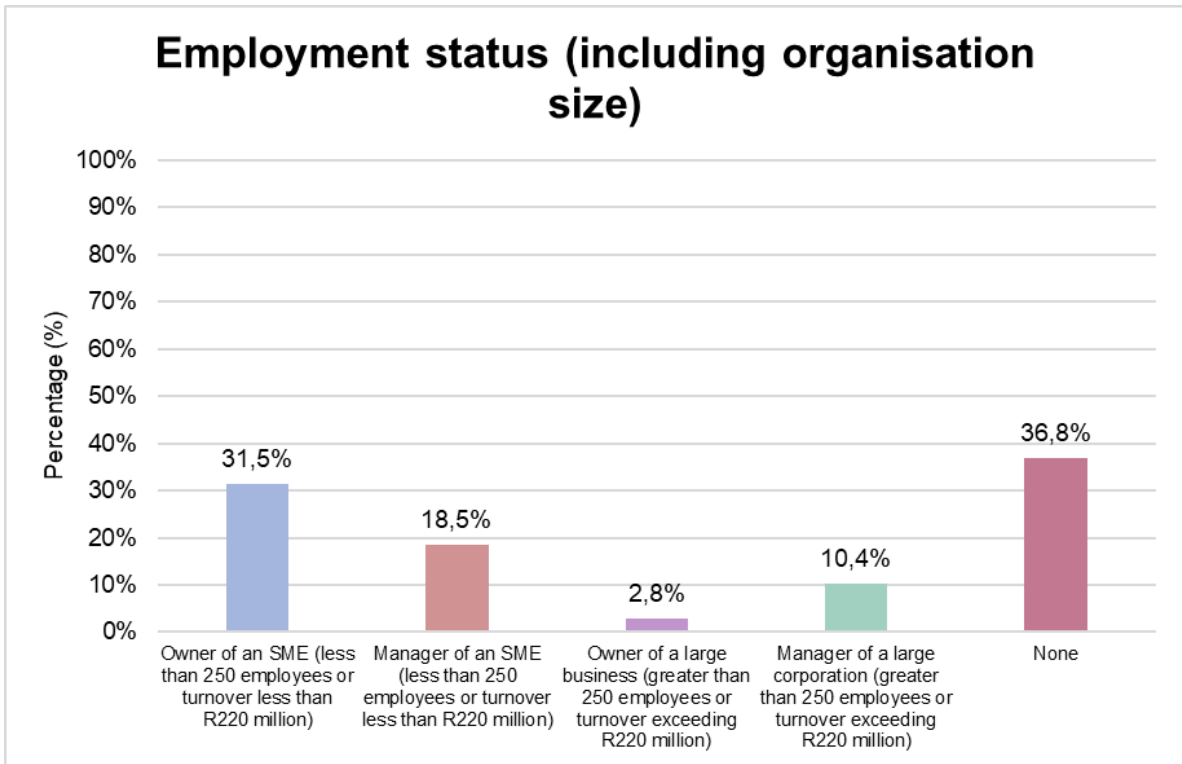


Figure 6.1: Employment status (including organisation size)

The second qualifying question (as depicted in figure 6.2) resulted in the disqualification of 450 respondents (59.9%) who did not operate in the retail sector. This study focused on retrieving information from South African retail SMEs.

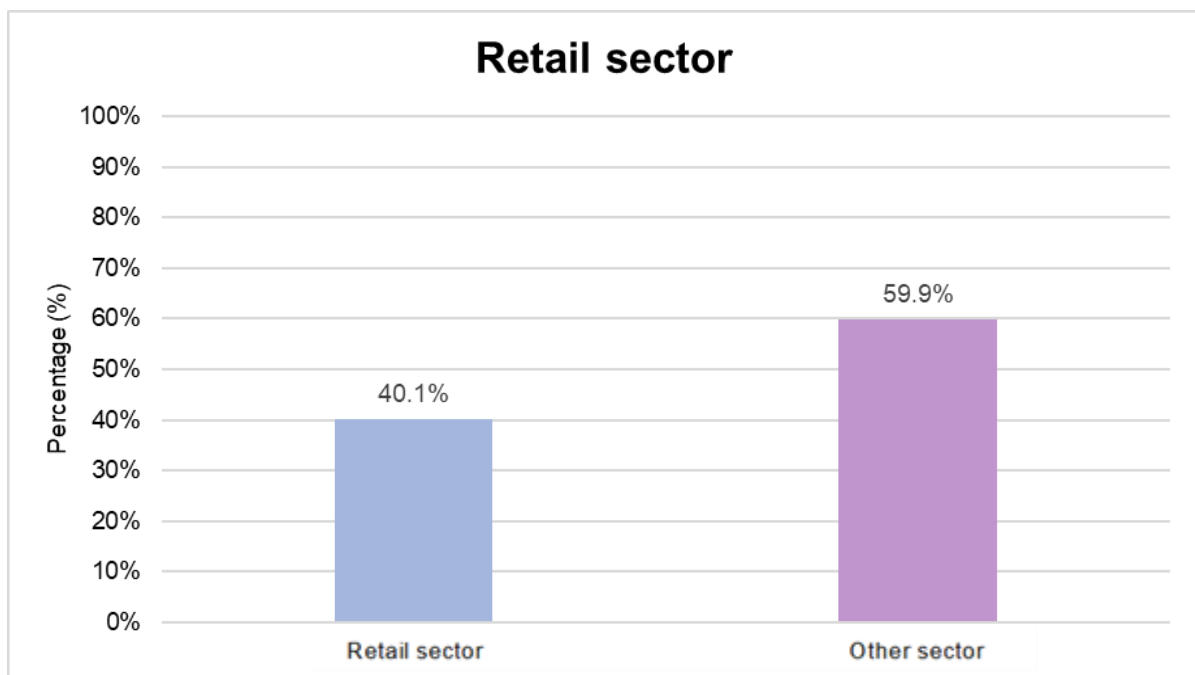


Figure 6.2: Sector

The 301 questionnaires that were deemed usable for further analysis are examined next. Out of the 301 questionnaires, the majority of respondents (71.4%, n = 215) reported being SME owners, while 28.6% (n = 86) were managers.

6.3. DEMOGRAPHIC BREAKDOWN AND BUSINESS PROFILE OF SAMPLE

The demographic and business profile of the respondents is highlighted in the following sections (6.3.1 and 6.3.2).

6.3.1. Demographic profile

Table 6.1 provides an outline of the demographic profile (gender and age) of the respondents.

Table 6.1: Demographic profile

	n	%
Gender		
Male	129	42.9
Female	172	57.1
Other	0	0
Prefer not to answer	0	0
TOTAL	301	100.0
Age		
18–25	17	5.6
26–45	229	76.1
46–55	31	10.3
56–65	24	8.0
Prefer not to answer	0	0
TOTAL	301	100.0

It can be seen from Table 6.1 that the overall sample was characterised by a greater representation of females compared to males, with 57.1% (n = 172) of the respondents being female and 42.9% (n = 129) being male. The Mastercard Index of

Women Entrepreneurs (MIWE) revealed an increase in women entrepreneurial activity rates in South Africa, indicating perseverance and determination to survive among South African women entrepreneurs (Mastercard, 2022). The growth in women entrepreneurship may be attributed to several factors such as female necessity-driven entrepreneurship, perceived opportunities, perceived capabilities, internal market openness, higher education entrepreneurial training and the availability of SME venture capital (Mastercard, 2022). Table 6.1 further shows that most of the respondents (76.1%, n = 229) were aged between 26 and 45 years old. This finding aligns with national and international statistics. According to the Small Enterprise Development Agency (Seda) quarterly update (3rd quarter 2022), most SME owners are between the ages of 25 and 60 years (Seda, 2023). Younger individuals are often engaged in training or education and after the age of 60, many business owners opt for retirement (Seda, 2023). Furthermore, it has been noted that individuals between the ages of 25 and 45 years display the highest levels of entrepreneurial activity (Krüger, 2021; Lukiastuti & Wahyuni, 2023).

6.3.2. Business profile

This section (6.3.2) provides the overall business profile of the SMEs under study. This includes the business location, duration of business operation, the retail category in which the business operates, the number of full-time employees and the business's estimated annual turnover.

6.3.2.1 Business location

Table 6.2 provides an indication of respondents' business location.

Table 6.2: Business location

Province	Urban		Rural		TOTAL	
	n	%	n	%	n	%
Gauteng	138	45.8	14	4.7	152	50.5
Eastern Cape	20	6.6	10	3.3	30	9.9
Free State	18	6.0	13	4.3	31	10.3
Kwa-Zulu Natal	87	28.9	27	9.0	114	37.9

Limpopo	25	8.3	22	7.3	47	15.6
Mpumalanga	24	8.0	12	4.0	36	12.0
Northern Cape	13	4.3	8	2.7	21	7.0
North West	19	6.3	11	3.7	30	10.0
Western Cape	48	15.9	10	3.3	58	19.3
No physical store, online only					23	7.6

**Total responses may not equal n and percentages may not equal 100 as respondents may own/manage more than one business in more than one province.*

Table 6.2 shows that the majority of respondents (50.5%, n = 152) own or manage SMEs in Gauteng. This finding was anticipated considering that Gauteng is the economic powerhouse of South Africa. According to Seseni and Mbohwa (2021), Gauteng is dominated by a large number of SMEs which may be attributed to the high level of entrepreneurial activity and high population density in the province. Seseni and Mbohwa (2021) further state that many individuals relocate to Gauteng for greater employment opportunities. A total of 114 respondents (37.9%) indicated that they owned or managed SMEs in Kwa-Zulu Natal (Table 6.2). Moreover, these findings are consistent with SEDA's quarterly update (3rd quarter 2022) (Seda, 2023) which identifies Gauteng and Kwa-Zulu Natal as the two provinces with the highest concentration of SMEs. The Northern Cape is the least represented province overall, with 21 respondents (7%) indicating that they owned or managed SMEs in the province (Table 6.2). From Table 6.2, it is also evident that the majority of SMEs are situated in urban areas within Gauteng (45.8%, n = 138) and Kwa-Zulu Natal (28.9%, n = 87). It is important to note that some respondents may own or manage more than one business in more than one province. Additionally, a small proportion of the respondents (7.6%, n = 23) stated that they do not have a physical store and operate solely online.

6.3.2.1. *Duration of business operation*

Figure 6.3 reveals that 34.9% of the respondents (n = 105) indicated that they had been in business for 5 years or more, which accounts for more than a third of the respondents overall. A total of 88 respondents (29.2%) indicated that they had been

in business for 1-2 years, while 87 respondents (28.9%) indicated that they have been in business for 3-4 years. Only 7% (n = 21) of the respondents indicated that they have been in business for less than a year.

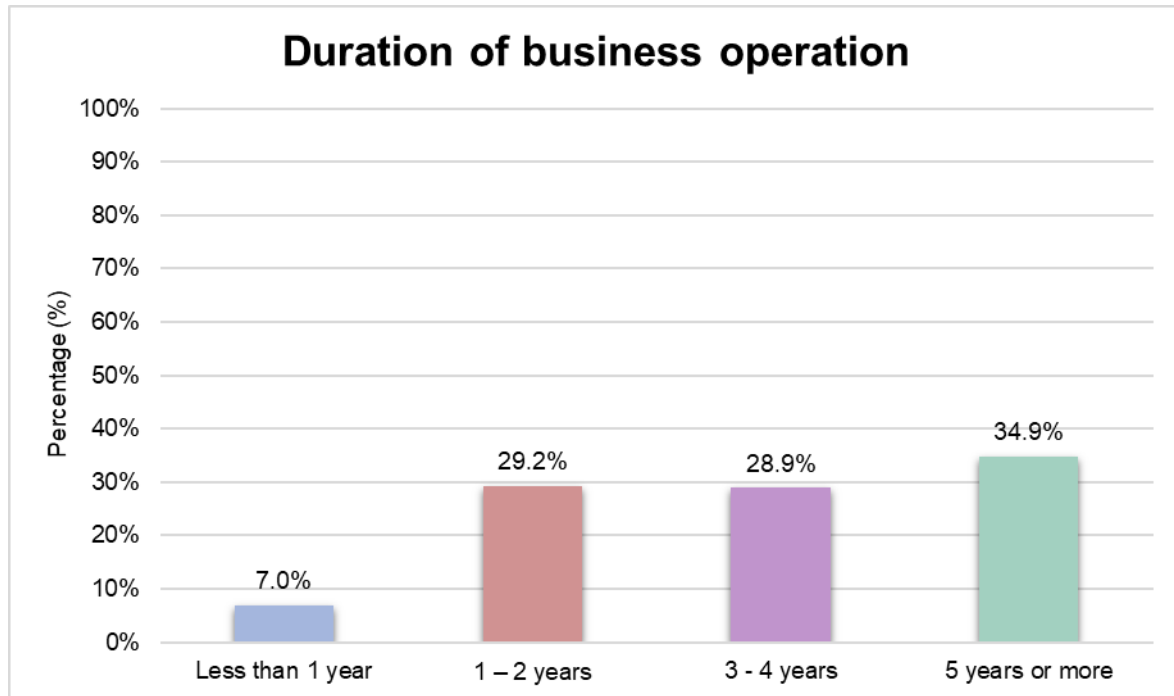


Figure 6.3: Duration of business operation

As indicated in chapter 1, an estimated 70% of new SMEs fail within the first two years of operation (Nkosi, 2019; Kriel, 2020; Cromhout & Duffett, 2022). According to a Global Entrepreneurship Monitor (GEM) 2019/2020 report, an SME may be classified as an established business if it has maintained its operations for at least 3.5 years (Bowmaker-Falconer & Herrington, 2020). It can be observed that the majority of respondents (63.8%, n = 192) have been in business for 3 years or more years which may be an indication that a significant proportion of SMEs in the sample have surpassed the startup stage and are relatively established.

6.3.2.2. Retail category

The retail categories in which the SMEs operated are shown in Figure 6.4.

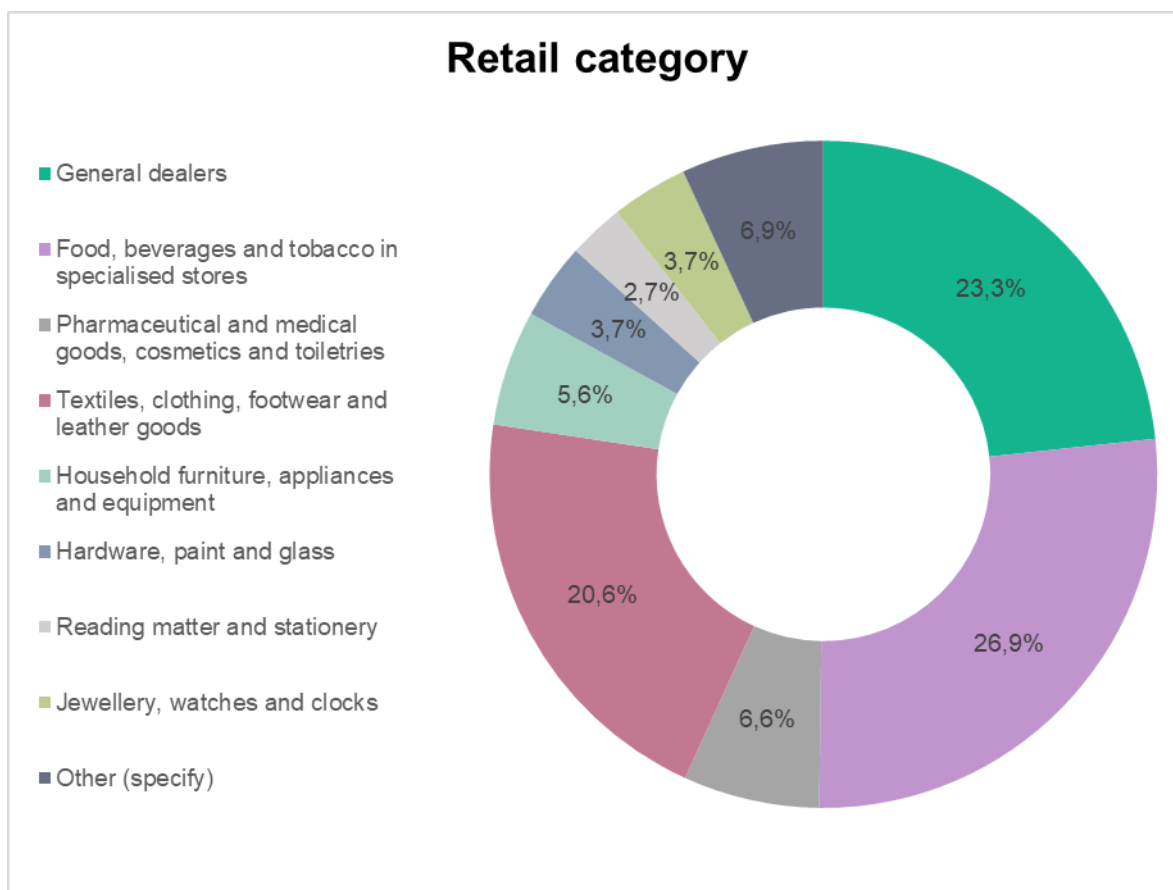


Figure 6.4: Retail category

Figure 6.4 shows that the most popular retail category is “food, beverages and tobacco in specialised stores” with 26.9% of the SMEs (n = 81) falling within this category followed by “general dealers” (23.3%, n = 70) and “textiles, clothing, footwear and leather goods” (20.6%, n = 62). “Reading matter and stationery” was the least popular retail category (2.7%, n = 8). When exploring the option “other” (Table 6.3), it can be seen that 21 respondents (6.9%) selected this category. Table 6.3 lists the responses within this category (“other”) specified by respondents.

Table 6.3: “Other” retail categories

Retail category	n	%
Arts and crafts	2	0.7
Auto electrical test equipment	1	0.3
Automotive	1	0.3

Cleaning and sanitizing products	1	0.3
Electronics	1	0.3
Gifts and decor	2	0.7
Gym equipment	1	0.3
Hydraulics Tools & Spares	1	0.3
Manufacturing products	1	0.3
Metals	1	0.3
Mining	2	0.7
Office automation	1	0.3
Pet products	3	1.0
Photos	1	0.3
Renting out traditional attires	1	0.3
Technology	1	0.3
TOTAL	21	6.9%

6.3.2.3. *Number of full-time employees and estimated annual turnover*

Table 6.4 provides an outline of the number of full-time employees and estimated annual turnover of the SMEs.

Table 6.4: Number of employees and turnover

	n	%
Number of employees		
0–10	135	44.9
11–50	106	35.2
51-250	60	19.9
TOTAL	301	100.0
Approximate annual turnover (ZAR)		
Less than or equal to 2.5 million	167	55.5
More than 2.5 million but less than or equal to 5 million	52	17.3
More than 5 million but less than or equal to 7.5 million	32	10.6
More than 7.5 million but less than or equal to 25 million	34	11.3
More than 25 million but less than or equal to 80 million	9	3.0

More than 80 million	7	2.3
TOTAL	301	100.0

As shown in table 6.4, 44.9% of respondents (n = 135) stated that the business employed between 0 and 10 individuals, while 35.2% (n = 106) stated that the business employed between 11 and 50 individuals. Just over half of the respondents (55.5%, n = 167) had an annual turnover of 2.5 million or less. The findings reveal that the majority of the businesses in the sample can be classified as micro or small businesses, in accordance with the definition of an SME as set out by the National Small Enterprise Act (chapter 2).

The next section provides a profile of the SMEs in the sample, with a subsequent breakdown of the findings based on the SMEs that have adopted m-commerce in their business and those that have not adopted m-commerce in their business.

6.4. M-COMMERCE ADOPTION IN SMES

From Figure 6.5, it is interesting to note that the majority of respondents (86.4%, n = 260) claimed to have adopted m-commerce in their business while a total of 41 respondents (13.6%) indicated that they had not adopted m-commerce in their business. The main reasons for adoption and non-adoption are explored in sections 6.4.1 and 6.4.2.

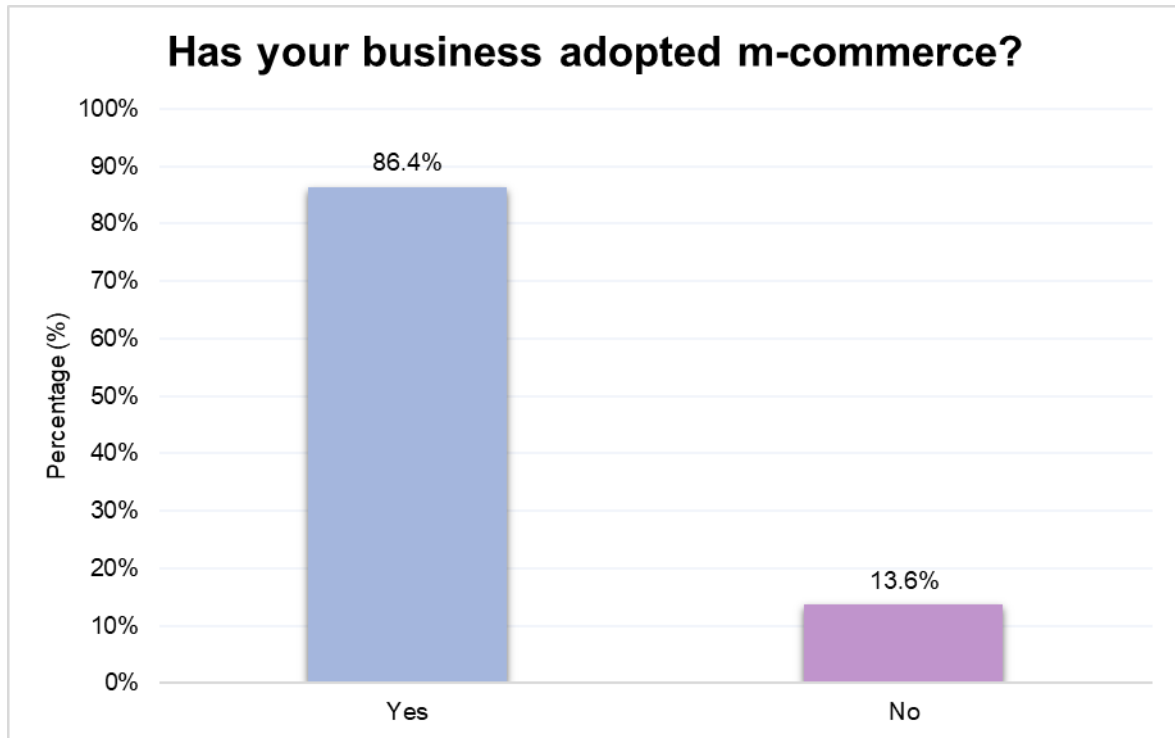


Figure 6.5: Adoption of m-commerce

The next section provides an analysis of the SMEs that have not adopted m-commerce in their business followed by those that have adopted m-commerce in their business.

6.4.1. SMEs that have not adopted m-commerce in their business

SMEs that have not adopted m-commerce in their business (13.6%, n = 41) is profiled based on the following: demographic and business profile, main reasons for not adopting m-commerce, intention to adopt m-commerce in the future, increased likelihood of adopting m-commerce in the future and platform usage.

6.4.1.1 *Demographic and business profile of SMEs that have not adopted m-commerce in their business*

Table 6.5 provides a breakdown of the demographic profile (gender and age) and business profile (business location, duration of business operation, retail category, number of full-time employees and estimated annual turnover) of SMEs that have not adopted m-commerce in their business.

Table 6.5: Demographic and business profile of SMEs that have not adopted m-commerce in their business

			n	%
Gender				
Male			13	31.7
Female			28	68.3
Other			0	0
Prefer not to answer			0	0
TOTAL			41	100.0
Age				
18–25			1	2.4
26–45			25	61.0
46–55			7	17.1
56–65			8	19.5
TOTAL			41	100.0
Business location	Urban	Rural		
Gauteng	10	1	11	26,8
Eastern Cape	0	0	0	0,0
Free State	0	1	1	2,4
Kwa-Zulu Natal	14	4	18	43,9
Limpopo	2	0	2	4,9
Mpumalanga	0	0	0	0,0

Northern Cape	0	0	0	0,0
North West	1	0	1	2,4
Western Cape	5	0	5	12,2
No physical store, online only			3	7.3
TOTAL			*	*
Years of operation				
Less than 1 year			4	9.8
1 – 2 years			14	34.1
3 - 4 years			11	26.8
5 years or more			12	29.3
TOTAL			41	100.0
Retail category				
General dealers			11	26.8
Food, beverages and tobacco in specialised stores			12	29.4
Pharmaceutical and medical goods, cosmetics and toiletries			2	4.9
Textiles, clothing, footwear and leather goods			7	17.1
Household furniture, appliances and equipment			3	7.3
Hardware, paint and glass			1	2.4
Reading matter and stationery			0	0
Jewellery, watches and clocks			1	2.4
Other			4	9.7
TOTAL			41	100.0
Number of employees				
0–10			35	85.4
11–50			3	7.3
51-250			3	7.3
TOTAL			41	100.0
Approximate annual turnover (ZAR)				

Less than or equal to 2.5 million	36	87.8
More than 2.5 million but less than or equal to 5 million	2	4.9
More than 5 million but less than or equal to 7.5 million	0	0
More than 7.5 million but less than or equal to 25 million	1	2.4
More than 25 million but less than or equal to 80 million	0	0
More than 80 million	2	4.9
TOTAL	41	100.0

**Total responses may not equal n and percentages may not equal 100 as respondents may own/manage more than one business in more than one province.*

Table 6.5 indicates that the majority of the respondents who have not adopted m-commerce in their business, were predominantly female (68.3%, n = 28) between the ages of 26 and 45 years (61.0%, n = 25). This finding was anticipated given that the overall sample consisted of a higher proportion of females than males, aged between 26 and 45 years old (Table 6.1). Most of the SMEs were situated in the urban areas of Kwa-Zulu Natal (34.1%, n = 14) and Gauteng (24.4%, n = 10). More than half of the SMEs (56.1%, n = 23) had been in business for 3 years or more indicating these businesses were somewhat established (Bowmaker-Falconer & Herrington, 2020). The two most popular retail categories were “general dealers” (26.8%, n = 11) and “food, beverages and tobacco in specialised stores” (29.4%, n = 12). Many of the SME owners/managers operated micro enterprises (based on the definition of an SME by the National Small Enterprise Act – chapter 2) with 85.4% of the respondents (n = 35) indicating that they employed between 0 and 10 individuals and 87.8% (n = 36) reporting an estimated annual turnover of R2.5 million or less.

6.4.1.2. Main reasons for not adopting m-commerce

Figure 6.6 reveals that the lack of awareness of m-commerce in general (34.1%, n = 14), the lack of understanding of m-commerce (26.8%, n = 11) and the lack of financial resources (24.4%, n = 10) were the main reasons for respondents not adopting m-commerce in their business. One respondent selected the “other” option and indicated that m-commerce does not provide solutions relevant to the business. According to Cromhout and Duffett (2022), many SMEs lack the knowledge, skills

and resources necessary to maintain and expand their business. Rana, Barnard, Baabdullah, Rees and Roderick (2019) argued that the lack of knowledge and awareness of the benefits of m-commerce could hamper its adoption among SMEs. Additionally, SMEs may be reluctant to devote a significant proportion of their resources towards the adoption of m-commerce mostly because they are concerned about the costs such as infrastructure, training, and maintenance (Alaskar & Alsadi, 2023).

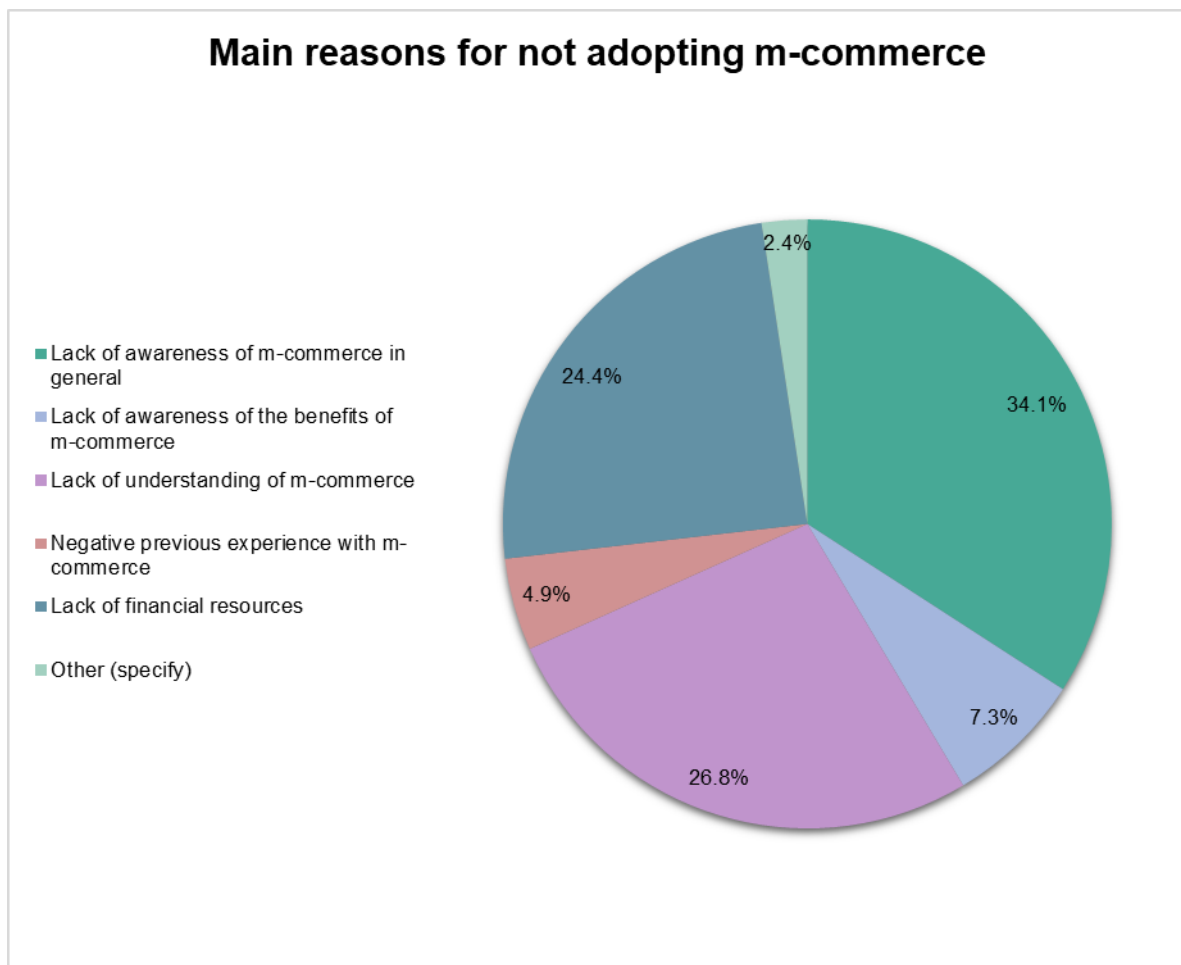


Figure 6.6: Main reasons for not adopting m-commerce

6.4.1.3 Intention to adopt m-commerce in the future

Table 6.6 provides a summary of the anticipated adoption of m-commerce among South African retail SMEs.

Table 6.6: Intention to adopt m-commerce

Intention to adopt m-commerce		n		%								
No		18		43.9								
Yes, in the next year		16		39								
Yes, in the next 2-3 years		6		14.6								
Yes, in the next 4-5 years		0		0								
Yes, in more than 5 years' time		1		2.4								
TOTAL		41		100,0								
Level of agreement regarding the intention to adopt m-commerce												
		1		2		3		4		5		
		Strongly disagree		Disagree		Unsure		Agree		Strongly agree		
		n	%	n	%	n	%	n	%	n	%	Mean (M)
Our business recognises the value of m-commerce		2	4.9	1	2.4	8	19.5	13	31.7	17	41.5	4.024
Our business intends to adopt m-commerce		2	4.9	2	4.9	7	17.1	14	34.1	16	39	3.976
Our business has a plan to adopt m-commerce		2	4.9	2	4.9	13	31.7	10	24.4	14	34.1	3.780
Our business has a strong commitment to adopt m-commerce		2	4.9	3	7.3	10	24.4	13	31.7	13	31.7	3.780

Table 6.6 shows that the majority of SMEs (53.6%, n = 22) had not yet adopted m-commerce in their business plan to do so within the next 3 years. It is evident from the mean responses in Table 6.6 ($M > 3$) that there is a strong value and commitment to adopting m-commerce in the foreseeable future. It is interesting to note that a significant proportion of the respondents (43.9%, n = 18) indicated that

they do not intend to adopt m-commerce in the future. These respondents were asked what would increase their likelihood of adopting m-commerce in their business in the future. The findings are presented in the next section.

6.4.1.3. *Increased likelihood of adopting m-commerce in the future*

As discussed in the preceding section, 43.9% of the respondents (n = 18) indicated that they do not intend to adopt m-commerce in their business in the future (Table 6.6). The respondents were given the opportunity, through an open-ended question, to indicate what would increase their likelihood of adopting m-commerce in their business in the future. They emphasised that having adequate financial resources and a greater understanding of m-commerce may increase their likelihood of adopting m-commerce in their business in the future. These findings are further highlighted below, substantiated by verbatim quotes from the respondents.

6.4.1.3.1. Greater understanding of m-commerce

The respondents believed that acquiring a greater understanding of m-commerce and receiving training on the implementation of m-commerce would increase their likelihood of adopting m-commerce in their business in the future. The findings were supported by the following quotes:

“A better understanding”

“More information”

“I presently lack the understanding of implementing such a system. If I were trained adequately and had a demonstration, I may consider it”.

“Training”

“One-on-one education”

“I do not have the resources or the knowledge to carry it out”.

“I have little understanding of putting it all together”.

6.4.1.3.2. Adequate financial resources to adopt m-commerce

The following quotes suggest that the respondents would be more inclined to adopt m-commerce in their business if they had adequate financial resources:

“Finance”

“If we had more funds available”.

“I do not have the funding needed to set it up and train whistle”.

Several respondents expressed a lack of interest in adopting m-commerce in their business. The respondents further indicated that nothing would impact their decision to implement m-commerce in their business. The findings were validated by the following quotes:

“It does not provide any solutions to any problems I am currently facing. I don't need it. It is not relevant to my business”.

“None”

“Not sure”

“Nothing”

“Nothing, would not use”

“I have no immediate plans”

“I have just not given it much thought”

6.4.1.4. *Platform usage*

Table 6.7 indicates the usage of specific platforms by SMEs that have not adopted m-commerce in their business.

Table 6.7: Extent to which specific platforms are being used by SMEs that have not adopted m-commerce in their business

Platform	Level of extent regarding platform usage										
	1 To no extent		2 To a little extent		3 To some extent		4 To a large extent		5 To a very large extent		Mean (<i>M</i>)
	n	%	n	%	n	%	n	%	n	%	
Basic website (<u>accessible</u> on a mobile device) that displays the products/services and/or information about the business (customers cannot make purchases directly via the SMEs website)	20	48.8	5	12.2	4	9.8	8	19.5	4	9.8	2.293
Basic website (<u>not accessible</u> on a mobile device) that displays the products/services and/or information about the business (customers cannot make purchases directly via the SMEs website)	28	68.3	3	7.3	5	12.2	4	9.8	1	2.4	1.707
Facebook (for promotional purposes and/or addressing customer queries)	17	41.5	3	7.3	3	7.3	7	17.1	11	26.8	2.805
Instagram (for promotional purposes and/or addressing customer queries)	25	61	1	2.4	5	12.2	6	14.6	4	9.8	2.098

Overall, the usage of the specific platforms, as shown in Table 6.7, ranges from "to no extent" to "to some extent" ($M < 3$). This reveals that the SMEs rarely use these platforms in their business. Having a Facebook page for promotional purposes and/or addressing customer queries was the most frequently used platform by SMEs that have not adopted m-commerce in their business (58.5%, $n = 24$, $M = 2.805$). It is interesting to note that most SMEs that have not adopted m-commerce in their business did not have a basic website, irrespective of its compatibility with mobile

devices (48.8%, n = 20) or lack thereof (68.3%, n = 28). Respondents were also given the opportunity to specify any other platforms that were not included in the predetermined list. WhatsApp (9.8%, n = 4) and Short Message Service (SMS) (2.4%, n = 1) were identified as additional platforms employed for promotional purposes and/or addressing customer queries.

6.4.2. SMEs that have adopted m-commerce in their business

Section 6.4.2 focuses on SMEs that have adopted m-commerce in their business and will address the following: demographic and business profile, duration of m-commerce usage, main reasons for adopting m-commerce, m-commerce platform usage and the extent to which m-commerce has contributed to sales.

6.4.2.1. *Demographic and business profile of SMEs who have adopted m-commerce in their business*

A summary of the demographic profile (gender and age) and business profile (business location, duration of business operation, retail category, number of full-time employees and estimated annual turnover) of SMEs that have adopted m-commerce in their business is presented in Table 6.8.

Table 6.8: Demographic and business profile of SMEs who have adopted m-commerce in their business

	n	%
Gender		
Male	116	44,6
Female	144	55,4
Other	0	0
Prefer not to answer	0	0
TOTAL	260	100,0
Age		
18–25	16	6.1
26–45	204	78.5

46–55			24	9,2
56–65			16	6,1
TOTAL			260	100,0
Business location	Urban	Rural		
Gauteng	128	13	141	54,2
Eastern Cape	20	10	30	11,5
Free State	18	12	30	11,5
Kwa-Zulu Natal	73	23	96	36,9
Limpopo	23	22	45	17,3
Mpumalanga	24	12	36	13,8
Northern Cape	13	8	21	8,1
North West	18	11	29	11,2
Western Cape	43	10	53	20,4
No physical store, online only			20	7,7
TOTAL			*	*
Years of operation				
Less than 1 year			17	6,5
1–2 years			74	28,5
3-4 years			76	29,2
5 or more years			93	35,8
TOTAL			260	100,0
Retail category				
General dealers			59	22,7
Food, beverages and tobacco in specialised stores			69	26,5
Pharmaceutical and medical goods, cosmetics and toiletries			18	6,9
Textiles, clothing, footwear and leather goods			55	21,2
Household furniture, appliances and equipment			14	5,4
Hardware, paint and glass			10	3,8

Reading matter and stationery	8	3,1
Jewellery, watches and clocks	10	3,8
Other	17	6,5
TOTAL	260	100,0
Number of employees		
0–10	100	38,5
11–50	103	39,6
51-250	57	21,9
TOTAL	260	100,0
Approximate annual turnover (ZAR)		
Less than or equal to 2.5 million	131	50,4
More than 2.5 million but less than or equal to 5 million	50	19,2
More than 5 million but less than or equal to 7.5 million	32	12,3
More than 7.5 million but less than or equal to 25 million	33	12,7
More than 25 million but less than or equal to 80 million	9	3,5
More than 80 million	5	1,9
TOTAL	260	100,0

**Total responses may not equal n and percentages may not equal 100 as respondents may own/manage more than one business in more than one province.*

Table 6.8 indicates that the majority of the respondents who have adopted m-commerce in their business, were primarily female (55.4%, n = 144) between the ages of 26 and 45 years (78.5%, n = 204). Given that the overall sample consisted of a higher proportion of females than males, aged 28-45 years (table 6.1) this finding was expected. Most of the SMEs who have adopted m-commerce in their business were located in the urban areas of Gauteng (49.2%, n = 128). The majority of the SMEs (65%, n = 169) had been in business for 3 years or more indicating a high degree of establishment (Bowmaker-Falconer & Herrington, 2020). The three most popular retail categories were “food, beverages and tobacco in specialised stores” (26.5%, n = 69), “general dealers” (22.7%, n = 59) and “textiles, clothing, footwear and leather goods” (21.2%, n = 55). Based on the definition of an SME by the

National Small Enterprise Act (chapter 2), it can be observed that the majority of SME owners/managers are engaged in the operation of micro and small businesses. More specifically, 78.1% of the respondents (n = 203) indicated that their business employed between 0 and 50 individuals and 69.6% (n = 181) of the respondents reported an estimated annual turnover of R5 million or less.

6.4.2.2. *Duration of m-commerce usage*

It is evident from Figure 6.7 that the majority of respondents have been using m-commerce in their business for 1-2 years (39.2%, n = 102) while nearly a third of respondents indicated that they have been using m-commerce in their business for 3-4 years (29.2%, n = 76). This may imply that m-commerce was adopted in their business during the COVID-19 pandemic. The outbreak of COVID-19 resulted in a digital push for many businesses worldwide (OECD, 2020), which may have encouraged SMEs to adopt m-commerce. Figure 6.7 further shows that a substantial proportion of respondents (20.4%, n = 53) have been using m-commerce in their business for 5 years or more. It appears that many SMEs have already capitalised on the benefits that m-commerce has to offer.

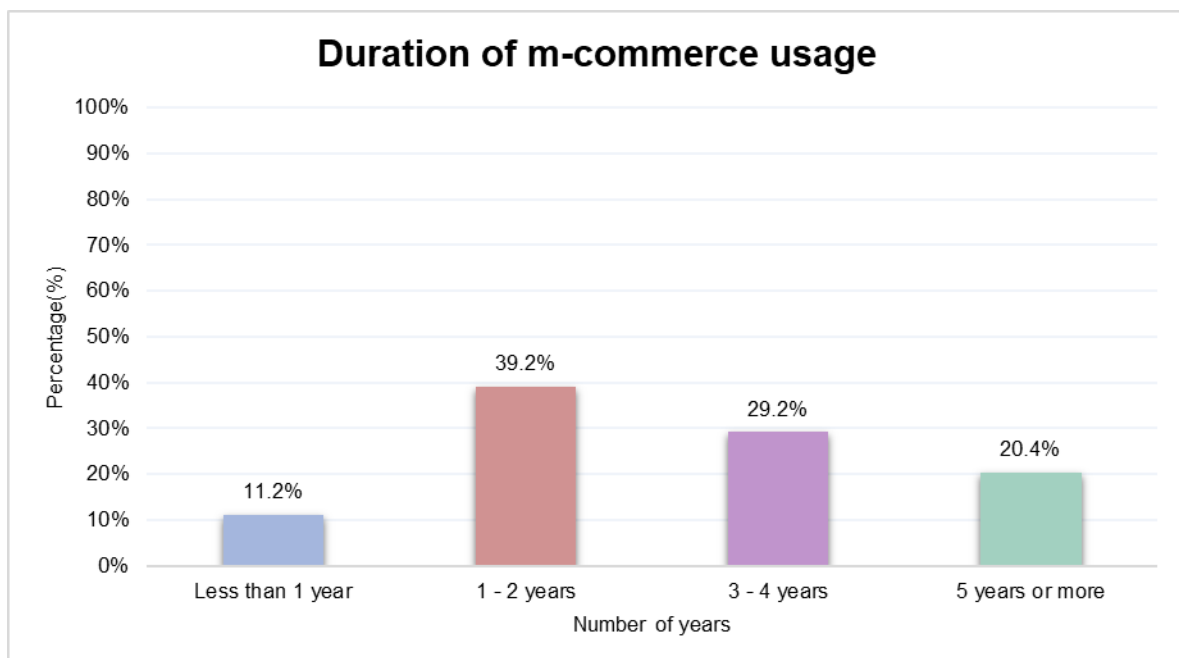


Figure 6.7: Duration of m-commerce usage

6.4.2.3. Main reasons for adopting m-commerce

As presented in Figure 6.8, the biggest motivations or reasons for respondents embracing m-commerce in their business were to increase sales (33.1%, n = 86), conduct business anywhere and at any time (28.5%, n = 74) and to enhance their online presence (20.4%, n = 53). This finding suggests that if SMEs are made aware of the benefits of m-commerce, they may be more inclined to adopt m-commerce in their business. In Figure 6.6, it was observed that 17 respondents (41.4%) cited "lack of awareness of m-commerce in general" and "lack of awareness of the benefits of m-commerce" as reasons for not adopting m-commerce in their business which further supports this conclusion.

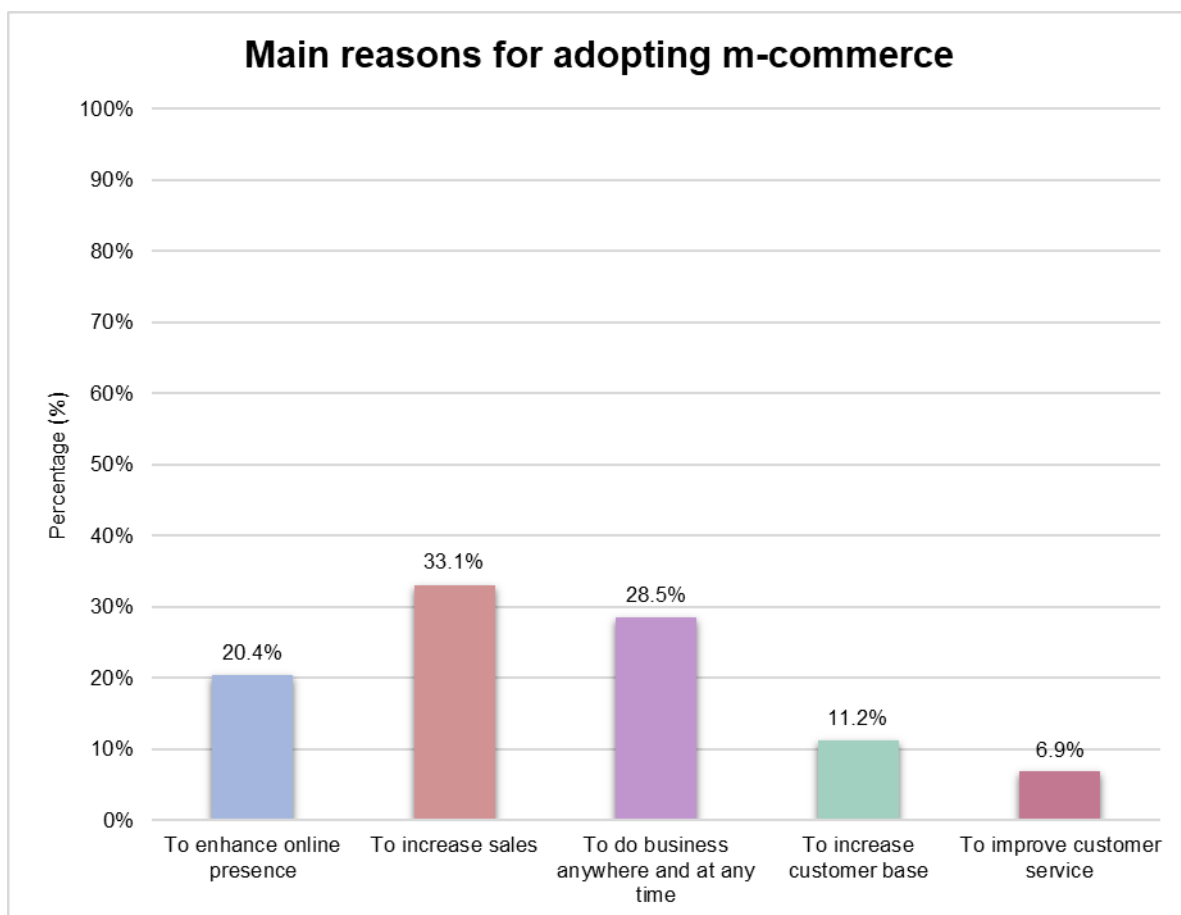


Figure 6.8: Main reasons for adopting m-commerce in business

6.4.2.4. M-commerce platform usage

The specific platforms used by SMEs that have adopted m-commerce in their business are listed in Table 6.9, along with the extent to which each platform is being used.

Table 6.9: Extent to which specific m-commerce platforms are being used by SMEs that have adopted m-commerce

Platform	Level of extent regarding m-commerce platform usage										
	1 To no extent		2 To a little extent		3 To some extent		4 To a large extent		5 To a very large extent		Mean (<i>M</i>)
	n	%	n	%	n	%	n	%	n	%	
Website (accessible on a mobile device) that displays products/services and facilitates online transactions (customers can access the SMEs' website from their mobile device to browse, shop, enquire, complete shipping details and make payment online via the website/online store)	22	8.5	24	9.2	33	12.7	66	25.4	115	44.2	3.877
Own mobile app that that displays the SMEs products/services and facilitates online transactions (customers can download the SMEs' app on their mobile device and are able to browse, shop, enquire, complete shipping details and make payment online via the mobile app)	182	70	10	3.8	12	4.6	30	11.5	26	10	1.876

Facebook Marketplace (customers can use their mobile device to browse the SMEs' products/services on Facebook Marketplace. An option is provided for customers to send the business a direct message via Facebook Messenger to enquire, place orders and arrange shipping and payment)	9	3.5	20	7.7	37	14.2	72	27.7	122	46.9	4.069
Instagram shopping (customers can use their mobile device to browse the SMEs products/services and make enquiries on Instagram, customers are directed to the website/online store to checkout)	36	13.8	25	9.6	51	19.6	58	22.3	90	34.6	3.542
Instagram link in bio (customers are directed to the SMEs' website/online store via a link in the bio)	38	14.6	24	9.2	50	19.2	49	18.8	99	38.1	3.565
Instagram Direct messaging (customers can use their mobile device to send a direct message to the SME on Instagram to enquire, place orders and arrange shipping and payment)	41	15.8	23	8.8	51	19.6	71	27.3	74	28.5	3.438

WhatsApp Messenger/WhatsApp Business (customers can use their mobile device to send a direct message to the SME on WhatsApp to enquire, place orders and arrange shipping and payment)	23	8.8	22	8.5	36	13.8	52	20	127	48.8	3.915
WhatsApp Business cart (customers can use their mobile device to view the SMEs catalogue on the WhatsApp Business account, select one or multiple products that they want to purchase, add to cart and checkout; checkout automatically sends the cart to the SME as a WhatsApp message to finalise the order and arrange shipping and payment)	25	9.6	20	7.7	38	14.6	65	25	112	43.1	3.842
Uber Eats and/or Mr D Food (customers can use their mobile device to browse the SMEs menu, enquire, place orders, complete shipping details and make payment online via Uber Eats and/or Mr D Food)	93	35.8	20	7.7	26	10	62	23.8	59	22.7	2.900
Takealot (customers can use their mobile device to browse the SMEs products/services, shop, enquire, complete shipping details and make payment online via Takealot)	85	32.7	16	6.2	41	15.8	63	24.2	55	21.2	2.950

bidorbuy (customers can use their mobile device to browse the SMEs products/services, shop, enquire, complete shipping details and make payment online via bidorbuy)	87	33.5	26	10	38	14.6	57	21.9	52	20	2.850
Yaga (customers can use their mobile device to browse the SMEs products, shop, enquire, complete shipping details and make payment online via Yaga)	99	38.1	21	8.1	32	12.3	58	22.3	50	19.2	2.765

As presented in Table 6.9, SMEs use a variety of platforms for conducting m-commerce activities at least to some extent. The majority of respondents (74.6%, n = 194) indicated that they used Facebook Marketplace to a large or very large extent. Facebook Marketplace also had the highest mean response (M = 4.069), suggesting that there is a greater overall extent of use across Facebook Marketplace in comparison to the other platforms. A significant proportion of respondents (69.6%, n = 181) indicated that they used a website that supports online transactions (accessible on a mobile device) to a large or very large extent. Moreover, 68.8% of the respondents (n = 179) indicated that they used WhatsApp messenger/WhatsApp Business to a large or very large extent. The WhatsApp Business cart feature was also prevalent with 68.1% of the respondents (177) indicating that they use it to a large or very large extent. Instagram also emerged as a widely used platform with a significant proportion of respondents employing the “link in bio” option (56.9%, n = 148), Instagram shopping (56.9%, n = 148) and Instagram Direct Messaging (55.8%, n = 145) to a large or very large extent. These findings can be attributed to the popularity and widespread usage of WhatsApp, Facebook, and Instagram within South Africa (Kemp, 2023b).

It is noteworthy to observe that 29.9% of the respondents (n = 78) reported the use of their own mobile app. The findings of phase 1 of the research (qualitative) (section 5.2.4.5, chapter 5,) revealed that the development of a mobile app was characterised

by high costs and complexities. Hence, it is questionable that a significant proportion of respondents indicated the use of their own mobile app. The respondents may have misunderstood the statement, perceiving “own mobile app” as mobile apps in general or the use of third-party platforms such as Uber Eats and Takealot. Table 6.9 further shows that Uber Eats/Mr D Food, Takealot, bidorbuy and Yaga were identified as the least used platforms by SMEs ($M < 3$). Respondents were also given the opportunity to specify any other m-commerce platforms that were not included in the predetermined list. Bolt (0.8%, $n = 2$), Gumtree (0.4%, $n = 1$), LinkedIn (0.4%, $n = 1$) and WeChat (0.4%, $n = 1$) were identified as additional m-commerce platforms that have been used by SMEs.

6.4.2.5. *The extent to which m-commerce has contributed to sales*

The respondents were asked to indicate to what extent m-commerce has contributed to sales in their business. Figure 6.9 below illustrates the respondents’ responses.

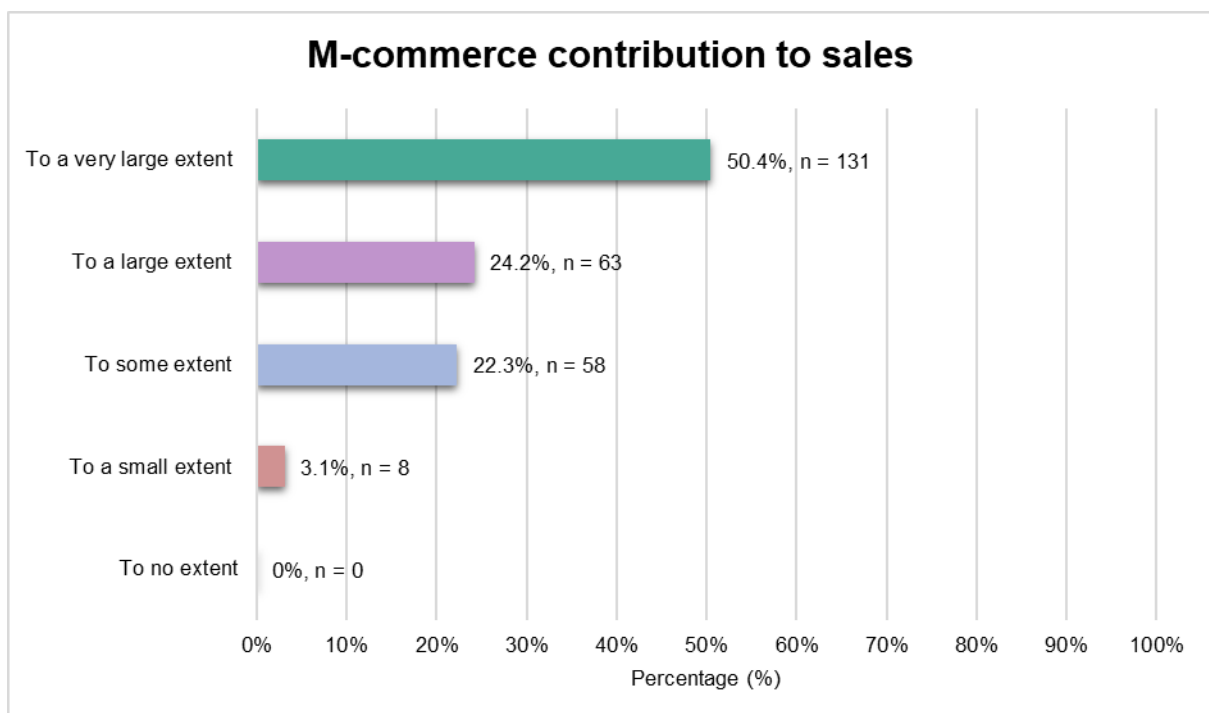


Figure 6.9: M-commerce contribution to sales

Figure 6.9 reveals that the majority of respondents (74.6%, $n = 194$) believe that m-commerce has made a substantial contribution to their sales (to a large or very large extent). A total of 58 respondents (22.3%) indicated that m-commerce has contributed to their sales to some extent while 8 respondents (3.1%) indicated that

m-commerce has contributed to their sales to a small extent. Notably, none of the respondents stated that m-commerce had no contribution to their sales. These findings are consistent with the main reasons that drive m-commerce adoption as outlined in section 6.4.2.3. It was observed that one of the main reasons for the adoption of m-commerce among South African retail SMEs was to increase sales. Therefore, it is suggested that m-commerce has the potential to contribute to the sales of SMEs, to varying extents. The respondents were required to give one or more reasons for their rating regarding the extent to which m-commerce has contributed to sales, through an open-ended question. The respondents highlighted the expansion of business and increased customer base, convenience and global reach. These findings are further emphasised below, substantiated by verbatim quotes from the respondents.

6.4.2.5.1. Expansion of business and increased customer base

In comparison to operating a physical store, the adoption of m-commerce has enabled SMEs to expand their business and customer base, resulting in increased sales and profitability. The findings are validated by the following quotes:

“We are targeting to be online to be able to have more customers view what we have in store. Since we are a retail-based shop in an industrial location a lot of people do not know what we have in stock”.

“Our business was based only in our area. Through the adoption of m-commerce we managed to triple our profit and are operating at a maximum capacity”.

“I'm giving this rating because since we started this m-commerce and using Facebook market to sell our products we have seen a major increase in people (customers) buying our products”.

“A lot of people will know about the business and in return be interested to buy hence increasing sales and profits”.

“I'm able to reach a large number of people”.

“It has allowed my business to feature in a number of places therefore reaching many more potential customers”.

“Our business has grown”.

“My business has gained more customers from social media than before”.

“Our business is growing at a faster pace”.

“It has made us more visible”.

“I see my business growing because of it”.

6.4.2.5.2. Convenience

SME owners/managers held the belief that m-commerce adoption has resulted in more streamlined business processes, facilitating easier online transactions and ensuring convenience for both businesses and customers, hence increasing sales.

The following quotes confirmed the findings:

“It has been easier for customers to see our products and purchase in the comfort of their homes, it is convenient and quick for them to have access to customer care”.

“It's convenient for our customers”.

“Sales through m-commerce has increased because of its convenience”.

“It has made sales to be much easier and faster. It is able to reach a very large market in a very short space of time”.

“M-commerce has made life easier for me and my business”.

“M-commerce has contributed to more sales in my business. It increased visibility and ease of doing business on the platforms we are currently using. It has also made transactions and order processing easier as it can be done remotely”.

6.4.2.5.3. Global reach

The adoption of m-commerce has enabled SMEs to penetrate global markets. The ability to conduct business globally and establish connections with customers across various geographical locations has led to increased sales. The findings are validated by the following quotes:

“We are able to sell products to different countries online and it has increased our customers”.

“We have become noticeable all over the world and our products have been known to a lot of customers”.

“Our business clients are mainly international and m-commerce has helped us reach international markets”.

The following section provides a descriptive analysis of the factors that influence the adoption of m-commerce among South African retail SMEs. The respondents who have adopted m-commerce in their business (86.4%, n = 260) will serve as the foundation for the study and the proposed conceptual framework. This study aimed to synthesise a framework of factors based on SMEs that have already adopted and used m-commerce in their business.

6.5. DESCRIPTIVE ANALYSIS OF THE FACTORS THAT INFLUENCE THE ADOPTION OF M-COMMERCE

Section 6.5 provides an analysis of the descriptive statistics pertaining to the factors that influence m-commerce adoption among South African retail SMEs. The preliminary conceptual framework for m-commerce adoption (Figure 3.12, chapter 3) was revised based on the findings from phase 1 of the research (qualitative). The revised conceptual framework (Figure 5.21, chapter 5; Figure 6.10) includes 22 independent factors that influence the adoption of m-commerce (dependent factor) among South African retail SMEs. The study examines the descriptive statistics of the 22 independent factors, which have been classified into five contexts: technological, organisational, environmental, managerial and integrated. The technological factors included perceived benefits, perceived complexity, perceived compatibility, perceived security, perceived cost and trialability. The organisational factors covered organisational readiness, organisational innovativeness, employees' IT knowledge and organisation size. The environmental factors detailed competitive pressure, government support, supplier pressure, customer pressure, technology vendor support and global trends. The managerial factors addressed managers' IT knowledge and top management support. The integrated context included age, instant gratification, crisis-related pressure such as COVID-19 and willingness to

learn. Additionally, the descriptive statistics pertaining to m-commerce adoption (the dependent factor) are presented.

The descriptive analysis provides a concise overview of the data including measures such as the mean and standard deviation, the level of agreement of each factor and the assessment of normality. Skewness and Kurtosis indices, as depicted in Table 6.10 were used to identify the normality of the data.

Table 6.10: Skewness and Kurtosis indices

Skewness	Kurtosis	Source
Absolute value between -2 to +2	Absolute value between -2 to +2	Hahs-Vaughn & Lomax (2020)
Absolute value between -2 to +2	Absolute value between -7 to +7	Sovey, Osman & Mohd-Matore (2022)
Absolute value between -3 to +3	Absolute value between -10 to +10	Sovey et al. (2022); Ordóñez de Pablos, Zhang & Almunawar (2022)

The skewness and Kurtosis values for this study ranged from -1.196 to -1.600 and 1.686 to 3.979 respectively (Tables 6.11 to 6.33), indicating acceptable normality for SEM analysis (section 6.6) (Sovey et al., 2022; Ordóñez de Pablos et al., 2022).

6.5.1. Perceived benefits

As indicated in Table 6.11, the overall mean of perceived benefits is 4.289 and the standard deviation is 0.641, indicating that the respondents generally agreed with the statements (items) measuring perceived benefits. The majority of respondents agreed or strongly agreed that “growth in profitability” (88.9%, n = 231), “enhancement of the business’s image” (88.1%, n = 229), “provision of unique business opportunities...” (87.7%, n = 228) and “being able to do business anywhere and at any time” (87.3%, n = 227) were important in their decision to adopt m-commerce. It is interesting to note that 25 respondents (9.6%) believed that the “reduction of costs...” was not important in their decision to adopt m-commerce while 32 respondents (12.3%) expressed uncertainty in this regard.

Table 6.11: Descriptive statistics of perceived benefits

Perceived benefits	N	260								
	Mean	4.289								
	Std. Error of Mean	0.039								
	Median	4.400								
	Mode	5.00								
	Std. Deviation	0.641								
	Skewness	-1.377								
	Std. Error of Skewness	0.151								
	Kurtosis	2.942								
	Std. Error of Kurtosis	0.301								
	Range	4.00								
	Minimum	1.00								
	Maximum	5.00								
Items	Level of agreement regarding perceived benefits									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Reduction of costs (e.g. administrative, maintenance, storage and distribution costs)	9	3.5	16	6.1	32	12.3	104	40.0	99	38.1
Increased customer loyalty	1	0.4	10	3.8	36	13.8	91	35.0	122	46.9
Improved customer service	2	0.8	7	2.7	26	10.0	95	36.5	130	50.0
Growth in profitability	1	0.4	7	2.7	21	8.1	92	35.4	139	53.5
Enhancement of the business's image	1	0.4	6	2.3	24	9.2	96	36.9	133	51.2

Improved business decision-making	2	0.8	5	1.9	37	14.2	95	36.5	121	46.5
Provision of unique business opportunities (e.g. leveraging new technology and marketing channels)	1	0.4	3	1.2	28	10.8	110	42.3	118	45.4
Increased competitiveness	2	0.8	5	1.9	33	12.7	91	35.0	129	49.6
Convenience (e.g. saving time and reducing administrative duties for the business)	3	1.2	7	2.7	25	9.6	103	39.6	122	46.9
Being able to do business anywhere and at any time	3	1.2	4	1.5	26	10.0	84	32.3	143	55.0

6.5.2. Perceived complexity

Table 6.12 shows that the overall mean of perceived complexity is 4.168 and the standard deviation is 0.721, indicating that the respondents generally agreed with the statements (items) measuring perceived complexity. Most of the respondents agreed or strongly agreed that the “amount of effort required to set up m-commerce” (87.3%, n = 227) and the “amount of effort required by customers to use m-commerce” (85%, n = 221) were important in their decision to adopt m-commerce. A significant number of respondents (16.9%, n = 44) indicated that they were unsure as to whether the “amount of effort required to integrate m-commerce with current business practices” was important in influencing their decision to adopt m-commerce.

Table 6.12: Descriptive statistics of perceived complexity

Perceived complexity	N		260							
	Mean		4.168							
	Std. Error of Mean		0.044							
	Median		4.250							
	Mode		5.00							
	Std. Deviation		0.721							
	Skewness		-1.241							
	Std. Error of Skewness		.151							
	Kurtosis		2.311							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding perceived complexity									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Amount of effort required to set up m-commerce	3	1.2	10	3.8	20	7.7	113	43.5	114	43.8
Amount of effort required to integrate m-commerce with current business practices	3	1.2	8	3.1	44	16.9	111	42.7	94	36.2
Amount of effort required by employees to use/operate m-commerce	3	1.2	11	4.2	37	14.2	112	43.1	97	37.3
Amount of effort required by customers to use m-commerce	3	1.2	11	4.2	25	9.6	109	41.9	112	43.1

6.5.3. Perceived compatibility

The mean and standard deviation for perceived compatibility is 4.274 and 0.658 respectively (Table 6.13), indicating that the average responses leaned towards agree and strongly agree. Most respondents agreed or strongly agreed that the “compatibility of m-commerce with current marketing activities” (90%, n = 234) was important in their decision to adopt m-commerce.

Table 6.13: Descriptive statistics of perceived compatibility

Perceived compatibility	N		260							
	Mean		4.274							
	Std. Error of Mean		0.040							
	Median		4.400							
	Mode		5.00							
	Std. Deviation		0.658							
	Skewness		-1.480							
	Std. Error of Skewness		0.151							
	Kurtosis		3.979							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding perceived compatibility									
	1		2		3		4		5	
	Strongly disagree		Disagree		Unsure		Agree		Strongly agree	
n	%	n	%	n	%	n	%	n	%	

Compatibility of m-commerce with the business's existing information and communication technology infrastructure (e.g. internet connectivity, server, router, operating system, business website, personal computers and mobile devices)	4	1.5	6	2.3	26	10.0	104	40.0	120	46.2
Compatibility of m-commerce with the business's values and culture	2	0.8	8	3.1	37	14.2	96	36.9	117	45.0
Compatibility of m-commerce with current business practices	2	0.8	4	1.5	35	13.5	101	38.8	118	45.4
Compatibility of m-commerce with the business's existing distribution channels	2	0.8	6	2.3	29	11.2	111	42.7	112	43.1
Compatibility of m-commerce with current marketing activities	2	0.8	8	3.1	16	6.2	101	38.8	133	51.2

6.5.4. Perceived security

As presented in Table 6.14, the overall mean of perceived security is 4.256 and the standard deviation is 0.720, indicating that the respondents generally agreed with the statements (items) measuring perceived security. The majority of respondents agreed or strongly agreed that the “awareness of the security of m-commerce” (86.9%, n = 226) was important in their decision to adopt m-commerce. Notably, a significant number of respondents (15.4%, n = 40) indicated that they were unsure as to whether the “availability of laws and regulations for m-commerce” was important in influencing their decision to adopt m-commerce.

Table 6.14: Descriptive statistics of perceived security

Perceived security	N	260								
	Mean	4.256								
	Std. Error of Mean	0.044								
	Median	4.500								
	Mode	5.00								
	Std. Deviation	0.720								
	Skewness	-1.196								
	Std. Error of Skewness	0.151								
	Kurtosis	1.693								
	Std. Error of Kurtosis	0.301								
	Range	4.00								
	Minimum	1.00								
	Maximum	5.00								
Items	Level of agreement regarding perceived security									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Awareness of the security of m-commerce	2	0.8	9	3.5	23	8.8	100	38.5	126	48.5
Availability of adequate security data standards/industry standards for m-commerce	1	0.4	11	4.2	33	12.7	92	35.4	123	47.3
Availability of laws and regulations for m-commerce	1	0.4	7	2.7	40	15.4	102	39.2	110	42.3
Security policies that the business has in place for m-commerce	3	1.2	8	3.1	31	11.9	92	35.4	126	48.5

6.5.5. Perceived cost

Table 6.15 shows that the overall mean of perceived cost is 4.207 and the standard deviation is 0.704, suggesting that the respondents generally agreed with the statements (items) measuring perceived cost. Most of the respondents agreed or strongly agreed that the “cost of setting up m-commerce” (86.9%, n = 226), the “positive cost-benefit trade-off...” (86.5%, n = 225) and the “cost of maintenance of m-commerce” (84.6%, n = 220) were important in the decision to adopt m-commerce in their business.

Table 6.15: Descriptive statistics of perceived cost

Perceived cost	N		260							
	Mean		4.207							
	Std. Error of Mean		0.043							
	Median		4.200							
	Mode		5.00							
	Std. Deviation		0.704							
	Skewness		-1.380							
	Std. Error of Skewness		.151							
	Kurtosis		3.089							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding perceived cost									
	1		2		3		4		5	
	Strongly disagree		Disagree		Unsure		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Cost of setting up m-commerce	5	1.9	11	4.2	18	6.9	111	42.7	115	44.2

Cost of maintenance of m-commerce	3	1.2	11	4.2	26	10.0	102	39.2	118	45.4
Cost of training employees to use/operate m-commerce	2	0.8	15	5.8	30	11.5	101	38.8	112	43.1
Cost of outsourcing m-commerce services/expertise	3	1.2	13	5.0	27	10.4	113	43.5	104	40.0
Positive cost-benefit trade-off (the expected benefits of m-commerce outweigh the costs)	3	1.2	7	2.7	25	9.6	116	44.6	109	41.9

6.5.6. Trialability

The mean and standard deviation for trialability is 4.243 and 0.677 respectively (Table 6.16). These statistics indicate that the average responses for trialability leaned towards agree and strongly agree. Most respondents believed that trialling m-commerce prior to its adoption is important. This finding is supported by the majority of the respondents who agreed or strongly agreed with the following statements: “knowing what is required (e.g. ICT infrastructure) to try out m-commerce satisfactorily (89.2%, n = 232), the “opportunity to try out m-commerce for a specific period before deciding to adopt it” (86.5%, n = 225) and the “opportunity to experience different m-commerce platforms and what they can deliver for the business before deciding to adopt it” (86.5%, n = 225).

Table 6.16: Descriptive statistics of trialability

Trialability	N	260
	Mean	4.243
	Std. Error of Mean	0.042
	Median	4.250
	Mode	5.00
	Std. Deviation	0.677
	Skewness	-1.432

	Std. Error of Skewness		0.151							
	Kurtosis		2.619							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding trialability									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Opportunity to try out m-commerce for a specific period before deciding to adopt it	5	1.9	8	3.1	22	8.5	104	40.0	121	46.5
Opportunity to test the suitability of m-commerce for the business before deciding to adopt it	2	0.8	4	1.5	38	14.6	104	40.0	112	43.1
Opportunity to experience different m-commerce platforms and what they can deliver for the business before deciding to adopt it	2	0.8	8	3.1	25	9.6	121	46.5	104	40.0
Knowing what is required (e.g. ICT infrastructure) to try out m-commerce satisfactorily	5	1.9	7	2.7	16	6.2	119	45.8	113	43.5

6.5.7. Organisational readiness

Table 6.17 shows that the overall mean of organisational readiness is 4.173 and the standard deviation is 0.740, demonstrating that the respondents generally agreed with the statements (items) measuring organisational readiness. Most respondents agreed or strongly agreed that the “business’s availability of human resources...”

(84.6%, n = 220), the “business’s availability of financial resources” (84.2%, n = 219) and the “business’s availability of technological resources...” (83.9%, n = 218) were important in the decision to adopt m-commerce. Notably, 26 respondents (10%) believed that the “financial support from banks and other financial institutions” was not important in their decision to adopt m-commerce while 37 respondents (14.2%) were unsure in this regard.

Table 6.17: Descriptive statistics of organisational readiness

Organisational readiness	N	260								
	Mean	4.173								
	Std. Error of Mean	0.045								
	Median	4.250								
	Mode	5.00								
	Std. Deviation	0.740								
	Skewness	-1.225								
	Std. Error of Skewness	0.151								
	Kurtosis	1.805								
	Std. Error of Kurtosis	0.301								
	Range	4.00								
	Minimum	1.00								
	Maximum	5.00								
Items	Level of agreement regarding organisational readiness									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Business’s availability of financial resources (e.g. funding and capital)	8	3.1	5	1.9	28	10.8	95	36.5	124	47.7
Financial support from banks and other financial institutions	8	3.1	18	6.9	37	14.2	103	39.6	94	36.2

Business's availability of technological resources (e.g. ICT infrastructure)	1	0.4	12	4.6	29	11.2	98	37.7	120	46.2
Business's availability of human resources (e.g. staff skills and expertise in m-commerce)	1	0.4	10	3.8	29	11.2	111	42.7	109	41.9

6.5.8. Organisational innovativeness

The mean and standard deviation for organisational Innovativeness is 4.354 and 0.649 respectively (Table 6.18), proposing that the average responses were inclined towards agree and strongly agree. The majority of respondents agreed or strongly agreed that the “ability to innovate and generate ideas” (90.7%, n = 236) and the “ability to continually improve business processes” (88.8%, n = 231) played an important role in the decision to implement m-commerce in their business.

Table 6.18: Descriptive statistics of organisational innovativeness

Organisational innovativeness	N	260
	Mean	4.354
	Std. Error of Mean	0.040
	Median	4.500
	Mode	5.00
	Std. Deviation	0.649
	Skewness	-1.404
	Std. Error of Skewness	0.151
	Kurtosis	3.106
	Std. Error of Kurtosis	0.301
	Range	4.00
	Minimum	1.00
	Maximum	5.00
Items	Level of agreement regarding organisational innovativeness	

	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Ability to innovate and generate ideas	2	0.8	6	2.3	16	6.2	96	36.9	140	53.8
Ability to continually improve business processes	2	0.8	2	.8	25	9.6	92	35.4	139	53.5
Ability to easily experiment with and accept new technology	1	0.4	9	3.5	25	9.6	103	39.6	122	46.9
Ability to adopt new management approaches	3	1.2	6	2.3	24	9.2	99	38.1	128	49.2

6.5.9. Employees' IT knowledge

As presented in Table 6.19, the mean for employees' IT knowledge is 4.353 and the standard deviation is 0.645. These statistics suggest that the average responses were geared towards agree and strongly agree. Most respondents agreed or strongly agreed that the "employees' capability to learn new technology" (91.2%, n = 237) and the "employees' understanding of m-commerce" (88.5%, n = 230) were important in influencing their decision to adopt m-commerce.

Table 6.19: Descriptive statistics of employees' IT knowledge

Employees' IT knowledge	N	260
	Mean	4.353
	Std. Error of Mean	0.040
	Median	4.500
	Mode	5.00
	Std. Deviation	0.645
	Skewness	-1.446
	Std. Error of Skewness	0.151

	Kurtosis		3.287							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding employees' IT knowledge									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Employees' understanding of m-commerce	4	1.5	2	.8	24	9.2	93	35.8	137	52.7
Employees' ability to use m-commerce to interact with customers and suppliers	1	0.4	10	3.8	25	9.6	102	39.2	122	46.9
Employees' information technology (IT) skills (e.g. computer and mobile literacy skills)	2	0.8	5	1.9	26	10.0	95	36.5	132	50.8
Employees' capability to learn new technology	1	0.4	5	1.9	17	6.5	100	38.5	137	52.7

6.5.10. Organisation size

As Table 6.20 illustrates, the overall mean of organisation size is 4.144 and the standard deviation is 0.804. These statistics indicate that the respondents believed that organisation size played an important role in the decision to adopt m-commerce in their business. This agreement appears to be evenly distributed among all of the statements measuring organisation size in terms of "...the number of employees in the business" (83.5%, n = 217), "...business annual turnover" (82.7%, n = 215) and "...business assets" (81.1%, n = 211).

Table 6.20: Descriptive statistics of organisation size

Organisation size	N		260							
	Mean		4.144							
	Std. Error of Mean		0.049							
	Median		4.333							
	Mode		5.00							
	Std. Deviation		0.804							
	Skewness		-1.302							
	Std. Error of Skewness		0.151							
	Kurtosis		2.312							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
	Items	Level of agreement regarding organisation size								
1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree		
n		%	n	%	n	%	n	%	n	%
Organisation size in terms of the number of employees in the business	5	1.9	15	5.8	23	8.8	107	41.2	110	42.3
Organisation size in terms of business annual turnover	4	1.5	9	3.5	32	12.3	113	43.5	102	39.2
Organisation size in terms of business assets	4	1.5	15	5.8	30	11.5	108	41.5	103	39.6

6.5.11. Competitive pressure

As depicted in Table 6.21, the mean for competitive pressure is 4.326 and the standard deviation is 0.644. These statistics indicate that the average responses

leaned towards agree and strongly agree. The majority of respondents agreed or strongly agreed that the “awareness of the competitive advantages of m-commerce” (90.8%, n = 236) and the “awareness of competitors currently adopting m-commerce to conduct business and being favourably perceived by customers” (90.4%, n = 235) were important in their decision to adopt m-commerce.

Table 6.21: Descriptive statistics of competitive pressure

Competitive pressure	N		260							
	Mean		4.326							
	Std. Error of Mean		0.039							
	Median		4.500							
	Mode		5.00							
	Std. Deviation		0.644							
	Skewness		-1.416							
	Std. Error of Skewness		0.151							
	Kurtosis		3.084							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding competitive pressure									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Awareness of the competitive advantages of m-commerce	5	1.9	6	2.3	13	5.0	94	36.2	142	54.6

Awareness of competitors currently adopting m-commerce to conduct business	3	1.2	6	2.3	23	8.8	111	42.7	117	45.0
Awareness of competitors currently adopting m-commerce to conduct business and benefitting significantly	4	1.5	3	1.2	33	12.7	93	35.8	127	48.8
Awareness of competitors currently adopting m-commerce to conduct business and being favourably perceived by customers	2	0.8	3	1.2	20	7.7	115	44.2	120	46.2

6.5.12. Government support

The mean and standard deviation for government support is 4.023 and 0.892 respectively (Table 6.22), denoting that the respondents generally agreed with the statements (items) measuring government support. From Table 6.22, the majority of respondents believed that “government financial support...” was important in influencing their decision to adopt m-commerce; 208 respondents (80%) indicated that they agreed or strongly agreed with this statement. A total of 199 respondents (76.6%) further agreed or strongly agreed that a “reduced regulatory burden...” was important in their decision to adopt m-commerce. It is interesting to note that a significant proportion of respondents expressed uncertainty with all the statements of government support or believed that government support was not an important factor influencing the decision to adopt m-commerce in their business. This is consistent with the findings of the qualitative research, which revealed that most of the participants held the belief that government support has little or no importance on the adoption of m-commerce in SMEs.

Table 6.22: Descriptive statistics of government support

Government support	N	260								
	Mean	4.023								
	Std. Error of Mean	0.055								
	Median	4.250								
	Mode	5.00								
	Std. Deviation	0.892								
	Skewness	-1.311								
	Std. Error of Skewness	0.151								
	Kurtosis	1.686								
	Std. Error of Kurtosis	0.301								
	Range	4.00								
	Minimum	1.00								
	Maximum	5.00								
Items	Level of agreement regarding government support									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Government financial support (e.g. providing funding to SMEs)	13	5.0	10	3.8	29	11.2	103	39.6	105	40.4
Government provision of ICT infrastructure	13	5.0	12	4.6	41	15.8	92	35.4	102	39.2
Government training and educational programmes to assist SMEs with m-commerce adoption	9	3.5	16	6.2	42	16.2	98	37.7	95	36.5
Reduced regulatory burden (e.g. less red tape)	8	3.1	8	3.1	45	17.3	99	38.1	100	38.5

6.5.13. Supplier pressure

Table 6.23 shows that the overall mean for supplier pressure is 4.230 and the standard deviation is 0.702, implying that the respondents generally agreed with the statements (items) measuring supplier pressure. The majority of respondents agreed or strongly agreed with the statements “improved business with suppliers by adopting m-commerce...” (88.4%, n = 231), “suppliers currently using m-commerce to conduct business” (86.9%, n = 226) and “requirement from suppliers for the business to adopt m-commerce” (86.2%, n = 224). These findings suggest that the respondents believe that pressure from suppliers was important in influencing their decision to adopt m-commerce in their business.

Table 6.23: Descriptive statistics of supplier pressure

Supplier pressure	N		260							
	Mean		4.230							
	Std. Error of Mean		0.043							
	Median		4.250							
	Mode		5.00							
	Std. Deviation		0.702							
	Skewness		-1.392							
	Std. Error of Skewness		0.151							
	Kurtosis		3.025							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding supplier pressure									
	1		2		3		4		5	
	Strongly disagree		Disagree		Unsure		Agree		Strongly agree	
n	%	n	%	n	%	n	%	n	%	

Suppliers currently using m-commerce to conduct business	3	1.2	11	4.2	20	7.7	101	38.8	125	48.1
Requirement from suppliers for the business to adopt m-commerce	3	1.2	12	4.6	21	8.1	120	46.2	104	40.0
Encouragement from suppliers for the business to adopt m-commerce	3	1.2	5	1.9	35	13.5	114	43.8	103	39.6
Improved business with suppliers by adopting m-commerce (e.g. enhanced communication, effective product distribution)	2	0.8	7	2.7	20	7.7	124	47.7	107	41.2

6.5.14. Customer pressure

As presented in Table 6.24, the mean for customer pressure is 4.369 and the standard deviation is 0.624. These statistics specify that, overall, the responses leaned towards agree and strongly agree suggesting that the respondents believed that pressure from customers played an important role in the decision to implement m-commerce in their business. The majority of respondents agreed or strongly agreed with the following statements: “customers currently using m-commerce” (91.9%, n = 239) and “increased purchase of products and services by customers using m-commerce” (90.8%, n = 236).

Table 6.24: Descriptive statistics of customer pressure

Customer pressure	N	260
	Mean	4.369
	Std. Error of Mean	0.038
	Median	4.4000
	Mode	5.00
	Std. Deviation	0.624
	Skewness	-1.489

	Std. Error of Skewness		0.151							
	Kurtosis		3.474							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding customer pressure									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Customers currently using m-commerce	3	1.2	1	.4	17	6.5	99	38.1	140	53.8
Demand from customers for the business to adopt m-commerce	2	0.8	3	1.2	28	10.8	108	41.5	119	45.8
Customer expectation for the business to adopt m-commerce	3	1.2	7	2.7	19	7.3	104	40.0	127	48.8
Increased purchase of products and services by customers using m-commerce	2	0.8	4	1.5	18	6.9	110	42.3	126	48.5
Improved relationships with customers	1	0.4	1	.4	25	9.6	93	35.8	140	53.8

6.5.15. Technology vendor support

The mean and standard deviation for technology vendor support is 4.266 and 0.736 respectively (Table 6.25), indicating that the respondents generally agreed with the statements (items) measuring technology vendor support. The majority of respondents agreed or strongly agreed that technology vendors "...skills and expertise in m-commerce" (88.8%, n = 231), "...encouraging businesses to adopt m-

commerce by providing free training sessions” (86.5%, n = 225) and “...delivering technical assistance and support” (86.2%, n = 224) were important in their decision to adopt m-commerce.

Table 6.25: Descriptive statistics of technology vendor support

Technology vendor support	N		260							
	Mean		4.266							
	Std. Error of Mean		0.045							
	Median		4.400							
	Mode		5.00							
	Std. Deviation		0.736							
	Skewness		-1.600							
	Std. Error of Skewness		0.151							
	Kurtosis		3.336							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding technology vendor support									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Technology vendors delivering technical assistance and support	6	2.3	7	2.7	23	8.8	86	33.1	138	53.1
Technology vendors actively marketing m-commerce technologies/platforms	5	1.9	7	2.7	29	11.2	99	38.1	120	46.2

Technology vendors offering reasonable pricing for their m-commerce services	3	1.2	11	4.2	34	13.1	99	38.1	113	43.5
Technology vendors encouraging businesses to adopt m-commerce by providing free training sessions	3	1.2	9	3.5	23	8.8	100	38.5	125	48.1
Technology vendors skills and expertise in m-commerce	2	.8	10	3.8	17	6.5	109	41.9	122	46.9

6.5.16. Global trends

The mean and standard deviation for global trends is 4.429 and 0.596 respectively (Table 6.26). Overall, the average of the responses leaned towards agree and strongly agree suggesting that the respondents believed that global trends played an important role in the decision to adopt m-commerce in their business. The majority of the respondents agreed or strongly agreed with the following statement: “keeping up with global trends” (95.8%, n = 249).

Table 6.26: Descriptive statistics of global trends

Global trends	N	260
	Mean	4.429
	Std. Error of Mean	0.036
	Median	4.500
	Mode	5.00
	Std. Deviation	0.596
	Skewness	-1.569
	Std. Error of Skewness	0.151
	Kurtosis	3.348
	Std. Error of Kurtosis	0.301
	Range	4.00
	Minimum	1.00

	Maximum		5.00							
Items	Level of agreement regarding global trends									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Keeping up with global trends	2	0.4	1	.4	8	3.1	90	34.6	159	61.2
Alignment of business practices with global standards	1	0.4	4	1.5	21	8.1	92	35.4	142	54.6
Acceptance of m-commerce globally	1	0.4	6	2.3	24	9.2	98	37.7	131	50.4
Increased use of mobile devices globally	1	0.4	6	2.3	19	7.3	98	37.7	136	52.3

6.5.17. Managers' IT knowledge

As specified in Table 6.27, the overall mean for managers' IT knowledge is 4.377 and the standard deviation is 0.642, indicating that the respondents generally agreed or strongly agreed with the statements (items) measuring managers' IT knowledge. This suggests that the respondents believed that managers' IT knowledge was an important factor in influencing their decision to adopt m-commerce. The responses of agreement appear to be evenly distributed among all of the statements of managers' IT knowledge: "owner's/managers' understanding of m-commerce" (90.4%, n = 235), "owner's/managers' capability to learn new technology" (90.4%, n = 235), "owner's/managers' competence in m-commerce" (89.2%, n = 232) and "owner's/managers' IT skills (e.g. computer and mobile literacy skills)" (88.1%, n = 229).

Table 6.27: Descriptive statistics of managers' IT knowledge

Managers' IT knowledge	N	260								
	Mean	4.377								
	Std. Error of Mean	0.039								
	Median	4.500								
	Mode	5.00								
	Std. Deviation	0.642								
	Skewness	-1.593								
	Std. Error of Skewness	0.151								
	Kurtosis	3.781								
	Std. Error of Kurtosis	0.301								
	Range	4.00								
	Minimum	1.00								
	Maximum	5.00								
Items	Level of agreement regarding managers' IT knowledge									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Owners'/managers' understanding of m-commerce	4	1.5	5	1.9	16	6.2	83	31.9	152	58.5
Owners'/managers' competence in m-commerce	1	0.4	9	3.5	18	6.9	108	41.5	124	47.7
Owners'/managers' IT skills (e.g. computer and mobile literacy skills)	1	0.4	6	2.3	24	9.2	102	39.2	127	48.8
Owners'/managers' capability to learn new technology	1	0.4	4	1.5	20	7.7	98	37.7	137	52.7

6.5.18. Top management support

The mean and standard deviation for top management support is 4.344 and 0.659 respectively (Table 6.28). Overall, the average of the responses was geared towards agree and strongly agree indicating that the respondents believed that top management support was important in their decision to adopt m-commerce. The majority of the respondents agreed or strongly agreed with the following statements: “owners’/managers’ belief that adopting m-commerce will create a competitive advantage for the business (90.8%, n = 236), “owners’/managers’ support of m-commerce adoption” (90%, n = 234) and “owners’/managers’ willingness to provide the necessary resources to adopt m-commerce” (89.6%, n = 233).

Table 6.28: Descriptive statistics of top management support

Top management support	N		260							
	Mean		4.344							
	Std. Error of Mean		0.040							
	Median		4.500							
	Mode		5.00							
	Std. Deviation		0.659							
	Skewness		-1.540							
	Std. Error of Skewness		0.151							
	Kurtosis		3.507							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding top management support									
	1		2		3		4		5	
	Strongly disagree		Disagree		Unsure		Agree		Strongly agree	
n	%	n	%	n	%	n	%	n	%	

Owners'/managers' support of m-commerce adoption	2	0.8	3	1.2	21	8.1	94	36.2	140	53.8
Owners'/managers' awareness of m-commerce benefits for the business	1	0.4	8	3.1	23	8.8	104	40.0	124	47.7
Owners'/managers' willingness to provide the necessary resources to adopt m-commerce	1	0.4	7	2.7	19	7.3	117	45.0	116	44.6
Owners'/managers' belief that adopting m-commerce will create a competitive advantage for the business	2	0.8	9	3.5	13	5.0	110	42.3	126	48.5

6.5.19. Age

The mean and standard deviation of age is 4.267 and 0.747 respectively (Table 6.29), suggesting that the respondents generally agreed with the statements (items) measuring age. The majority of respondents agreed or strongly agreed that employing a younger generation "...who may be more likely to engage with new technology" (88.1%, n = 229) and "...who may be more open to adopting m-commerce" (86.5%, n = 225) played an important role in their decision to implement m-commerce.

Table 6.29: Descriptive statistics of age

Age	N	260
	Mean	4.267
	Std. Error of Mean	0.046
	Median	4.500
	Mode	5.00
	Std. Deviation	0.747
	Skewness	-1.599
	Std. Error of Skewness	0.151

	Kurtosis		3.219							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding age									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Employing a younger generation who may be more open to adopting m-commerce	6	2.3	11	4.2	18	6.9	83	31.9	142	54.6
Employing a younger generation who may better realise the benefits of m-commerce	3	1.2	11	4.2	30	11.5	95	36.5	121	46.5
Employing a younger generation who may be more willing to take risks	4	1.5	9	3.5	29	11.2	107	41.2	111	42.7
Employing a younger generation who may be more likely to engage with new technology	2	0.8	6	2.3	23	8.8	106	40.8	123	47.3

6.5.20. Instant gratification

Table 6.30 reveals that the overall mean for instant gratification is 4.394 and the standard deviation is 0.631. These statistics suggest that the respondents believed that instant gratification was an important factor in influencing their decision to adopt m-commerce. The responses of agreement appear to be evenly distributed among all of the statements: “meeting and exceeding customer expectations without delay” (90.4%, n = 235), “providing customers with instant gratification (what they want and when they want it)” (90.4%, n = 235), “satisfying customers’ immediate desires to

shop online via their mobile devices” (89.2%, n = 232) and “providing customers with a pleasurable online shopping experience)” (89.2%, n = 232).

Table 6.30: Descriptive statistics of instant gratification

Instant gratification	N		260							
	Mean		4.394							
	Std. Error of Mean		0.039							
	Median		4.500							
	Mode		5.00							
	Std. Deviation		0.631							
	Skewness		-1.550							
	Std. Error of Skewness		0.151							
	Kurtosis		3.763							
	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
	Items	Level of agreement regarding instant gratification								
1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree		
n		%	n	%	n	%	n	%	n	%
Providing customers with instant gratification (what they want and when they want it)	2	0.8	2	.8	21	8.1	102	39.2	133	51.2
Providing customers with a pleasurable online shopping experience	2	0.8	4	1.5	22	8.5	95	36.5	137	52.7

Meeting and exceeding customer expectations without delay	2	0.8	4	1.5	19	7.3	100	38.5	135	51.9
Satisfying customers' immediate desires to shop online via their mobile devices	2	0.8	5	1.9	21	8.1	90	34.6	142	54.6

6.5.21. Crisis-related pressure such as COVID-19

The overall mean for crisis-related pressure such as COVID-19 is 4.317 and the standard deviation is 0.650 (table 6.31). This indicates that the respondents generally agreed with the statements (items) measuring crisis-related pressure such as COVID-19, in that “establishing a secure and safe environment for customers to shop” (90%, n = 234) and “changes in the retail landscape” (88.8%, n = 231) were important in influencing their decision to adopt m-commerce.

Table 6.31: Descriptive statistics of crisis-related pressure such as COVID-19

Crisis-related pressure such as COVID-19	N	260
	Mean	4.317
	Std. Error of Mean	0.040
	Median	4.500
	Mode	5.00
	Std. Deviation	0.650
	Skewness	-1.409
	Std. Error of Skewness	0.151
	Kurtosis	3.088
	Std. Error of Kurtosis	0.301
	Range	4.00
	Minimum	1.00
	Maximum	5.00
	Items	Level of agreement regarding crisis-related pressure such as COVID-19

	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Responding to global pressures	8	3.1	4	1.5	29	11.2	85	32.7	134	51.5
Changes in the retail landscape	3	1.2	8	3.1	18	6.9	109	41.9	122	46.9
Impact of the COVID-19 pandemic	2	0.8	7	2.7	32	12.3	96	36.9	123	47.3
Establishing a secure and safe environment for customers to shop	2	0.8	4	1.5	20	7.7	93	35.8	141	54.2

6.5.22. Willingness to learn

Table 6.32 shows that the overall mean of willingness to learn with is 4.401 and the standard deviation is 0.641. This suggests that the respondents believed that willingness to learn was important factor in the adoption of m-commerce. While the responses of agreement appear to be evenly distributed among most of the statements, the majority of respondents agreed or strongly agreed that “willingness to adapt” (94.2%, n = 245) was important in their decision to adopt m-commerce.

Table 6.32: Descriptive statistics of willingness to learn

Willingness to learn	N	260
	Mean	4.401
	Std. Error of Mean	0.039
	Median	4.500
	Mode	5.00
	Std. Deviation	0.641
	Skewness	-1.519
	Std. Error of Skewness	0.151
	Kurtosis	3.344

	Std. Error of Kurtosis		0.301							
	Range		4.00							
	Minimum		1.00							
	Maximum		5.00							
Items	Level of agreement regarding willingness to learn									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Willingness to adapt	1	.4	3	1.2	11	4.2	103	39.6	142	54.6
Willingness to learn how to use/operate m-commerce	1	.4	6	2.3	20	7.7	93	35.8	140	53.8
Willingness to learn about IT	2	.8	9	3.5	22	8.5	92	35.4	135	51.9
Willingness to embrace new technology	2	.8	7	2.7	19	7.3	91	35.0	141	54.2

6.5.23. M-commerce adoption

The overall mean of m-commerce adoption is 4.401 and the standard deviation is 0.615 (Table 6.33), indicating that the respondents generally agreed with the statements (items) measuring m-commerce adoption. The majority of respondents agreed or strongly agreed that m-commerce was used in their current business practices (93.5%, n = 243). This finding appears to contradict the findings depicted in Figure 6.5, whereby 260 respondents (86.4%) claimed to have adopted m-commerce in their business in some way. This may be due to the respondents understanding and knowledge of what m-commerce entails. It is noteworthy that respondents have a strong commitment to using m-commerce in their business (91.5%, n = 238) and a high level of intention to continue using m-commerce in their business (91.2%, n = 237).

Table 6.33: Descriptive statistics of adoption

M-commerce adoption	N	260								
	Mean	4.401								
	Std. Error of Mean	0.038								
	Median	4.600								
	Mode	5.00								
	Std. Deviation	0.615								
	Skewness	-1.485								
	Std. Error of Skewness	0.151								
	Kurtosis	3.489								
	Std. Error of Kurtosis	0.301								
	Range	4.00								
	Minimum	1.00								
	Maximum	5.00								
Items	Level of agreement regarding m-commerce adoption									
	1 Strongly disagree		2 Disagree		3 Unsure		4 Agree		5 Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Our business uses m-commerce in our current business practices	3	1.1	2	0.8	12	4.6	94	36.2	149	57.3
Our business uses m-commerce for most of our marketing activities	2	0.8	8	3.1	26	10	100	38.5	126	47.7
Our business intends to continue using m-commerce	1	0.4	4	1.5	18	6.9	95	36.5	142	54.6
Our business has a strong commitment to using m-commerce	1	0.4	5	1.9	16	6.2	100	38.5	138	53.1

Our business would recommend the adoption of m-commerce to other businesses	2	0.8	4	1.5	24	9.2	92	35.4	138	53.1
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The next section presents the validation of the conceptual framework.

6.6. CONCEPTUAL FRAMEWORK

Following the findings from phase 1 of the research (qualitative), the preliminary conceptual framework for m-commerce adoption (Figure 3.12, chapter 3) was revised to include 22 factors that influence m-commerce adoption among South African retail SMEs. The data analysis of the quantitative research focused on confirming the identified factors and testing the validity of the revised conceptual framework (Figure 5.21, chapter 5; Figure 6.10) using structural equation modelling (SEM). The measurement model is outlined in section 6.6.1. Confirmatory factor analysis (CFA) was conducted to delineate the measurement model. The structural model is presented in section 6.6.4. SPSS 23 together with Analysis of Moment Structures (AMOS) Graphics 22 were used to analyse the data. The results of the CFA are discussed next.

6.6.1. Confirmatory Factor Analysis (CFA) using Structural Equation Modelling (SEM)

CFA is a statistical technique that verifies the validity and reliability of the measurement model (Halder & Singh, 2018). CFA using SEM with maximum likelihood estimation was conducted to test and validate the revised conceptual framework (Figure 5.21, chapter 5; Figure 6.10). The goodness-of-fit indices were used to determine the overall fit of the measurement model. Convergent validity and reliability were examined through factor loadings, AVE, CR and Cronbach's Alpha (α). Discriminant validity was investigated using the square root of AVE and correlation coefficients. Table 6.34 presents these indices and respective acceptable values/ interpretations.

Table 6.34: Goodness-of-fit, convergent validity, reliability and discriminant validity indices to assess the measurement model

Index	Value/Interpretation
Goodness of fit	
• Normed chi-square (χ^2/df)	$\chi^2/df < 5.0$ indicates a good fit
• Comparative fit index (CFI)	$CFI \geq 0.90$ indicates a good fit
• Root mean square error of approximation (RMSEA)	$RMSEA \leq 0.06$ indicates a good fit yet values below 0.08 may also indicate an acceptable fit
• Standardised root mean square residual (SRMR)	$SRMR \leq 0.08$ indicates a good fit
• Incremental fit index (IFI)	$IFI \geq 0.90$ indicates a good fit
Convergent validity and reliability	
• Factor loadings	Factor loading ≥ 0.5 is acceptable while values ≥ 0.7 are ideal
• Average variance extracted (AVE)	$AVE \geq 0.5$ is acceptable
• Composite reliability (CR) • Cronbach's Alpha (α)	$0.6 \leq \text{values} < 0.7$ are acceptable (for exploratory research) $0.7 \leq \text{values} < 0.8$ are good $0.8 \leq \text{values} < 0.9$ are excellent $0.9 \leq \text{values} < 0.95$ are somewhat high Values ≥ 0.95 are too high (indication of redundancy)
Discriminant validity	
• Average variance extracted (AVE) square root	AVE square root value is greater than the correlation value between the other constructs (factors) indicates good discriminant validity
• Correlation coefficients	Correlation coefficients below 0.9 between the constructs (factors) indicates good discriminant validity

Source: Adapted from Lee and Lee (2020); Subudhi and Mishra (2020); Collier (2020); Hair et al. (2020); Hair Jr et al. (2021); Garson (2023); Wijaya et al. (2023); and Okumus, Rasoolimanesh and Jahani (2023)

The results of the CFA are presented in the subsequent sections, commencing with an examination of the measurement model for each context (technological, organisational, environmental, managerial and integrated) followed by an analysis of the full measurement model. In order to achieve optimal fit of the measurement model, covariances were incorporated to account for shared variance. Next, the correlation matrix is computed, followed by the reliability analysis. Figure 6.10 provides a graphical representation of the revised conceptual framework derived from phase 1 for clarification purposes.

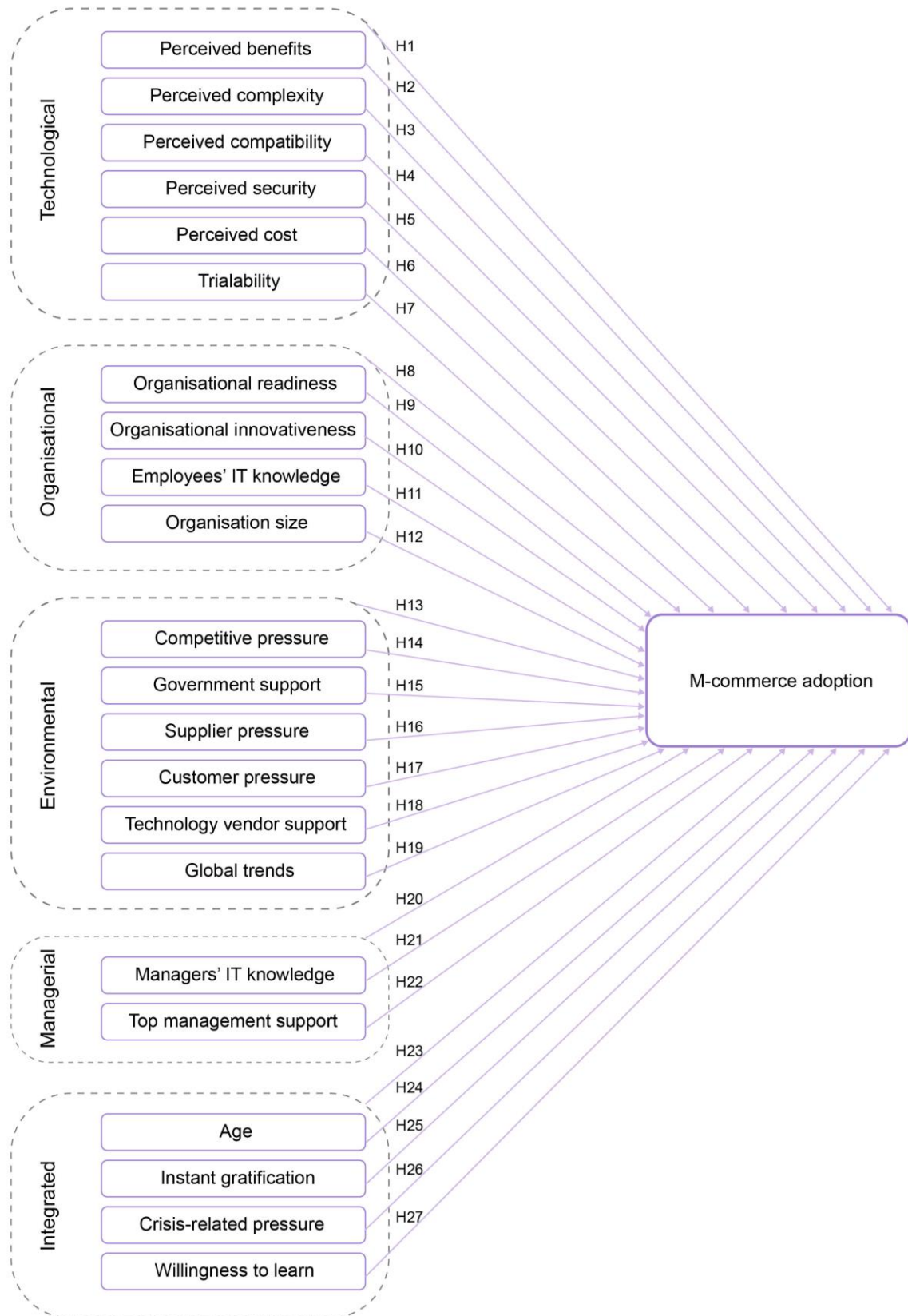


Figure 6.10: Revised conceptual framework for m-commerce adoption

6.6.1.1 Measurement model (technological context)

The technological context includes six factors: perceived benefits, perceived complexity, perceived compatibility, perceived security, perceived cost and trialability. Figure 6.11 illustrates the measurement model of the technological context.

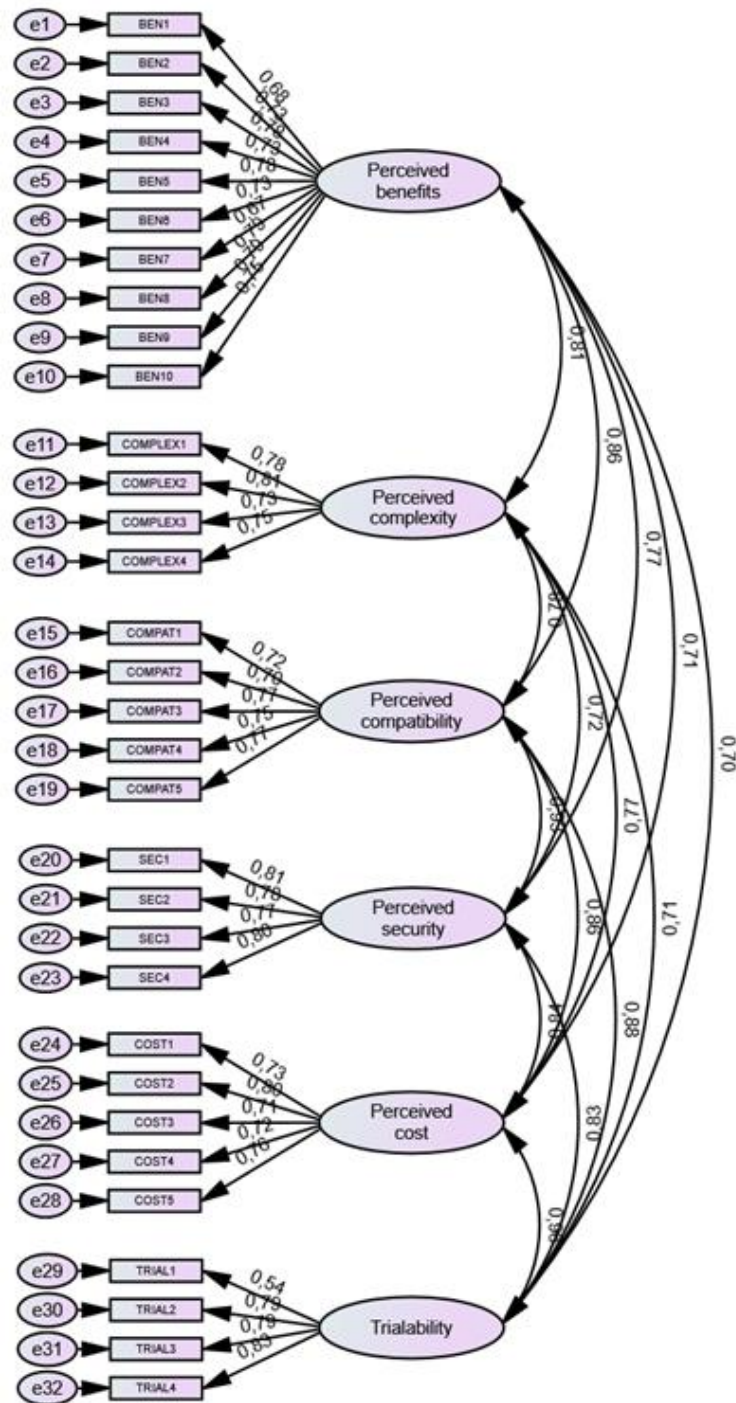


Figure 6.11: Measurement model (technological context)

Table 6.35 presents the statistics for goodness of fit, convergent validity and reliability for the measurement model of the technological context. The normed chi-square value (χ^2/df) (1,981), CFI (0,951), IFI (0.952), RMSEA (0.060) and SRMR (0.040) were all found to be within the acceptable threshold values of goodness of fit (Table 6.34), suggesting that the measurement model of the technological context yields good fit. The factor loadings for all the items were above the acceptable threshold of 0.5 with most of the factor loadings exceeding the ideal threshold of 0.7. The AVE values for all the factors were above 0.5. The CR values for all the factors were between 0.8 and 0.9, indicating an excellent level of reliability. These statistics suggest that the measurement model of the technological context established good fit and evidence of convergent validity and reliability.

Table 6.35: Statistics for goodness of fit, convergent validity and reliability for the measurement model of the technological context

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	<i>Df</i>	χ^2/Df	0,951	0.952	0.040	0.060
889.467	449	1.981				
Factor	CR	AVE	Item	Factor loading		
Perceived benefits	0.825	0.554	BEN1	0.682		
			BEN2	0.732		
			BEN3	0.775		
			BEN4	0.728		
			BEN5	0.784		
			BEN6	0.731		
			BEN7	0.675		
			BEN8	0.786		
			BEN9	0.786		
			BEN10	0.753		
Perceived complexity	0.853	0.593	COMPLEX1	0.782		
			COMPLEX2	0.813		

			COMPLEX3	0.732
			COMPLEX4	0.750
Perceived compatibility	0.860	0.552	COMPAT1	0.723
			COMPAT2	0.701
			COMPAT3	0.769
			COMPAT4	0.749
			COMPAT5	0.771
Perceived security	0.871	0.627	SEC1	0.810
			SEC2	0.783
			SEC3	0.774
			SEC4	0.800
Perceived Cost	0.864	0.559	COST1	0,735
			COST2	0.803
			COST3	0.712
			COST4	0.725
			COST5	0.760
Triability	0.829	0.554	TRIAL1	0.537
			TRIAL2	0.787
			TRIAL3	0.790
			TRIAL4	0.828

6.6.1.2. Measurement model (organisational context)

The measurement model of the organisational context is depicted in Figure 6.12. The organisational context includes four factors: organisational readiness, organisational innovativeness, employees' IT knowledge and organisation size.

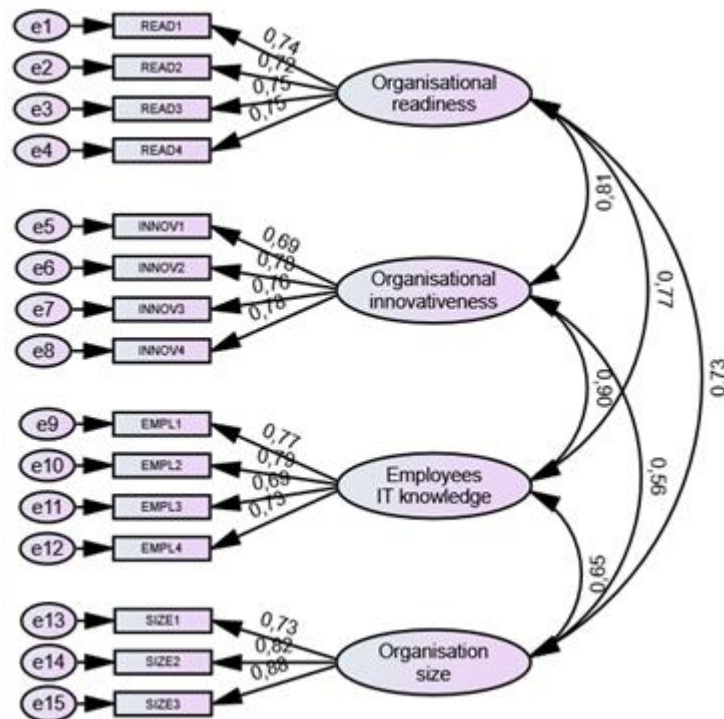


Figure 6.12: Measurement model (organisational context)

Table 6.36 displays the statistics for goodness of fit, convergent validity and reliability for the measurement model of the organisational context. The statistics indicate that the measurement model of the organisational demonstrates good fit. More specifically, the normed chi-square value (χ^2/df) (1.861), CFI (0.965), IFI (0.965), RMSEA (0.058) and SRMR (0.039) were all found to be within the acceptable threshold values of goodness of fit (Table 6.34). The factor loadings for all the items were above the acceptable threshold of 0.5, ranging between 0.687 and 0.877. Most of the factor loadings exceeded the ideal threshold of 0.7. The AVE values for all the factors were above the acceptable threshold of 0.5. The CR values for all the factors were between 0.8 and 0.9, indicating an excellent level of reliability. These statistics suggest that the measurement model of the organisational context established good fit and evidence of convergent validity and reliability.

Table 6.36: Statistics for goodness of fit, convergent validity and reliability for the measurement model of the organisational context

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	<i>Df</i>	χ^2/Df	0.965	0.965	0.039	0.058
156.323	84	1.861				
Factor	CR	AVE	Item	Factor loading		
Organisational readiness	0.827	0.544	READ1	0.736		
			READ2	0.715		
			READ3	0.747		
			READ4	0.752		
Organisational innovativeness	0.838	0.565	INNOV1	0.687		
			INNOV2	0.777		
			INNOV3	0.756		
			INNOV4	0.782		
Employees' IT knowledge	0.834	0.558	EMPL1	0.770		
			EMPL2	0.795		
			EMPL3	0.691		
			EMPL4	0.727		
Organisation size	0.850	0.655	SIZE1	0.728		
			SIZE2	0.816		
			SIZE3	0.877		

6.6.1.3. Measurement model (environmental context)

Six factors were included in the environmental context: competitive pressure, government support, supplier pressure, customer pressure, technology vendor support and global trends. Figure 6.13 illustrates the measurement model for the environmental context.

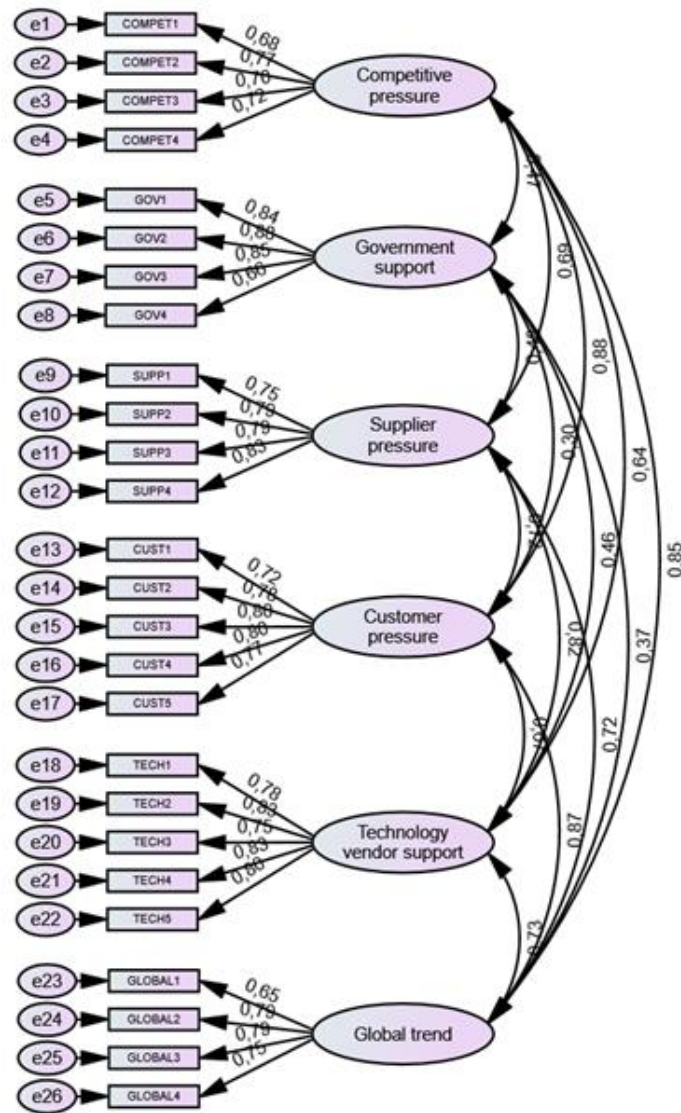


Figure 6.13: Measurement model (environmental context)

The statistics for goodness of fit, convergent validity and reliability for the measurement model of the environmental context are depicted in Table 6.37. These statistics reveal that the measurement model of the environmental context yields good fit. The normed chi-square value (χ^2/df) (1,983), CFI (0.945), IFI (0.939), RMSEA (0.061) and SRMR (0.062) were all found to be within the acceptable

threshold values of goodness of fit (Table 6.34). The factor loadings for all the items were above the acceptable threshold of 0.5, ranging between 0.646 and 0.880. Most of the factor loadings exceeded the ideal threshold of 0.7. The AVE values for all the factors were above the acceptable threshold of 0.5. The CR values for all the factors were between 0.8 and 0.9, indicating an excellent level of reliability. These statistics suggest that good fit and evidence of convergent validity and reliability were obtained for the measurement model of the environmental context.

Table 6.37: Statistics for goodness of fit, convergent validity and reliability for the measurement model of the environmental context

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	Df	χ^2/Df	0.945	0.939	0.062	0.061
563.258	284	1.983				
Factor	CR	AVE	Item	Factor loading		
Competitive pressure	0.809	0.515	COMPET1	0.678		
			COMPET2	0.766		
			COMPET3	0.703		
			COMPET4	0.719		
Government support	0.882	0.655	GOV1	0.836		
			GOV2	0.880		
			GOV3	0.845		
			GOV4	0.658		
Supplier pressure	0.869	0.623	SUPP1	0.747		
			SUPP2	0.790		
			SUPP3	0.787		
			SUPP4	0.832		
Customer pressure	0.883	0.602	CUST1	0.721		
			CUST2	0.782		
			CUST3	0.803		

			CUST4	0.802
			CUST5	0.767
Technology vendor support	0.897	0.636	TECH1	0.779
			TECH2	0.833
			TECH3	0.750
			TECH4	0.827
			TECH5	0.796
Global trends	0.833	0.557	GLOBAL1	0.646
			GLOBAL2	0.787
			GLOBAL3	0.791
			GLOBAL4	0.751

6.6.1.4. Measurement model (managerial context)

The measurement model of the managerial context (managers' IT knowledge and top management support) is presented in Figure 6.14.

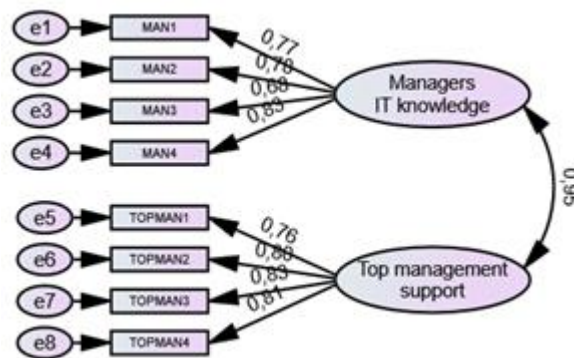


Figure 6.14: Measurement model (managerial context)

The statistics for goodness of fit, convergent validity and reliability for the measurement model of the managerial context are presented in Table 6.38; which indicate good fit. More specifically, the normed chi-square value (χ^2/df) (3.173), CFI (0.968), IFI (0.968), RMSEA (0.066) and SRMR (0.033) were all found to be within the acceptable threshold values of goodness of fit (Table 6.34). The factor loadings for all the items were above the acceptable threshold of 0.5, ranging between 0.679 and 0.830. Most of the factor loadings exceeded the ideal threshold of 0.7. The AVE

values for all the factors were above 0.5. The CR values for all the factors were between 0.8 and 0.9, indicating an excellent level of reliability. The abovementioned statistics suggest that the measurement model of the managerial context established good fit and evidence of convergent validity and reliability.

Table 6.38: Statistics for goodness of fit, convergent validity and reliability for the measurement model of the managerial context

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	Df	χ^2/Df	0.968	0.968	0,033	0.066
60,282	19	3.173				
Factor						
Factor	CR	AVE	Item	Factor loading		
Managers' IT knowledge	0.850	0.587	MAN1	0.767		
			MAN2	0.784		
			MAN3	0.679		
			MAN4	0.826		
Top management support	0.877	0.642	TOPMAN1	0.759		
			TOPMAN2	0.803		
			TOPMAN3	0.830		
			TOPMAN4	0.810		

6.6.1.5. Measurement model (integrated context)

In addition to the 18 factors that influence the adoption of m-commerce among South African retail SMEs (Figure 3.12, chapter 3), phase 1 of the research (qualitative) afforded the participants an opportunity to elaborate on any additional factors which they perceived as influential in their decision to adopt m-commerce. Consequently, the participants identified four additional factors, namely, age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn which were grouped under “integrated”. Figure 6.15 displays the measurement model of the integrated context.

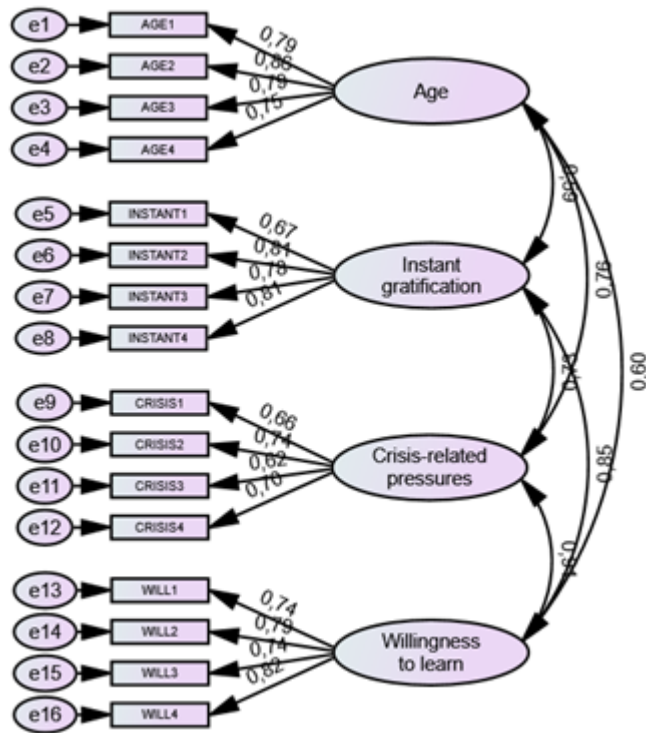


Figure 6.15: Measurement model (integrated context)

Table 6.39 displays the statistics for goodness of fit, convergent validity and reliability for the measurement model of the integrated context. In terms of assessing goodness of fit, the normed chi-square value (χ^2/df) (2,808), CFI (0.955), IFI (0.908), RMSEA (0.064) and SRMR (0.058) were all found to be within the acceptable threshold values (Table 6.34), suggesting the measurement model of the integrated context achieved good fit. The factor loadings for all the items were above the acceptable threshold of 0.5, ranging between 0.618 and 0.857. Most of the factor loadings exceeded the ideal threshold of 0.7. The factor loadings for all the items were above the acceptable threshold of 0.5, with most of the factor loadings exceeding the ideal threshold of 0.7. The AVE values for all the factors were above 0.5. The CR values for all the factors ranged from 0.776 to 0.874, indicating a good to excellent level of reliability. The abovementioned statistics suggest that good fit and evidence of convergent validity and reliability were obtained for the measurement model of the integrated context.

Table 6.39: Statistics for goodness of fit, convergent validity and reliability for the measurement model of the integrated context

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	<i>Df</i>	χ^2/Df	0.955	0.908	0,058	0.064
275.232	98	2.808				
Factor			CR	AVE	Item	Factor loading
Age			0.874	0.634	AGE1	0.790
					AGE2	0.857
					AGE3	0.786
					AGE4	0.748
Instant gratification			0.851	0.590	INSTANT1	0.669
					INSTANT2	0.807
					INSTANT3	0.776
					INSTANT4	0.811
Crisis-related pressure such as COVID-19			0.776	0.501	CRISIS1	0.658
					CRISIS2	0.742
					CRISIS3	0.618
					CRISIS4	0.703
Willingness to learn			0.856	0.598	WILL1	0.740
					WILL2	0.789
					WILL3	0.744
					WILL4	0.817

6.6.1.6. Measurement model of the dependent variable (m-commerce adoption)

This section (6.6.1.6) presents the measurement model of the dependent factor (m-commerce adoption) consisting of five items (Figure 6.16).

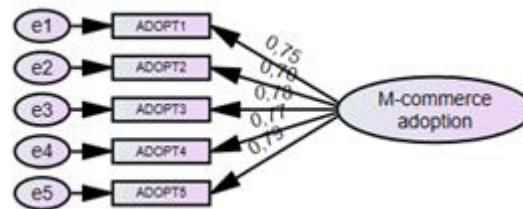


Figure 6.16: Measurement model (m-commerce adoption)

The statistics for goodness of fit, convergent validity and reliability for the measurement model of the dependent factor (m-commerce adoption) are summarised in Table 6.40. The goodness of fit statistics reveal that the measurement model for m-commerce adoption established good fit. The normed chi-square value (χ^2/df) (3.359), CFI (0.980), IFI (0.960), RMSEA (0.059) and SRMR (0.028) were all found to be within the acceptable threshold values of goodness of fit (Table 6.34). The factor loadings for all the items were above the ideal threshold of 0.7. The AVE value for the dependent factor was above the acceptable threshold of 0.5. The CR value for the dependent factor was 0.872, indicating an excellent level of reliability. The abovementioned statistics suggest that good fit and evidence of convergent validity and reliability were obtained for the measurement model of the dependent factor (m-commerce adoption).

Table 6.40: Statistics for goodness of fit, convergent validity and reliability for the measurement model of the dependent factor (m-commerce adoption)

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	Df	χ^2/Df	0.980	0.960	0.028	0.059
16.794	5	3.359				
Factor	CR	AVE	Item	Factor loading		
M-commerce adoption	0.872	0.576	ADOPT1	0.750		
			ADOPT2	0.701		

			ADOPT3	0.783
			ADOPT4	0.770
			ADOPT5	0.788

6.6.1.7. Full measurement model

The measurement models of the technological context, organisational context, environmental context, managerial context and dependent factor (m-commerce adoption) presented in the preceding sections serve as the foundation for the full measurement model (Figure 6.17).

The statistics for goodness of fit, convergent validity and reliability for the factors for the full measurement model are summarised in Table 6.41. These statistics indicate that the full measurement model established good fit. The normed chi-square value (χ^2/df) (1.841), CFI (0.904), IFI (0.907), RMSEA (0.045) and SRMR (0.058) were all found to be within the acceptable threshold values of goodness of fit (Table 6.34). The factor loadings for all the items were above the acceptable threshold of 0.5, with most of the factor loadings exceeding the ideal threshold of 0.7. The AVE values for all the factors were above the acceptable threshold of 0.5. The CR values for all the factors ranged from 0.775 to 0.898, indicating a good to excellent level of reliability. These statistics suggest that the full measurement model obtained good fit and evidence of convergent validity and reliability.

Table 6.41: Statistics for goodness of fit, convergent validity and reliability for the full measurement model

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	Df	χ^2/Df	0.904	0.907	0.058	0.045
8827.364	4796	1.841				
Factor						
			CR	AVE	Item	Factor loading
Perceived Benefits			0.825	0.554	BEN1	0.682
					BEN2	0.729

			BEN3	0.779
			BEN4	0.733
			BEN5	0.782
			BEN6	0.727
			BEN7	0.667
			BEN8	0.785
			BEN9	0.786
			BEN10	0.759
Perceived Complexity	0.853	0.593	COMPLEX1	0.794
			COMPLEX2	0.808
			COMPLEX3	0.730
			COMPLEX4	0.745
Perceived Compatibility	0.860	0.551	COMPAT1	0.722
			COMPAT2	0.688
			COMPAT3	0.770
			COMPAT4	0.759
			COMPAT5	0.771
Perceived Security	0.871	0.628	SEC1	0.806
			SEC2	0.790
			SEC3	0.773
			SEC4	0.799
Perceived Cost	0.863	0.559	COST1	0.748
			COST2	0.804
			COST3	0.716
			COST4	0.717
			COST5	0.749
Trialability	0.829	0.553	TRIAL1	0.536
			TRIAL2	0.788

			TRIAL3	0.783
			TRIAL4	0.832
Organisational Readiness	0.827	0.545	READ1	0.732
			READ2	0.737
			READ3	0.738
			READ4	0.744
Organisational Innovativeness	0.838	0.565	INNOV1	0.693
			INNOV2	0.752
			INNOV3	0.786
			INNOV4	0.772
Employee's IT Knowledge	0.833	0.556	EMPL1	0.776
			EMPL2	0.800
			EMPL3	0.682
			EMPL4	0.720
Organisation Size	0.850	0.656	SIZE1	0.744
			SIZE2	0.794
			SIZE3	0.885
Competitive Pressure	0.808	0.513	COMPET1	0.726
			COMPET2	0.762
			COMPET3	0.695
			COMPET4	0.680
Government Support	0.883	0.656	GOV1	0.852
			GOV2	0.873
			GOV3	0.834
			GOV4	0.662
Supplier Pressure	0.869	0.624	SUPP1	0.751
			SUPP2	0.797
			SUPP3	0.783

			SUPP4	0.826
Customer Pressure	0.882	0.600	CUST1	0.717
			CUST2	0.760
			CUST3	0.795
			CUST4	0.816
			CUST5	0.782
Technology Vendor Support	0.898	0.637	TECH1	0.788
			TECH2	0.827
			TECH3	0.760
			TECH4	0.821
			TECH5	0.792
Global Trends	0.833	0.557	GLOBAL1	0.655
			GLOBAL2	0.790
			GLOBAL3	0.784
			GLOBAL4	0.747
Managers' IT Knowledge	0.850	0.586	MAN1	0.769
			MAN2	0.779
			MAN3	0.693
			MAN4	0.817
Top Management Support	0.877	0.641	TOPMAN1	0.767
			TOPMAN2	0.805
			TOPMAN3	0.818
			TOPMAN4	0.811
Age	0.873	0.634	AGE1	0.787
			AGE2	0.852
			AGE3	0.795
			AGE4	0.746
Instant Gratification	0.851	0.589	INSTANT1	0.663

			INSTANT2	0.799
			INSTANT3	0.784
			INSTANT4	0.814
COVID-19 and other pandemic related pressures	0.775	0.500	CRISIS1	0.659
			CRISIS2	0.717
			CRISIS3	0.629
			CRISIS4	0.714
Willing to Learn	0.855	0.597	WILL1	0.746
			WILL2	0.788
			WILL3	0.729
			WILL4	0.824
Adoption	0.872	0.576	ADOPT1	0.760
			ADOPT2	0.746
			ADOPT3	0.775
			ADOPT4	0.738
			ADOPT5	0.775

The discriminant validity of the full measurement model was observed using a correlation matrix (Table 6.42). The AVE square root values (represented diagonally in bold) are greater than the correlation coefficients between all the other factors. Additionally, the correlation coefficients are below 0.9. These results indicate the measurement model provides evidence of discriminant validity for further analysis.

Table 6.42: Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0.835																						
2	0.397	0.764																					
3	0.409	0.735	0.774																				
4	0.428	0.680	0.667	0.839																			
5	0.553	0.743	0.653	0.652	0.755																		
6	0.556	0.748	0.670	0.764	0.705	0.776																	
7	0.651	0.751	0.723	0.701	0.739	0.744	0.765																
8	0.623	0.642	0.552	0.466	0.711	0.587	0.619	0.829															
9	0.570	0.695	0.729	0.700	0.640	0.730	0.705	0.535	0.771														
10	0.584	0.494	0.487	0.375	0.719	0.469	0.491	0.696	0.516	0.822													
11	0.559	0.641	0.706	0.674	0.617	0.672	0.751	0.507	0.747	0.372	0.806												
12	0.423	0.674	0.695	0.639	0.735	0.742	0.704	0.568	0.663	0.482	0.660	0.807											
13	0.557	0.578	0.694	0.650	0.582	0.759	0.665	0.432	0.758	0.430	0.525	0.750	0.788										
14	0.562	0.613	0.648	0.626	0.589	0.676	0.715	0.453	0.742	0.406	0.700	0.713	0.749	0.803									
15	0.629	0.683	0.694	0.627	0.735	0.748	0.702	0.646	0.682	0.542	0.763	0.763	0.717	0.686	0.817								
16	0.377	0.729	0.683	0.633	0.623	0.631	0.583	0.550	0.622	0.457	0.577	0.599	0.565	0.540	0.583	0.813							
17	0.445	0.655	0.692	0.719	0.619	0.741	0.657	0.454	0.698	0.404	0.628	0.560	0.648	0.576	0.568	0.683	0.758						
18	0.543	0.632	0.698	0.674	0.629	0.705	0.749	0.416	0.724	0.369	0.745	0.765	0.781	0.639	0.715	0.599	0.630	0.828					
19	0.560	0.551	0.595	0.622	0.588	0.762	0.664	0.381	0.739	0.270	0.769	0.670	0.688	0.521	0.658	0.466	0.571	0.741	0.787				
20	0.598	0.540	0.601	0.588	0.595	0.698	0.744	0.420	0.762	0.379	0.721	0.689	0.690	0.745	0.694	0.435	0.527	0.791	0.743	0.817			
21	0.702	0.560	0.606	0.579	0.670	0.625	0.662	0.554	0.632	0.528	0.649	0.684	0.659	0.702	0.700	0.473	0.582	0.711	0.644	0.694	0.714		
22	0.602	0.627	0.671	0.636	0.627	0.690	0.659	0.466	0.705	0.353	0.713	0.711	0.773	0.769	0.774	0.492	0.592	0.713	0.727	0.770	0.709	0.780	
23	0.480	0.618	0.642	0.654	0.596	0.733	0.687	0.421	0.748	0.339	0.706	0.571	0.677	0.687	0.643	0.685	0.698	0.718	0.631	0.641	0.651	0.751	0.754

1) Age 2) Perceived Cost 3) Trialability 4) Perceived Security 5) Organisational Readiness 6) Organisational Innovativeness 7) Employees IT Knowledge 8) Organisation Size 9) Competitive Pressure 10) Government Pressure 11) Customer Pressure 12) Technology Vendor Support 13) Global Trend 14) Managers' IT Knowledge 15) Supplier Pressure 16) Perceived Complexity 17) Perceived Compatibility 18) Top Management Support 19) Instant Gratification 20) Willingness to Learn 21) COVID-19 and Other Pandemic Related Issues 22) M-commerce Adoption 23) Perceived Benefits

6.6.2. Reliability analysis

In addition to evaluating CR values (Sections 6.6.1.1 to 6.6.1.7), the Cronbach's alpha (α) for all the factors were calculated for the full measurement model (Table 6.43). It can be observed that the CR values for all the factors ranged from 0.775 to 0.898 and Cronbach's alpha (α) for all the factors ranged from 0.772 to 0.896, indicating a good to excellent level of reliability.

Table 6.43: Cronbach's Alpha coefficients and composite reliability (CR)

Context	Factors	Number of items	Cronbach's Alpha	Composite reliability (CR)
Technological	Perceived benefits	10	0.823	0.825
	Perceived complexity	4	0.853	0.853
	Perceived compatibility	5	0.859	0.860
	Perceived security	4	0.871	0.871
	Perceived cost	5	0.861	0.863
	Trialability	4	0.826	0.829
Organisational	Organisational readiness	4	0.823	0.827
	Organisational innovativeness	4	0.838	0.838
	Employees' IT knowledge	4	0.833	0.833
	Organisation size	3	0.847	0.850
Environmental	Competitive pressure	4	0.807	0.808
	Government support	4	0.878	0.883
	Supplier pressure	4	0.865	0.869
	Customer pressure	5	0.882	0.882
	Technology vendor support	5	0.896	0.898
	Global trends	4	0.831	0.833

Managerial	Managers' IT knowledge	4	0.845	0.850
	Top management support	4	0.876	0.877
Integrated	Age	4	0.871	0.873
	Instant gratification	4	0.849	0.851
	Crisis related pressure such as COVID-19	4	0.772	0.775
	Willingness to learn	4	0.854	0.855
Dependent factor	M-commerce adoption	5	0.870	0.872

After establishing goodness of fit, reliability and validity of the measurement model, the next step involved delineating the structural model. However, prior to delineating the structural model, multiple regression was conducted to determine the influence of the five contexts (technological, organisational, environmental, managerial and integrated) on the adoption of m-commerce among South African retail SMEs.

6.6.3. Multiple regression

As discussed in chapter 4, multiple regression is a statistical technique that can be used to investigate the relationship between a dependent variable and two or more independent variables (Roberts & Roberts Jr, 2021). For this study, a standard multiple regression analysis was conducted to establish the relationship between the technological, organisational, environmental, managerial and integrated contexts and m-commerce adoption. Prior to conducting standard multiple regression analysis, preliminary tests were performed regarding multicollinearity, normality, linearity, homoscedasticity and outliers to ensure that the assumptions of multiple regression were met. Table 6.44 provides a summary of the assumptions of multiple regression analysis, along with the acceptable values/interpretations associated with these assumptions. A summary of the assumptions of multiple regression analysis, accompanied by the corresponding values/interpretations associated with these assumptions are presented in Table 6.44.

Table 6.44: Assumptions of multiple regression analysis

Assumption	Value/Interpretation
Multicollinearity	
<ul style="list-style-type: none"> Tolerance value 	Tolerance value ≥ 0.10 indicates that there is no violation of multicollinearity
<ul style="list-style-type: none"> Variance inflation factor (VIF) 	VIF values ≤ 10 indicates that there is no violation of multicollinearity
Normality, linearity, homoscedasticity and outliers	
<ul style="list-style-type: none"> Normal Probability Plot (P-P) of regression standardised residual 	A moderately straight diagonal line indicates that there are no significant deviations from normality and no violation of linearity
<ul style="list-style-type: none"> Scatterplot of regression standardised residual <p>The scatterplot can identify the presence of outliers.</p>	Residuals that are rectangularly concentrated, with most of the scores situated in the centre (close to 0) indicates that there is no violation of homoscedasticity. Outliers have a standardised residual of more than 3.3 or less than -3.3. The presence of a few outliers may not necessarily warrant concern (particularly with larger sample sizes)

Source: Adapted from Pallant (2020)

In order to detect multicollinearity, tolerance and VIF values were calculated for the technological, organisational, environmental, managerial and integrated contexts (as depicted in Table 6.45). Table 6.45 indicates that the tolerance values range between 0.132 and 0.280, while the VIF values range between 3.569 and 7.568, providing evidence that there was no violation of multicollinearity.

Table 6.45: Statistics for multicollinearity

Independent variable (context)	Tolerance values	VIF values
Technological context	0.280	3.569
Organisational context	0.164	6.116
Environmental context	0.132	7.568
Managerial context	0.261	3.825
Integrated context	0.234	4.273

In order to assess normality, linearity, homoscedasticity and outliers, a normal Probability Plot (P-P) of regression standardised residual (Figure 6.18) and a scatterplot of regression standardised residual (Figure 6.19) was reviewed. The normal probability plot (P-P) of regression standardised residual in Figure 6.18 displays a moderately straight diagonal line, indicating that there were no significant deviations from normality and no violation of linearity.

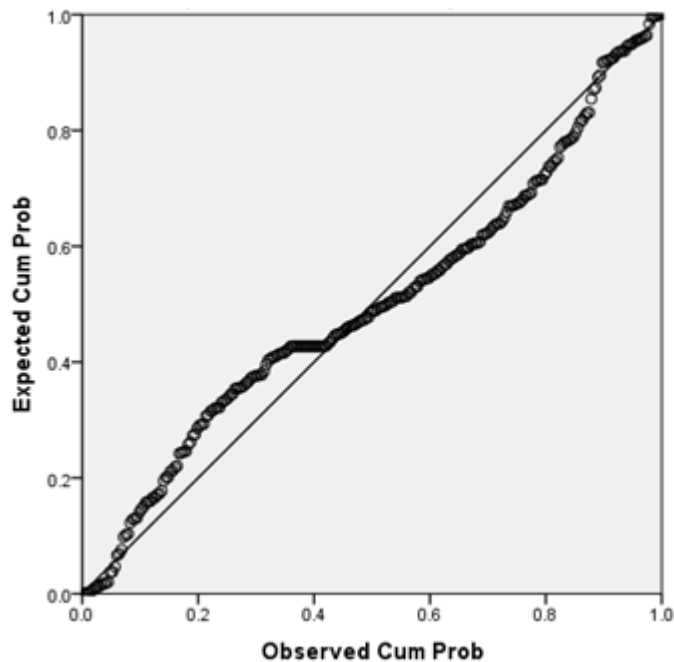


Figure 6.18: Normal probability plot (P-P) of regression standardised residual

The scatterplot of regression standardised residual in Figure 6.19 showed a rectangular distribution with most of the scores clustered in the centre (close to 0), indicating that there was no violation of homoscedasticity. The scatterplot further revealed one outlier which, according to Pallant (2020), is not uncommon (particularly with larger sample sizes) and does not necessarily warrant concern.

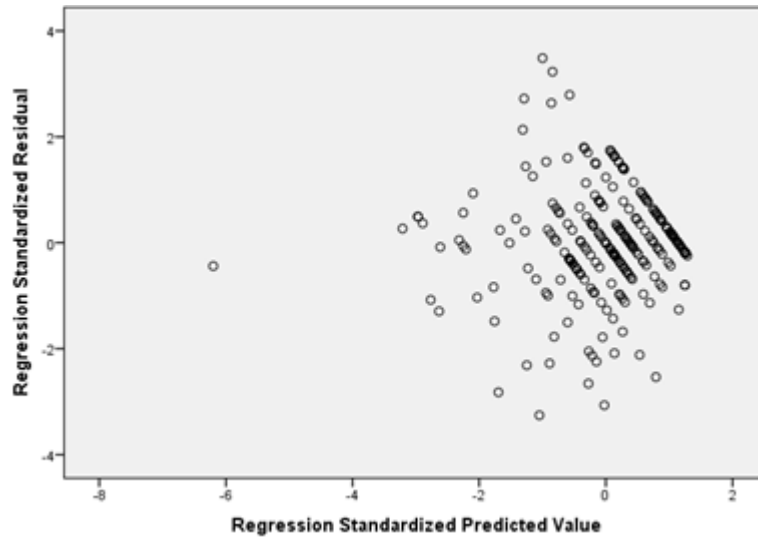


Figure 6.19: Scatterplot of regression standardised residual

Once the assumptions of multiple regression were met, a standard multiple regression analysis was conducted. The results of the standard multiple regression analysis are displayed in Table 6.46.

Table 6.46: Standard multiple regression analysis

Dependent variable (factor): M-commerce adoption				
Independent variable (context)	Beta	t-value	p-value	Results
Technological context	0.217	3.526	***	Supported
Organisational context	-0.195	-2.422	0.016	Supported
Environmental context	0.187	2.093	0.037	Supported
Managerial context	0.208	3.271	0.001	Supported
Integrated context	0.162	7.369	0.240	Not supported
$R^2 = 0.731$	Adjusted $R^2 = 0.725$ Adjusted R^2 in multiple regression is considered less biased and more reliable than R^2 (Westfall & Arias, 2020)			
*** $p < 0.001$				

The hypotheses were tested at a 95% confidence level. A p-value below 0.05 indicates statistical significance (Honner, 2022). The results of the standard multiple regression analysis indicate that the independent variables (contexts) can explain

72.5% (adjusted R^2) of the variance in the dependent variable (m-commerce adoption). This finding implies that 72.5% of m-commerce adoption can be influenced by the technological, organisational, environmental, managerial and integrated contexts. An adjusted R^2 between 0.6 to 0.8 is considered good (IJSMI, 2020). A statistically significant relationship was found between four contexts: technological ($\beta = 0.217$, $p < 0.001$), organisational ($\beta = -0.195$, $p < 0.05$), environmental ($\beta = .187$, $p < 0.05$) and managerial ($\beta = 0.208$, $p < 0.05$), and the adoption of m-commerce among South African retail SMEs. There was no statistically significant relationship observed between the integrated context ($\beta = 0.162$, $p = 0.240$) and m-commerce adoption among South African retail SMEs. Consequently, Hypotheses H1, H8, H13 and H20 (Figure 6.10) were supported.

In the subsequent section, the structural model is presented which examines the relationships between the 22 factors within the five contexts (technological, organisational, environmental, managerial and integrated) (as depicted in Figure 6.10) and the adoption of m-commerce among South African retail SMEs.

6.6.4. Structural model

As discussed in chapter 4, SEM consists of two phases: the first phase entails confirming the measurement model through the use of CFA (Halder & Singh, 2018; Garson, 2023) and the second phase of SEM involves specifying the structural model which explains the relationships between variables (factors) (Alaloul et al., 2020; Peugh & Feldon, 2020; Thakkar, 2020; Garson, 2023). The results of the CFA were presented in Section 6.6.1 while the structural model is presented in this section (6.6.4). The validity of the structural model is determined by assessing the goodness-of-fit indices, factor loadings, coefficient of determination (R^2) and structural parameter estimates. Table 6.47 presents an overview of these indices and corresponding acceptable values/interpretations.

Table 6.47: Goodness-of-fit and validity indices to assess the structural model

Index	Value/Interpretation
Goodness of fit	
Assess the overall model fit using the same goodness-of-fit indices as the measurement model	Table 6.34
Factor loadings	
Factor loadings	Factor loading ≥ 0.5 is acceptable while values ≥ 0.7 is ideal
Coefficient of determination (R^2)	
R^2 represents the variance explained	$R^2 \geq 0.5$ is acceptable $0.6 \leq R^2 < 0.8$ are good $R^2 > 0.8$ is very good
Structural parameter estimates	
Significance of structural parameter estimates	$P \leq 0.05$ indicates statistical significance

Source: Adapted from Thakkar (2020); IJSMI (2020); Hair Jr et al. (2021); and Wijaya et al. (2023)

The structural model of the study was illustrated in Figure 6.20 which includes 22 independent factors and one dependent factor (comprising 102 items). The goodness-of-fit statistics are summarised in Table 6.48. As indicated in Table 6.48, the normed chi-square value (χ^2/df) (1.841), RMSEA (0.057) and SRMR (0.510) were found to be within the acceptable threshold values of goodness of fit (Table 6.34). However, the CFI (0.812) and IFI (0.815) did not meet the minimum threshold of 0.90, suggesting poor fit of the structural model.

Table 6.48: Goodness-of-fit indices of the structural model

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	Df	χ^2/Df	0.812	0.815	0.051	0.057
8827.364	4796	1.841				

Further investigation and analysis were required in light of the poor CFI (0.812) and IFI (0.815) values (Table 6.48) of the structural model. As specified in the preceding section (6.6.3), the multiple regression analysis revealed that a statistically significant relationship did not exist between the integrated context and the adoption of m-commerce among South African retail SMEs (Table 6.46). The integrated context

was incorporated into the revised conceptual framework subsequent to the four additional factors that were identified from the qualitative research during phase 1 (age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn). Thus, with the intent of achieving good fit, the goodness-of-fit statistics were analysed after individually removing each of the four factors of the integrated context (Table 6.49). Notably, during the analysis, none of the other factors or pathways were modified. The goodness-of-fit statistics presented in Table 6.49 suggest that despite the individual removal of each of the four factors of the integrated context, good fit was not achieved. As a result, the structural model was re-specified by removing all four factors of the integrated context simultaneously. The re-specified structural model and its goodness-of-fit statistics is illustrated in Figure 6.21 and Table 6.50 respectively.

Table 6.49: Goodness-of-fit statistics after the removal of each of the factors of the integrated context

Factors removed	Normed chi-square			CFI	IFI	SRMR	RMSEA
	χ^2	Df	χ^2/df				
Age (removed)	8054.669	4424	1.821	0.821	0.824	0.050	0.056
Instant gratification (removed)	8131,722	4424	1.838	0.818	0.821	0.051	0.057
Crisis-related pressure such as COVID-19 (removed)	8029,571	4424	1.815	0.823	0.826	0.050	0.056
Willingness to learn (removed)	8128,841	4424	1.837	0.817	0.820	0.051	0.057

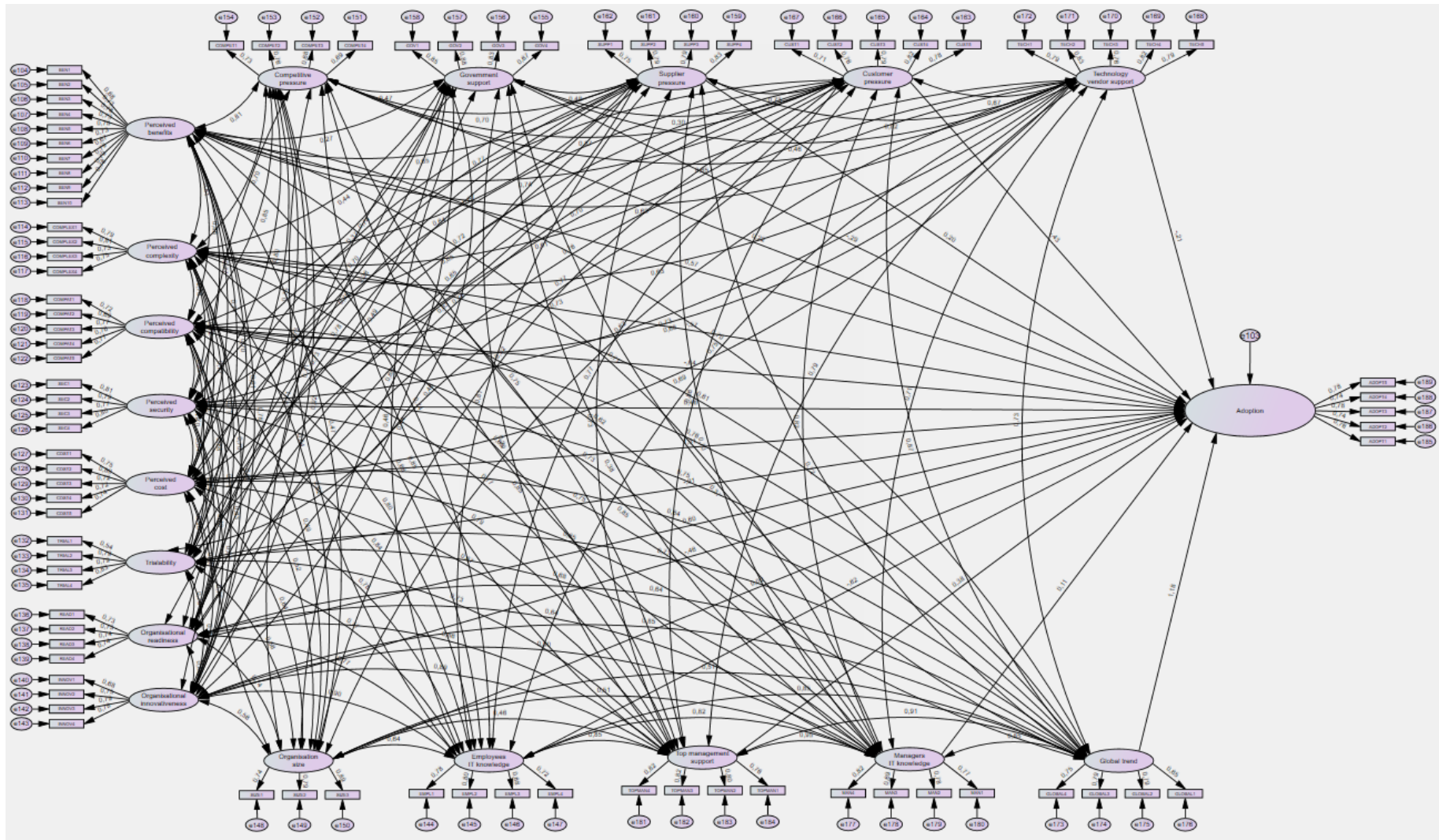


Figure 6.21: Re-specified structural model

Table 6.50 displays the statistics of goodness-of-fit for the re-specified structural model. The normed chi-square value (χ^2/df) is 1.824 which falls within the acceptable range ($\chi^2/df < 5.0$). The RMSEA (0.056) and SRMR (0.050) is less than 0.06. The CFI (0.939) and IFI (0.941) are above the acceptable threshold of 0.90. These statistics suggest that the re-specified structural model obtained good fit. Table 6.50 further highlights the factor loadings for the re-specified structural model, which are above the acceptable threshold of 0.5, with most of the factor loadings exceeding the ideal threshold of 0.7.

Table 6.50: Goodness-of-fit statistics and factor loadings for the re-specified structural model

Normed chi-square			CFI	IFI	SRMR	RMSEA
χ^2	Df	χ^2/Df	0.939	0.941	0.050	0.056
6199,429	3398	1.824				
Factor	Item	Factor loading				
Perceived Benefits	BEN1	0.681				
	BEN2	0.730				
	BEN3	0.777				
	BEN4	0.735				
	BEN5	0.783				
	BEN6	0.727				
	BEN7	0.668				
	BEN8	0.785				
	BEN9	0.785				
	BEN10	0.759				
Perceived Complexity	COMPLEX1	0.793				
	COMPLEX2	0.807				
	COMPLEX3	0.731				
	COMPLEX4	0.746				

Perceived Compatibility	COMPAT1	0.721
	COMPAT2	0.693
	COMPAT3	0.771
	COMPAT4	0.757
	COMPAT5	0.771
Perceived Security	SEC1	0.806
	SEC2	0.788
	SEC3	0.772
	SEC4	0.801
Perceived Cost	COST1	0.747
	COST2	0.802
	COST3	0.721
	COST4	0.720
	COST5	0.744
Trialability	TRIAL1	0.535
	TRIAL2	0.785
	TRIAL3	0.785
	TRIAL4	0.832
Organisational Readiness	READ1	0.733
	READ2	0.733
	READ3	0.741
	READ4	0.744
Organisational Innovativeness	INNOV1	0.683
	INNOV2	0.752
	INNOV3	0.787
	INNOV4	0.777
Employee's IT Knowledge	EMPL1	0.778

	EMPL2	0.800
	EMPL3	0.685
	EMPL4	0.716
Organisation Size	SIZE1	0.741
	SIZE2	0.794
	SIZE3	0.887
Competitive Pressure	COMPET1	0.727
	COMPET2	0.764
	COMPET3	0.684
	COMPET4	0.687
Government Support	GOV1	0.848
	GOV2	0.876
	GOV3	0.831
	GOV4	0.668
Supplier Pressure	SUPP1	0.753
	SUPP2	0.791
	SUPP3	0.786
	SUPP4	0.826
Customer Pressure	CUST1	0.713
	CUST2	0.763
	CUST3	0.793
	CUST4	0.819
	CUST5	0.782
Technology Vendor Support	TECH1	0.786
	TECH2	0.831
	TECH3	0.756
	TECH4	0.822

	TECH5	0.792
Global Trends	GLOBAL1	0.646
	GLOBAL2	0.789
	GLOBAL3	0.787
	GLOBAL4	0.751
Managers' IT Knowledge	MAN1	0.768
	MAN2	0.780
	MAN3	0.691
	MAN4	0.819
Top Management Support	TOPMAN1	0.765
	TOPMAN2	0.800
	TOPMAN3	0.819
	TOPMAN4	0.817
Adoption	ADOPT1	0.765
	ADOPT2	0.738
	ADOPT3	0.777
	ADOPT4	0.736
	ADOPT5	0.778

Hypotheses testing was conducted once the structural model was shown to have good fit. The findings are reported in the following section.

6.6.4.1. *Hypotheses testing*

The revised conceptual framework depicted in Figure 6.10 consists of 22 factors that influence the adoption of m-commerce among South African retail SMEs. However, as a result of poor fit of the structural model (Table 6.48), the four factors of the integrated context (namely, age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn) were excluded from the analysis. Consequently, hypotheses testing was performed for 18 factors including perceived benefits, perceived compatibility,

perceived complexity, perceived security, perceived cost, trialability, employees' IT knowledge, organisation size, organisational readiness, organisational innovativeness, competitive pressure, customer pressure, government support, supplier pressure, technology vendor support, global trends, top management support and managers' IT knowledge. Table 6.51 provides the hypotheses results.

Table 6.51: An overview of the hypotheses results

Hypothesised relationship			Est.	S.E.	C.R.	p-value	Results
M-commerce adoption	<-	Perceived benefits	0.573	0.14	4.093	***	Supported
M-commerce adoption	<-	Perceived complexity	-0.568	0.216	-2.630	0.002	Supported
M-commerce adoption	<-	Perceived compatibility	-0.64	0.544	-1.176	0.579	Not supported
M-commerce adoption	<-	Perceived security	0.461	0.412	1.119	0.401	Not supported
M-commerce adoption	<-	Perceived cost	1.311	0.184	7.125	0.003	Supported
M-commerce adoption	<-	Trialability	-0.914	0.78	-1.172	0.734	Not supported
M-commerce adoption	<-	Organisational readiness	0.6	0.358	1.676	0.297	Not supported
M-commerce adoption	<-	Organisational innovativeness	-0.464	0.194	-2.392	0.036	Supported
M-commerce adoption	<-	Employees' IT Knowledge	-0.619	0.568	-1.090	0.348	Not supported
M-commerce adoption	<-	Organisation size	0.023	0.152	0.151	0.266	Not supported
M-commerce adoption	<-	Competitive pressure	0.223	0.266	0.838	0.49	Not supported
M-commerce adoption	<-	Government support	-0.294	0.467	-2.014	0.003	Supported
M-commerce adoption	<-	Supplier pressure	0.201	0.467	0.430	0.906	Not Supported

M-commerce adoption	<-	Customer pressure	-0.432	0.214	-2.019	0.004	Supported
M-commerce adoption	<-	Technology vendor support	-0.213	0.355	-0.600	0.236	Not supported
M-commerce adoption	<-	Global trends	1.178	0.547	2.154	***	Supported
M-commerce adoption	<-	Managers' IT knowledge	0.108	0.163	0.663	0.114	Not supported
M-commerce adoption	<-	Top management support	0.379	0.098	3.867	***	Supported
$R^2 = 0.649$							
*** $p < 0.001$							

The hypotheses were tested at a 95% confidence level. A p-value below 0.05 indicates statistical significance (Honner, 2022). Table 6.51 indicates that the independent factors can explain 64.9% ($R^2 = 0.649$ – considered good) of the variance in the dependent factor (m-commerce adoption). This finding implies that 64.9% of m-commerce adoption can be influenced by the 18 factors illustrated in Table 6.51. Of the 18 factors, eight were statistically significant. More specifically, a statistically significant relationship was found between perceived benefits ($p < 0.001$), perceived complexity ($p = 0.002$), perceived cost ($p = 0.003$), organisational innovativeness ($p = 0.036$), government support ($p = 0.003$), customer pressure ($p = 0.004$), global trends ($p < 0.001$) and top management support ($p < 0.001$), and the adoption of m-commerce among South African retail SMEs. Hypotheses H2, H3, H6 H10, H15, H17, H19 and H22 were, therefore, supported.

The abovementioned findings provide evidence for the validity of the structural model. The following section provides an overview of the findings of the hypotheses testing.

6.6.4.2. *Discussion of the findings of the hypotheses testing*

6.6.4.2.1. Perceived benefits

The findings of this study revealed a statistically significant relationship between perceived benefits and the adoption of m-commerce among South African retail SMEs. SMEs may be more willing to adopt and use m-commerce in their business if they are cognisant of the potential benefits associated with m-commerce. This finding is widely corroborated by previous research by Pipitwanichakarn and Wongtada (2019), Fahriawan (2020), Al-Naimat et al. (2020), Fatoki (2020), Chau (2020), Matlakala (2021), Salimon et al. (2021), Justino et al. (2022), and Alaskar and Alsadi (2023). Fahriawan (2020), for instance, found that perceived usefulness (related to perceived benefits, Table 3.2, chapter 3) had a positive effect on the intention to adopt m-commerce by SMEs in Indonesia. Matlakala (2021) confirmed that perceived benefits was a significant predictor of m-commerce adoption among South African SMEs. Moreover, Salimon et al. (2021) revealed that result demonstrability (related to perceived benefits, Table 3.2, chapter 3) had a positive, significant influence on the m-commerce adoption among SMEs in Malaysia. In addition, Alaskar and Alsadi (2023) found perceived benefits to be a critical driver of m-commerce adoption intention in SMEs in Saudi Arabia.

6.6.4.2.2. Perceived complexity

A statistically significant relationship was found between perceived complexity and m-commerce adoption among South African retail SMEs. SMEs may be influenced by the amount of effort required to understand, implement and use m-commerce in their business. Previous studies by Lu et al. (2015), Prasarry et al. (2015), Omonedo (2016), Pipitwanichakarn and Wongtada (2019), and Sparks et al. (2019) corroborate this finding. For instance, Sparks et al. (2019) identified perceived complexity as a factor that hindered the adoption of m-commerce among South African SMEs. Similarly, Omonedo (2016) found that perceived complexity influenced the adoption of m-commerce among Nigerian SMEs. SMEs that perceive m-commerce as not being user-friendly for themselves or their customers may have a lower likelihood of adopting m-commerce (Omonedo, 2016).

6.6.4.2.3. Perceived compatibility

Perceived compatibility was found to have a statistically insignificant relationship with the adoption of m-commerce among South African retail SMEs. This finding contradicts the results of previous research that have found perceived compatibility as a significant influencer of m-commerce adoption among SMEs (Fatoki, 2020; Chau, 2020; Matlakala, 2021). However, the finding of this study is supported by Makelana et al. (2022) who found that perceived compatibility is not a significant factor in predicting the adoption of m-commerce in South African SMEs. The widespread usage of mobile devices and social media has become a customary practice in today's mobile-centric society, making m-commerce an accessible and convenient approach to conducting business. As a result, South African retail SMEs may find that m-commerce supports their values and current business practices and are thus not significantly influenced by perceived compatibility in their decision to adopt m-commerce in their business. Additionally, past experience with m-commerce and its successful implementation among South African retail SMEs may have reduced the significance of perceived compatibility.

6.6.4.2.4. Perceived security

The findings of this study revealed a statistically insignificant relationship between perceived security and m-commerce adoption among South African retail SMEs. This finding contrasts with previous research that has found perceived security to be a significant factor for m-commerce adoption in SMEs (Pipitwanichakarn & Wongtada, 2019; Chau, 2020; Justino et al., 2022; Iuga & Wainberg, 2023). However, the finding of this study is in line with Fatoki (2020) who found that security does not significantly affect the intention to adopt m-commerce among South African SMEs. Despite the increasing prevalence of cybercrime, numerous transactions are performed securely online (Fatoki, 2020). Individuals rely on their mobile devices to perform many tasks such as conducting transactions, banking and paying bills among other activities. As a result, perceived security may not be significant influencer of m-commerce adoption among South African retail SMEs.

6.6.4.2.5. Perceived cost

Perceived cost had a statistically significant relationship with m-commerce adoption among South African retail SMEs, which is consistent with previous studies by Fatoki (2020), Matlakala (2021), and Iuga and Wainberg (2023). Fatoki (2020), for instance, identified a significant negative relationship between perceived cost and the intention to adopt m-commerce among South African SMEs. Similarly, Iuga and Wainberg (2023) found that perceived cost had a negative impact on the adoption of m-commerce among Romanian SMEs. Therefore, it can be deduced that if SMEs perceive the costs associated with m-commerce as high, they may be less willing to adopt m-commerce in their business.

6.6.4.2.6. Trialability

The relationship between trialability and the adoption of m-commerce among South African retail SMEs was statistically insignificant, which is contrasted by the findings of Avirutha (2009) and Makelana et al. (2022) who found trialability to be the most significant factor in predicting the adoption of m-commerce in SMEs in Thailand and South Africa respectively. A limited number of studies have examined trialability as a factor that influences the adoption of m-commerce, specifically among SMEs. However, Tan and Eze (2008) found that trialability had no significant relationship with ICT adoption among Malaysian SMEs. It may be that South African retail SMEs possess a level of familiarity and ease in using mobile technologies for conducting business and thus may not perceive trialability as a significant factor in influencing their decision to adopt m-commerce. Furthermore, Shahadat, Nekmahmud, Ebrahimi and Fekete-Farkas (2023) argue that when there are higher expectations for an innovation, such as m-commerce, it reduces its testability on it.

6.6.4.2.7. Organisational readiness

This study revealed that no statistically significant relationship existed between organisational readiness and m-commerce adoption among South African retail SMEs. This finding is inconsistent with previous studies that have confirmed that organisational readiness has a significant influence on the adoption of m-commerce in SMEs (Fahriawan,

2020; Fatoki, 2020; Chau, 2020; Matlakala, 2021). The findings of this study focus on South African retail SMEs that have already adopted m-commerce in their business to a certain extent. Hence, these SMEs may not perceive organisational readiness as a significant factor of m-commerce adoption.

6.6.4.2.8. Organisational innovativeness

The findings of this study revealed a statistically significant relationship between organisational innovativeness and the adoption of m-commerce among South African retail SMEs. Agreeably, Chau (2020) revealed that organisational innovativeness was a critical factor influencing the adoption of m-commerce among SMEs in Vietnam. Furthermore, Martin and Jimenez (2015) found that Spanish businesses that are innovative were inclined to experiment with ICT and embrace innovation. SMEs that are innovative may have a higher likelihood in adopting m-commerce in their business.

6.6.4.2.9. Employees' IT Knowledge

Employees' IT Knowledge was found to have a statistically insignificant relationship with the adoption of m-commerce among South African retail SMEs. However, previous research found that employees' IT knowledge was a significant influencer of m-commerce adoption among SMEs (Rana et al., 2019; Fatoki, 2020; Iuga & Wainberg, 2023). Notwithstanding, Chau (2020) found that employees' IT knowledge did not play a significant role in the adoption of m-commerce among SMEs in Vietnam. SMEs may opt to hire specific individuals or third-party service providers to execute m-commerce related activities. As a result, South African retail SMEs may find that employees' IT knowledge is not a significant determinant in their decision to adopt m-commerce.

6.6.4.2.10. Organisation size

This study found that organisation size does not have a statistically significant relationship with the adoption of m-commerce among South African retail SMEs. This finding is inconsistent with Otieno and Kahonge (2014) and Lu et al. (2015) who found that organisational size is an important determinant of m-commerce adoption in SMEs. As discussed in chapter 2, SMEs are more flexible and have a simple, flat/organic

organisational structure, compared to larger organisations (Yadav et al., 2018). Furthermore, a flat/organic organisational structure is characterised by higher visibility, quick decision-making, rapid implementation of management strategies and a better understanding of, and swift response to, customer needs (Wilson & Makau, 2017; Yadav et al., 2018). As a result, the size of the organisation may not play a significant role in the success of adopting m-commerce among South African retail SMEs.

6.6.4.2.11. Competitive pressure

The findings of this study revealed a statistically insignificant relationship with competitive pressure and m-commerce adoption among South African retail SMEs which is contrary to previous studies that indicated that competitive pressure is a significant factor that influences m-commerce adoption among SMEs (Li & Wang, 2018; Matlakala, 2021; Salimon et al., 2021; Iuga & Wainberg, 2023). The finding of this study, however, is consistent with Fatoki (2020) and Justino et al. (2022) who found that competitor pressure does not have a significant impact on the adoption of m-commerce among SMEs in South Africa and Angola, respectively. According to O'Dwyer and Gilmore (2017), SMEs often fail to focus on and monitor their competitors. Perhaps this may be a reason as to why competitive pressure does not play a significant role in influencing the business decisions of South African retail SMEs, particularly in adopting m-commerce.

6.6.4.2.12. Government support

The relationship between government support and the adoption of m-commerce among South African retail SMEs was found to be statistically significant. SMEs perceived the level of available support from the government as influential in their decision to adopt m-commerce in their business, aligning with previous studies (Chau, 2020; Iuga & Wainberg, 2023; Yahaya et al., 2023). Iuga and Wainberg (2023), for example, discovered that government support had a positive, significant influence on m-commerce adoption among SMEs in Romania. Similarly, Yahaya et al. (2023) revealed that government support had a positive, statistically significant effect in the survival of Malaysian SMEs regarding m-commerce adoption.

6.6.4.2.13. Supplier pressure

Supplier pressure was found to have a statistically insignificant relationship with the adoption of m-commerce among South African retail SMEs. This finding is inconsistent with Matlakala (2021) who revealed that supplier pressure had a positive, significant influence on m-commerce adoption among South African SMEs. Omonedo (2016) noted a reluctance from suppliers to conduct business activities on the internet and accept virtual payment. Resultantly, there is less demand from suppliers for SMEs to adopt m-commerce; thus, supplier pressure may not play a significant role in the adoption of m-commerce among South African retail SMEs.

6.6.4.2.14. Customer pressure

This study found a statistically significant relationship between customer pressure and the adoption of m-commerce among South African retail SMEs. SMEs may have a higher likelihood in adopting m-commerce in their business if they experience pressure from customers to use m-commerce. This is a widely supported assertion by previous research (Li & Wang, 2018; Fatoki, 2020; Chau, 2020; Matlakala, 2021; Iuga & Wainberg, 2023). Fatoki (2020) and Matlakala (2021), for example, revealed a significant positive association between customer pressure and m-commerce adoption among South African SMEs. Iuga and Wainberg (2023) found that customer pressure positively affected the adoption of m-commerce in Romanian SMEs.

6.6.4.2.15. Technology vendor support

This study revealed an insignificant relationship between technology vendor support and the adoption of m-commerce among South African retail SMEs. This finding is inconsistent with Maduku (2015) who found that external vendor support was a significant factor in the adoption of mobile marketing in South African SMEs. Furthermore, Maduku (2015) noted that SMEs are more inclined to adopt mobile marketing if they perceive sufficient technology vendor support. In addition, Al-Qirim (2006) found that technology vendors appeared to provide sufficient support to SMEs (New Zealand) during the pre-adoption phase. However, technology vendors need to improve their services during the post-adoption phase in order for SMEs to retain their customers and sustain their business.

Nonetheless, South African retail SMEs may lack adequate financial resources to hire technology vendors or may have distrust towards them and thus may not find technology vendor support as a significant factor in influencing their decision to adopt m-commerce in their business.

6.6.4.2.16. Global trends

A statistically significant relationship was found between global trends and the adoption of m-commerce among South African retail SMEs. SMEs may be more inclined to adopt m-commerce if they seek to align their business practices with global standards. This finding is consistent with Omonedo (2016) who revealed that global trends was an important factor influencing the adoption of m-commerce among SMEs in Nigeria.

6.6.4.2.17. Managers' IT knowledge

Managers' IT knowledge was found to have a statistically insignificant relationship with the adoption of m-commerce among South African retail SMEs. This finding is inconsistent with previous research that found managers' IT knowledge to have a significant impact on m-commerce adoption among SMEs (Chau, 2020; Salimon et al., 2021). However, the finding of this study is consistent with Makelana et al. (2022) who revealed that owner-manager characteristics (which include knowledge) were not significant in influencing m-commerce adoption among South African SMEs. Similarly to employees' IT knowledge, SMEs may opt to hire specific individuals or third-party service providers to execute m-commerce related activities in their business. As a result, South African retail SMEs may not consider manager's IT knowledge as a significant factor in influencing their decision to adopt of m-commerce in their business.

6.6.4.2.18. Top management support

Top management support was found to have a significant relationship with m-commerce adoption among South African retail SMEs. Top management thus plays a critical role in the adoption of m-commerce among SMEs as supported by previous studies (Li & Wang, 2018; Fatoki, 2020; Justino et al., 2022; Alaskar & Alsadi, 2023). Li and Wang (2018), for example, discovered that top management has a significant impact on the intention to

adopt m-commerce among SMEs in China. Justino et al. (2022) found that top management has a positive, significant influence on m-commerce adoption among SMEs in Angola. Alaskar and Alsadi (2023) identified top management support as a critical factor influencing m-commerce adoption among SMEs in Saudi Arabia.

The next section provides a summary of the quantitative research findings.

6.7. DISCUSSION OF THE QUANTITATIVE FINDINGS

In terms of demographic composition, the sample was characterised by a greater representation of females (57.1%, n = 172) than males (42.9%, n = 129). This occurrence may be attributed to the increase of women entrepreneurial activity rates in South Africa (Mastercard, 2022). The majority of the respondents were between the ages of 26 and 45 years old (76.1%, n = 229), which is consistent with national and international statistics. Based on the Seda quarterly update (3rd quarter 2022), most SME owners are between the ages of 25 and 60 years old (Seda, 2023). Moreover, it has been observed that individuals between the ages of 25 and 45 years exhibit the highest levels of entrepreneurial activity (Krüger, 2021; Lukiastuti & Wahyuni, 2023). More than two thirds of the respondents (71.4%, n = 215) were SME owners, while 28.6% (n = 86) were managers.

The overarching business profile of South African retail SMEs (including adopters and non-adopters of m-commerce) related to the business location, duration of business operations, the retail category in which the business operates, the number of full-time employees and the estimated annual turnover of the business. The primary province in which business operations were carried out was Gauteng (50.5%, n = 152) with Kwa-Zulu Natal (37.9%, n= 114) following closely behind. This finding aligns with the quarterly update (3rd quarter 2022) released by Seda (2023) which highlights Gauteng and Kwa-Zulu Natal as the two provinces with the highest concentration of SMEs. The Northern Cape province had the lowest representation of SMEs (7%, n= 21). The majority of SMEs (63.8%, n = 192) have maintained their business operations for 3 years or more. This finding suggests that a significant proportion of SMEs are relatively established and show potential for future growth. The most popular retail category was “food, beverages and

tobacco in specialised stores” (26.9%, n= 81) followed closely by “general dealers” (23.3%, n = 70) and “textiles, clothing, footwear and leather goods” (20.6%, n = 62). The majority of SMEs employed up to 50 full-time individuals (80.1%, n = 241) and generated an annual turnover of R2.5 million or less (55.5%, n = 167). This finding reveals that most businesses in the sample can be classified as micro or small businesses, in accordance with the definition of an SME as outlined by the National Small Enterprise Act (Chapter 2).

Regarding the adoption of m-commerce, it is noteworthy that the majority of SMEs (86.4%, n = 260) have adopted m-commerce in their business as opposed to 13.6% (n = 41) that have not adopted m-commerce. Among the SMEs that have not adopted m-commerce in their business (13.6%, n = 41), the majority were females (68.3%, n = 28) between the ages of 26 and 45 years (61.0%, n = 25). This finding was anticipated as the total sample consisted of a higher proportion of females between the ages of 26 and 45. The main province in which business operations were conducted was Kwa-Zulu Natal (urban) (34.1%, n = 14) followed by Gauteng (urban) (24.4%, n = 10). A total of 56.1% respondents (n = 23) have maintained their business operations for 3 years or more, indicating that just over half of the SMEs are relatively established (Bowmaker-Falconer & Herrington, 2020). The two most popular retail categories were “General dealers” (26.8%, n = 11) and “Food, beverages and tobacco in specialised stores” (29.4%, n = 12). The majority of SMEs have up to ten full-time employees (85.4%, n = 35) and an annual turnover of R2.5 million or less (87.8%, n = 36). This finding indicates that most of the SMEs that have not adopted m-commerce in their business are micro enterprises (based on the definition of SMEs by the National Small Enterprise Act - chapter 2). The main reasons preventing the adoption of m-commerce among South African retail SMEs were the lack of awareness of m-commerce in general (34.1%, n = 14), the lack of understanding of m-commerce (26.8%, n = 11) and the lack of financial resources (24.4%, n = 10). Nevertheless, most SMEs (56.1%, n = 23) expressed their intention to adopt m-commerce in the future – within the next 3 years. A considerable proportion of SMEs (43.9%, n = 18) stated that they did not intend to adopt m-commerce in their business in the future. When queried about what would increase their likelihood of adopting m-commerce, it was found that having a greater understanding of m-commerce and adequate financial resources may increase the SMEs likelihood of adopting m-commerce

in their business in the future. This finding indicates that a lack of knowledge of m-commerce and inadequate financial resources could potentially hinder the adoption of m-commerce among South African retail SMEs. The main platform used by SMEs that have not adopted m-commerce in their business was Facebook Marketplace which served as a tool for promotional purposes and/or addressing customer queries. It was interesting to note that the majority of SMEs that have not adopted m-commerce in their business did not have a basic website, regardless of its compatibility with mobile devices (48.8%, n = 20) or lack thereof (68.3%, n = 28).

Among the SMEs that have adopted m-commerce in their business, the majority were female (55.4%, n = 144) between the ages of 26 and 45 years (78.5%, n = 204). This result was anticipated as the overall sample consisted of a higher proportion of females than males, predominantly between the ages of 28 and 45 years. The main province in which business operations were conducted was Gauteng (urban) (49.2%, n = 128) followed by Kwa-Zulu Natal (urban) (28.1%, n = 73). The majority of the SMEs (65%, n = 169) maintained their business operations for 3 years or more indicating a high degree of establishment (Bowmaker-Falconer & Herrington, 2020). The three most popular retail categories were “food, beverages and tobacco in specialised stores” (26.5%, n = 69), “general dealers” (22.7%, n = 59) and “textiles, clothing, footwear and leather goods” (21.2%, n = 55). The majority of SMEs employ up to 50 full-time individuals (78.1%, n = 203) and have an annual turnover of R5 million or less (69.6%, n = 181). These findings suggest that most of the SMEs that have adopted m-commerce in their business were micro and small enterprises (based on the definition of SMEs by the National Small Enterprise Act – chapter 2). The majority of SMEs that adopted m-commerce in their business have been using this technology for 1-2 years (39.2%, n = 102). Almost a third of SMEs have been using m-commerce in their business for 3-4 years (29.2%, n = 76) while a fifth of SMEs (20.4%, n = 53) have been using it for 5 years or more. This finding may insinuate that while the adoption of m-commerce adoption among SMEs may be seen as a recent phenomenon, it is not a novel practice and has already been embraced by several South African retail SMEs. The main reasons for m-commerce adoption among South African retail SMEs were to increase sales (33.1%, n = 86), conduct business anywhere and at any time (28.5%, n = 74) and to enhance their online presence (20.4%, n = 53). The

primary m-commerce platforms used by SMEs were Facebook Marketplace, a website that supports online transactions (accessible on a mobile device), WhatsApp messenger/WhatsApp Business and Instagram. Over two thirds of the SMEs (74.6%, n = 194) reported that m-commerce has made a substantial contribution to their sales. This finding aligns with the main reasons that drive the adoption of m-commerce, which was to increase sales. Therefore, it is suggested that m-commerce has the potential to contribute to the sales of SMEs.

The preliminary conceptual framework for m-commerce adoption (Figure 3.12, chapter 3) was revised based on the findings from the qualitative research that was conducted in phase 1 of the study. The revised conceptual framework (Figure 5.21, chapter 5; Figure 6.10) included 22 independent factors (classified into five contexts: technological, organisational, environmental, managerial and integrated) that influence the adoption of m-commerce (dependent factor) among South African retail SMEs. Prior to the SEM analysis, the data was summarised and assessed for normality. Skewness and kurtosis indices were used to identify the normality of the data. The values for skewness ranged from -1.196 to -1.600 and the values for Kurtosis were between 1.686 and 3.979, indicating acceptable normality for SEM analysis (Sovey et al., 2022; Ordóñez de Pablos et al., 2022). The overall mean of the factors fell between 4.023 and 4.429 and the standard deviation ranged from 0.596 to 0.892, indicating that the respondents generally agreed or strongly agreed with all the statements of each factor. Based on the perspectives of the SMEs, it was determined that all the factors were considered important in their decision to adopt m-commerce.

To confirm the identified factors and test the validity of the revised conceptual framework (Figure 5.21, chapter 5; Figure 6.10), SEM was performed. The study specified the measurement and structural model. Goodness-of-fit indices were used to determine the overall fit of the measurement model. Convergent validity and reliability was examined through factor loadings, AVE, CR and Cronbach Alpha (α). Discriminant validity of the measurement model was investigated using the square root of AVE, correlation coefficients and cross-loadings. The measurement model achieved good fit and was found to have good reliability and validity. Before specifying the structural model, multiple

regression was conducted to determine the relationship between the five contexts of the revised conceptual framework (technological, organisational, environmental, managerial, and integrated) and the adoption of m-commerce among South African retail SMEs. A statistically significant relationship was found between the technological, organisational, environmental and managerial contexts and m-commerce adoption among South African retail SMEs. This study did not reveal a significant relationship between the integrated context and the adoption of m-commerce among South African retail SMEs. The validity of the structural model was determined by assessing the goodness-of-fit indices, factor loadings, coefficient of determination (R²) and structural parameter estimates. After an initial analysis of the structural model, a good fit was not achieved. As mentioned, the multiple regression analysis did not reveal a significant relationship between the integrated context and m-commerce adoption among South African retail SMEs. The qualitative research revealed four additional factors that influenced the adoption of m-commerce among South African retail SMEs: age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn. These factors were not part of a specific context under the extended TOE framework, which were collectively classified under the "integrated" context. The goodness-of-fit statistics were thus examined after excluding the four factors of the integrated context (age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn). The analysis of the re-specified structural model showed good fit and as a result, was accepted for hypotheses testing. A plausible reason for the additional factors resulting in poor model fit may be due to the small sample size for each group of the qualitative research. Faber and Fonseca (2014) argue that a small sample size may prevent the findings from being extrapolated. Thus, the four additional factors warrant further investigation in order to arrive at a definitive conclusion.

Eight out of the 18 factors were statistically significant including perceived benefits, perceived complexity, perceived cost, organisational innovativeness, government support, customer pressure, global trends and top management support. Hypotheses H2, H3, H6, H10, H15, H17, H19 and H22 were therefore supported. The quantitative research findings provided evidence for the validity of the structural model.

6.8. SUMMARY

Chapter 6 presented the findings of phase 2 of the research (quantitative). Chapter 6 commenced with a discussion of the qualifying questions followed by the demographic breakdown and business profile of the sample. The discussion was further broken down based on the findings from adopters and non-adopters of m-commerce. The descriptive analysis of the factors that influence the adoption of m-commerce among retail SMEs in South Africa were presented to summarise the data and test for normality. The measurement and structural model were specified through SEM. The findings demonstrated that the revised conceptual framework established validity. In addition, eight out of the 18 factors were statistically significant. These factors include perceived benefits, perceived complexity, perceived cost, organisational innovativeness, government support, customer pressure, global trends and top management support. A detailed discussion, recommendations and conclusions based on the research objectives of the study as well as the proposed conceptual framework is presented in the next chapter (chapter 7).

CHAPTER 7: FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

7.1. INTRODUCTION

In light of the preceding sections, chapter 1 served as an overview and introduction to the study. In chapter 2, an examination was conducted on the SME sector, exploring the significance of ICT in marketing and SME development. Particular attention was given to e-commerce and m-commerce. The adoption of m-commerce in organisations was outlined in chapter 3 along with the various theories and models that have been employed in research to explore the factors that influence its adoption. In chapter 3, a preliminary conceptual framework for m-commerce adoption was developed and lays the factors that may influence the adoption of m-commerce among South African retail SMEs. Chapter 4 introduced the research methodology for the study by providing a comprehensive discussion of the research process and empirical investigation to effectively address the research problem. The empirical investigation was carried out in two phases: phase 1 involved qualitative research and phase 2 focused on quantitative research. The findings derived from phase 1 of the research, encompassing online focus groups, online in-depth interviews, and a short, self-administered web-based questionnaire, were reported in chapter 5. Furthermore, phase 1 identified the factors that influence m-commerce adoption, specific to the context of South African retail SMEs. These factors were used to refine the preliminary conceptual framework and enhance the research instrument for phase 2 of the research. The findings derived from phase 2, which involved the use of self-administered web-based questionnaires, were presented in chapter 6. Chapter 6 provided evidence to support the validity of the conceptual framework that was proposed for m-commerce adoption.

This chapter (chapter 7) provides an overview of the overall findings, conclusions and recommendations of the study. It begins with a review of the research question and objectives followed by a summary of the overall findings obtained in each phase of the research investigation (the literature review as well as phases 1 and 2). Subsequently, an overview of the findings and conclusions derived from each of the research objectives is

provided. Thereafter, recommendations are made to build on the body of knowledge pertaining to the topic of investigation.

7.2. THE RESEARCH QUESTION AND OBJECTIVES

This section revisits the research question and objectives that were previously established in chapters 1 and 4.

7.2.1. The research question

The research question that was devised from the literature review is: What are the factors that influence the adoption of m-commerce in South African retail SMEs? The formulation of the primary and secondary was aided by the research question, as outlined below.

7.2.2. Primary objective

The primary objective of this study was to synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities.

7.2.3. Secondary objectives

The secondary objectives of this study were:

- To determine the extent of m-commerce adoption among South African retail SMEs.
- To investigate the main reasons influencing the adoption and non-adoption of m-commerce among South African retail SMEs.
- To examine the predominant m-commerce platforms used by South African retail SMEs.
- To identify the factors that influence the adoption of m-commerce among South African retail SMEs.
- To establish the relationship between the identified factors and the adoption of m-commerce.
- To identify areas for future research.

The findings and conclusions of the study are discussed in the next section.

7.3. FINDINGS AND CONCLUSIONS OF THE STUDY

The findings and conclusions of this study are based on a thorough review of the literature encompassing chapters 1, 2, and 3 as well as the empirical research conducted (phase 1 – qualitative research and phase 2 – quantitative research). First, an overview of the overall findings derived from the literature review and empirical research is presented. Subsequently, each secondary objective is addressed followed by the primary objective of the study.

7.3.1. Overall findings

Section 7.3.1, along with Figure 7.1, provides an overview of the overall findings derived from the literature review and empirical research (phases 1 and phase 2).

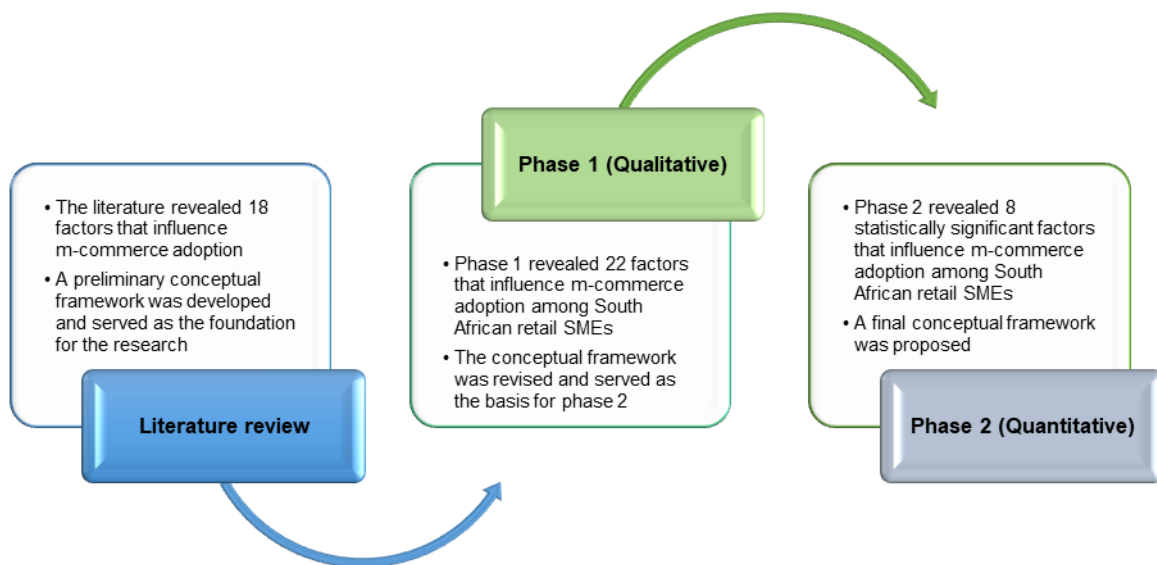


Figure 7.1: Overall findings

7.3.1.1. Overall findings: Literature review

The literature review of this study was presented in chapters 1, 2 and 3 and was conducted by reviewing relevant sources such as websites, books, conference

proceedings and journal articles (Google Scholar and databases such as Emerald, EBSCOhost, ScienceDirect, Sabinet and Sage were consulted).

Chapters 1 and 2 revealed the shifts occurring in the retail sector, particularly the transition to online shopping, specifically through e-commerce and m-commerce. Additionally, the significance of SMEs to the economy was unveiled. Chapter 3 examined the various theories and models that have been employed in research to explore the factors that influence the adoption of m-commerce. The main aim was to identify factors that could support the development of a preliminary conceptual framework for m-commerce adoption among South African retail SMEs, which would form the basis of the study. The research study was underpinned by the TOE framework – a widely used and popular theory to explore m-commerce adoption in SMEs. The TOE framework differentiates between three contexts: the technological, organisational and environmental context. However, scholars have argued that the TOE framework does not effectively address managerial factors, which could potentially play a crucial role in the technology adoption (Chau, 2020). Alfahl et al. (2012), Alfahl et al. (2017), Fatoki (2020), Zeeshan et al. (2009), and Chau (2020) have extended upon the TOE framework by incorporating the managerial context. Consequently, in order to provide a holistic perspective, an extended TOE framework incorporating the managerial context was employed in this study.

Through an extensive review of existing literature (pertaining to the field of m-commerce), a total of 59 factors that influence the adoption m-commerce in organisations were identified. In light of the interrelation between the factors, content analysis was employed to categorise all the factors that shared the same purpose. The process of content analysis led to the identification of 18 factors (comprising 81 items), classified under four contexts: technological, organisational, environmental and managerial (as depicted in preliminary conceptual framework in Figure 3.12, chapter 3). The preliminary conceptual framework was refined through the empirical research, using qualitative (phase 1) and quantitative (phase 2) research.

7.3.1.2. Overall findings: Phase 1 (qualitative research)

In phase 1 of the research, a qualitative approach was employed to explore the experiences, perspectives and insights of South African retail SMEs and m-commerce experts regarding the implementation and usage of m-commerce. Phase 1 specifically focused on the existing factors (as identified from the literature) and aimed to identify any additional factors that emerged from the discussions during data collection, which are unique to South African retail SMEs.

The findings obtained from the perspectives and experiences of South African experts in the field of m-commerce revealed that South African retail SMEs lack the knowledge and understanding of what m-commerce entails. The main drivers for the acceptance and adoption of m-commerce among SMEs were attributed to customer demand and the benefits it offers in terms of convenience and cost effectiveness, particularly when compared to the establishment and maintenance of a physical store/space, which may incur additional expenses. Participants indicated that the adoption of m-commerce by South African retail SME was hindered by several key factors, including a lack of expertise, knowledge and understanding of m-commerce. Additionally, the costs associated with implementing and maintaining m-commerce were identified as barriers of m-commerce adoption. In terms of the minimum requirements for the successful implementation of m-commerce in a business, several key factors emerged from the online focus group discussions. These factors included the availability of sufficient stock, a proficient team to manage operations and address technical challenges, a well-defined business vision and growth strategy, constant accessibility and the availability of appropriate infrastructure.

The findings derived from the viewpoints and sentiments expressed by South African retail SME owners/managers who have not adopted m-commerce in their business revealed that participants generally understood m-commerce as a form of online business or online shopping. However, it is worth noting that only 1 participant emphasised the use of a mobile device in this context. Moreover, some participants expressed uncertainty or a lack of familiarity with the term “m-commerce” (aligning with the perspectives of South African m-commerce experts). The main reasons contributing to non-adoption were negative past

experiences with technology vendors, financial constraints and incompatibility between the business operations and m-commerce. The participants further expressed concerns with the amount of effort required to adopt m-commerce, with specific emphasis on the time and effort required to conduct research and acquire the necessary knowledge to successfully integrate m-commerce into the business operations. It was evident that the adoption of m-commerce among participants would be more likely if the process was simplified in terms of the time required and user-friendliness. Moreover, the participants showed a greater inclination to embrace m-commerce as a result of increased sales, customer acquisition, competitor pressure and global digital transformation.

Based on the perceptions and opinions of South African retail SME owners/managers who have adopted m-commerce in their business, it was found that the participants had a general understanding of the concept of "m-commerce". The main reasons behind the adoption were to stay current, enhance online presence and improve customer accessibility and convenience, especially in response to the increased demand for online shopping observed during the COVID-19 pandemic. The m-commerce platforms highlighted by the participants for marketing and selling their products or services included Facebook, Instagram, WhatsApp, third-party platforms such as Uber Eats and Mr D Food as well as a website that supports online transactions (accessible on a mobile device). The difficulties or challenges associated with the adoption of m-commerce were found to be the time consumption, infrastructural limitations (such as loadshedding, website technical issues, absence of a physical store/space for product display), customers' unfamiliarity with relevant online platforms and insufficient financial resources (specifically to facilitate app development). In order to address the aforementioned challenges, the participants indicated that they resorted to establishing small-scale showrooms or participating in market events as a means of showcasing their products. The participants also emphasised the importance of a willingness to learn in order to effectively handle the technical issues associated with the use of m-commerce.

The qualitative research further centred on the 18 factors that were identified from the literature (Figure 3.12, chapter 3). These factors were deemed significant by the participants in relation to m-commerce adoption. Additional factors (themes) that emerged

from the discussions were age, instant gratification, crisis-related pressure such as COVID-19 and a willingness to learn, which were collectively classified under the "integrated" context. The preliminary conceptual framework for m-commerce adoption was revised to include 22 factors, comprising 97 items, classified under five contexts: technological, organisational, environmental, managerial and integrated. The revised conceptual framework for m-commerce adoption (Figure 5.21, chapter 5; Figure 6.10, chapter 6) constituted as the basis for phase 2 of the study (quantitative).

7.3.1.3. Overall findings: Phase 2 (quantitative research)

In phase 2 of the research, a quantitative approach was used to examine the perceptions of South African retail SMEs with regards to the implementation and usage of m-commerce. Phase 2 was centered on the confirmation and validation of the revised conceptual framework for m-commerce adoption (Figure 5.21, chapter 5; Figure 6.10, chapter 6).

The analysis of the quantitative data revealed that the majority of respondents (86.4%, n = 260) had adopted m-commerce in their business, whilst 13.6% (n = 41) had not done so. The South African retail SME owners/managers who have not adopted m-commerce in their business were predominantly female, aged between 26 and 45 years. The main province for conducting business operations was Kwa-Zulu Natal (metropolitan areas). Most respondents had been in operation for more than a year. The retail categories that the respondents primarily operated in were "general dealers" and "food, beverages and tobacco in specialised stores". Most of the respondents typically employed up to ten full-time workers and had an annual revenue of R2.5 million or less. The main reasons hindering adoption among respondents were identified as a general lack of awareness of m-commerce, a lack of understanding of m-commerce and insufficient financial resources. A notable percentage of respondents (39%, n = 16) expressed their intention to adopt m-commerce and planned to do so in the next year. However, a considerable proportion of respondents (43.9%, n = 18) indicated that they did not intend to adopt m-commerce in the future. According to these respondents, the key aspects that would increase their likelihood of adopting m-commerce in their business in the future were the acquisition of knowledge and understanding of m-commerce, along with having adequate financial

resources. The main platform used by the respondents for promotional purposes and/or addressing customer queries was Facebook Marketplace. It is interesting to note that many SMEs that have not adopted m-commerce in their business did not even have a basic website.

Among the South African retail SME owners/managers who have adopted m-commerce in their business, an analysis of their demographic profile indicated a higher distribution of females, with a noticeable representation of respondents within the age group of 26 to 45 years. The primary province in which business operations are conducted was Gauteng, specifically in urban areas. Most of the respondents had been in operation for more than a year. The three retail categories that the respondents mostly operate in were “food, beverages and tobacco in specialised stores”, “general dealers” and “textiles, clothing, footwear and leather goods”. Most respondents employed up to 50 full-time workers with an annual turnover of less than or equal to R5 million. The duration of m-commerce adoption among the respondents varies, with some having used it for a period of 1-5 years or even longer. The main reasons for adopting m-commerce were to increase sales, followed by the ability to conduct business anytime and anywhere as well as to enhance online presence. The m-commerce platforms most frequently used by the respondents were Facebook Marketplace, a website that supports online transactions (accessible on a mobile device), WhatsApp Messenger/WhatsApp Business (including the WhatsApp Business cart feature) and Instagram (including Instagram shopping). The respondents expressed agreement regarding the impact of m-commerce on their sales, acknowledging that it has contributed to a substantial degree.

An analysis of the descriptive statistics pertaining to each factor within the revised conceptual framework revealed a normal distribution. Furthermore, the overall mean scores of the factors indicated that the respondents generally agreed or strongly agreed with all the statements for each factor. Based on the participants' perceptions, it was determined that all 22 factors held significance in their decision to adopt m-commerce. In order to assess the reliability and validate the revised conceptual framework, structural equation modelling (SEM) was conducted. The study delineated the measurement and structural model. Goodness-of-fit indices were used to assess the overall fit of the

measurement model. Convergent validity, discriminant validity and reliability of the measurement model were reviewed. The measurement model showed evidence of reliability and validity in addition to achieving good model fit. Before outlining the structural model, multiple regression analysis was conducted to determine the relationship between the five contexts of the revised conceptual framework (technological, organisational, environmental, managerial, and integrated) and the adoption of m-commerce among South African retail SMEs. The technological, organisational, environmental and managerial contexts were found to have a statistically significant relationship with m-commerce adoption among South African retail SMEs. However, no such relationship was observed with the integrated context. The assessment of the goodness-of-fit indices, factor loadings, coefficient of determination (R²), and estimates of structural parameters were used to determine the validity of the structural model. Acceptable model fit was achieved after the removal of the four additional factors classified under the integrated context (age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn) that were identified during phase 1 of the research (qualitative). Hypotheses testing revealed that eight out of the 18 factors examined were supported, including perceived benefits, perceived complexity, perceived cost, organisational innovativeness, government support, customer pressure, global trends and top management support. The findings of the quantitative research provided empirical evidence for the soundness of the proposed conceptual framework for m-commerce adoption, which may be used to assist South African SMEs in enhancing the use of m-commerce in their business.

In the following sections (7.3.2–7.3.8) an overview of the findings and conclusions derived from each of the research objectives is provided.

7.3.2. Secondary objective 1: To determine the extent of m-commerce adoption among South African retail SMEs

The first secondary objective was addressed through the quantitative research conducted in phase 2 of the study. The question posed to respondents related to whether respondents had adopted m-commerce in their business. The findings revealed that 86.4% of the respondents (n = 260) had adopted m-commerce in their business. Moreover, these

respondents showed a significant degree of intention (91.1%, n = 237) and commitment (91.5%, n = 238) to continue using m-commerce in their business. A total of 226 respondents (86.9%) indicated that they used m-commerce for most of their marketing activities. A total of 41 respondents (13.6%) reported that they had not adopted m-commerce in their business. Nevertheless, the majority of these respondents (56.1%, n = 23) expressed their intention to adopt m-commerce in the foreseeable future, within the next 3 years. Evidently, there was a strong value (73.2%, n = 30), intention (78.0%, n = 32) and commitment (63.4%, n = 26) among respondents regarding the adoption of m-commerce in the future. A total of 24 respondents (58.5%) indicated that they had a plan to adopt m-commerce. However, it is noteworthy to observe that a considerable proportion of the respondents (43.9%, n = 18) indicated their reluctance to adopt m-commerce. These respondents were asked about what factors could potentially increase their likelihood of adopting m-commerce in their business in the future. According to the feedback provided by the respondents, the key factors highlighted were the acquisition of knowledge and understanding of m-commerce as well as sufficient financial resources.

In conclusion, it appears that the adoption of m-commerce is notably prevalent among South African retail SMEs. Digital transformation, the COVID-19 pandemic, change in customer behaviour and shifts in the business landscape are some of the key aspects that have contributed to this phenomenon. The COVID-19 pandemic has played a significant role in accelerating the process of digital transformation, hence fostering a business landscape that will continue to stimulate innovation and technology adoption in the future. Section 7.3.3 (secondary objective 2) provides a more in-depth discussion of the primary reasons that have influenced the adoption of m-commerce in the specific context of South African retail SMEs.

Based on the aforementioned discussion, the secondary objective, which aimed to determine the extent of m-commerce adoption among South African retail SMEs, was achieved.

7.3.3. Secondary objective 2: To investigate the main reasons influencing the adoption and non-adoption of m-commerce among South African retail SMEs

The second secondary objective “to investigate the main reasons influencing the adoption and non-adoption of m-commerce among South African retail SMEs” was addressed through phases 1 and 2 of the study (qualitative and quantitative research).

7.3.3.1. Qualitative research (Phase 1)

The online in-depth interviews that were conducted with South African retail SMEs that have not adopted m-commerce in their business revealed four main reasons contributing to their decision. The first reason was attributed to negative past experiences with technology vendors. The participants mentioned that specific technology vendors were unreliable in terms of website implementation and maintenance. Moreover, the participants believed that compliance with certain policies (e.g. a return policy) of third-party platforms, such as Takealot, could possibly lead to financial losses. Secondly, the issue of incompatibility of m-commerce with the business was raised. Emphasis was placed on the management of inventory and the sale of customised products. Thirdly, South African retail SMEs have been reluctant to adopt m-commerce in their business because of the amount of effort involved. The participants expressed concerns over the limited time available for conducting research and implementing m-commerce. Participants further conveyed their lack of knowledge regarding the necessary infrastructure required to effectively implement m-commerce. Lastly, the fourth reason was related to the perceived cost and the availability of adequate financial resources for the implementation and usage of m-commerce. In response to the question about what would make South African retail SMEs consider adopting m-commerce, the participants mentioned that they may be more willing to adopt m-commerce if the adoption process was simple and did not require a significant amount of time. In addition, the participants highlighted business growth (such as improved sales and customer acquisition), competitor pressure and digital transformation as key aspects. This is particularly relevant in view of the COVID-19 pandemic, which has witnessed a notable rise among individuals towards online shopping.

After conducting the online in-depth interviews with South African retail SMEs that have adopted m-commerce in their business, three main reasons for adoption emerged. First, the adoption of m-commerce by South African retail SMEs was to enhance their online presence. The participants emphasised that mobile devices constituted almost two-thirds of their online traffic. In addition, the participants disclosed that the majority of their customers primarily used mobile devices (whether it be for shopping online, accessing social media platforms or viewing e-mails). Second, customer convenience was identified as another reason for the adoption of m-commerce. The participants highlighted that individuals may not always have the opportunity or the time to physically visit a store, and therefore valued the convenience of online shopping via their mobile devices. The participants further expressed the importance of having a mobile-friendly online store, as it offered ease of use to customers and enabled them to access the online store at their preferred time and location. The third reason for embracing m-commerce was to conform to current trends, as mobile devices have become the preferred medium among individuals.

7.3.3.2. Quantitative research (Phase 2)

The self-administered web-based questionnaire enabled respondents to select from a predetermined list of potential reasons influencing their decision to adopt or not adopt m-commerce in their business. The respondents were also given the opportunity to indicate an alternative option labelled as "other". The responses revealed that the main reasons that motivated respondents to adopt m-commerce in their business were to increase sales, the ability to conduct business anywhere and at any time as well as to enhance online presence. The non-adoption of m-commerce by South African retail SMEs was attributed to the lack of awareness of m-commerce in general, the lack of understanding of m-commerce and the lack of financial resources. The quantitative research substantiated the findings acquired in the qualitative research (phase 1).

A summary of the main reasons that influence the adoption and non-adoption of m-commerce among South African retail SMEs are outlined next.

The main reasons driving m-commerce adoption among South African retail SMEs:

- Conform to current trends.
- Enhance online presence.
- Improve customer accessibility and convenience.
- Increase sales.

The main reasons preventing the adoption of m-commerce among South African retail SMEs:

- Negative past experiences with technology vendors and third-party platforms.
- Incompatibility between business operations and m-commerce.
- Considerable amount of time and effort required to implement m-commerce.
- Costs associated with m-commerce and the availability of adequate financial resources to implement m-commerce.
- Lack of awareness and understanding of m-commerce.

Aspects that would encourage the adoption of m-commerce among South African retail SMEs:

- Increased sales.
- Customer accessibility.
- Minimal amount of time and effort required to implement m-commerce.
- Competitor pressure.
- Digital transformation.

Cromhout and Duffett (2022) assert that many SMEs lack the requisite knowledge, skills, and resources essential for the viability and growth of their business. In a study conducted by Rana et al. (2019) it was found that the lack of knowledge of m-commerce and the lack of awareness of the benefits of m-commerce could hinder the adoption of m-commerce among SMEs. Moreover, SMEs may be reluctant in allocating a substantial proportion of their resources towards the adoption of m-commerce, mostly due to concerns regarding

costs, including infrastructure, training and maintenance (Rana et al., 2019; Alaskar & Alsadi, 2023).

Based on the aforementioned discussion, the secondary objective, which aimed to investigate the main reasons influencing the adoption and non-adoption of m-commerce among South African retail SMEs, was achieved.

7.3.4. Secondary objective 3: To examine the predominant m-commerce platforms used by South African retail SMEs

The third secondary objective was achieved through phases 1 and 2 of the study (qualitative and quantitative research).

7.3.4.1. Qualitative research (Phase 1)

The findings from the online in-depth interviews conducted with South African retail SMEs who have adopted m-commerce in their business revealed that the platforms highlighted by participants for marketing and selling their products or services were Facebook, Instagram, WhatsApp, third-party platforms such as Uber Eats and Mr D Food as well as a website that supports online transactions (accessible on a mobile device). The participants reported that their online store was linked to their business's Facebook and Instagram pages which resulted in an increase in website traffic originating from these platforms. Furthermore, it was stated that customers could make purchases through Instagram by simply clicking on a post. WhatsApp was identified as a user-friendly platform which fostered a sense of personal connection with customers. The successful use of third-party platforms, such as Uber Eats and Mr D Food, was also noted by the participants. Lastly, the participants mentioned that customers could make purchases directly through the business's website using a mobile device. Shopify and WordPress were recognised as popular platforms among participants seeking to establish their online store and online presence.

7.3.4.2. Quantitative research (Phase 2)

The self-administered web-based questionnaire that was provided to respondents allowed them to select from a predetermined list of potential m-commerce platforms. The respondents could also indicate an alternative option labelled as "other". Based on the responses, the predominant m-commerce platforms used by South African retail SMEs (ranked in order of usage extent) were as follows.

- Facebook Marketplace: customers could browse the SMEs' products via their mobile devices. An option is provided for customers to send the business a direct message via Facebook Messenger to enquire, place orders and arrange shipping and payment.
- A website that facilitates online transactions (accessible on a mobile device): customers could browse the SME's website from their mobile device to shop, enquire, complete shipping details and make payment online via the website (online store).
- WhatsApp Messenger/WhatsApp Business (including WhatsApp Business cart feature): customers could send a direct message to the SME via WhatsApp to enquire, place orders and arrange shipping and payment. WhatsApp Business includes the WhatsApp Business cart feature the displays the SMEs' catalogue, where customers can select one or multiple products that they want to purchase, add to cart and checkout; the checkout automatically sends the cart to the business as a WhatsApp message to finalise the order and arrange shipping and payment.
- Instagram (Including Instagram Shopping and Direct messaging): Instagram Shopping (South Africa) allows customers to use their mobile device to browse the SMEs' products and make enquiries via Instagram; customers are then directed to the website (online store, link on the bio) to checkout. Instagram direct messaging allows customers to send a direct message to the SME to enquire, place orders and arrange shipping and payment).

The quantitative research provided further support and validation for the findings acquired in the qualitative research (phase 1). Moreover, a recent digital report on South Africa

showed that WhatsApp, Facebook, and Instagram were the main social media platforms used within the country (as of January 2023) (Kemp, 2023b). Furthermore, a study conducted by Idris, Adi and Wiradimadja (2020) revealed that SMEs commonly employed WhatsApp, Facebook, and Instagram in their business operations. More specifically, Idris et al. (2020) discovered that the majority of the SMEs in the study used WhatsApp as a means of conducting transactions with their customers (Idris et al., 2020). It is worth mentioning that a considerable proportion of respondents (69.6%, n = 181) indicated that they used a website that facilitates online transactions (accessible on a mobile device). This finding suggests that SMEs understand the benefits and value associated with establishing an online store, particularly one that is compatible with mobile devices.

The third secondary objective, which aimed to examine the predominant m-commerce platforms used by South African retail SMEs, was achieved based on the aforementioned discussion.

7.3.5. Secondary objective 4: To identify the factors that influence the adoption of m-commerce among South African retail SMEs

The fourth secondary objective was to identify the factors that influence the adoption of m-commerce among South African retail SMEs. This objective was addressed through a review of existing literature pertaining to the field of m-commerce (chapter 3) and phase 1 of the research (qualitative).

7.3.5.1. *Literature review*

Through an extensive review of the literature, in the field of m-commerce (chapter 3), a total of 59 factors that influence the adoption of m-commerce in organisations (including SMEs) were identified. These factors were subsequently classified into four contexts, specifically technological, organisational, environmental and managerial. As previously indicated in section 7.3.1.1, the study was grounded in the TOE framework, which was further extended to include the managerial context. Content analysis was selected as the methodological approach to categorise all the factors that shared a similar purpose. As a result, the total number of factors was reduced to 18, including a total of 81 items (Table

4.2, chapter 4). The identification of the 18 factors provided support for development of a preliminary conceptual framework for m-commerce adoption among South African retail SMEs. The technological context included perceived benefits, perceived complexity, perceived compatibility, perceived security, perceived cost and trialability. The organisational context included organisational readiness, organisational innovativeness, employees' IT knowledge and organisation size. The environmental context included competitive pressure, government support, supplier pressure, customer pressure, technology vendor support and global trends. The managerial context included managers' IT knowledge and top management support. The preliminary conceptual framework, as illustrated in Figure 7.2, served as the foundation for the study.

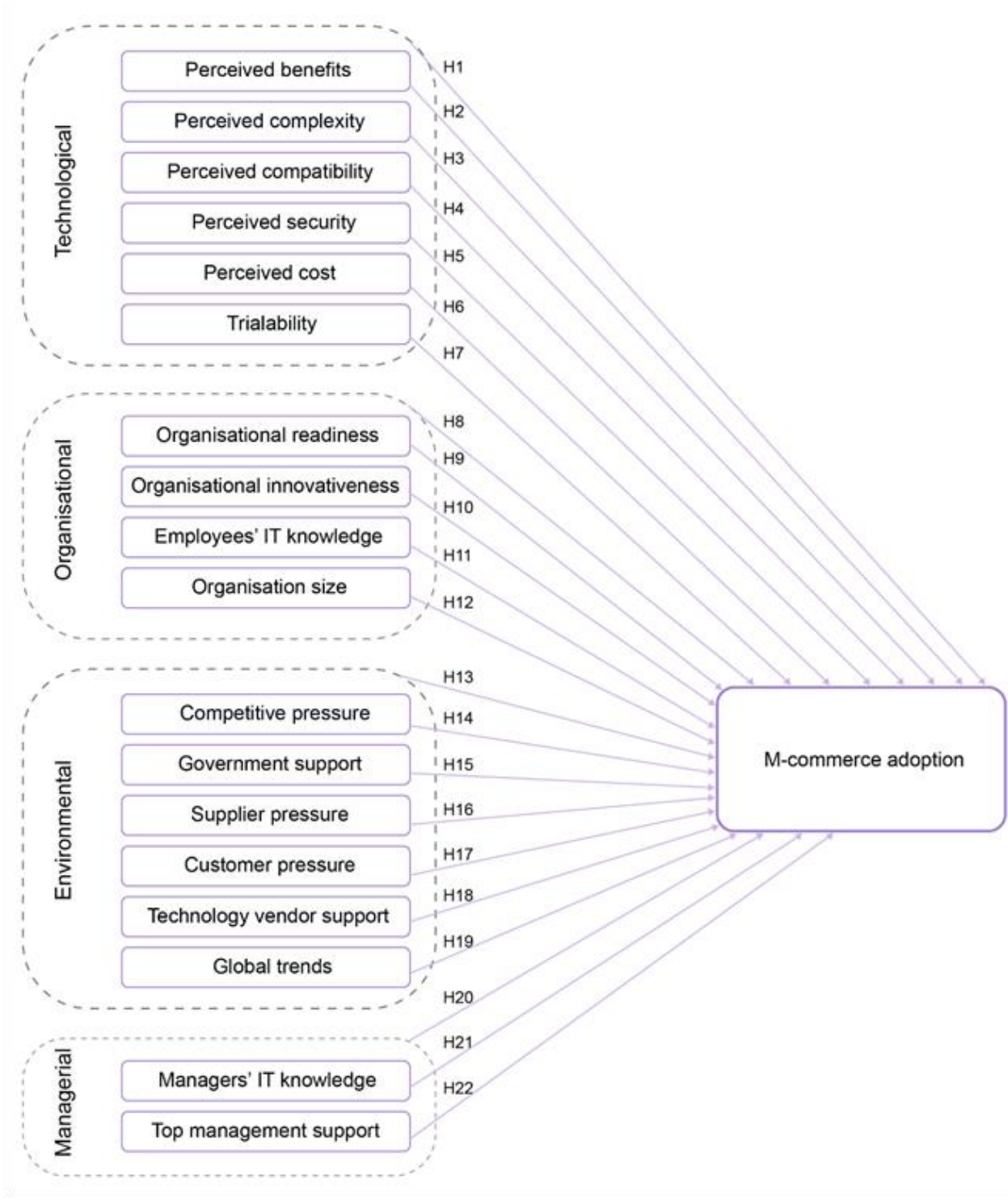


Figure 7.2: Preliminary conceptual framework for m-commerce adoption

7.3.5.2. *Qualitative research (Phase 1)*

The preliminary conceptual framework (Figure 7.2) was refined through the use of qualitative research (phase 1). The primary aim of the qualitative research was to identify additional factors that influence the adoption of m-commerce, unique to South African retail SMEs. Apart from the 18 factors that were identified from the literature review (Figure 7.2), it was discovered that age, instant gratification, crisis-related pressure such as COVID-19 and a willingness to learn emerged as important factors (themes) that influenced the adoption of m-commerce among South African retail SMEs. The preliminary conceptual framework was revised, resulting in an increase of the number of factors from 18 to 22 factors, encompassing 97 items. The four additional factors, namely, age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn, were not part of a specific context under the extended TOE framework. Consequently, these factors were collectively classified under the "integrated" context. The revised conceptual framework for m-commerce adoption, as illustrated in Figure 7.3 served as the basis for phase 2 of the study (quantitative) which aimed to validate the conceptual framework for m-commerce adoption.

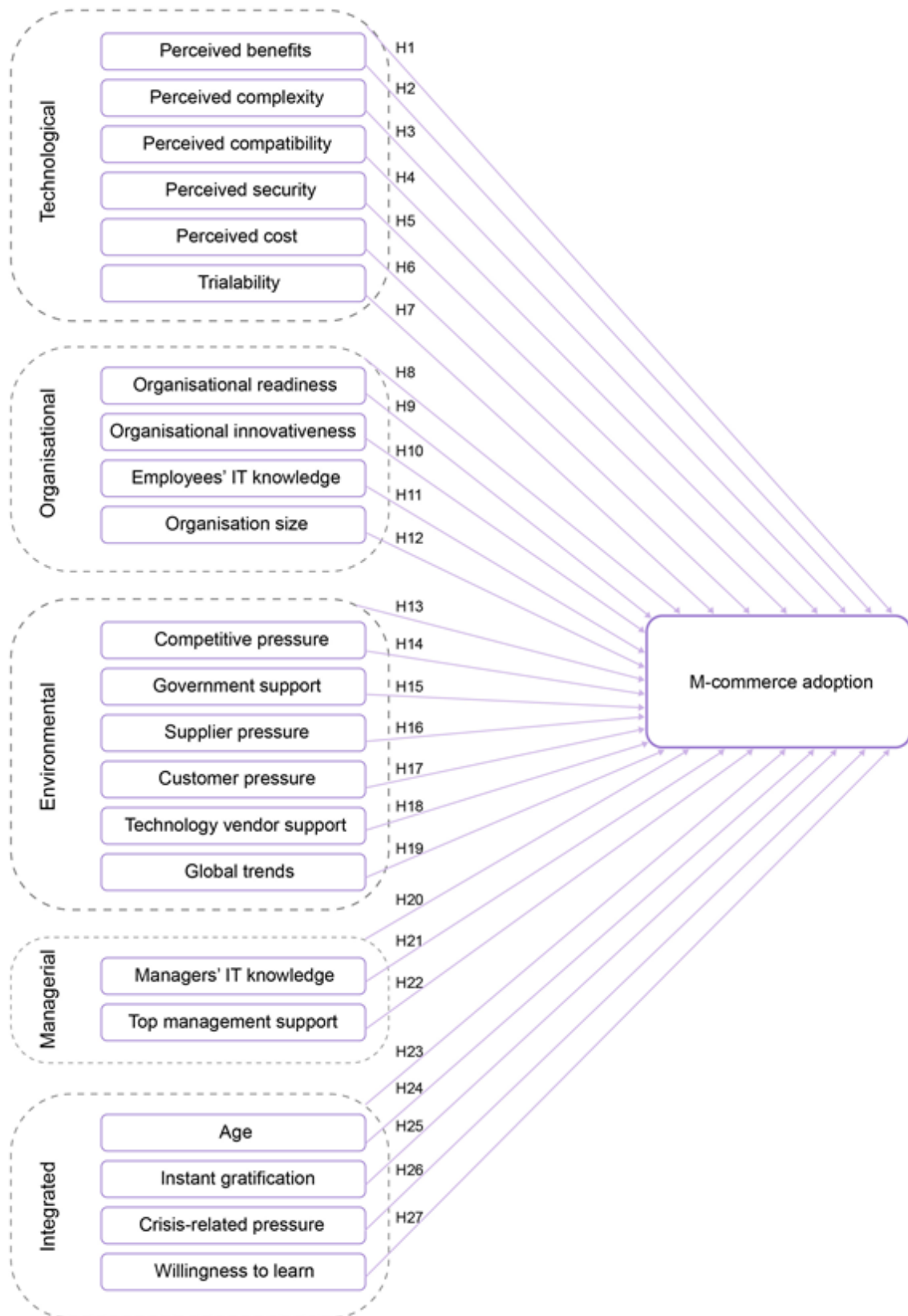


Figure 7.3: Revised conceptual framework for m-commerce adoption

In light of the above discussion, the fourth secondary objective, which sought to identify the factors that may influence the adoption of m-commerce among South African retail SMEs, was achieved through secondary data and empirical research.

7.3.6. Secondary objective 5: To establish the relationship between the identified factors and the adoption of m-commerce

The fifth secondary objective, “to establish the relationship between the identified factors and the adoption of m-commerce”, was addressed through the quantitative research conducted in phase 2.

7.3.6.1. Quantitative research (Phase 2)

The revised conceptual framework for m-commerce adoption (Figure 7.3) was tested and validated by conducting CFA using SEM. As discussed in section 7.3.1.3, the study delineated the measurement and structural model. Goodness-of-fit indices were used to assess the overall fit of the measurement model. Convergent validity and reliability of the measurement model was examined through factor loadings, CR values, AVE values and Cronbach’s Alpha (α). The investigation of discriminant validity of the measurement model involved examining the square root of AVE and correlation coefficients. The measurement model achieved good fit and showed strong evidence of reliability and validity. Prior to the delineation of the structural model, multiple regression analysis was conducted to determine the relationship between the five contexts of the revised conceptual framework (technological, organisational, environmental, managerial and integrated) and m-commerce adoption among retail SMEs in South Africa. The results revealed that the five contexts explained 73.1% of the variance in m-commerce adoption. Moreover, a statistically significant relationship was found between the technological, organisational, environmental and managerial contexts, and the adoption of m-commerce among South African retail SMEs. The integrated context was found to have an insignificant relationship with m-commerce adoption. The validity of the structural model was assessed using the goodness-of-fit indices, factor loadings, coefficient of determination (R^2), and estimates of structural parameters. The initial analysis revealed unacceptable model fit. In order to attain acceptable model fit, the goodness-of-fit statistics were analysed after individually

removing each of the four additional factors that were identified from the qualitative research (phase 1), namely, age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn. These four factors were classified under the “integrated” context and was found to have an insignificant relationship with m-commerce adoption, as previously stated. The goodness-of-fit statistics indicated that even after the removal of each of the four additional factors, acceptable model fit was not achieved. As a result, the model was re-specified by removing all four factors simultaneously. The re-specified model was found to have an acceptable fit. The structural parameter estimates for 18 factors were obtained for hypotheses testing. The analysis revealed that eight out of 18 structural path estimates had statistical significance: perceived benefits, perceived complexity, perceived cost, organisational innovativeness, government support, customer pressure, global trends and top management support.

Table 7.1 below provides a summary of the relationship between the identified factors and the adoption of m-commerce among South African retail SMEs.

Table 7.1: Relationship between the identified factors and the m-commerce adoption

Factors	Tested Hypotheses	Results
Technological context	H1: There is a statistically significant relationship between the technology context and m-commerce adoption among South African retail SMEs	Supported
Perceived benefits	H2: There is a statistically significant relationship between perceived benefits and m-commerce adoption among South African retail SMEs	Supported
Perceived complexity	H3: There is a statistically significant relationship between perceived complexity and m-commerce adoption among South African retail SMEs	Supported
Perceived compatibility	H4: There is a statistically significant relationship between perceived compatibility and m-commerce adoption among South African retail SMEs	Not supported
Perceived security	H5: There is a statistically significant relationship between perceived security and m-commerce adoption among South African retail SMEs	Not supported
Perceived cost	H6: There is a statistically significant relationship between perceived cost and m-commerce adoption among South African retail SMEs	Supported

Trialability	H7: There is a statistically significant relationship between trialability and m-commerce adoption among South African retail SMEs	Not supported
Organisational context	H8: There is a statistically significant relationship between the organisational context and m-commerce adoption among South African retail SMEs	Supported
Organisational readiness	H9: There is a statistically significant relationship between organisational readiness and m-commerce adoption among South African retail SMEs	Not supported
Organisational innovativeness	H10: There is a statistically significant relationship between organisational innovativeness and m-commerce adoption among South African retail SMEs	Supported
Employees' IT knowledge	H11: There is a statistically significant relationship between employees IT knowledge and m-commerce adoption among South African retail SMEs	Not supported
Organisation size	H12: There is a statistically significant relationship between organisational size and m-commerce adoption among South African retail SMEs	Not supported
Environmental context	H13: There is a statistically significant relationship between the environmental context and m-commerce adoption among South African retail SMEs	Supported
Competitive pressure	H14: There is a statistically significant relationship between competitive pressure and m-commerce adoption among South African retail SMEs	Not supported
Government support	H15: There is a statistically significant relationship between government support and m-commerce adoption among South African retail SMEs	Supported
Supplier pressure	H16: There is a statistically significant relationship between supplier pressure and m-commerce adoption among South African retail SMEs	Not supported
Customer pressure	H17: There is a statistically significant relationship between customer pressure and m-commerce adoption among South African retail SMEs	Supported
Technology vendor support	H18: There is a statistically significant relationship between technology vendor support and m-commerce adoption among South African retail SMEs	Not supported
Global trends	H19: There is a statistically significant relationship between global trends and m-commerce adoption among South African retail SMEs	Supported
Managerial context	H20: There is a statistically significant relationship between the managerial context and m-commerce adoption among South	Supported

	African retail SMEs	
Managers' IT knowledge	H21: There is a statistically significant relationship between managers IT knowledge and m-commerce adoption among South African retail SMEs	Not supported
Top management support	H22: There is a statistically significant relationship between top management support and m-commerce adoption among South African retail SMEs	Supported

Based on the aforementioned discussion, the secondary objective, which aimed to establish the relationship between the identified factors and the adoption of m-commerce, was achieved.

7.3.7. Secondary objective 6: To identify areas for future research

The sixth secondary objective was to identify potential areas for future research. Based on the empirical evidence in Chapters 5 and 6 as well as the conclusions drawn in the preceding sections, a number of recommendations for future research are proposed.

- The study employed both qualitative and quantitative research methods, focusing on a non-probability, judgement sampling approach. It is important to note that this sampling method may have limited the extent to which the findings can be generalised. While the sample for the quantitative research may have displayed demographic and geographical representativeness of South Africa, it is recommended that future research employ a probability sampling method to enhance the generalisability of the findings.
- The scope of the study was focused on the retail sector, thus warranting further investigation into other sectors.
- The primary focus of the study was to examine the perceptions, experiences and opinions of South African retail SMEs and experts in the field of m-commerce. A potential avenue for contributing to the existing body of knowledge is to investigate the perceptions of employees regarding the factors that influence m-commerce adoption among SMEs.
- The qualitative research revealed four additional factors that influence m-commerce adoption among South African retail SMEs, including age, instant gratification,

crisis-related pressure such as COVID-19 and willingness to learn. These factors warrant further investigation in order to arrive at a definitive conclusion.

- While South African retail SMEs have acknowledged that m-commerce has made a notable contribution to their sales, further investigation could be undertaken in order to examine the impact of m-commerce on the operational performance of South African retail SMEs.
- Future research may be directed towards the empirical investigation and testing of the proposed conceptual framework for m-commerce adoption in other countries in order to ascertain its soundness and validity.
- Although the study included data from South African retail SMEs that have not adopted m-commerce in their business, the sample size from this particular group was inadequate to provide precise comparisons between the adopters and non-adopters regarding the factors that influence m-commerce adoption. Future research could be undertaken to explore the potential differences between adopters and non-adopters of m-commerce.
- Future research may adopt a larger sample size to increase the representativeness and accuracy of a sample.

The final secondary objective, which aimed to identify potential areas for future research, was achieved based on the aforementioned points.

7.3.8. Primary objective: To synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities

The primary objective of this study was to synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities.

The secondary objectives (derived from the primary objective) revealed that a preliminary conceptual framework for m-commerce adoption (Figure 7.2) was initially developed based on the literature review and served as a foundation for the study. The preliminary

conceptual framework consisted of 18 factors, comprising 81 items and was refined through the empirical research, which encompassed qualitative (phase 1) and quantitative (phase 2) research. During phase 1, four additional factors that influence the adoption of m-commerce among South African retail SMEs were identified including age, instant gratification, crisis-related pressure such as COVID-19 and willingness to learn. The preliminary conceptual framework was revised to include a total of 22 factors, consisting of 97 items. The revised conceptual framework for m-commerce adoption (Figure 7.3) served as the basis for phase 2 which involved quantitative research methods for the purpose of testing and validating the framework. The findings obtained from phase 2 provided empirical support for the validity of a proposed conceptual framework for m-commerce adoption. The proposed conceptual framework comprises eight factors and 39 items, which may be used to support South African retail SMEs in enhancing the use of m-commerce in their marketing activities. The proposed conceptual framework, illustrated in Figure 7.4 outlines eight factors that have a statistically significant influence on the adoption of m-commerce among South African retail SMEs. These factors include perceived benefits, perceived complexity, perceived cost, organisational innovativeness, government support, customer pressure, global trends and top management support.

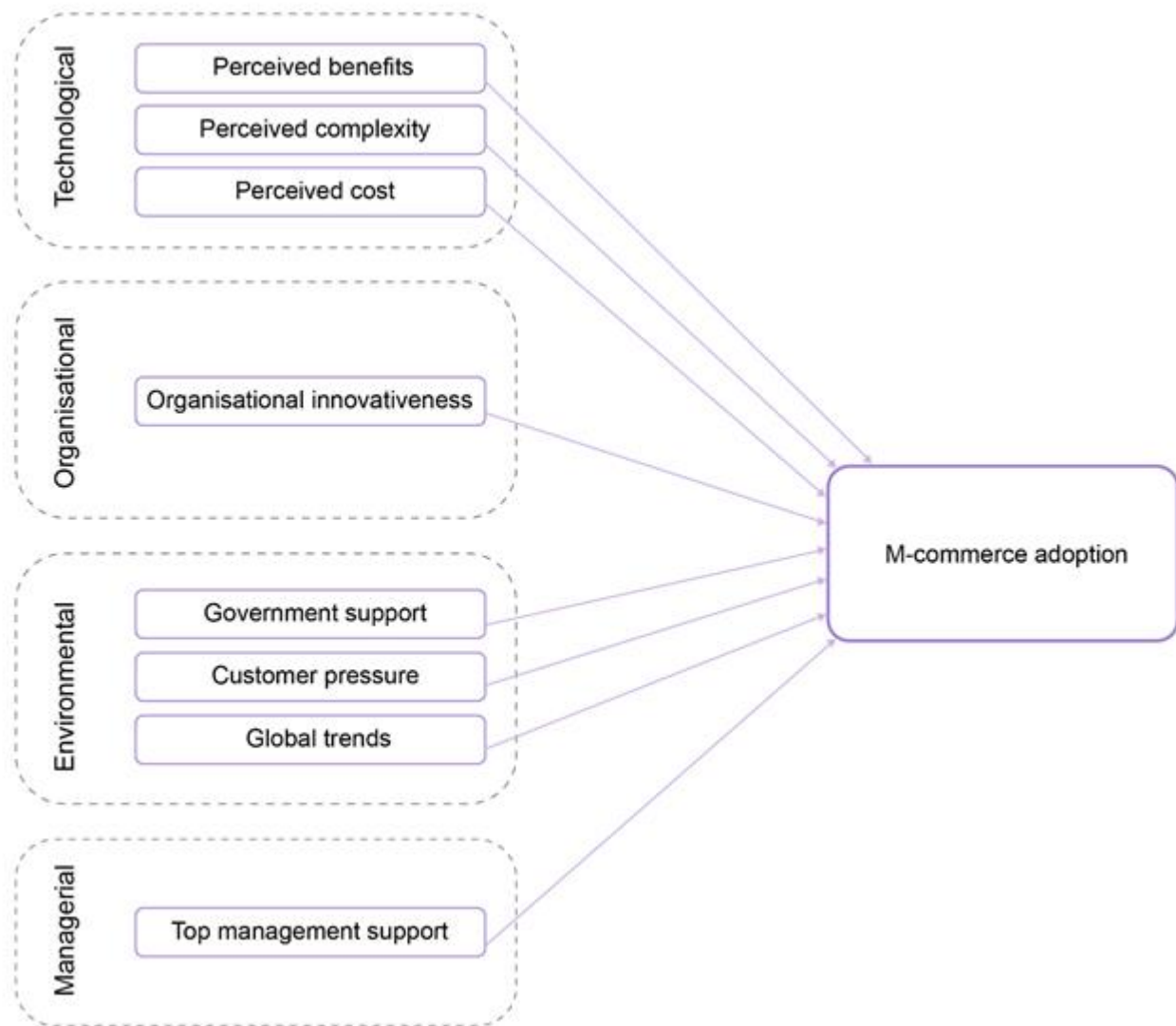


Figure 7.4: Proposed conceptual framework for m-commerce adoption

It is evident from the findings and conclusions that the primary research objective, “to synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities”, along with the research question, “What are the factors that influence the adoption of m-commerce in South African retail SMEs?”, has been successfully achieved.

In the next section, recommendations for this study are put forth.

7.4. RECOMMENDATIONS

Section 7.4 provides a summary of the recommendations for South African retail SMEs, the government and technology vendors. The recommendations put forth are derived from the research objectives and the conclusions drawn from the research findings. It is imperative to critically unpack the wording of the primary objective of this study which is “to synthesise a framework of factors that could support South African retail SMEs in enhancing the use of m-commerce in their marketing activities”. By “enhancing” the use of m-commerce, this study aimed to promote the adoption of m-commerce among South African retail SMEs by providing recommendations that may effectively raise awareness and stimulate interest in m-commerce, increase the rate of m-commerce adoption and improve current m-commerce strategies.

The success of the proposed conceptual framework for m-commerce adoption (as depicted in Figure 7.4) is believed to be contingent upon its acceptance and endorsement by the government. This belief stems from the recognition of the critical role that the government could play in generating awareness and providing the necessary support to facilitate the adoption of m-commerce among South African retail SMEs. As a result, the subsequent discussion commences with recommendations proposed for government support (including technology vendors), followed by top management support, organisational innovativeness as well as customer pressure and global trends. Offering recommendations in this way narrows the focus to key areas that may provide value to South African retail SMEs.

7.4.1. Government support

This study revealed that government support was found to have a significant influence on the adoption of m-commerce among South African retail SMEs. It is postulated that South African retail SMEs may be more willing to adopt m-commerce if they were to receive assistance and support from the government. However, there is a prevalent belief among SMEs that the government does not provide sufficient support in promoting the adoption of m-commerce among SMEs. The qualitative research findings revealed that although the availability of government support and training initiatives for promoting m-commerce

adoption among SMEs was seen as beneficial, the SMEs strongly believed that these government efforts would not materialise. Similarly, the conclusions drawn by Majadibodu, Ramasimu and Ladzani (2023) highlighted that the South African government does not provide sufficient support to SMEs. Majadibodu et al. (2023) further indicated that in order for SMEs to achieve economic success, they need to acquire the necessary government support such as the relaxation of financial requirements, financial grants, training and mentoring.

Hence, the following recommendations are proposed to the government. It is presumed that Seda and Sefa will assume a pivotal role as central facilitators in this context, as successful implementation of a viable solution to promote the adoption of m-commerce among South African retail SMEs will necessitate collaboration and dedication in generating awareness as well as providing the requisite financial resources and business support.

- It is advised that **awareness campaigns** are conducted by the government to educate and inform SMEs on the importance of m-commerce, the benefits and costs associated with m-commerce, the complexities involved and its potential as a strategic business tool. **Perceived benefits** was found to have a significant influence on m-commerce adoption among South African retail SMEs. The implications of the findings may suggest that SMEs may be more willing to adopt and use m-commerce in their business if SMEs are aware of the potential benefits associated with m-commerce. The preceding implications are further supported by the findings of this study which revealed that the main reasons driving and encouraging the adoption of m-commerce among South African retail SMEs were related to the perceived benefits associated with m-commerce. This included enhanced online presence, increased sales as well as improved customer accessibility and convenience. Therefore, by conducting awareness campaigns, the government can effectively stimulate interest among SMEs to integrate m-commerce into their marketing activities. **Perceived complexity** and **perceived cost** were also found to have a significant influence on the adoption of m-commerce among South African retail SMEs. This study identified that some of the main

reasons preventing the adoption of m-commerce among South African retail SMEs were related to perceived complexity and perceived cost. More specifically, the SMEs placed emphasis on the considerable amount of time and effort required to implement m-commerce, the costs associated with m-commerce and the availability of adequate financial resources to implement m-commerce. Hence, it appears that SMEs are of the opinion that adopting m-commerce in their business would require a significant amount of time, effort and financial resources. It is imperative that these awareness campaigns conducted by the government also emphasise the positive trade-off between the costs and benefits of m-commerce. If SMEs are aware of the potential benefits of m-commerce and recognise the positive trade-off (where the expected benefits of m-commerce outweigh the costs), then they may have a greater inclination towards adopting m-commerce. Additionally, these awareness campaigns should inform SMEs about the availability and accessibility of support initiatives by the government that can facilitate m-commerce adoption among SMEs and alleviate the costs associated with m-commerce.

- An ***m-commerce online portal*** for SMEs should be established through collaboration between the government and various stakeholders. The aim of this portal would be to provide the necessary resources in order to uplift and support SMEs in integrating m-commerce into their business operations and marketing activities. Additionally, the portal can offer SMEs a one-stop centralised location for obtaining information and gaining access to valuable resources including:
 - Online workshops and training programmes on establishing an m-commerce strategic plan and the execution thereof. A mini-workshop series can be provided to cover topics related to the components of m-commerce such as website building, responsive web design, search engine optimisation (SEO), social media selling strategies, payment solutions, database management and logistics.
 - Articles on m-commerce, emerging trends and the success stories of other SMEs that have already adopted m-commerce in their business.
 - Step-by-step instruction manuals that cover various m-commerce platforms that can be employed by SMEs in their marketing activities.

- Policies and laws covering security aspects such as consumer protection and intellectual property rights.
 - Freely accessible online services from technology vendors that can offer advice to SMEs and assist in the implementation of m-commerce, tailored to the specific needs and challenges facing each business. It is suggested that government collaborate with these technology vendors to actively promote the adoption of m-commerce among SMEs by offering free consultation sessions or workshops that are aimed at increasing SMEs understanding of m-commerce and associated complexities. Additionally, technology vendors could provide SMEs with a free trial period enabling SMEs to gain first-hand experience with the different m-commerce platforms as well as explore the opportunities and benefits that may be reaped from adopting m-commerce in their business. Additionally, this initiative could alleviate the complexities that SMEs associate with m-commerce.
 - Financial resources/grants can assist SMEs in alleviating the costs associated with the adoption of m-commerce, such as expenditures in software and hardware (e.g. server, router, operating system, business website, personal laptops and mobile devices). In addition, loadshedding places a significant burden on SMEs as it disrupts business operations and requires the acquisition of inverters and generators which can lead substantial costs. Various measures, such as tax incentives, can also be introduced to motivate SMEs to adopt m-commerce.
 - The provision of infrastructure such as internet connectivity to successfully implement m-commerce. It is imperative for government to actively promote a stable, legal and regulatory environment to support the adoption of m-commerce among SMEs.
- The government can also establish ***an innovation hub*** that facilitates online workshops such as design thinking and creative problem-solving. Additionally, this innovation hub can create networking opportunities allowing SMEs to collaborate with other businesses, technology vendors and experts in the field of m-commerce.

Through these workshops and collaborations, SMEs can acquire knowledge and market insights to enhance their innovative performance.

7.4.2. Top management support

The decisions made by SMEs are influenced by the attitudes and beliefs of top management. Consequently, the support provided by top management plays a crucial role in the adoption of m-commerce (Li & Wang, 2018; Fatoki, 2020; Justino et al., 2022; Alaskar & Alsadi, 2023). It is important for top management to consider m-commerce as a strategic approach to capitalise on emerging opportunities and sustain a competitive advantage. This aspect is closely related to government support (Section 7.4.1). If the government implements measures to raise awareness and stimulate interest in m-commerce among SMEs, top management may recognise their proactive role in facilitating the adoption of m-commerce within the business. As a result, top management can employ concrete measures such as allocating adequate resources and creating a conducive environment to promote the successful adoption of m-commerce.

The following recommendations are proposed to South African retail SME owners/managers based on the findings regarding the significant influence of top management support on the adoption of m-commerce.

- The formulation of an ***m-commerce strategic plan*** by top management is suggested to outline the m-commerce strategies and platforms that will be employed, the timeframe for execution and the allocated budget (including costs for implementation, maintenance, training, and potential outsourcing services). Additionally, the m-commerce strategic plan should clearly define the objectives that will be accomplished through the implementation of m-commerce.
- ***Conferences and seminars on m-commerce*** can facilitate network building between top management and experts in the field of m-commerce as well as foster the acquisition of critical insights needed for achieving success in the implementation of m-commerce. These training initiatives may further equip top management with the necessary skills to navigate the challenges associated with m-commerce.

- It is advisable for top management to invest time and resources towards **m-commerce training initiatives**. This recommendation can be implemented by enrolling employees, including the owner and/or manager, in short courses or workshops that cover the fundamentals of m-commerce. SME owners/managers may consider appointing a designated employee who can focus on acquiring specialised training in m-commerce to oversee and manage online activities within the business. The requisite skills for this role may involve the designated employee to gain a comprehensive understanding of the various components of m-commerce, such as basic website building, responsive web design, SEO, social media selling strategies, payment solutions, database management and logistics. Consequently, the designated employee can share their experiences pertaining to the use of m-commerce within the business and provide guidance to fellow employees by means of a mentorship approach.
- SMEs facing financial constraints in attending short courses or workshops on m-commerce can overcome this constraint by accessing the wealth of **free online learning resources**, some of which are listed below.
 - YouTube provides a comprehensive collection of free online videos that covers the various components of m-commerce, the benefits and challenges associated with m-commerce and emerging trends in m-commerce.
 - The Insaka eCommerce Academy website is a valuable platform that offers a wide range of free online resources, courses, mentorship and support services designed to facilitate online success for businesses including SMEs. SMEs can also join the Insaka Facebook group, where they can interact with other entrepreneurs and learn from their insights and experiences regarding the adoption and use of m-commerce.
 - Google for Small Business offers free online resources, tools and guidance that are specifically designed to assist SMEs in growing their business online.
 - HubSpot Academy provides a host of free online tools, short practical courses and comprehensive certifications that cover topics related to m-commerce such as website design, mobile optimisation, SEO and social

media selling strategies. These resources can support SMEs in adopting m-commerce in their business.

- Top management needs to proactively engage in collaborative partnerships with academic institutions to enhance their knowledge and understanding of m-commerce and to stay abreast of emerging trends. SMEs can contact academic institutions to explore the various workshops and mentoring programmes available that could support SMEs in their efforts to integrate m-commerce into their marketing activities. Moreover, SMEs can collaborate with academic institutions to facilitate a joint entrepreneurship initiative. This initiative can involve conducting interactive sessions either in-person or online via platforms such as Teams or Zoom which can serve as a forum for SME employees, academics and students to engage in discussions, identify potential opportunities and develop solutions tailored to the unique challenges faced by the SME in the context of m-commerce.

7.4.3. Organisational innovativeness

This study revealed that the m-commerce adoption among South African retail SMEs was significantly influenced by organisational innovativeness. This finding implies that SMEs that demonstrate innovativeness and a greater willingness to embrace change may have a higher likelihood of progressing towards the adoption of m-commerce. Innovation has been widely recognised as one of the key drivers of performance, competitiveness and success in SMEs (Hendayana, Suryana, Ahman & Mulyadi, 2019; Makelana et al., 2022).

In light of the research findings of organisational innovativeness, the following recommendations are put forward for South African retail SME owners/managers:

- It is recommended for SME owners/managers to **build a culture of innovation** within their business. This recommendation can be achieved by fostering a work environment that will empower, encourage and incentivise employees to develop innovative solutions and technologies such as m-commerce.
 - All employees should be encouraged to share their ideas and provide constructive feedback.

- Brainstorming sessions can be conducted either in-person or online via platforms such as Teams or Zoom to bring together the diverse ideas and perspectives of employees. These sessions may encourage employees to develop interpersonal connections and effective collaborative skills.
 - A safe space could be created where employees can feel comfortable to share and evaluate ideas between each other at the same time through the use of a document sharing platform such as Google Docs.
 - A reward system can be implemented to recognise and encourage innovative thinking such as award ceremonies, employee of the month and bonuses.
- Understanding customer needs and fostering meaningful relationships with customers can play a central role in promoting innovation and the adoption of m-commerce in SMEs. **Customer feedback** can be a valuable source of insight, which can be acquired through online surveys, customer reviews and actively engaging with customers via social media platforms. Recommendations on how these strategies can be employed by SMEs to obtain customer feedback are discussed in the next section (7.4.4).
 - SMEs should effectively **monitor competitors** (local and global) to gain insights into the m-commerce strategies that are being employed by their competitors. SMEs can monitor the online presence and marketing activities of their competitors by reviewing their websites, social media accounts and customer reviews on platforms such as Google and Facebook. This practice can assist SMEs in enhancing their own marketing activities and m-commerce strategies. Monitoring competitors can serve as a benchmark for SMEs in terms of evaluating their own performance, identifying key areas for improvement and developing innovative solutions to maintain a competitive advantage.
 - As discussed in the preceding sections, the implementation of **government initiatives, training and collaborative partnerships** could assist SMEs in identifying emerging trends and foster creativity, which may result in the acceleration of innovation and the adoption of technologies such as m-commerce.

7.4.4. Customer pressure and global trends

The findings of this study indicate that m-commerce adoption among South African retail SMEs is significantly influenced by customer pressure and global trends. These findings may imply that SMEs could have a higher tendency to adopt m-commerce in their business if SMEs experience pressure from customers to use m-commerce technologies or to align their business practices with global standards. The abovementioned implications are further supported by the findings of this study which showed that some of the main reasons driving the adoption of m-commerce among South African retail SMEs was to conform to current trends and improve customer accessibility and convenience. Additionally, digital transformation was highlighted as one of the aspects that would encourage m-commerce adoption among South African retail SMEs.

The proliferation of technology, increased internet usage, growing smartphone penetration and changes in customer purchasing behaviour (particularly in response to the COVID-19 pandemic) has fuelled the growth of m-commerce (Mordor Intelligence, 2021; Statista, 2022). The dependence of individuals on mobile devices for communication, information acquisition and online shopping has become apparent. As a result, SMEs must leverage m-commerce to provide a seamless customer experience and strengthen their competitive edge (Yahaya et al., 2022). In order to capitalise on the benefits of m-commerce, SMEs should be aware of customer preferences regarding m-commerce platforms and strategies. For example, SMEs will need to ensure that their website (online store) is mobile responsive to accommodate customers who prefer to use their mobile devices to purchase directly from the website. Therefore, the following recommendations are proposed for South African retail SME owners/managers:

- It is recommended that SMEs ***actively interact with their customers to ascertain their specific needs and preferences with regard to m-commerce***. The findings of this study revealed that Facebook, WhatsApp and Instagram were the most frequently used social media platforms by South African retail SMEs, in the context of m-commerce. Similarly, a recent digital report (as of January 2023) indicated that Facebook, WhatsApp and Instagram were identified as the main social media

platforms used by South Africans in general (Kemp, 2023b). SMEs can, therefore, leverage these social media platforms as a strategic means to not only engage in sales activities, but to gather customer feedback and acquire valuable insights into customer preferences and purchasing behaviour. SMEs can obtain customer feedback through various means such as surveys, polls and customer reviews. Customer participation can be encouraged through the provision of incentives such as discounts, free shipping and competition entries.

- SMEs can create short online customer surveys by using Google Forms to gain insights into customer needs and preferences. The survey can be distributed to customers via e-mail or posted on social media platforms such as Instagram and Facebook. SMEs can inquire about matters relating to the online user experience, incorporating questions such as “How can we improve your online experience with us?” and “What technological features would you like us to integrate into our platforms?”. Google Forms has the capability to automatically store the survey responses and provide a graphical summary facilitating the analysis process for SMEs.
 - Polls are a simple method of posing a single question and obtaining immediate responses. Polls can be generated on WhatsApp and Instagram, offering a convenient and efficient way for SMEs to gather valuable customer feedback. For example, SMEs can inquire about payment options and raise a question such as “Which payment option do you prefer?” including a list of predetermined options such as “electronic funds transfer (EFT)”, “credit card” and “PayPal”.
 - SMEs can encourage their customers to leave reviews about the business on platforms such Google and Facebook. However, it is equally important to respond to customer reviews, whether positive or negative, in order to demonstrate the value of customer feedback and the commitment to improving customer service.
- As discussed in the preceding sections, the implementation of **government initiatives, training, collaborative partnerships** and **monitoring competitors** could assist SMEs in identifying emerging trends and aligning their business practices with international standards. Additionally, SMEs can consult online

articles, industry reports, blogs and social media to stay informed about current events as well as **global trends**.

7.4.5. Suggested m-commerce platforms for SMEs

Based on the research findings and the preceding discussion, SME owners/managers can leverage m-commerce in their marketing activities through a number of m-commerce platforms such as WhatsApp, Facebook, Instagram, website (online store), or third-party platforms such as Uber Eats/Mr D Food, Takealot, bidorbuy and Yaga. It is recommended that SMEs take advantage of the following platforms to initiate or improve their current m-commerce strategies.

7.4.5.1. WhatsApp Business

WhatsApp Business is a popular free application that can support SMEs in progressing towards m-commerce. WhatsApp Business is characterised by its efficiency and user-friendly interface, which eliminates the need for extensive training on the application's functionalities and features. It is advised that SMEs incorporate the WhatsApp Business cart feature which can provide an integrated shopping experience for customers. SMEs can showcase their products via a catalogue. Customers can view the SMEs' catalogue, select one or multiple products, add to cart and checkout; checkout automatically sends the cart to the business as a WhatsApp message. SMEs could consider employing payment methods such as electronic funds transfer (EFT) or cash on delivery (COD) as well as courier services such as PAXI or Postnet. The use of WhatsApp Business, particularly its cart feature, presents a valuable opportunity for SMEs that have not adopted m-commerce in their business.

7.4.5.2. Instagram

Instagram is a free photo and video sharing application that has evolved into a powerful business tool. Instagram can offer SMEs a unique opportunity to showcase and sell their products and services as well as create brand awareness. Instagram can serve as an extension of the SMEs online store. Customers can be directed to the SMEs' website (online store) via a link in the bio. Additionally, Instagram Shopping allows SMEs to

showcase their products and services via shoppable posts which directs customers to the website (online store) to checkout. SMEs without a website (online store) can use Instagram direct messaging as it allows customers to send a direct message to the SME to enquire, place orders, arrange shipping and payment. As mentioned in the previous sections, the SMEs could consider using payment methods such as EFT or COD as well as courier services such as PAXI or Postnet.

7.4.5.3. Facebook marketplace

Facebook Marketplace is a freely accessible online space that SMEs can employ for the purpose of selling both new and used products locally. Facebook Marketplace can be a valuable opportunity for SMEs as it provides access to a large audience. Similar to WhatsApp, SMEs can showcase their products by creating a listing. Customers are able to browse the SMEs' products on Facebook Marketplace. An option is provided for customers to send the business a direct message via Facebook Messenger to enquire, place orders, arrange shipping and payment. As discussed in the preceding sections, the SME could consider using payment methods such as EFT or COD as well as courier services such as PAXI or Postnet.

7.4.5.4. Shopify

Shopify is a well-established, all-in-one platform that offers a wide range of support to build an online store. Shopify is suitable for SMEs that are new to m-commerce, as it does not require any coding. Shopify further offers a setup wizard that can assist and guide SMEs through the process of building the online store. In addition to the setup wizard, there are many free resources available to assist SMEs with the platform. Shopify has a variety of web design templates, otherwise known as "themes", which are mobile responsive. This implies that the website will automatically adapt to the dimensions of the screen size on which it is being accessed, thereby delivering an optimal visual experience for customers. SMEs have the opportunity to sign up for a free trial before committing to an active monthly plan.

7.5. RESEARCH SIGNIFICANCE AND CONTRIBUTION TO KNOWLEDGE

As mentioned in chapter 1, the significance of this study stems from the importance of SMEs to the economy and the rise of m-commerce. The findings provide both theoretical and practical contributions. The study extends the TOE framework – commended for its solid theoretical foundation – to investigate the factors that influence m-commerce adoption among South African retail SMEs. The research contributes to the existing body of knowledge by proposing a conceptual framework for m-commerce adoption, more specifically, to enhance the use of m-commerce among South African retail SMEs. The study may be used by researchers and academics as a basis for further research.

The study provides a valuable contribution to South African retail SMEs in enhancing their understanding of m-commerce. As discussed in chapter 1, it has been argued that the adoption rate of m-commerce among SMEs is low in many developing countries such as South Africa (Sparks et al., 2019; Rana et al., 2019; Fatoki, 2020). The low adoption rate of m-commerce among SMEs may be attributed to the complex nature of adopting m-commerce which involves various factors (Chau et al., 2021; Iuga & Wainberg, 2023). This study creates awareness of the factors that influence the adoption of m-commerce which could encourage South African retail SMEs to embrace m-commerce and take advantage of the benefits of m-commerce. In addition, the findings of this study may be used to assist SME owners/managers to make informed decisions and improve their marketing strategies.

This study reveals the perceptions of South African retail SMEs, which may serve as a general guide to understanding SMEs behaviour and the factors that influence their decision to adopt m-commerce. This may present key insights for government to play a major leading role in promoting the adoption of m-commerce among SMEs and helping SMEs overcome the challenges associated with m-commerce. Providing support and assistance to SMEs in adopting m-commerce could further create opportunities for new and existing SMEs, and ultimately play a role in promoting an inclusive transformation of the economy. Moreover, this research highlights the importance of technology vendors who can also assist SMEs in facilitating the successful adoption of m-commerce.

7.6. RESEARCH LIMITATIONS

One of the limitations of this study pertains to the sample size. The sample size selected for both phases of the study warrants some consideration given the statistical techniques employed. Although the sample size for the qualitative and quantitative research was deemed acceptable, in light of the nature of the study and the constraints imposed by the researcher's budget, time and available resources, it is suggested that a larger sample size could potentially yield more reliable and robust findings.

Another limitation of this study centres on the generalisability of the findings. While the quantitative research sample exhibits demographic and geographic representatives that are reflective of the population of South Africa, it is important to note that a non-probability, judgment sampling method was used for both phases of the study. Consequently, the findings may not be generalisable to the larger South African population. Moreover, the study focused on the adoption of m-commerce among SMEs in South Africa, particularly operating in the retail sector which may further affect the applicability and generalisability of the findings to different countries and sectors.

7.7. SUMMARY

Chapter 7 served as the concluding chapter of the study wherein the overall findings and conclusions were presented, addressing each of the research objectives. The study proposed a conceptual framework aimed at supporting South African retail SMEs in enhancing the use of m-commerce in their marketing activities. Several recommendations were made for South African retail SMEs, along with suggestions for future research. The limitations of the study as well as its significance and contribution to the body of knowledge were highlighted.

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ADDENDUM A

Qualitative research: Discussion guides and short self-administered web-based questionnaires

Consent Form (Focus groups)

Developing a framework to enhance the use of m-commerce technologies among SMEs in South Africa

Ms Melanie Gopaul
Department of Marketing and Retail Management
University of South Africa

Dear Participant,

You are invited to participate in an academic research study conducted by Ms Melanie Gopaul, a PhD student from the Department of Marketing and Retail Management at the University of South Africa, under the supervision of Professor Michael Cant and Professor Jan Wiid. The purpose of this study is to identify the factors that influence m-commerce adoption in the SME sector, particularly in the context of South Africa, and to synthesise a framework based on these factors to support South African SMEs in adopting m-commerce technologies.

This focus group session could last up to 90 minutes (1.5 hours). Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences. All information obtained in this study will be kept strictly confidential. The focus group session and short questionnaire will be anonymous. All identifying information will be removed from the collected materials and will be stored securely.

With regards to being quoted, please **initial** next to the below statements that you agree with:

	I wish to review the notes, transcripts, or other data collected during the research pertaining to my participation.
	I agree to be quoted directly if my name is not published (I remain anonymous) or if a made-up name (pseudonym) is used.
	I agree to the recording of the focus group.

By signing this consent form, you are indicating that you fully understand the above information and agree to participate in this study.

Respondent's signature _____

Date: _____

Researcher's signature: _____

Date: _____

If you have any questions about this study, please contact Ms Melanie Gopaul at gopaum@unisa.ac.za. You can also contact my supervisors Professor Michael Cant by e-mail at cantm@unisa.ac.za or Professor Jan Wiid by e-mail at jwiid@unisa.ac.za. This research has been reviewed and approved by the Ethics Review Committee of the University of South Africa.

DISCUSSION GUIDE 1
M-commerce experts (Focus groups)

SECTION A (Introduction)

- Moderator to introduce themselves and welcome participants, specify that session will be recorded and transcribed.
- Provide participants with background information regarding the research study.

SECTION B (Opening)

- Provide general guidelines.
- Ask participants to introduce themselves.
- Questions:
 1. Can you describe your experiences with mobile commerce (m-commerce)?

SECTION C (Body)

- Questions:
 1. In your opinion, what drives businesses to adopt m-commerce?
 2. Are there specific reasons/factors preventing businesses from adopting m-commerce?
 3. In your opinion, what are the minimum requirements needed for a business to start off with m-commerce?
 4. We are now going to have a look at a list of factors that may influence a business's decision to adopt m-commerce. I would like your opinion about each of the factors in terms of its importance and how it may influence a business's likelihood of adopting m-commerce?

SECTION D (Closing)

- Inform participants that focus group is coming to an end.
- Thank participants for their participation.

SELF-ADMINISTERED WEB-BASED QUESTIONNAIRE 1

M-commerce experts (Prior to focus groups)

Dear Participant,

This questionnaire consists of three sections. Section A focuses on factors that may influence m-commerce adoption. Section B focuses on your m-commerce profile and Section C focuses on your demographic profile. Please complete all sections.

SECTION A (M-commerce adoption factors)

Question 1

Please indicate on a scale from 1 (unimportant) to 4 (very important), how important you think the following factors are in a business's decision to adopt m-commerce.

	1 Unimportant	2 Less important	3 Important	4 Very important (critical)
Perceived benefits (i.e., the advantages that may be obtained from adopting m-commerce)				
Perceived complexity (i.e., the degree of perceived difficulty in understanding and using m-commerce)				
Perceived compatibility (i.e., the degree to which m-commerce is consistent with the business's values, culture, work practices and infrastructure)				
Perceived security (i.e., privacy and security issues in m-commerce)				
Perceived cost (i.e., the costs involved in adopting m-commerce)				

<p>Trialability</p> <p>(i.e., the degree to which m-commerce may be experimented with for a limited period before adopting)</p>				
<p>Organisational readiness</p> <p>(i.e., the availability of business resources to adopt m-commerce)</p>				
<p>Organisational innovativeness</p> <p>(i.e., the ability of the business to introduce and apply new technologies, ideas, products and processes)</p>				
<p>Employees' IT knowledge</p> <p>(i.e., the employees' understanding of m-commerce and their proficiency in using IT)</p>				
<p>Organisation size</p> <p>(i.e., the size of the business based on turnover and/or number of employees)</p>				
<p>Competitive pressure</p> <p>(i.e., the degree of pressure experienced by the business from its competitors within the industry to adopt m-commerce)</p>				
<p>Government support</p> <p>(i.e., the availability of government initiatives for promoting the adoption of m-commerce)</p>				
<p>Supplier pressure</p> <p>(i.e., the degree of pressure experienced by the business from its suppliers to adopt m-commerce)</p>				
<p>Customer pressure</p> <p>(i.e., the degree of pressure experienced by the business from its customers to adopt m-commerce)</p>				
<p>Technology vendor support</p> <p>(i.e., the assistance provided by technology vendors/digital agencies to businesses to facilitate the adoption of m-commerce)</p>				
<p>Global trend</p> <p>(i.e., the alignment of business practices with</p>				

global standards to adopt m-commerce)				
Managers' IT knowledge (i.e., the IT knowledge and skills of the manager/decision-maker in m-commerce)				
Top management support (i.e., the owner's readiness, commitment and support for adopting m-commerce)				

Question 2

Are there any other factors or aspects that were not mentioned in question 1, which in your opinion may influence a business's decision to adopt m-commerce?

SECTION B (M-commerce profile)

Question 3

How long have you been involved in m-commerce activities/services (such as the design and development of e-commerce websites that are mobile responsive or mobile apps)?

Response	
Less than 1 year	1
1 – 2 years	2
3 – 4 years	3
5 years and above	4

Question 4

Please indicate the approximate percentage of m-commerce enquiries that you receive from small businesses (under 250 employees) and large businesses (above 250 employees). The total must add up to 100%, for example: small businesses - 80% and large businesses - 20%.

Question 5

Please indicate which industry you receive the most m-commerce enquiries from (such as retail or manufacturing).

SECTION C (Demographic profile)**Question 6**

Please indicate your age group.

Response	
18-25	1
26-45	2
46-55	3
56-65	4

Question 7

Please indicate your gender.

Response	
Male	1
Female	2
Other	3
Prefer not to answer	4

Thank you!

Consent Form (Interviews)

Developing a framework to enhance the use of m-commerce technologies among SMEs in South Africa

Ms Melanie Gopaul
Department of Marketing and Retail Management
University of South Africa

Dear Participant,

You are invited to participate in an academic research study conducted by Ms Melanie Gopaul, a PhD student from the Department of Marketing and Retail Management at the University of South Africa, under the supervision of Professor Michael Cant and Professor Jan Wiid. The purpose of this study is to identify the factors that influence m-commerce adoption in the SME sector, particularly in the context of South Africa, and to synthesise a framework based on these factors to support South African SMEs in adopting m-commerce technologies.

This interview could last up to 30 minutes. Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences. All information obtained in this study will be kept strictly confidential. The interview and short questionnaire will be anonymous. All identifying information will be removed from the collected materials and will be stored securely.

With regards to being quoted, please **initial** next to the below statements that you agree with:

	I wish to review the notes, transcripts, or other data collected during the research pertaining to my participation.
	I agree to be quoted directly if my name is not published (I remain anonymous) or if a made-up name (pseudonym) is used.
	I agree to the recording of the interview.

By signing this consent form, you are indicating that you fully understand the above information and agree to participate in this study.

Respondent's signature _____

Date: _____

Researcher's signature: _____

Date: _____

If you have any questions about this study, please contact Ms Melanie Gopaul at gopaum@unisa.ac.za. You can also contact my supervisors Professor Michael Cant by e-mail at cantm@unisa.ac.za or Professor Jan Wiid by e-mail at jwiid@unisa.ac.za. This research has been reviewed and approved by the Ethics Review Committee of the University of South Africa.

DISCUSSION GUIDE 2

SME owners/managers in the retail sector who adopt m-commerce in their business (Interviews)

SECTION A (Introduction)

- Moderator to introduce themselves and welcome participants, specify that session will be recorded and transcribed.
- Provide participants with background information regarding the research study.

SECTION B (Opening)

- Provide general guidelines.
- Ask participants to introduce themselves.
- Questions:
 1. What is your understanding of mobile commerce (m-commerce)?
 2. Can you describe your experiences with m-commerce? How are you using m-commerce in your business?

SECTION C (Body)

- Questions:
 1. What are the main reasons for using m-commerce in your business?
 2. What difficulties did you experience when you started using m-commerce in your business and how did you overcome these difficulties?
 3. We are now going to have a look at a list of factors that may influence a business's decision to adopt m-commerce. I would like your opinion on each of the factors in terms of importance, and how it has influenced your decision in using m-commerce in your business?

SECTION D (Closing)

- Inform participants that the focus group is coming to an end.
- Thank participants for their participation.

SELF-ADMINISTERED WEB-BASED QUESTIONNAIRE 2

SME owners/managers in the retail sector who adopt m-commerce in their business (Prior to interviews)

Dear Participant,

This questionnaire consists of three sections. Section A focuses on factors that may influence m-commerce adoption. Section B focuses on your business profile and Section C focuses on your demographic profile. Please complete all sections.

SECTION A (M-commerce adoption)

Question 1

Please indicate on a scale from 1 (unimportant) to 4 (very important), how important the following factors are in influencing your decision to adopt m-commerce in your business.

	1 Unimportant	2 Less important	3 Important	4 Very important (critical)
Perceived benefits (i.e., the advantages that may be obtained from adopting m-commerce)				
Perceived complexity (i.e., the degree of perceived difficulty in understanding and using m-commerce)				
Perceived compatibility (i.e., the degree to which m-commerce is consistent with the business's values, culture, work practices and infrastructure)				
Perceived security (i.e., privacy and security issues in m-commerce)				

<p>Perceived cost (i.e., the costs involved in adopting m-commerce)</p>				
<p>Trialability (i.e., the degree to which m-commerce may be experimented with for a limited period before adopting)</p>				
<p>Organisational readiness (i.e., the availability of business resources to adopt m-commerce)</p>				
<p>Organisational innovativeness (i.e., the ability of the business to introduce and apply new technologies, ideas, products and processes)</p>				
<p>Employees' IT knowledge (i.e., the employees' understanding of m-commerce and their proficiency in using IT)</p>				
<p>Organisation size (i.e., the size of the business based on turnover and/or number of employees)</p>				
<p>Competitive pressure (i.e., the degree of pressure experienced by the business from its competitors within the industry to adopt m-commerce)</p>				
<p>Government support (i.e., the availability of government initiatives for promoting the adoption of m-commerce)</p>				
<p>Supplier pressure (i.e., the degree of pressure experienced by the business from its suppliers to adopt m-commerce)</p>				
<p>Customer pressure (i.e., the degree of pressure experienced by the business from its customers to adopt m-commerce)</p>				

<p>Technology vendor support (i.e., the assistance provided by technology vendors/digital agencies to businesses to facilitate the adoption of m-commerce)</p>				
<p>Global trend (i.e., the alignment of business practices with global standards to adopt m-commerce)</p>				
<p>Managers' IT knowledge (i.e., the IT knowledge and skills of the manager/decision-maker in m-commerce)</p>				
<p>Top management support (i.e., the owner's readiness, commitment and support for adopting m-commerce)</p>				

Question 2

Are there any other factors or aspects that were not mentioned in question 1, which in your opinion are important in a business's decision to adopt m-commerce?

Question 3

In your opinion, what has contributed to the success of m-commerce in your business?

SECTION B (Business profile)

Question 4

Where is your business located? Please specify the province and area (urban/rural).

Question 5

How long has your business been in operation?

Question 6

Which retail category does your business operate in?

Response	
General dealers	1
Food, beverages and tobacco in specialised stores	2
Pharmaceutical and medical goods, cosmetics and toiletries	3
Textiles, clothing, footwear and leather goods	4
Household furniture, appliances and equipment	5
Hardware, paint and glass	6
Reading matter and stationery	7
Jewellery, watches and clocks	8

Other (specify).....

Question 7

How many full-time employees does your business have?

Response	
0 - 10	1
11 - 50	2
51 – 250	3

Question 8

Please indicate your approximate annual turnover (ZAR).

Response	
Less than or equal to 7.5 million	1
More than 7.5 million but less than or equal to 25 million	2
More than 25 million but less than or equal to 80 million	3
More than 80 million	4

SECTION C (Demographic profile)

Question 9

Please indicate your age group.

Response	
18-25	1
26-45	2
46-55	3
56-65	4

Question 10

Please indicate your gender.

Response	
Male	1
Female	2
Other	3
Prefer not to answer	4

Thank you!

DISCUSSION GUIDE 3

SME owners/managers in the retail sector who do not adopt m-commerce in their business (Interviews)

SECTION A (Introduction)

- Moderator to introduce themselves and welcome participants; specify that the session will be recorded and transcribed.
- Provide participants with background information regarding the research study.

SECTION B (Opening)

- Provide general guidelines.
- Ask participants to introduce themselves.
- Questions:
 1. What is your understanding of mobile commerce (m-commerce)?

SECTION C (Body)

- Questions:
 1. What are the main reasons for not using m-commerce in your business?
 2. What would make you consider using m-commerce in your business?
 3. We are now going to have a look at a list of factors that influence the use of m-commerce in businesses. I would like your opinion about each of the factors in terms of importance, and will it increase or decrease your likelihood of using m-commerce?

SECTION D (Closing)

- Inform participants that the focus group is coming to an end.
- Thank the participants for their participation.

SELF-ADMINISTERED WEB-BASED QUESTIONNAIRE 3

SME owners/managers in the retail sector who do not adopt m-commerce in their business (Prior to interviews)

Dear Participant,

This questionnaire consists of three sections. Section A focuses on factors that may influence m-commerce adoption. Section B focuses on your business profile and Section C focuses on your demographic profile. Please complete all sections.

SECTION A (M-commerce adoption)

Question 1

Please indicate on a scale of 1 (unimportant) to 5 (very important), how important the following factors are in influencing your decision to adopt m-commerce in your business.

	1 Unimportant	2 Less important	3 Important	4 Very important (critical)
Perceived benefits (i.e., the advantages that may be obtained from adopting m-commerce)				
Perceived complexity (i.e., the degree of perceived difficulty in understanding and using m-commerce)				
Perceived compatibility (i.e., the degree to which m-commerce is consistent with the business's values, culture, work practices and infrastructure)				
Perceived security (i.e., privacy and security issues in m-commerce)				
Perceived cost (i.e., the costs involved in adopting m-				

commerce)				
Trialability (i.e., the degree to which m-commerce may be experimented with for a limited period before adopting)				
Organisational readiness (i.e., the availability of business resources to adopt m-commerce)				
Organisational innovativeness (i.e., the ability of the business to introduce and apply new technologies, ideas, products and processes)				
Employees' IT knowledge (i.e., the employees' understanding of m-commerce and their proficiency in using IT)				
Organisation size (i.e., the size of the business based on turnover and/or number of employees)				
Competitive pressure (i.e., the degree of pressure experienced by the business from its competitors within the industry to adopt m-commerce)				
Government support (i.e., the availability of government initiatives for promoting the adoption of m-commerce)				
Supplier pressure (i.e., the degree of pressure experienced by the business from its suppliers to adopt m-commerce)				
Customer pressure (i.e., the degree of pressure experienced by the business from its customers to adopt m-commerce)				
Technology vendor support (i.e., the assistance provided by technology vendors/digital agencies to businesses to facilitate the adoption of m-commerce)				

Global trend (i.e., the alignment of business practices with global standards to adopt m-commerce)				
Managers' IT knowledge (i.e., the IT knowledge and skills of the manager/decision-maker in m-commerce)				
Top management support (i.e., the owner's readiness, commitment and support for adopting m-commerce)				

Question 2

What would increase your likelihood of adopting m-commerce in your business?

SECTION B (Business profile)

Question 3

Where is your business located? Please specify the province and area (urban/rural).

Question 4

How long has your business been in operation?

Question 5

Which retail category does your business operate in?

Response	
General dealers	1
Food, beverages and tobacco in specialised stores	2
Pharmaceutical and medical goods, cosmetics and toiletries	3
Textiles, clothing, footwear and leather goods	4

Household furniture, appliances and equipment	5
Hardware, paint and glass	6
Reading matter and stationery	7
Jewellery, watches and clocks	8

Other (specify).....

Question 6

How many full-time employees does your business have?

Response	
0 - 10	1
11 - 50	2
51 – 250	3

Question 7

Please indicate your approximate annual turnover (ZAR).

Response	
Less than or equal to 7.5 million	1
More than 7.5 million but less than or equal to 25 million	2
More than 25 million but less than or equal to 80 million	3
More than 80 million	4

SECTION C (Demographics)

Question 8

Please indicate your age group.

Response	
18-25	1
26-45	2

46-55	3
56-65	4

Question 9

Please indicate your gender.

Response	
Male	1
Female	2
Other	3
Prefer not to answer	4

Thank you!

ADDENDUM B

Quantitative research: Self-administered web-based questionnaire

Consent Form

Developing a framework to enhance the use of m-commerce technologies among SMEs in South Africa

Mrs Melanie Gopaul
Department of Marketing and Retail Management
University of South Africa

Dear Respondent,

You are invited to participate in an academic research study conducted by Ms M. Gopaul, a PhD student from the Department of Marketing and Retail Management at the University of South Africa, under the supervision of Professors MC Cant and JA Wiid. The purpose of this study is to identify the factors that influence m-commerce adoption in the small and medium enterprise (SME) sector, particularly in the context of South Africa, and to synthesise a framework based on these factors to support South African SMEs in adopting mobile commerce (m-commerce technologies).

The questions presented in the questionnaire relate to the factors that influence m-commerce adoption in the South African SME sector. You are required to answer the questions as honestly as possible. You are selected to participate in this study as you are a South African SME owner/manager in the retail sector, you are older than 18 years, you can read, write and speak English and you are willing and have the time to participate.

Please note the following:

- Your name will not appear on the responses and the answers you give will be treated as strictly confidential.
- Your participation in this study is very important. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences. This should not take more than 20 minutes of your time.
- The results of the study will be used for academic research purposes only. A summary of the findings can be provided on request.

- The data collected for this study will be stored for five (5) years and will be permanently deleted from the computer hard drive.
- This research was reviewed and approved by the Ethics Review Committee of the University of South Africa. Please contact the researcher if you have any questions or comments regarding the study.
- The researcher does not provide gifts or compensation for your participation in the study.
- The researcher does not reimburse you for any costs incurred in participating in the study.

By signing, you agree to the following:

- Confirm that I have read and understood the above.
- Confirm that I am 18 years or older and I agree to participate in the study.
- Understand that my participation is voluntary and that I am free to withdraw at any time.

Signature

Date

Mobile commerce (m-commerce) involves the buying and selling of products/services using mobile devices such as smartphones and tablets.

A business can conduct selling activities through various m-commerce platforms. Some examples include creating a mobile-responsive online store, developing a business mobile app that facilitates online shopping, leveraging social media platforms to sell the business's products/services (such as Facebook, Instagram or WhatsApp) or by using third-party platforms to sell the business's products/services (such as Uber Eats, Mr D Food, Takealot, bidorbuy and Yaga).

SECTION A – Qualifying questions

Question 1

Please select the option that best describes your employment status.

Response	
Owner of an SME (less than 250 employees or turnover less than R220 million)	1
Manager of an SME (less than 250 employees or turnover less than R220 million)	2
Owner of a large business (more than 250 employees or turnover exceeding R220 million)	3
Manager of a large business (more than 250 employees or turnover exceeding R220 million)	4
None	5

Question 2

Which sector does your business operate in?

Response	
Retail sector	1
Other sector	2

SECTION B – M-commerce adoption

Question 3

Has your business adopted m-commerce?

Response	
Yes	1
No	2

Please continue to answer **sections C, D, E, G and H**

Please answer **questions 2-5** and continue to answer **sections D, F, G and H**

Question 4

What is the **main** reason for not adopting m-commerce in your business? (Please select one option)

Response	
Lack of awareness on m-commerce in general	1
Lack of awareness on the benefits of m-commerce	2
Lack of understanding m-commerce	3
Negative previous experience with m-commerce	4
Inability to sync and manage stock online and in store	5
Lack of financial resources	6

Other (specify).....

Question 5

Do you intend to adopt m-commerce in your business in the future?

Response	
No	1
Yes, in the next year	2
Yes, in the next 2-3 years	3
Yes, in the next 4-5 years	4
Yes, in more than 5 years' time	5

Question 6

If “no” to question 3, what would increase your likelihood of adopting m-commerce in your business in the future?

.....

Question 7

On a scale of 1 (to no extent) to 5 (to a very large extent), please indicate the extent to which you use the following platforms in your business.

	1 <i>To no extent</i>	2 <i>To a little extent</i>	3 <i>To some extent</i>	4 <i>To a large extent</i>	5 <i>To a very large extent</i>
5.1 Our business uses a basic website (<u>accessible on a mobile device</u>) that displays our products/services and information about the business (our customers can browse but cannot make purchases directly via the website)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.2 Our business uses a basic website (<u>not accessible on a mobile device</u>) that displays our products/services and information about the business (our customers can browse but cannot make purchases directly via the website)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.3 Our business uses Facebook to promote the business and/or address customer queries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.4 Our business uses Instagram to promote the business and/or address customer queries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (specify)..... 1 ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other 2 (specify)..... ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SECTION C – M-commerce activities

Question 8

On a scale of 1 (to no extent) to 5 (to a very large extent), please indicate the extent to which you use the following m-commerce platforms in your business.

	1 <i>To no extent</i>	2 <i>To a little extent</i>	3 <i>To some extent</i>	4 <i>To a large extent</i>	5 <i>To a very large extent</i>
6.1 Our business uses a website (<u>accessible on a mobile device</u>) that displays our products/services and facilitates online transactions (our customers can access the website from their mobile device to browse, shop, enquire, complete shipping details and make payment online via the website/online store)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.2 Our business uses its own mobile app that displays our products/services and facilitates online transactions (our customers can download the app on their mobile device and are able to browse, shop, enquire, complete shipping details and make payment online via the mobile app)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.3 Our business uses Facebook Marketplace to sell our products/services (our customers can use their mobile device to browse products/services on Facebook Marketplace, an option is provided for customers to send the business a direct message via Facebook Messenger to enquire, place orders and arrange shipping and payment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.4 Our business uses Instagram Shopping to sell our products/services (our customers can use their mobile device to browse our products/services and make enquiries on Instagram, customers are directed to the website/online store to checkout)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.5 Our business uses Instagram to sell our products/services by placing a link in our bio which will direct our customers to our website/online store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.6 Our business uses Instagram Direct Messaging to sell our products/services (our customers can use their mobile device to send a direct message to the business on Instagram to enquire, place orders and arrange shipping and payment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6.7 Our business uses WhatsApp Messenger/WhatsApp Business to sell our products/services (our customers can use their mobile device to send a direct message to the business on WhatsApp to enquire, place orders and arrange shipping and payment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.8 Our business uses the WhatsApp Business cart feature to sell our products/services (our customers can use their mobile device to view the catalogue on the WhatsApp Business account, select one or multiple products that they want to purchase, add to cart and checkout; checkout automatically sends the cart to the business as a WhatsApp message to finalise the order and arrange shipping and payment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.9 Our business uses Uber Eats and/or Mr D Food to sell our products/services (our customers can use their mobile device to browse our menu, enquire, place orders, complete shipping details and make payment online via Uber Eats and/or Mr D Food)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.10 Our business uses Takealot to sell our products/services (our customers can use their mobile device to browse our products/services, shop, enquire, complete shipping details and make payment online via Takealot)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.11 Our business uses bidorbuy to sell our products/services (our customers can use their mobile device to browse our products/services, shop, enquire, complete shipping details and make payment online via bidorbuy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.12 Our business uses Yaga to sell our products/services (our customers can use their mobile device to browse our products, shop, enquire, complete shipping details and make payment online via Yaga)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other 1 (specify).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other 2 (specify).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 9

What is the **main** reason for adopting m-commerce in your business? (Please select one option)

Response	
To enhance online presence	1
To increase sales	2

To do business anywhere and at any time	3
To increase customer base	4
To improve customer service	5

Other (specify).....

Question 10

How long has your business been conducting m-commerce?

Response	
Less than 1 year	1
1-2 years	2
3-4 years	3
5 years or more	4

Question 11

On a scale of 1 (to no extent) to 5 (to a very large extent), please indicate the extent to which you think that the adoption of m-commerce has contributed to sales in your business.

1 <i>To no extent</i>	2 <i>To a little extent</i>	3 <i>To some extent</i>	4 <i>To a large extent</i>	5 <i>To a very large extent</i>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please give one or more reasons for your rating.

.....

SECTION D – Factors that may influence m-commerce adoption

Question 12

On a scale of 1 (strongly disagree) to 5 (strongly agree), please indicate whether you think the following statements are important in the decision to adopt m-commerce in your business.

	1	2	3	4	5
	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Unsure</i>	<i>Agree</i>	<i>Strongly agree</i>
... is important in the decision to adopt m-commerce in my business.					
10.1 Reduction of costs (e.g. administrative, maintenance, storage and distribution costs)					
10.2 Increased customer loyalty					
10.3 Improved customer service					
10.4 Growth in profitability					
10.5 Enhancement of the business's image					
10.6 Improved business decision-making					
10.7 Provision of unique business opportunities (e.g. leveraging new technology and marketing channels)					
10.8 Increased competitiveness					
10.9 Convenience (e.g. saving time and reducing administrative duties for the business)					
10.10 Being able to do business anywhere and at any time					
... is important in the decision to adopt m-commerce in my business.					
10.11 Amount of effort required to set up m-commerce					
10.12 Amount of effort required to integrate m-commerce with current business practices					
10.13 Amount of effort required by employees to use/operate m-commerce					
10.14 Amount of effort required by customers to use m-commerce					

	1 <i>Strongly disagree</i>	2 <i>Disagree</i>	3 <i>Unsure</i>	4 <i>Agree</i>	5 <i>Strongly agree</i>
... is important in the decision to adopt m-commerce in my business.					
10.15 Compatibility of m-commerce with the business's existing information and communication technology (ICT) infrastructure (e.g. internet connectivity, server, router, operating system, business website, personal computers and mobile devices)					
10.16 Compatibility of m-commerce with the business's values and culture					
10.17 Compatibility of m-commerce with current business practices					
10.18 Compatibility of m-commerce with the business's existing distribution channels					
10.19 Compatibility of m-commerce with current marketing activities					
... is important in the decision to adopt m-commerce in my business.					
10.20 Awareness of the security of m-commerce					
10.21 Availability of adequate security data standards/industry standards for m-commerce					
10.22 Availability of laws and regulations for m-commerce					
10.23 Security policies that the business has in place for m-commerce					
... is important in the decision to adopt m-commerce in my business.					
10.24 Cost of setting up m-commerce					
10.25 Cost of maintaining m-commerce					
10.26 Cost of training employees to use/operate m-commerce					
10.27 Cost of outsourcing m-commerce services/expertise					
10.28 Positive cost-benefit trade-off (the expected benefits of m-commerce outweigh the costs)					
... is important in the decision to adopt m-commerce in my business.					
10.29 Opportunity to try out m-commerce for a specific period before deciding to adopt it					

	1 <i>Strongly disagree</i>	2 <i>Disagree</i>	3 <i>Unsure</i>	4 <i>Agree</i>	5 <i>Strongly agree</i>
10.30 Opportunity to test the suitability of m-commerce for the business before deciding to adopt it					
10.31 Opportunity to experience different m-commerce platforms and what they can deliver for the business before deciding to adopt it					
10.32 Knowing what is required (e.g. ICT infrastructure) to try out m-commerce satisfactorily					
... is important in the decision to adopt m-commerce in my business.					
10.33 Business's availability of financial resources (e.g. funding and capital)					
10.34 Financial support from banks and other financial institutions					
10.35 Business's availability of technological resources (e.g. ICT infrastructure)					
10.36 Business's availability of human resources (e.g. staff skills and expertise in m-commerce)					
... is important in the decision to adopt m-commerce in my business.					
10.37 Ability to innovate and generate ideas					
10.38 Ability to continually improve business processes					
10.39 Ability to easily experiment with and accept new technology					
10.40 Ability to adopt new management approaches					
... is important in the decision to adopt m-commerce in my business.					
10.41 Employees' understanding of m-commerce					
10.42 Employees' ability to use m-commerce to interact with customers and suppliers					
10.43 Employees' information technology (IT) skills (e.g. computer and mobile literacy skills)					
10.44 Employees' capability to learn new technology					
... is important in the decision to adopt m-commerce in my business.					

	1 <i>Strongly disagree</i>	2 <i>Disagree</i>	3 <i>Unsure</i>	4 <i>Agree</i>	5 <i>Strongly agree</i>
10.45 Organisation size in terms of the number of employees in the business					
10.46 Organisation size in terms of business annual turnover					
10.47 Organisation size in terms of business assets					
... is important in the decision to adopt m-commerce in my business.					
10.48 Awareness of the competitive advantages of m-commerce					
10.49 Awareness of competitors currently adopting m-commerce to conduct business					
10.50 Awareness of competitors currently adopting m-commerce to conduct business and benefitting significantly					
10.51 Awareness of competitors currently adopting m-commerce to conduct business and being favourably perceived by customers					
... is important in the decision to adopt m-commerce in my business.					
10.52 Government financial support (e.g. providing funding to SMEs)					
10.53 Government provision of ICT infrastructure					
10.54 Government training and educational programmes to assist SMEs with m-commerce adoption					
10.55 Reduced regulatory burden (e.g. less red tape)					
... is important in the decision to adopt m-commerce in my business.					
10.56 Suppliers currently using m-commerce to conduct business					
10.57 Requirement from suppliers for the business to adopt m-commerce					
10.58 Encouragement from suppliers for the business to adopt m-commerce					
10.59 Improved business with suppliers by adopting m-commerce (e.g. enhanced communication, effective product distribution)					

	1 <i>Strongly disagree</i>	2 <i>Disagree</i>	3 <i>Unsure</i>	4 <i>Agree</i>	5 <i>Strongly agree</i>
... is important in the decision to adopt m-commerce in my business.					
10.60 Customers currently using m-commerce					
10.61 Demand from customers for the business to adopt m-commerce					
10.62 Customer expectation for the business to adopt m-commerce					
10.63 Increased purchase of products and services by customers using m-commerce					
10.64 Improved relationships with customers					
... is important in the decision to adopt m-commerce in my business.					
10.65 Technology vendors delivering technical assistance and support					
10.66 Technology vendors actively marketing m-commerce technologies/platforms					
10.67 Technology vendors offering reasonable pricing for their m-commerce services					
10.68 Technology vendors encouraging businesses to adopt m-commerce by providing free training sessions					
10.69 Technology vendors skills and expertise in m-commerce					
... is important in the decision to adopt m-commerce in my business.					
10.70 Keeping up with global trends					
10.71 Alignment of business practices with global standards					
10.72 Acceptance of m-commerce globally					
10.73 Increased use of mobile devices globally					
... is important in the decision to adopt m-commerce in my business.					
10.74 Owners'/managers' understanding of m-commerce					
10.75 Owners'/managers' competence in m-commerce					
10.76 Owners'/managers' IT skills (e.g. computer and mobile literacy skills)					

	1 <i>Strongly disagree</i>	2 <i>Disagree</i>	3 <i>Unsure</i>	4 <i>Agree</i>	5 <i>Strongly agree</i>
10.77 Owners'/managers' capability to learn new technology					
... is important in the decision to adopt m-commerce in my business.					
10.78 Owners'/managers' support of m-commerce adoption					
10.79 Owners'/managers' awareness of m-commerce benefits for the business					
10.80 Owners'/managers' willingness to provide the necessary resources to adopt m-commerce					
10.81 Owner's/managers' belief that adopting m-commerce will create a competitive advantage for the business					
... is important in the decision to adopt m-commerce in my business.					
10.82 Employing a younger generation who may be more open to adopting m-commerce					
10.83 Employing a younger generation who may better realise the benefits of m-commerce					
10.84 Employing a younger generation who may be more willing to take risks					
10.85 Employing a younger generation who may be more likely to engage with new technology					
... is important in the decision to adopt m-commerce in my business.					
10.86 Providing customers with instant gratification (what they want and when they want it)					
10.87 Providing customers with a pleasurable online shopping experience					
10.88 Meeting and exceeding customer expectations without delay					
10.89 Satisfying customers' immediate desires to shop online via their mobile devices					
... is important in the decision to adopt m-commerce in my business.					
10.90 Responding to global pressures					
10.91 Changes in the retail landscape					

	1 <i>Strongly disagree</i>	2 <i>Disagree</i>	3 <i>Unsure</i>	4 <i>Agree</i>	5 <i>Strongly agree</i>
10.92 Impact of the COVID-19 pandemic					
10.93 Establishing a secure and safe environment for customers to shop					
... is important in the decision to adopt m-commerce in my business.					
10.94 Willingness to adapt					
10.95 Willingness to learn how to use/operate m-commerce					
10.96 Willingness to learn about IT					
10.97 Willingness to embrace new technology					

SECTION E – Intention to continue using m-commerce

Question 13

On a scale of 1 (strongly disagree) to 5 (strongly agree), please indicate the use of m-commerce in your business.

	1 <i>Strongly disagree</i>	2 <i>Disagree</i>	3 <i>Unsure</i>	4 <i>Agree</i>	5 <i>Strongly agree</i>
11.1 Our business uses m-commerce in our current business practices					
11.2 Our business uses m-commerce for most of our marketing activities					
11.3 Our business intends to continue using m-commerce					
11.4 Our business has a strong commitment to using m-commerce					
11.5 Our business would recommend the adoption of m-commerce to other businesses					

SECTION F – Intention to adopt m-commerce

Question 14

On a scale of 1 (strongly disagree) to 5 (strongly agree), please indicate your intention to adopt m-commerce in your business in the future.

	1 <i>Strongly disagree</i>	2 <i>Disagree</i>	3 <i>Unsure</i>	4 <i>Agree</i>	5 <i>Strongly agree</i>
12.1 Our business recognises the value of m-commerce					
12.2 Our business intends to adopt m-commerce					
12.3 Our business has a plan to adopt m-commerce					
12.4 Our business has a strong commitment to adopt m-commerce					

SECTION G – BUSINESS PROFILE

Question 15

Where is your business located? Please specify the province and area (urban/rural).

Response		
Province	Urban	Rural
Gauteng	1a	1b
Eastern Cape	2a	2b
Free State	3a	3b
KwaZulu-Natal	4a	4b
Limpopo	5a	5b
Mpumalanga	6a	6b
Northern Cape	7a	7b
North West	8a	8b
Western Cape	9a	9b

No physical store, online only	10
--------------------------------	----

Question 16

How long has your business been in operation?

Response	
Less than 1 year	1
1 – 2 years	2
3 - 4 years	3
5 years or more	4

Question 17

Which retail category does your business operate in?

Response	
General dealers	1
Food, beverages and tobacco in specialised stores	2
Pharmaceutical and medical goods, cosmetics and toiletries	3
Textiles, clothing, footwear and leather goods	4
Household furniture, appliances and equipment	5
Hardware, paint and glass	6
Reading matter and stationery	7
Jewellery, watches and clocks	8

Other (specify).....

Question 18

How many full-time employees does your business have?

Response	
0-10	1
11-50	2

51-250	3
--------	---

Question 19

Please indicate your approximate annual turnover (ZAR).

Response	
Less than or equal to 2.5 million	1
More than 2.5 million but less than or equal to 5 million	2
More than 5 million but less than or equal to 7.5 million	3
More than 7.5 million but less than or equal to 25 million	4
More than 25 million but less than or equal to 80 million	5
More than 80 million	6

SECTION H – DEMOGRAPHIC PROFILE

Question 20

Please indicate your age group.

Response	
18-25 years	1
26-45 years	2
46-55 years	3
56-65 years	4
Prefer not to answer	5

Question 21

Please indicate your gender.

Response	
Male	1
Female	2
Other	3
Prefer not to answer	4

Thank you!

ADDENDUM C

Ethics approval



UNISA DEPARTMENT OF MARKETING AND RETAIL MANAGEMENT ETHICS REVIEW COMMITTEE

Date 2020-10-22

Dear Ms M Gopaul

**Decision: Ethics Approval from
2020 - 2023**

NHREC Registration # : (if applicable)
ERC Reference # :
2020 MRM 009
Name : Ms M Gopaul
Student # : 45366128
Staff # :

Researcher(s): Ms M Gopaul, 012 429 8689, gopaum@unisa.ac.za

Supervisors(s): Prof MC Cant, 012 429 8303, cantmc@unisa.ac.za
Prof JA Wiid, 012 429 8303, jwiid@unisa.ac.za

Working title of research:

Developing a framework to support the adoption of m-commerce among SMES in South Africa

Qualification: Postgraduate degree

Thank you for the application for research ethics clearance by the Unisa Department of Marketing and Retail Management Ethics Review Committee for the above mentioned research. Ethics approval is granted for 3 years.

*The **low risk application** was **reviewed** by the Department of Marketing and Retail Management Ethics Review Committee on 21 October 2020 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 will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid -19 position statement on research ethics attached.

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Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
3. 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 Department of Marketing and Retail Management Research Ethics Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. 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 confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
6. 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.
7. 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.
8. No field work activities may continue after the expiry date 31 October 2023. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.
9. Minor changes suggested by the committee have been taken into account.

Note:

*The reference number **2020_MRM_009** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,



Signature

Chair of Department of
Marketing and Retail Management ERC
E-mail: bothmch@unisa.ac.za
Tel: (012) 429 4376



Signature

Executive Dean: College of Economic and
Management Sciences
E-mail: mogalmt@unisa.ac.za
Tel: (012) 429 4805

Prof RT Mpofu
CEMS DED
(on behalf of Prof Mogale)