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SME adoption of Digital Banking in South Africa

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management specialising in Entrepreneurship and New Venture Creation

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ABSTRACT

Small and medium enterprises (SMEs) are an important customer base for banks as they offer great opportunity for growth in revenues and profit. Banks are focused on improving relationships and retaining their SME customers in defence against increasing competition. To this end, banks are investing in their digital banking channels with the objective of improving service quality to their SME customers, whilst lowering the cost of servicing those customers. It is not clear whether banks' investment in digital banking channels is contributing to their objective of increasing customer satisfaction and retention. It is also not clear if SMEs derive the benefit of improved performance when they adopt digital banking.

The purpose of this study was to establish the effect of digital banking adoption on the SME-bank relationship by evaluating its influence on customer satisfaction, loyalty and SME performance. Empirical data was collected in the form of an online survey which was administered to SME owner-managers who have gone through an incubation programme or have access to social media platforms for business purposes.

Evidence suggests that banks are continuing to make significant investments in their digital channels. However, this does not necessarily result in more loyal or satisfied SME customers. Furthermore, SME performance does not improve as a result of adopting digital banking. Consequently, no evidence was found to show that digital banking adoption makes a significant contribution towards the maintenance of a long-term symbiotic relationship between SMEs and their banks. This study has corporate entrepreneurship implications for the banks as the findings will inform their innovation efforts and contribute to improving their service offerings to their SME customers.

Key words: Relationship Banking; Technology Adoption; Satisfaction; Loyalty; Performance

DECLARATION

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

Belinda Rathogwa

Signed at ……

On the …….. day of …… 2018

DEDICATION

I dedicate this work to the Lord, God Almighty. You have been my source of strength, wisdom, and understanding. In you I live, move and have my being!

To my husband, Cyril. I could never thank you enough for your practical and emotional support as I undertook to work, study and run a business in addition to being your wife and a mother to our children. Thank you for walking this journey with me.

To my children, Lufuno, Tshedza and Khuliso. This work is for you, and because of you and all the generations to come. May you be inspired to make your own unique contribution to our world.

I LOVE YOU.

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There are a number of people without whom this thesis might not have been written, and to whom I am greatly indebted.

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CHAPTER 1: INTRODUCTION

1.1 Purpose of the study

The purpose of this study was to establish the effect of digital banking adoption on the SME-bank relationship by evaluating its influence on customer satisfaction, loyalty and SME performance.

1.2 Context of the study

South Africa, as a developing country, faces challenges of high unemployment, a predominantly unskilled labour force, and poverty. It is estimated that the South African SME sector has approximately 5.9 million enterprises (Finscope, 2010). According to the World Bank (2006), 97% of all private business participating in the South African economy are small enterprises, and a further 1% of active private businesses are medium enterprises. The South African SME sector is very diverse, and employs about 11.6 million members of the active workforce, excluding small business owners themselves (Cloete, 2003). SMEs in South Africa are estimated to contribute 52-57% of the country's Gross Domestic Product (Gono, Harindranath, & Ozcan, 2016). It is evident in the above statistics that SMEs are a significant contributor to the South African economy. Further development of the SME sector is expected to contribute towards economic growth and assist in reducing poverty and unemployment levels (Gono, Harindranath, & Ozcan, 2016; Cloete, 2003).

Small enterprises have great potential to make a significant contribution to economic growth and job creation (Moghavvemi, Salleh, & Standing, 2016; Burke & Jaratt, 2004). As they run their businesses, entrepreneurs endeavour to increase efficiencies (Manish & Sutter, 2016; Tajeddini, Elg, & Trueman, 2013; Reji, 2013), maximise profits and grow their businesses (Neneh, 2014; Choto, Tengeh, & Iwu, 2014). However, small enterprises in South Africa are struggling to make a significant impact on poverty alleviation as approximately 80% fail in their early years of existence (Ramukumba, 2014; Nemaezhe, 2010).Those that

survive, battle to achieve sustainable growth due to various challenges. Some of the challenges identified include poor monitoring and control, limited experience in finance and marketing, income constraints and cash control (Nemaezhe, 2010). In 2017, Seed Academy found that lack of business support (including financial), poor planning, lack of access to markets, lack of operational experience and poor financial management were the main contributors to business failure among South African small enterprises. Further to this, small enterprises are challenged by limited access to resources and information that could lead to identification of new opportunities or access to new markets (Grobbelaar, Gwynne-Evans, & Brent, 2016; Reji, 2013; Fatoki & Asah, 2011). Limited access to funding inhibits business growth (Seed Academy, 2017, p. 10).

Banks have the potential to contribute to the reduction in business failure by supporting small enterprises in some of their key areas of need i.e. access to funding as well as financial monitoring and control. Banks are a critical source of information for SMEs (Ennew, Binks, & Chiplin, 2015; Durkin, McGowan, & Babb, 2013; Burke & Jaratt, 2004) as well as funding (Binks, Ennew, & Mowlah, 2006; Madill, Feeney, Riding, & Haines, 2002; Chaston, 1994). Moreover, small and medium enterprises are an important customer base for banks.

The SME market continues to offer great opportunity for growth in revenues and profit (EFMA, 2016; Bain & Company, 2016; Accenture, 2012). As competition intensifies in the financial services sector, banks are at greater risk of losing customers to competitors, especially financial technology firms (fintechs) who take advantage of technology to disintermediate banks. Small to medium enterprises (SMEs), previously viewed as very loyal customers, are now demanding more from their banks and are more inclined to switch banks (Bank Administration Institute, 2013) if they are offered better services elsewhere (Silver & Vegholm, 2009). Banks now find themselves in a position where they are having to work harder to retain existing customers as well as to attract new customers in order to maintain or grow market share, revenues and profitability (Howcroft, Durkin, Armstrong, & Emerson, 2007).

The relationship between banks and their small business clients has attracted interest from a wide range of stakeholders over the years - it has been

documented from as far back as the 1970s (Ibbotson & Moran, 2003). At the heart of this relationship is the need for efficient communication and interaction such that both parties are able to achieve their objectives. The relationship between SMEs and their banks can be mutually beneficial. Hence, it is strategically important for both parties to optimise their symbiotic relationship (Durkin, McGowan, & Babb, 2013) where banks support entrepreneurial ventures which, in turn, contribute to their revenue and profit growth objectives. Digital banking has the potential to contribute positively to the optimisation of this relationship by supporting SME owner-managers in managing their business finances as well as assisting them to become investment-ready, thus enabling them to secure business financing. Furthermore, digital banking can improve operational efficiencies of SMEs by enabling greater flexibility and convenience.

Digital banking saves time and money by providing customers with convenience and accessibility. When they make use of digital banking, customers can avoid travelling, standing in queues and they have greater privacy in their interactions with the bank .In addition to this, digital banking promises to reduce bank operating costs by lowering service costs as well as the costs of attracting and transacting with customers by reducing dependence on a costly branch network as a means to distribute the bank's offerings (Genesis Analytics, 2013; Mols, 1998).

In the South African context, much still needs to be done to drive adoption of digital banking channels. Out of the total population of 57 million people (Statistics South Africa, 2016), 25 million South Africans have bank accounts, 16 million of them are internet users and only 5 million of those who have bank accounts use digital banking (Columinate, 2016). Although the statistics are largely applicable to individuals rather than SME, it is evident that there is room to improve in the area of digital banking adoption.

Furthermore, South African banks are making significant investments in their digital banking platforms (Barclays Africa, 2016; FirstRand, 2017; Standard Bank Group, 2016; Tarrant, 2016), in an effort to improve their service levels and introduce efficiencies which are expected to reduce their costs (Strategy&, 2015;

McKinsey & Company, 2013; Gikandi & Bloor, 2010) and ultimately increase profits. The banks are actively encouraging their customers, including SMEs, to adopt digital banking (Columinate, 2016; FirstRand, 2017; Standard Bank Group, 2016). In addition to increasing profits (Bank Administration Institute, 2013), banks employ digital banking technology with the aim of improving service levels (Hanafizadeh, Keating, & Khedmatgozar, 2014; Abratt & Russell, 1999) and drive customer satisfaction and retention (Ennew, Binks, & Chiplin, 2015), as a defence against increased competition.

Although many scholars and practitioners accept the benefits of digital banking adoption as a foregone conclusion, counter-arguments can be found in the literature where some scholars argue that Increased use of electronic channels threatens the relationships between banks and their SME customers (Ibbotson & Moran, 2003) as remote channels may undermine consumers' feeling of trust and adversely affect customer loyalty and retention (Hampshire, 2017; Howcroft, Hewer, & Durkin, 2003) More recently, Strategy& (2015), Business Centric Services Group (2015) as well as McKinsey & Company, (2013) have affirmed that banks can leverage digital channels to improve efficiencies that lead to lower costs and increases in customer satisfaction and loyalty in the SME segment .

The purpose of this study is to establish the effect of digital banking adoption on the SME-bank relationship by evaluating its influence on customer satisfaction, loyalty and SME performance. This study has corporate entrepreneurship implications for the banks – the findings will inform their innovation efforts and contribute to improving their service offerings to their SME clients. An improvement in the service offering will support improvement in the bank-SME relationship, thus contributing to bank performance.

1.3 Problem statement

1.3.1 *Main problem*

Small and medium enterprises (SMEs) are an important customer base for banks as they offer great opportunity for growth in revenues and profit. Banks are focusing on improving relationships and retaining their SME customers in defence against increasing competition. To this end, banks are making significant investments in their digital banking channels. However, it is not clear whether digital banking adoption supports the maintenance of a long term symbiotic relationship between SMEs and their banks.

1.3.2 *Sub-problems*

Sub problem 1: South African banks are investing in their digital banking channels with the objective of improving service quality to their SME customers, whilst lowering the cost of servicing those customers. However, it is not clear whether digital banking adoption brings about improvement in SME satisfaction.

Sub problem 2*:* It is not clear whether the banks' investment in digital banking channels is contributing to their objective of increased customer loyalty and retention. The effects of digital banking adoption on SME loyalty have not been tested.

Sub problem 3: SMEs are encouraged to adopt digital banking as it is expected to improve their efficiency. However, the effects of digital banking adoption on SME performance have not been proven.

1.4 Significance of the study

The study fills a gap in the current body of knowledge as it seeks to clarify the link between digital banking adoption by SMEs, satisfaction, loyalty as well as performance, in the South African context.

Although numerous studies have been undertaken to understand factors that influence internet banking (or technology) adoption, many of those studies have focused on individuals (Estrella -Ramon, Sanchez-Perez, & Swinnen, 2016; Dube, Chitura, & Runyuwa, 2008; Bradley & Stewart, 2003; Gerrard & Cunningham, 2003) or large corporate organizations (Proenca & de Castro, 2005). Few have focused on SME-bank relationships (British Academy of Management, 2015), or the adoption of internet banking by SMEs (Business Centric Services Group, 2015; McKinsey & Company, 2013; Accenture, 2012). There is a distinct lack of academic literature on the impact of technology in the SME-bank relationship (Ibbotson & Moran, 2003).

Further to this, very few studies have sought to uncover the implications of digital banking adoption for small business customer satisfaction and loyalty towards their banks (Railiene, 2014; Han, 2008). Lastly, much of the research pertaining to the adoption of digital banking channels has been conducted in developed countries in Europe and North America (Bain & Company, 2016; Bank Administration Institute, 2013; McKinsey & Company, 2013; Shahrokhi, 2008; Durkin M. , 2007). Studies done in a developing country context have primarily been in Asia (Chong, Ooi, Lin, & Tan, 2010; Xu, Shao, Lin, & Shi, 2009). Very few studies have investigated internet banking adoption in an African context (Assensoh-Kodua, Migiro, & Mutambara, 2016; Aijaz, Heikki, & Beatrice, 2015; Chima & Chikasanda, 2014; Gikandi & Bloor, 2010; Dube, Chitura, & Runyuwa, 2008; Singh, 2004). Hence, the generalisability of those findings to the SME population in South Africa is questionable. This study is original in that relationships between known factors i.e. technology adoption, satisfaction, loyalty and performance were evaluated in a different context.

The research findings will provide guidance to bank managers, inform their innovation efforts and contribute to improving their service offerings to SME clients. An improvement in the service offering will support improvement in the bank-SME relationship, thus contributing to the performance of both parties.

1.5 Delimitations of the study

The study focused on the adoption of digital banking by SMEs, for the purpose of conducting their business banking. The author acknowledges that SME owner-managers may interact with banks in their personal as well as in their business capacity. Interactions of a personal nature by the owner-manager are out of scope for this study – only their interactions with the bank in their business capacity were taken into account.

Furthermore, the research study only sought to understand the effect of digital banking adoption on SME performance. It did not evaluate the impact of digital banking adoption on bank performance or profitability. This could be the subject of future research.

1.6 Definition of terms

In this section, definitions are offered for key terms that are referenced throughout the report.

Entrepreneur: An individual who identifies an opportunity, takes calculated risks and co-ordinates scarce resources in order to exploit the opportunity to create value and generate profit (Venter & Urban, 2015).

Small and medium-sized enterprise (SME): An enterprise that employs fewer than 200 employees, generates an annual turnover less than R64 million or has capital assets that are worth less than R10 million (Banking Association of South Africa, 2017)

SME owner-manager: An entrepreneur who establishes and manages a business with the main purpose of furthering personal goals (Halabi, Barret, & Dyt, 2010)

Relationship Banking: A relationship-based marketing strategy which involves continuous interactions between banks and their existing customers as a means

to cultivate a long-term, mutually beneficial relationship (Mukherjee & Nath, 2003; Gidhagen & Thunman, 1999).

Customer satisfaction: 'A person's feelings of pleasure or disappointment that result from comparing a product's perceived performance (or outcome) to expectations' (Kotler & Keller, 2012, p. 128). Customer satisfaction measures how well each transaction in a given company meets a customer's expectations

Loyalty: ' A deeply held commitment to rebuy or repatronise a preferred product or service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour' (Oliver, 1999, p. 34)

Digital banking adoption: The use of internet enabled digital devices to access banking services remotely (Columinate, 2016; Business Centric Services Group, 2015). This includes internet banking or online banking as well as mobile banking (Columinate, 2016; Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017).

Internet Banking: A channel that enables consumers to access a wide range of financial and non-financial services through a bank's website (Hoehle, Scornavacca, & Huff, 2012).

Mobile Banking: A channel through which customers interact with their bank through non-voice mediums such as text, WAP-based service, and more recently, mobile applications on a device such as a mobile phone or tablet (Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017).

Digital banking: Internet-enabled banking interactions across various devices including mobile phones, tablets and personal computer. It is a collective term for internet and mobile banking (Columinate, 2016).

Performance: Performance is a measure of how well a business achieves its purpose (Tarute & Gatautis, 2014).

Growth: The net change in a specific variable within a specific time period, given a certain context (Cooper & Nakanishi, 2010). For this research, growth in market

share, assets, net revenue and number of employees is used as an indicator of performance.

1.7 Assumptions

The following assumptions were made for the study:

- Business incubators that do not publish contact details of their associated SMEs were willing to assist with data collection. Incubators may be constrained by the responsibility to keep the contact information of their incubatees confidential. This may have significantly limited the population from which the sample of respondents can be drawn.

- Where an incubator does not publish their associates contact details, they would have been willing to assist with distributing the research survey to their base of associates.

- Contact details made available for the survey were sufficiently accurate to facilitate right party contact. Similar to the assumption above, inability to contact the intended participants may have limited the population from which the sample can be drawn.

- Survey respondents were willing to participate and had the means to do so, including enough knowledge of digital banking (based on their close and regular interaction with the bank, on behalf of the business).It was assumed that an adequate number of those contacted were willing to participate, they had adequate time to complete the survey, they were proficient in the survey language and they would have had access to an internet-enabled device from which they could complete the survey. Incubators offer technology infrastructure including access to internet, for their affiliates. Hence, this was considered to be a reasonable assumption.

- Businesses that have access to social media had the necessary infrastructure to make use of digital banking and to participate in the research as the same infrastructure could be used to conduct all three activities.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

This section provides a theoretical review of relationship banking, digital banking adoption, customer satisfaction, loyalty and performance. Key themes that were found in the literature are highlighted. In addition, factors that are of relevance to the topic are discussed, ending in the development of the hypotheses, identification of variables to be measured, as well as indicators employed in the measurement.

2.2. Background.

Small enterprises have great potential to make a significant contribution to economic growth and job creation (Moghavvemi, Salleh, & Standing, 2016; Burke & Jaratt, 2004). As they run their businesses, entrepreneurs endeavour to increase efficiencies (Manish & Sutter, 2016; Tajeddini, Elg, & Trueman, 2013; Reji, 2013), maximise profits and grow their businesses (Neneh, 2014; Choto, Tengeh, & Iwu, 2014). However, small enterprises in South Africa face significant challenges that hamper their growth, including lack of business support (including financial), poor planning, lack of access to markets, lack of operational experience and poor financial management (Seed Academy, 2017).

Through digital banking, banks have the potential to contribute to the reduction in business failure by supporting SME owner-managers in managing their business finances as well as assisting them to become investment-ready. Banks are able to provide critical information for SMEs (Ennew, Binks, & Chiplin, 2015; Durkin, McGowan, & Babb, 2013; Burke & Jaratt, 2004) as well as funding (Binks, Ennew, & Mowlah, 2006; Madill, Feeney, Riding, & Haines, 2002; Chaston, 1994). Together with the convenient access and regular interactions offered by digital banking, banks are able to support SMEs with financial monitoring and control as well as access to funding.

In South Africa, banks are making significant investments in their digital banking platforms (Barclays Africa, 2016; FirstRand, 2017; Standard Bank Group, 2016; Tarrant, 2016).They are actively encouraging their customers, including SMEs, to adopt digital banking (Columinate, 2016; FirstRand, 2017; Standard Bank Group, 2016) and drive customer satisfaction and retention (Ennew, Binks, & Chiplin, 2015), as a defence against increased competition. Further to this, they expect a reduction in their operating costs through lower service and transaction costs enabled by a reduced dependence on a costly branch network as a means to distribute the bank's offerings (Genesis Analytics, 2013; Mols, 1998).

Although many scholars and practitioners accept the benefits of digital banking adoption as a foregone conclusion, counter-arguments can be found in the literature where some scholars argue that Increased use of electronic channels threatens the relationships between banks and their SME customers (Sharma, 2016; Ibbotson & Moran, 2003) as remote channels may undermine consumers feeling of trust and adversely affect customer loyalty and retention (Scherer, Wunderlich, & Von Wangenheim, 2015; Durkin & Howcroft, 2003). It is not clear whether banks' investment in digital banking channels is resulting in increased satisfaction and loyalty from their SME customers. In addition to that, it is not clear whether SME performance is enhanced by digital banking adoption.

2.3. Relationship Banking

Organisations are moving away from managing transactions and instead focusing on building long lasting customer relationships, thus driving a relationship-based marketing culture (Durkin, McGowan, & Babb, 2013). Relationship marketing stresses the importance of continuous interaction between the seller and the buyer in order to cultivate a long-term, mutually beneficial relationship (Mukherjee & Nath, 2003). By placing more attention on issues pertaining to customer communication and mutual trust building (Gidhagen & Thunman, 1999) organisations are able to maintain a competitive

edge in highly contested and rapidly changing markets (Hoehle, Scornavacca, & Huff, 2012; Proenca & de Castro, 2005).

2.3.1 Definition

In the banking context, the focus on relationship-based marketing is referred to as relationship banking. The concept of relationship banking was developed in the 1980s as an extension of relationship marketing that is specific to banks (Turnbull & Gibbs, 1987). It involves banks working to improve relationships with existing customers before attracting new ones and emphasises the long term perspective of customer-bank interaction (Mukherjee & Nath, 2003; Gidhagen & Thunman, 1999). By placing more attention on issues pertaining to customer communication and mutual trust building (Gidhagen & Thunman, 1999), organisations are able to maintain a competitive edge in highly contested and rapidly changing markets (Hoehle, Scornavacca, & Huff, 2012; Proenca & de Castro, 2005).

2.3.2 Consumer purchase process

Relationship banking uses the principles of relationship marketing to improve the odds of a customer making repeat purchases. The consumer purchase process, can be represented as follows:

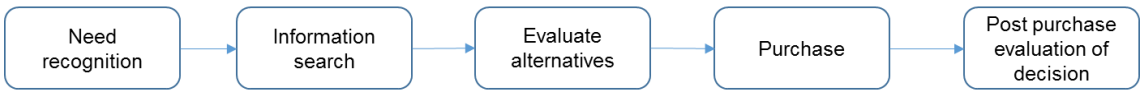


Figure 1: Consumer purchase process (Gall & Olson, 2012)

In the need recognition stage, the customer identifies a problem / need that must be fulfilled to achieve a desired state. The customer then seeks out information on possible ways in which the need can be fulfilled, ensuring the benefits outweigh the costs / effort of doing so. Once alternative solutions have been identified, they are evaluated. The benefits and costs of each alternative are assessed. The customer then selects the most attractive option and makes a purchase. Banks wish to create a positive experience from the chosen product or

service to create customer satisfaction. Customer satisfaction has been shown to lead to loyalty (Gall & Olson, 2012; Kakeeto-Aelen et al., 2014).

2.3.3 Factors influencing Bank-SME relationships

In the literature, a number of themes emanate from factors that have been identified as having an influence on bank–SME relationships. The themes are summarised in Table 1:

Table 1: Factors influencing SME-Bank relationships

loyalty: • Cross product holding • Switching cost • Inertia – Switching • Belief that there is no difference between banks	(Bank Administration Institute, 2013) (Gall & Olson, 2012) (Ibbotson & Moran, 2003) (Madill, Feeney, Riding, & Haines, 2002) (Gidhagen & Thunman, 1999)	**Customer satisfaction:** • Service quality • Speed of response • Meeting of expectations	(Shanka, 2012) (Naeem, Akram, & Saif, 2009) (Ibbotson & Moran, 2003) (Ennew & Binks, 1996) (Taylor & Baker, 1994)
Nature of Interaction: • Trust • Regular , open communication • Frequency • Flexibility • Commitment • Confidence • Personal / face to face interaction • Information sharing • Relevant , practical advice	(Estrella -Ramon, Sanchez-Perez, & Swinnen, 2016) (Howcroft, Durkin, Armstrong, & Emerson, 2007) (Durkin M. , 2007) (Silver & Vegholm, 2009) (Proenca & de Castro, 2005) (Howcroft, Hewer, & Durkin, 2003) (Gidhagen & Thunman, 1999)	**Calibre of Bank staff:** • Attitudes • Empathy • Qualification • Competence • Availability • Staff turnover • Authority • Knowledge of business and industry challenges • Relationship manager allocation	(Railiene, 2014) (Durkin M. , 2007) (Durkin & Howcroft, 2003)
Access to finance: • Conditions applied to financing • Relationship impact on access to finance • Information asymmetry	(Railiene, 2014) (Durkin, McGowan, & Babb, 2013) (Silver & Vegholm, 2009)	**Bank set up :** • Policies and procedure • Structure • Adaptability • Organisational mismatch	(Railiene, 2014) (Durkin, McGowan, & Babb, 2013) (Silver & Vegholm, 2009)

Scholars in the literature have shown that bank set up, access to finance, calibre of bank staff, the nature of the bank-SME interaction, customer satisfaction, as well as loyalty, have an influence on the relationship between SMEs and their

banks. Customer satisfaction and loyalty are of particular interest to the researcher as they have been found to be pertinent to the maintenance of mutually beneficial long term relationships between SMEs and their banks (British Academy of Management, 2015).

As customer satisfaction and loyalty have been shown to be key features in long term relationships between SMEs and their banks, these two constructs are investigated as proxies to long-term, mutually beneficial relationships between banks and their customers. Thus, the study focuses on investigating the implications of SME digital banking adoption for customer satisfaction and loyalty in the South African banking sector.

2.3.4 Does digital banking adoption support long-term SME-bank relationships?

Digital banking presents an opportunity to improve the interaction between SMEs and their banks. South African banks are making significant investments in their digital channels, with the intention of improving service levels, drive customer loyalty and retention as well as reduce operating costs. However, it is not clear whether they are achieving the anticipated gains. It is also not clear if SMEs are actually deriving the desired improvement in efficiency and ultimately, performance. The effect of digital banking adoption on the long-term relationship between SMEs and their banks has not been established.

In a symbiotic relationship such as the one between SMEs and their banks, a channel that generates mutual benefit for both parties can be expected to contribute to enhancing the relationship between those parties. This could be evidenced by improvements in customer satisfaction, loyalty as well as the performance of the SME. Although digital banking presents an opportunity to drive improvement in the symbiotic relationship between SMEs and their banks, little empirical evidence has been presented in support of this view.

2.4. Digital banking adoption

Digital banking adoption entails the use of internet-enabled digital devices to access banking services remotely (Columinate, 2016; Business Centric Services Group, 2015). This includes internet banking or online banking as well as mobile banking (Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017; Columinate, 2016). Extant literature comprises a multitude of studies covering technology adoption from the perspective of Information Communications Technology (ICT) (Tarute & Gatautis, 2014; Kyobe, 2011), mobile technology (Madukua, Mpiranjingab, & Duhc, 2016) , eCommerce (Gono, Harindranath, & Ozcan, 2016; Taylor & Murphy, 2004; Cloete, 2003), internet banking (Alwan & Al-zubi, 2016; Business Centric Services Group, 2015; Chong et al., 2010) as well as the use of IT in relationship banking (Railiene, 2014; Aliyu & Tasmin, 2012) .As this research was conceived in the context of relationship banking, the literature review focused on articles that covered electronic banking, internet banking, online banking, e-banking as well as mobile banking.

Research into adoption and use of digital banking has grown substantially over the last three decades (Hoehle, Scornavacca, & Huff, 2012). Studies have often focused on adoption of individual electronic banking channels. Little research has been done on the use of multiple channels (Hoehle, Scornavacca, & Huff, 2012). This is pertinent for this research as with the proliferation of internet-based offerings by banks, digital banking encompasses interactions across multiple devices including mobile phones, tablets, personal computer as well as multifunction self-service devices.

2.4.1 Definition

Digital banking comprises Internet-enabled banking interactions across various devices including mobile phones, tablets and personal computers .It is a collective term for internet and mobile banking (Columinate, 2016). Internet banking (also referred to as online banking) is defined as a channel that enables consumers to access a wide range of financial and non-financial services through a bank's website (Hoehle, Scornavacca, & Huff, 2012). Pikkarainen, Pikkarainen, Karjaluto, & Panhila (2004) defined internet banking as 'an internet portal, through

which customers can use different kinds of banking services ranging from bill payment to making investments' . Mobile banking is a channel through which customers interact with their bank through non-voice mediums such as text, WAP-based service and more recently, mobile applications on a device such as a mobile phone or tablet (Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017). Banking services that can be accessed through digital banking include cash flow management, payments as well as managing receivables outstanding (McKinsey & Company, 2013; Bank Administration Institute, 2013).

For the purposes of this study, digital banking includes internet banking, online banking, e-banking, electronic banking and mobile banking.

2.4.2 Motives for adopting digital banking

Branch based banking is still the most common method of conducting banking transactions (Chong, Ooi, Lin, & Tan, 2010) and branches remain a key distribution channel for banking services into the future (Genesis Analytics, 2013; Durkin , 2007). However, digital banking is gaining prominence as a banking channel as it saves time and money by providing customers with convenience and accessibility. When they make use of digital banking, customers can avoid travelling, standing in queues and they have greater privacy in their interactions with the bank (George & Kumar, 2014; Mols, 1998).

In addition to this, digital banking promises to reduce bank operating costs by lowering service costs as well as the costs of attracting and transacting with customers by reducing dependence on a costly branch network as a means to distribute bank's offerings (Genesis Analytics, 2013; Mols, 1998). Furthermore, digital banking is purported to improve efficiency thus helping banks remain competitive in increasingly competitive markets (Ibbotson & Moran, 2003).Hence, the adoption of digital banking is strategically important for banks to establish and extend their relationship with the customer (Nupur, 2010) by providing more timely and complete customer information and improving service quality (Hanafizadeh, Keating, & Khedmatgozar, 2014; Gikandi & Bloor, 2010).

The benefit of cost reduction and improved service quality can only be realised when there is large scale adoption and use of digital channels by the banks' customers (Bradley & Stewart, 2003). Hence the banks in South Africa are making a concerted effort to encourage their customers to adopt digital banking channels (FirstRand, 2017; Barclays Africa, 2016; Nedbank Limited, 2016; Standard Bank Group, 2016).

2.4.3 Study Approaches

According to Hanafizadeh, Keating, and Khedmatgozar (2014), three approaches to the study of digital banking adoption can be found in the literature: descriptive, comparative and relational. Descriptive studies identify the attributes and attitudes of digital banking adopters, features that appeal to adopters and drive adoption as well as barriers to adoption. These studies only seek to identify factors affecting adoption, they do not explain or theorise about the interactions between the various factors influencing adoption (Hanafizadeh, Keating, & Khedmatgozar, 2014).

Comparative studies focus on comparison of key variables affecting digital banking adoption. Relational studies seek to understand how the different factors that affect digital banking adoption interact with one another as they influence adoption. Such studies attempt to explain and predict the phenomena of digital banking adoption using models and theories (Hanafizadeh, Keating, & Khedmatgozar, 2014).

2.4.4 Theoretical basis for technology adoption

A survey of the literature yielded four key theories that have formed the basis for technology adoption studies, namely the Diffusion of Innovation Theory, Theory of Reasoned Action and Theory of Planned Behaviour, Technology Acceptance Model as well as the Technology Resistance Model. Each theory is discussed below:

2.4.4.1 Diffusion of innovation (DOI)

The diffusion of innovations theory is rooted in sociology and has been used since the 1960s to scrutinise the adoption of various technologies. The theory contends that the adoption of new innovations is propelled by communication and sharing of information relating to the innovation, over time and within a particular social system (Sahin, 2006). In this model, those who adopt an innovation are categorised into innovators, early adopters, early majority, late majority and laggards, based on their degree of willingness to adopt the innovation (Hoehle, Scornavacca, & Huff, 2012). According to Rogers (2003, as cited in Sahin 2006), innovators are willing to experiment with new ways of doing things, they often have some technical knowledge and they are prepared to cope with the uncertainty that may be associated with new innovations.

Early adopters are often viewed as role models within the social system. Their attitudes towards innovation are important as they put their stamp of approval on an innovation by adopting it (Roger 2003, as cited in Sahin 2006). The early majority signifies a critical mass that adopts an innovation deliberately, following in the footsteps of early adopters. Their interpersonal networks play a critical role in the early adopter's decision to make full use of an innovation. The late majority of adopters are somewhat sceptical about the innovation and its outcome. However, they are forced by economic necessity or peer pressure to adopt an innovation (Sahin, 2006).The last category of adopters is known as the laggards. Due to limited access to resources and/or information about the innovation, this group adopt an innovation after seeing it successfully in use by other members in their social system, thus ensuring that the innovation works before they adopt it (Sahin, 2006). Much literature on the adoption and use of digital banking channels has been based on the Diffusion of Innovation Theory (Hoehle, Scornavacca, & Huff, 2012).

The Diffusion of Innovation theory can be applied to the current study as digital banking can be viewed as a social construct moving through the SME population in South Africa. The relative advantages of using digital banking as opposed to branch based banking are cost and convenience (time and place). An SME

owner- manager who encourages others to make use of digital banking ultimately contributes to the diffusion of digital banking in the South African SME population.

2.4.4.2 Theory of reasoned action (TRA) and Theory of planned behaviour (TPB)

The theory of reasoned action argues that an individual's actions or behaviour is driven by intention, which is formed as a result of the person's attitudes towards the behaviour as well as their subjective norm (Hanafizadeh, Keating, & Khedmatgozar, 2014). In the context of this study, it would mean that SME digital banking adoption would be influenced by the attitude of the owner-manager as well as what is perceived to be the norms amongst SMEs. This theory has been criticised for not taking into account external factors or obstacles that could impede intended action, including environmental or organisational limitations, unforeseen events, time as well as ability (Moghavvemi, Salleh, & Standing, 2016)

Ajzen's theory of planned behaviour is an extension of the theory of reasoned action that takes into account perceived behavioural control in the formation of behavioural intention (Ajzen, 1991). According to the theory of planned behaviour, an individual's behaviour can be explained by his or her behaviour intention, which is jointly influenced by attitude, subjective norms, and perceived behavioural control. This forms the basis for scholars of technology adoption to measure behavioural intention as an indicator of adoption. In this study, digital banking adoption was measured by evaluating the intention to adopt as well as actual utilisation of digital banking. Although this theory has been criticised for being 'too rational' and not taking into account emotions, which are known to bias human judgements and behaviour, empirical evidence has shown that the theory does predict intentions and behaviour quite well (Ajzen, 2011).

2.4.4.3 Technology Acceptance Model (TAM)

The technology acceptance model (TAM) was proposed by Fred Davis (1989). In his initial proposal, Davis (1985) stated that system use can be explained by user

motivation, which in turn, is influenced by the system's features and capabilities. He argued that user motivation can be explained by *perceived ease of use*, *perceived usefulness* as well as the user's *attitude toward using* the system. *Perceived ease of use* and *perceived usefulness* were hypothesised to be influenced by the system's features and capabilities. By incorporating aspects of Ajzen's theory of planned behaviour, the TAM model was adapted to distinguish between behavioural intention and actual system use (Hoehle, Scornavacca, & Huff, 2012).

According to the model, perceived usefulness and perceived ease of use can be used to predict the user attitude toward using new technology and in turn, attitude can be used to predict the behavioural intention to use the system (Chong et al., 2010). Intention is a precursor of behaviour (Ajzen, 1991), which is the adoption and use of the technology. TAM has provided a useful lens for many researchers investigating digital adoption (Hanafizadeh, Keating, & Khedmatgozar, 2014). Many studies that sought to uncover factors that affect digital banking, internet banking or mobile banking adoption have applied the technology acceptance model.

For instance, Pikkarainen et al*.* (2004) used TAM as a base and added security, privacy, enjoyment and amount of information as additional factors that affect the adoption of online banking. Xu, Shao, Lin, & Shi (2009) adapted TAM to the context of digital banking adoption by adding perceived benefits, perceived transaction risk, firm readiness and external pressure as factors that have a significant effect on enterprise adoption of digital banking in China. In their study of online banking adoption in Vietnam, Chong et al. (2010) adapted TAM by adding government support and consumer trust in the security and privacy due to unclear internet laws and regulation, in that context.

Gao, Krogstie, andSiau (2011) believed that TAM , in its original form was unable to fully reflect specific influences of technology adoption, applicable in the context of mobile services, that may affect the user's acceptance of the technology. They argued that perceived usefulness and perceived ease of use may not fully explain an individual's intention to adopt mobile services. As a result, they proposed an extension of TAM, which includes context, trust and personal initiatives and

characteristics as additional factors that affect a user's intention to adopt mobile services.

TAM has been criticised for the inherent assumption that once customers have formed an intention to adopt, they are free to act without hindrance. However, in reality, there may be constraints that limit their freedom to act as they intended (Hanafizadeh, Keating, & Khedmatgozar, 2014). In the context of this research, an SME adoption of digital banking may be hindered by factors such as access to infrastructure, owner-managers' abilities or even the cost of using the service.

However, it was not expected that these potential inhibiting factors would play a significant role in this study as most South African banks have very similar digital offerings, usually provided at a cost that is lower than that incurred in-branch. In addition to that, banks offer facilities in-branch to enable customers who do not have access to the required infrastructure to still make use of digital banking. To address issues of user's abilities, those that wish to use the service are offered assistance with registration in-branch.

2.4.5 Unified Theory of User Acceptance of Technology (UTUAT)

The unified theory of acceptance and use of technology was proposed in response to criticism that current theory was fragmented and failed to account for how numerous factors affect technology use (Moghavvemi, Salleh, & Standing, 2016). Through its four key constructs i.e. performance expectancy, effort expectancy, social influence and facilitating conditions, the unified theory of user acceptance of technology explains intentions to use technology as well as the usage behaviour that follows (Venkatesh, Morris, Davis, & Davis, 2003). The four key constructs are direct determinants of usage intention and behaviour (Hanafizadeh, Keating, & Khedmatgozar, 2014).

The unified theory of user acceptance of technology assumes that facilitating conditions can measure the influence of environmental and organisational limits, unexpected events as well as the time and the ability that inhibit the act (Venkatesh, Morris, Davis, & Davis, 2003). However, Venkatesh et al. (2003) examined the relationship between intention and technology use behaviour and

found that the facilitating condition is unable to limit the effects of external factors (Moghavvemi, Salleh, & Standing, 2016).

Venkatesh et al. (2003) also found that behavioural intention is limited in that external factors can hinder or enable actions (or behaviour) that are not fully captured by intention. Intention was also found to be weak in its ability to predict or explain unforeseen events that may take place between the times an intention is formed and the action is taken to adopt (Moghavvemi, Salleh, & Standing, 2016). Lastly, intention was also found to be weak in its ability to predict behaviours that are not completely within an individual's control. For example, an individual may form an intention to adopt digital banking. However, if their bank does not offer that service, they will be unable to proceed with the intended behaviour. Although UTAUT is a robust model, it still has limitations that reduce its accuracy in addition to many studies that having replicated UTAUT, but the link between intention and behaviour is still not well defined - the work is still criticised as being fragmented and incohesive (Moghavvemi, Salleh, & Standing, 2016).

2.4.6 Technology adoption Decision and Use (TADU)

The technology adoption decision and use model was developed by identifying additional constructs and relationships to be integrated into UTAUT in order to tailor it to the context of adoption and use by entrepreneurs. The TADU model extends UTAUT by incorporating perceived desirability (the degree of attraction an entrepreneur perceives towards using technology innovations) and perceived feasibility (the degree to which entrepreneurs perceived that they are capable and have skill to use technology in their job) as strong factors influencing an entrepreneur in forming an intention to use technology (Moghavvemi, Salleh, & Standing, 2016). The TADU model differs from the other models in that it is specific to the context where entrepreneurs use technology as a source of new opportunities or to improve performance in their businesses.

In their study, Moghavvemi, Salleh, and Standing (2016) differentiated between entrepreneurs and small business owners. They deemed an entrepreneur as being someone who does new things or does things in a new way .Although this

is an important distinction, it was not adopted for the examination of digital banking adoption by SMEs in South Africa – due to their large numbers, small businesses in survival mode (characterised by limited innovation and growth) are just as important as high growth SMEs. It could even be argued that banks must focus more on encouraging such businesses to adopt digital banking as a means to reduce servicing costs and improve profitability.

2.4.7 Factors affecting digital banking adoption

By applying some of the theories detailed above, scholars in the literature have identified a number of factors that have an influence on technology or digital banking adoption. These are summarised in table 2 as follows:

Table 2: Factors influencing digital banking adoption

Influencing Factor	Sources	Influencing Factor	Sources
Perception of Risk: • Perceived transactional risk • Trust • Perceived risk • Perceived privacy • Perceived feasibility • Security • Assurance Seals	(Alwan & Al-zubi, 2016) (Ozkan, Bindusara, & Hackney, 2010) (Chong, Ooi, Lin, & Tan, 2010) (Xu, Shao, Lin, & Shi, 2009) (Pikkarainen, Pikkarainen, Karjaluto, & Panhila, 2004)	**Perception of Benefits:** • Perceived benefits • Perceived advantage • Perceived desirability	(Moghavvemi, Salleh, & Standing, 2016) (Ozkan, Bindusara, & Hackney, 2010) (Xu, Shao, Lin, & Shi, 2009) (Ibbotson & Moran, 2003)
Perceived Usability: • Perceived ease of use • Familiarity • Perceived usefulness • Effort expectancy • Feature diversity • Convenience • Enjoyment • Amount of information	(Alwan & Al-zubi, 2016) (Moghavvemi, Salleh, & Standing, 2016) (Lee & Jafaar, 2011) (Chong, Ooi, Lin, & Tan, 2010)	**External influence:** • External Pressure • Precipitating events • Social influence • Legal Support • Government support	(Moghavvemi, Salleh, & Standing, 2016) (Chong, Ooi, Lin, & Tan, 2010) (Xu, Shao, Lin, & Shi, 2009)

	(Ozkan, Bindusara, & Hackney, 2010) (Pikkarainen, Pikkarainen, Karjaluto, & Panhila, 2004)		
Capacity to adopt: • Firm readiness • Firm management diversity • Propensity to act • Facilitating conditions	(Moghavvemi, Salleh, & Standing, 2016) (Xu, Shao, Lin, & Shi, 2009) (Durkin, 2007)	**Bank Staff:** • Interaction with bank staff • Staff skills on online channels • Balance between face to face interaction and internet banking proposition	(Railiene, 2014) (Howcroft, Durkin, Armstrong, & Emerson, 2007) (Durkin, 2007) (Howcroft, Hewer, & Durkin, 2003) (Durkin & Howcroft, 2003)
Product: • Product usage frequency/ Periodicity of interactions • Product complexity	(Estrella -Ramon, Sanchez-Perez, & Swinnen, 2016) (Durkin , 2007) (Durkin & Howcroft, 2003)	**Other :** • Service quality on other channels • Credibility of internet banking provider • Customer feedback • Preference for personal interaction • Pricing	(Alwan & Al-zubi, 2016) (Howcroft, Durkin, Armstrong, & Emerson, 2007)
Bank motives : • Competitive force • Customer demand • Cost reduction • Availability of technology • Suitability of product for internet delivery • Ability to deal with customers through other channels			(Gikandi & Bloor, 2010) (Mols, 1998)

The literature review shows that digital banking adoption is influenced by bank motives, perception of risk, perception of benefits, perceived usability, external influence, bank staff, as well as customer capacity to adopt. The researcher notes that although numerous studies have been undertaken to understand factors that influence internet banking (or online banking) adoption, many of those studies have focused on individuals (Estrella -Ramon, Sanchez-Perez, & Swinnen, 2016; Dube, Chitura, & Runyuwa, 2008; Bradley & Stewart, 2003; Gerrard & Cunningham, 2003) or corporate organisations (Proenca & de Castro, 2005).

Very few studies have focused on adoption of internet banking by SMEs (Business Centric Services Group, 2015; McKinsey & Company, 2013; Accenture, 2012) or the effect that such adoption has on SME-bank relationships (BAM, 2015). There is a deficiency of academic literature on the impact of technology in the SME-bank relationship (Ibbotson & Moran, 2003) .

Further to this, much of the research pertaining to adoption of digital banking channels has been conducted in Europe, Asia and the USA. A limited number of studies have been conducted in Africa (Assensoh-Kodua, Migiro, & Mutambara, 2016; Aijaz, Heikki, & Beatrice, 2015; Chima & Chikasanda , 2014; Gikandi & Bloor, 2010;Dube, Chitura, & Runyuwa, 2008 ; Singh, 2004). Hence the generalisability of the findings to the SME population in South Africa is questionable.

Despite the absence of empirical studies confirming the applicability of the identified factors to digital banking adoption by South African SMEs, this was not included in the scope of this study. The researcher's interest lay primarily in understanding if and how digital banking adoption affects the SME-bank relationship, as represented by customer satisfaction, loyalty and SME performance. Validation of the applicability of the above factors to the South African context could be the subject of future research. In this literature review, factors affecting digital banking adoption were included as it is the researcher's view that an understanding of these factors will provide useful context for analysing and interpreting the results of this study.

Most conspicuously, no studies could be found that have successfully quantified the extent of digital banking adoption by SMEs in South Africa. An examination of banks' annual integrated reports as well as published studies pertaining to digital adoption revealed statistics pertaining to individuals - no statistics applicable to SMEs were evident, at an industry level. This is a notable gap for bank regulators and managers who are concerned with monitoring market activity in order to inform their strategies and initiatives. To close this gap, this study aims to investigate and quantify SME adoption of digital banking in South Africa.

2.4.8 Measurement

Although extensive studies have been done on technology adoption, there is little dialogue in the literature on how adoption is conceptualised and measured. Some scholars measure technology adoption through behavioural intent i.e. intention to use (Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017; Gao, Krogstie, & Siau, 2011; Moghavvemi, Salleh, & Standing, 2016; Chong et al., 2010) whilst others measure actual behaviour, such as past usage (Ozkan, Bindusara, & Hackney, 2010) or frequency of use (Kijsanayotin, Pannarunothai, & Speedie, 2009).

There is limited dialogue in the literature aimed at creating a unified view of how technology adoption should be measured in empirical studies. This leaves contemporary researchers in a position where they must decide on the approach to be taken in establishing adoption of a particular technology.

2.4.9 Investigating digital banking adoption by South African SMEs

This study set out to investigate SME adoption of digital banking in South Africa. More specifically, the study sought to determine if digital banking adoption supports the maintenance of a long term symbiotic relationship between SMEs and their banks by examining the relationship between digital banking adoption and customer satisfaction, loyalty and SME performance. In the investigation, digital banking adoption was an independent variable, measured using a combination of behavioural intention (Intention to use or adopt) as well as self-reported behaviour (frequency of use).

Having noted that statistics quantifying digital banking adoption by South African SMEs are not publicly available, the study commenced with closing this gap by quantifying the levels of digital banking adoption by South African SMEs.

2.5. Customer satisfaction

Customer satisfaction, as an area of study, has captivated scholars for over five decades (Millan & Esteban, 2004). Despite being widely researched, customer

satisfaction is still a highly debated construct (British Academy of Management, 2015). Customer satisfaction is an element which is critical for the development and maintenance of long term customer relationships (Ennew & Binks, 1996). It is at the core of relationship marketing because if customers are not satisfied, it will be difficult for a company to develop long term relationships with them (Kakeeto-Aelen et al., 2014). High levels of customer satisfaction safeguard a firm's customers from competitors, enhances a firm's reputation in the marketplace, and lowers the cost of transacting and attracting new customers (Sharma, 2016; Mols, 1998).

2.5.1 Definition

Different authors have defined customer satisfaction in various ways. Notably, Kotler and Keller (2012, p 128) define customer satisfaction as 'a person's feelings of pleasure or disappointment that result from comparing a product's perceived performance (or outcome) to expectations'. Oliver (2015) defined customer satisfaction as the final psychological state resulting from the disconfirmed expectancy related to initial consumer expectation. Halstead, Hartman, and Schmidt (1994) defined it as an emotional response associated with a specific transaction resulting from the comparison of the result of the product to some set standard prior to purchase. 'Satisfaction is the consumer's fulfilment response. It is a judgement that a product or service feature, or the product or service itself, provided a pleasurable level of consumption related fulfilment, including levels of under – or over-fulfilment' (Oliver, 2015)

Kotler and Keller (2012p. 128) defined customer satisfaction as 'a person's feelings of pleasure or disappointment that result from comparing a product's perceived performance (or outcome) to expectations'. Szuts and Toth (2008, p. 328) defined it as 'a customer's perception that his or her needs, wishes, expectations, or desires with regard to products and service have been fulfilled.' More recently, it has been defined as the pleasure or disappointment that arises from a comparison between the outcomes of a service encounter to their expectations (Gall & Olson, 2012).

Customer satisfaction measures how well each transaction in a given company meets a customer's expectations (Kakeeto-Aelen et al., 2014). A customer's level of satisfaction can vary from low satisfaction to high satisfaction, with high levels of satisfaction signifying a close alignment between the product or service and the customer's expectations.

Some researchers consider different facets of customer satisfaction. (Rossomme, 2003, p. 186) highlights four different elements of satisfaction as follows:

- *Information satisfaction* entails satisfaction with the information used to make a product purchase decision. This information influences the expectations prior to purchase as well as the evaluation of performance, post purchase.
- *Performance satisfaction* is the degree to which the fundamentals of a transaction meet the performance expectations. It reflects the overall performance of the supplier to deliver and support the transaction.
- *Attribute satisfaction* is a subjective judgement of satisfaction based on the performance of a feature or attribute of a product or service (Oliver, 1993).
- *Personal satisfaction* is an individual's psychological judgement of pleasure or comfort surrounding the relationship with the supplier. This is the element of satisfaction that is most reflected in the common conceptualisation of satisfaction.

This study set out to measure the levels of SME satisfaction with their banks i.e. how well SME's expectations are met when they interact and transact with their banks using digital banking. The study also aimed to measure the SMEs perception of how satisfied their own customers are i.e. how SMEs perceive themselves to be performing in meeting their customers' needs. Based on the above characterisation of customer satisfaction, this investigation largely covers performance satisfaction as well as personal satisfaction.

2.5.2 Customer satisfaction theories

A number of theories and frameworks have been developed to explain customer satisfaction in the literature. These include the Dissonance Theory (Cardozo, 1965), the Contrast Theory (Oliver & DeSarbo, 1988), the Expectancy-Disconfirmation Theory (Oliver, 1980), the Comparison Level Theory (Thibaut & Kelly, 1959) as cited in (Yuksel, 2008), the Value Percept Theory, the Attribution Theory, the Person-Situation Fit concept as well as the Importance-Performance Model (Ennew, Reed, & Binks, 1993). The dissonance theory purports that when a person who expected a high value product receives a low value product, they will recognise the discrepancy and as a result, will experience a cognitive dissonance (Cardozo, 1965). In essence, their unmet expectations will create a psychological discomfort, which they then rectify by adjusting their perception of the product. This theory has been criticised for its failure to completely explain consumer satisfaction as well as the underlying assumption that consumers are under pressure to resolve the difference between their expectations and product performance (Yuksel, 2008).

Contrary to the dissonance theory, the contrast theory purports that when product performance falls short of consumer expectations, the consumer will rate the product performance below what is it is in reality (Oliver & DeSarbo, 1988). The expectancy-disconfirmation theory is a cognitive theory that seeks to explain post-adoption satisfaction as a function of expectations, perceived performance and disconfirmation of beliefs. Although it has found acceptance among various scholars (Yuksel, 2008), the expectancy-disconfirmation theory has been criticised for its use of customer expectations as a comparison standard – customer expectations are not static over time. In addition to that, this theory has been criticised for presupposing that all consumers have firm expectations prior to using a product or service – this may not be the case when a customer is not familiar with the product and does not know what to expect (Yuksel, 2008).

In a synthesis by Hom (2000), distinction is made between macro and micro models of satisfaction. Macro-models of customer satisfaction place customer satisfaction among a set of related constructs in marketing research (Hom, 2000). Macro models include Woodruff and Gardial's (1996) traditional model. Micro-

models of customer satisfaction include the Expectations Disconfirmation Model and Attribution Models (British Academy of Management, 2015; Ennew, Binks & Chiplin, 1994). Micro-models conceptualise satisfaction as an 'evaluative judgement, which results from a comparison of product performance against an evaluative standard' (Yuksel, 2008, p. 120). These theories concur that product performance that matches expectations signifies satisfaction whereas a discrepancy between product performance and consumer expectations signifies dissatisfaction. This research proceeds on the basis that satisfaction occurs when there is congruence between an SME's expectations and the bank's performance in relation to services rendered.

2.5.3 Service quality as a determinant of customer satisfaction

The quality of a service encounter has been studied extensively. Service quality has been shown to have five dimensions, namely: reliability, responsiveness, assurance, empathy and tangibles (Nupur, 2010) (Makarem, Mudambi, & Podoshen, 2009; Millan & Esteban, 2004; Parasuraman, Zeithamal, & Berry, 1988). Most notably, service quality is recognised in the literature as a determinant of customer satisfaction (Shanka, 2012; Nupur, 2010; Naeem, Akram, & Saif, 2009; Bloemer, de Ruyter, & Peeters, 1998; Taylor & Baker, 1994)– to achieve a high level of customer satisfaction, researchers suggest that a high level of service quality should be in place.

For customer satisfaction on internet banking, George and Kumar (2014) argue that the applicable service quality dimensions are Reliability, Responsiveness, Fulfillment, Privacy and Security – there is significant alignment to the factors that have been shown to influence digital banking adoption. In the empirical work, researchers measure dimensions of service quality in an effort to measure customer satisfaction (Nupur, 2010; Makarem, Mudambi, & Podoshen, 2009; Millan & Esteban, 2004) – this is problematic as satisfaction is a distinct construct from service quality. However, Bolton and Drew (1991) emphasised that service quality is considered in the context of the overall service experience whereas customer satisfaction is applied to a specific transaction or encounter. The departure point for this research is one that views customer satisfaction as the

alignment between SME expectations and the performance of their banks, as evaluated over a number of transactions or service encounters.

2.5.4 Customer satisfaction in a B2B context

Much of the research on customer satisfaction has focused on evaluating perceptions of individual customers. Limited research has been conducted on measuring the satisfaction of an organisation, which has the added complexities of multiple role players, complex products/service attributes and a diverse customer base (Rossomme, 2003). Satisfaction is often conceptualised as a psychological assessment of the degree to which a product or service meets expectations (Gall & Olson, 2012; Kotler & Keller, 2012; Szuts & Toth, 2008) – this is problematic for businesses as many employees in such a business would not use the service and so would not have a basis on which to make such an assessment. In addition, when purchasing a product or service, businesses have objectives and in assessing performance of such a product, the degree to which those objectives are met influences the level of satisfaction (Rossomme, 2003).

Furthermore, in a business context, there are different roles involved in the sales process: influencers, gatekeepers and decision-makers play a primary role in the pre-purchase phase (Rossomme, 2003) where they collect information about the business need, the product/service alternatives to meet that need as well as the suppliers of those products and service in order to make a purchase decision. This group of role players are best positioned to evaluate performance satisfaction. Decision-makers and buyers play a primary role in the purchase phase, where a product / service is selected and the necessary agreements are put in place to govern the use of the product / service as well as the obligations and interactions between the business and its supplier. Users are the primary role players in post-purchase usage (Rossomme, 2003). They are able to assess attribute satisfaction. A more accurate assessment of satisfaction must be a composite of the satisfaction evaluation of all role players.

Most business-to-business research has made use of a key informant (Rossomme, 2003) as opposed to surveying all role players – this approach may be problematic as the key informant may not have the perspective of all role

players in the organisation. The same approach was utilised in this research, however, to overcome the challenge raised above, the key informant had to have the responsibility of managing the financial affairs of the business such that they had post-purchase use experience with digital banking. In this way, they would be able to assess the different elements of satisfaction i.e. the information used to choose the appropriate digital banking product / service, the degree to which digital banking transactions meet the business performance expectation as well as the psychological judgements of pleasure surrounding the relationship with the bank.

2.5.5 Customer satisfaction in a technology context

The use of technology in service encounters can enhance customer satisfaction (Makarem, Mudambi, & Podoshen, 2009). The outcomes of satisfaction are behavioural intention (Aksoy, 2013) and word of mouth (Bitner et al., 2000). Yet McDougall and Levesque (2000), as cited in (Klaus & Maklan, 2012) assert that improved customer satisfaction is a desirable but not sufficient condition for affecting behavioural intentions.

Customer satisfaction has also been shown to be a determinant of customer loyalty (Soderlund, 2006; Shanka, 2012; Kakeeto-Aelen et al., 2014). The more satisfied a customer is with their bank, the less intention to switch service provider in the future (Bansal & Taylor, 1999). In contrast, Tomiuk and Pinsonneault (2002) assert that the lack of 'richness' and 'sound presence' of internet banking will affect a bank's ability to create trusting relationships with their customers. Research has provided substantive understanding of satisfaction in face-to-face service encounters but not of service encounters involving both technology and the human touch (Makarem, Mudambi, & Podoshen, 2009). While service satisfaction is believed to directly shape a customer's long term purchasing behaviour (Groonroos, 1984) customer resistance to technology can reduce overall levels of satisfaction (Makarem, Mudambi, & Podoshen, 2009).

Businesses that have access to the internet are better enabled to access information, which makes it easier for them to access alternative suppliers (Rossomme, 2003) .In the context of digital banking, this suggests that there are

lower switching costs for SMEs that use digital banking .Yet, digital banking is expected to provide a better service quality, which has been shown to contribute to customer satisfaction and retention (Nupur, 2010). In their 2010 study, Buell, Campbell, and Frei found that retail banking customers that use self service banking are not more or less satisfied than their counterparts that use traditional banking channels. Hence, the overall effect of digital banking on SME satisfaction is not clear – does digital banking contribute more to customer's switching between banks or does it contribute more strongly to satisfaction and retention of customers?

2.5.6 Influence on customer loyalty, retention and performance

(Bitner, 1990) and Gustafsson, Johnson, and Roos (2005) found that customer satisfaction has an impact on customer retention. Customer satisfaction leads to high levels of customer commitment and loyalty (Picon, Castro, & Roldan, 2014 ; Shanka, 2012) In essence, customer satisfaction has a positive impact on customer loyalty (Bloemer, de Ruyter, & Peeters, 1998). More specifically, customer satisfaction has a positive influence on behavioural loyalty intention (Klaus & Maklan, 2012) such that a satisfied customer is more likely to repurchase a product and share their experience with other people (Jones & Taylor, 2007).

Customer satisfaction is often used as a predictor of firm performance (Makarem, Mudambi, & Podoshen, 2009), with the assumption that customer satisfaction goes hand-in-hand with market share although there is some evidence to the contrary (British Academy of Management, 2015). The use of technology in a service environment is expected to have a positive influence on costs and service quality (Chong, Ooi, Lin, & Tan, 2010). Good service quality has been shown to have a positive effect on customer satisfaction (Kakeeto-Aelen et al., 2014).

2.5.7 The link between digital banking adoption and SME satisfaction

This study set out to establish if digital banking adoption supports the maintenance of a long term symbiotic relationship between SMEs and their

banks. Digital banking promises mutual benefit for SMEs and their banks by improving efficiencies and providing greater convenience for SMEs, whilst reducing costs and improving service quality for banks. The benefits that can be delivered through digital banking are expected to result in more profitable banks and more satisfied SME customers. Customer satisfaction has been shown to be pertinent to the maintenance of mutually beneficial long term relationships between SMEs and their banks (British Academy of Management, 2015).

Therefore the study examined the relationship between digital banking adoption and customer satisfaction - is there a correlation between digital banking adoption and SME satisfaction? When SMEs use digital banking, does this result in an improvement in their levels of satisfaction? We therefore hypothesise the following:

Hypothesis 1a: digital banking adoption has a positive influence on SME satisfaction

Customer satisfaction impacts customer retention positively as it leads to high levels of customer commitment and loyalty (Picon, Castro, & Roldan, 2014; Shanka, 2012). More specifically, customer satisfaction has been found to have a positive influence on behavioural loyalty intention (Klaus & Maklan, 2012) such that a satisfied customer is more likely to repurchase a product and share their experience with other people (Jones & Taylor, 2007). This finding is significant for the current enquiry as it implies that a satisfied SME customer is more likely to repurchase services from their bank. To validate the generalisability of this finding to South African SMEs, we hypothesise as follows:

Hypothesis 1b: SME satisfaction has a positive influence on SME loyalty towards banks.

2.6. Loyalty

Building customer loyalty can generate positive returns to a firm such as increased sales, lower costs, more predictable profit streams (Jones & Taylor, 2007) and company growth (Rundle-Thiele, 2005).

2.6.1 Definition

The concept of loyalty first appeared in the 1940s, wherein it was proposed as a unidimensional construct (Rundle-Thiele, 2005). Early definitions conceptualised loyalty as a behavioural outcome such as repurchase or switching intentions (Jones & Taylor, 2007). Oliver (1999) defines loyalty as 'a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same-brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour'. It is a feeling or attitude of dedicated affection, which implies that a person feels an obligation to continue with a relationship. Loyal customers are much more likely to be retained, devote a higher share of category spending with a firm and tend to be more satisfied (Oliver, 1999). Shoemaker and Lewis (1999, p. 349) state that 'a loyal customer feels so strongly that you can best meet his or her relevant needs that your competition is virtually excluded from the consideration set and the customer buys exclusively from you'. Szuts and Toth (2008, p. 357) place more emphasis on attachment by defining loyalty as 'a customer's faithful adherence to an institution (or merchant), despite the occasional error or indifferent service'. Rundle-Thiele (2005, p 494) defines it as 'The state or quality of being loyal, where loyal is defined as a customer's allegiance or adherence towards an object'.

More recently, Shanka (2012) defines loyalty as a commitment to repurchase the preferred product/service consistently in the future. Although there is no consensus on the conceptual definition of loyalty (Soderlund, 2006), repeated behaviour, preference (or attachment) as well as intentions are dominant themes across different conceptualisations of loyalty (Toufaily, Fallu, & Ricard, 2016). In other words, there is consensus in the literature that a loyal customer buys more products or services from the same service provider, is more tolerant of one-off dissatisfaction and recommends the business and its products to friends and family (Toufaily, Fallu, & Ricard, 2016).

Customer loyalty that develops based on electronic interactions is referred to an on-line customer loyalty or e-loyalty. It has been conceptualised as 'the customer's willingness to maintain a stable relationship in the future and to

engage in a repeat behaviour of visits and/or purchases of online products/services, using the company's website as the first choice among alternatives, supported by favourable beliefs and positive emotion towards the online company, despite situational influences and marketing efforts that lead to transfer behaviour' (Toufaily, Fallu, & Ricard, 2016, p. 274). Online loyalty can apply where a service provider makes use of several distribution channels, including online channels or it could apply where interactions between a customer and service provider take place exclusively in an online setting.

Loyalty can result in competitive advantage, increased productivity and growth as well as reduce the cost of capital (Toufaily, Fallu, & Ricard, 2016). In the context of relationship banking, banks strive for customers to develop an attachment to them such that they are able to retain customers and prevent them from switching to competitors, as well as persuade those customers to make repeat purchases.

2.6.2 Dimensionality

There is an ongoing debate on the conceptual definition of loyalty (Soderland, 2006). The main gist of the debates is centred on whether loyalty is a behavioural or attitudinal phenomenon and discriminating between the different dimensions of loyalty and understanding the interrelationships between them (Rundle-Thiele, 2005). As research developed, loyalty was conceptualised as a two-dimensional construct that included both repurchase behaviour and attitudinal characteristics (Pritchard, Havitz, & Howard, 1999).

Similarly, Jones and Taylor (2007) found loyalty to be two-dimensional with the behavioural element consisting of repurchase intentions, switching intentions and exclusive purchasing intentions. The second dimension was a combined attitudinal/cognitive dimension which included advocacy, altruism, willingness to pay more and identification with the service provider. The two-dimensional representation of loyalty was consistent across three different types of service. Conceptualisation built around repurchase behaviour has been criticised as a customer can re-patronise the same service provider due to high switching costs, indifference or lack of viable alternatives – they may repurchase as a result of limited choices (Picon, Castro, & Roldan, 2014; McMullan, 2005).

Other researchers conceptualised the attitudinal dimensions as feelings of attachment to a product, service or organisation (Baker & Voorhees, 2014), willingness to recommend (Chai, Maholtra, & Alpert, 2015) or considering the service provider the first choice among alternatives (Picon, Castro, & Roldan, 2014), An alternative view is where loyalty is conceptualised as a three-dimensional construct which includes a behavioural, attitudinal and a cognitive component that encompasses a customer's beliefs and exclusive consideration of one service provider (Bloemer, De Ruyter, & Wetzels, 1999). Behavioural outcomes of loyalty include repurchase intentions, switching intentions, advocacy and willingness to pay more (Jones & Taylor, 2007).

In her 2005 study, Rundle-Thiele's findings were not consistent with commonly accepted conceptualisations of loyalty. The findings suggested that customers can be loyal in different ways. She proposed that dimensions of loyalty should include propensity to be loyal, behavioural intentions, complaining behaviour, resistance to competing offers, attitudinal loyalty and behavioural loyalty. In spite of the lack of agreement, the majority of research now reflects loyalty as a multi-dimensional construct (Jones & Taylor, 2007) that has both an attitudinal and behavioural component (Aksoy, 2013; Soderlund, 2006), although Reichheld (2003) has gone against the grain by proposing that loyalty can be adequately assessed using one measure – willingness to recommend. This proposal suggests that loyalty is unidimensional, which is contrary to contemporary findings of other researchers.

2.6.3 Measurement

A wide variety of measures have been inconsistently applied across many different loyalty studies (Rundle-Thiele, 2005). Measures that have been proposed in the literature can be split into two broad categories of perceptions and attitudes as well as loyalty behaviours. Customer perceptions and attitudes include customer satisfaction, commitment; indicators of loyalty behaviour include retention, share of wallet, frequency and indicators of loyalty behaviour include repurchase intention, recommend intention, net promoter score in

addition to other measures such as word of mouth, recency of purchase and complaints (Aksoy 2013).

Some of the indicators of customer loyalty are reflective i.e. there is an underlying assumption that covariation among the measurement items is caused by variation in a single latent construct (Soderlund, 2006). These include re-patronage intentions, intentions to deal with the same salesperson again and preference for one retailer. Other measures are formative such that the individual items are thought to cause changes in the latent construct (Soderlund, 2006). Some researchers have suggested that it has been argued that the concept of loyalty would differ depending on the type of product or service being rendered (Rundle-Thiele & Bennett, 2001).

Researchers who wish to measure customer loyalty in an empirical study are required to make decisions regarding which dimensions of loyalty to include and how to deal with their interrelatedness (Soderlund, 2006). Mixing aspects from the two different approaches creates low construct validity (MacKenzie, 2003). Jones and Taylor (2007) concur that it is critical for marketers to fully understand the nature and dimensionality of loyalty as, without such an understanding, they may be measuring the wrong thing in their attempts to identify loyal customers. They recommend that in order to identify truly loyal customers, researchers should measure loyalty related outcomes from both dimensions.

2.6.4 The relationship between digital banking adoption and loyalty

Due to increasing competition in the financial services sector, banks find themselves in a position where they now need to work harder to retain existing SME customers and secure repeat purchase from those customers in order to maintain revenues and profitability (Howcroft, Durkin, Armstrong, & Emerson, 2007). In response to this, South African banks are making significant investments in their digital channels in an effort to drive customer loyalty and retention.

Digital banking has the potential to provide much needed support to SME owner-managers in managing their business finances through providing critical information (Ennew, Binks, & Chiplin, 2015; Durkin, McGowan, & Babb, 2013;

Burke & Jaratt, 2004), enabling better access to funding (Binks, Ennew, & Mowlah, 2006; Madill, Feeney, Riding, & Haines, 2002; Chaston, 1994) as well as enabling SMEs to have regular interactions with their banks without the inconvenience of going to a branch.

In their 2015 study, Scherer, Wunderlich, and Von Wangenheim found that the ratio of technology use to personal service affects customer defection in a U-shaped manner such that intermediate levels of both technology use and personal service are assosiated with the lowest levels of customer defection. This implies that technology use can facilitate customer retention under certain conditions.The study was conducted in the context of roadside assistance in the automotive industry, thus the findings may not be generalisable to banking.

In a previous study, (Buell, Campbell, & Frei, 2010) had concluded that retail banking customers who use self-service technology are less likely to move to a competitor is there is a high switching cost. The current study differs in that it focuses on SMEs and to a large degree, South African banks offer similar digital banking propositions with limited price differentiation. The cost of switching is deemed to be low. Thus, it remains unclear whether South African banks' investments in digital banking are yielding the intended returns in customer loyalty and retention. Is there a correlation between digital banking adoption by SMEs and loyalty? Are SMEs who use digital banking more loyal to their banks? We therefore hypothesise as follows:

Hypothesis 2: Digital banking adoption has a positive influence on SME loyalty towards banks

2.7. Performance

A survey of the literature yielded a prolific amount of research pertaining to performance measurements. Articles covering the human resource concept of performance management were excluded. Only articles covering business performance or firm performance were included in the review. The construct of firm performance has captured the interest of scholars over the last three decades. The concept of organisation performance has been studied in depth in

strategic management research, with great focus being placed on determining the right measure of firm performance (Steigenberger, 2014).

For this research, growth in market share, assets, net revenue and number of employees was used as an indicator of performance, as they are easier for the owner-manager to evaluate, even with limited financial knowledge. Market share is the proportion of the industry's total sales that is earned by a particular company, over a defined period (Cooper & Nakanishi, 2010). Assets are resources with economic value that are used by a firm in the value creation process. This can include different forms of property as well as equipment. Net revenue is the firm's earnings minus direct costs incurred when generating sales.

2.7.1 Definition

Performance has been defined as the fulfilment of the economic goals of a firm (Venkatraman & Ramanujam, 1987). Barney (2001) defines it as the value that an organisation creates using its productive assets with the value that the owners of these assets expect to obtain. Harrison and Wicks (2013, p.102) defined is as 'the total value created by a firm through it's activities such that it is the sum of the utility created for each of the firm's legitimate stakeholders'. Although the definitions of performance appear to be similar, they differ in terms of time horizon and types of returns.

Attempts to define performance must take into account time frame and reference point because superior past performance does not guarantee good future performance. In addition, the reference against which performance is being measured (industry average, competitors, past performance) may affect the assessment (Santos & Brito, 2012). There is no consensus on the definition of firm performance or its attributes and measurement (Santos & Brito, 2012). As a result of the poor theoretical development of the construct, performance continues to be a difficult concept to apply in scientifically rigorous ways (Miller, Washburn, & Glick, 2013). In the absence of an agreed definition, Steigenberger (2014) proposes that from a theoretical perspective, performance broadly represents firm success.

2.7.2 Determinants of firm performance

Hansen and Wernerfelt (1989) identified two streams of determinants for performance: economic determinants and organisational factors. They assert that economic determinants emphasise market factors in determining a firm's success whereas organisational factors emphasise behavioural and sociological factors of the firm as well as how they fit within the environment, as the major determinants of success. Within the economic determinants, major determinants of profitability include characteristics of the industry in which the firm competes, the firm's position relative to its competitors and the quality and quantity of the firm's resources. Hansen and Wernerfelt (1989) single out market share as a proxy for some firm-specific competitive advantage which may result from learning effects of other assets that are unique to the firm. Firm size is a key variable to consider when assessing firm performance as this is often interpreted as a source of organisational costs (Hansen & Wernerfelt, 1989). Firm size may also be an indicator of diversification, which has been shown to negatively affect performance (Hansen & Wernerfelt, 1989).

Previous research has shown relationships between managerial practices and attributes of the organisational environment to performance. The practices and attributes are referred to as organisational factors. Organisational factors include measures ranging from employee satisfaction to shareholder wealth. (Hansen & Wernerfelt, 1989). Hansen and Wernerfelt (1989) noted that when working with a multidimensional construct, such as performance, difficulties may arise in the developing, collecting and aggregating of appropriate measures – they highlight that it is especially difficult to collect good data on organisational factors. Hansen and Wernerfelt's (1989) study of 60 Fortune 1000 firms found that organisational factors explain about twice as much variance in firm profit rates as economic factors. This confirms the significant influence that organisational factors have on firm performance.

2.7.3 Dimensionality

There is an ongoing debate about the dimensionality of firm performance. Scholars in the literature adopt one of the following approaches:

Latent multidimensional approach: This approach presents performance as a multi-dimensional construct. It is argued that performance is a latent construct that cannot be measured. Instead, different lower order variables are used to measure certain aspects of performance (Miller, Washburn, & Glick, 2013).The key assumption is that performance, as a construct, exists at a deeper level than the dimensions. The dimensions are correlated but they are not a perfect representation of success. Researchers who adopt this approach focus their arguments on a generalised conceptualisation of performance and assess it as the shared variance of the identified dimensions of performance.

Firm performance has multiple dimensions or aspects, including financial performance and strategic performance. Santos and Brito (2012) contend that firm performance has six first order dimensions (profitability, growth, customer satisfaction, employee satisfaction, social performance and environmental performance) with financial performance being a second order dimension that influences growth and profitability. This can be represented as follows:

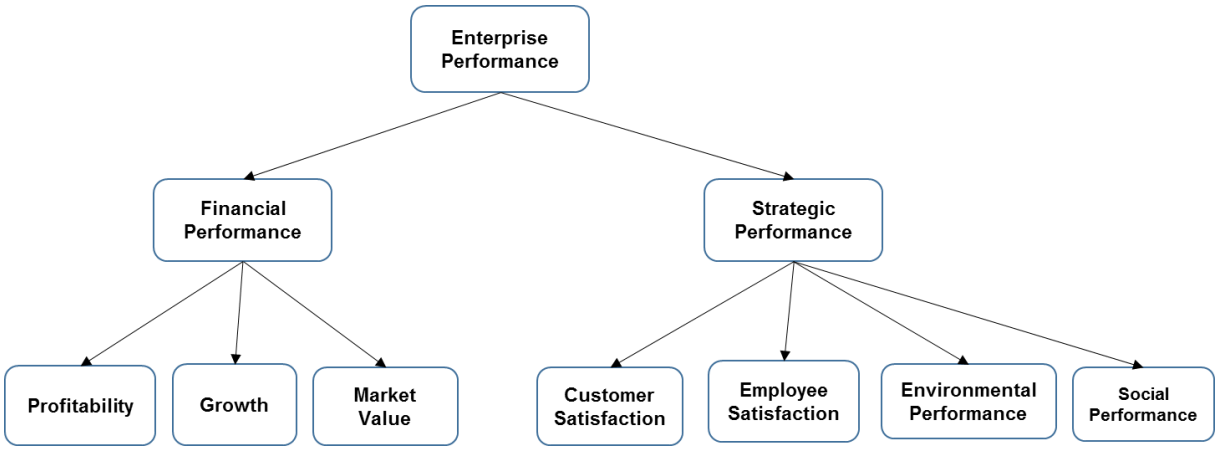


Figure 2: Aspects of Enterprise performance (Tarute & Gatautis, 2014)

Santos and Brito (2012) emphasise that the different dimensions of performance cannot be used interchangeably as they represent different aspects of form performance.

Separate constructs approach: This school of thought purports that dimensions of performance do not have convergence validity and as a result, asserts that the

construct of firm performance does not exist (Miller, Washburn, & Glick, 2013). Researchers who adopt this approach recognise that there is inconsistency in the way that performance has been theoretically defined relative to the way it has been measured. They acknowledge that organisational performance is conceptualised as a latent variable with multiple dimensions yet, in measurement, scholars have tended to select the dimensions they wish to measure, based on relevance to their research context, disregarding the other dimensions (Miller, Washburn, & Glick, 2013; Santos & Brito, 2012).

Ad hoc selection of indicators of firm performance is problematic as results from different studies cannot be easily compared. Scholars with this perspective assert that instead of an overall construct known as firm performance, there are different types of performance, including financial performance. Firm performance is viewed as a domain of separate constructs that are loosely related. The specific aspects of performance must be used both in theory development and empirical analyses such that researchers' arguments focus on specific attributes of performance and the same attributes are assessed separately as distinct variables in empirical work. This approach was supported by the finding of Miller, Washburn, and Glick (2013), which confirmed that performance as a latent construct does not exist.

Aggregate construct approach: Using this approach, performance is conceptualised as a composite of various performance variables, which collectively represent overall firm success but are not assumed to be correlated. The composite construct can be determined by measuring underlying variables and applying numerical methods to compute the composite construct. Scholars who adopt this approach assess performance using a mathematical combination of the dimensions specified in theory building.

2.7.4 Performance based on value creation

In more recent years, scholars have applied a resource-based view to conceptualising performance (Steigenberger, 2014; Santos & Brito, 2012). From this perspective, an organisation has unique resources that are difficult to imitate or substitute .These resources can be used to create competitive advantage

which can be leveraged to create value and such value can be distributed to the organisation's stakeholders depending on their bargaining power (Steigenberger, 2014). The stakeholders' appropriation of the value created is the subject of appropriation theory (Coff, 1999). Measures of financial performance, such as return on assets or return on equity, actually measure the value appropriated by shareholders – they do not measure the value created by the organisation.

Value creation is not the same construct as financial performance (Steigenberger, 2014). Other measures of performance such as sales or innovativeness measure an organisation's ability to create value in its chosen markets (Steigenberger, 2014; Antony & Bhattacharyya, 2010). Interchangeable use of measures for value creation and value appropriation obscures research. Steigenberger (2014) emphasises that it matters how performance is being measured. Empirical measurement must be congruent to the theoretical construct.

Miller, Washburn, and Glick (2013) argue that performance measures should be selected based on what is of interest to a specific stakeholder group. For this research, 'performance' is evaluated from a shareholder and customer perspective. Profitability, growth and market value are of key interest to shareholders. Taking into account the planned method of collecting data, anticipated challenges with availability of information as well as previous research findings that point to owner–managers having limited knowledge of financial metrics (Halabi, Barret, & Dyt, 2010; Nemaezhe, 2010), objective assessment of performance will be difficult to achieve. On that basis, profitability and market value are excluded as measures of performance. Growth refers to the net change in a specific variable within a specific time period, given a certain context (Cooper & Nakanishi, 2010). Growth can be applied as a subjective measure by evaluating the perception of a change in a specific variable in a fixed period.

To measure performance from a customer perspective, customer satisfaction is measured; this refers to the satisfaction of the customers that do business with the SMEs under investigation. Customer satisfaction measures how well each transaction in a given company meets a customer's expectations. The perceived levels of satisfaction of the SMEs' customers will be an indicator of firm

performance. There is a risk inherent in asking SME owner managers to evaluate the levels of satisfaction of their customers – they may show bias .However, this risk is mitigated by including items such as complaints and the launch of new products as part of the evaluation of customer satisfaction.

2.7.5 Measurement Issues

Operationalisations of firm performance used in empirical studies confirm a wide variety of approaches adopted by researchers in covering this domain (Santos & Brito, 2012). Strategy scholars apply a wide variety of measures to capture firm performance. However, there is much debate about whether the various measures actually represent firm performance (Steigenberger, 2014).

There is inconsistency between how performance is theoretically conceptualised relative to how it is adopted in empirical work (Miller, Washburn, & Glick, 2013; Santos & Brito, 2012). Many scholars, in their empirical research, are not capturing the same underlying construct (Steigenberger, 2014).This may lead to unclear or even incorrect conclusions. In their analysis of 290 journal articles that focus on firm performance, Miller, Washburn, and Glick (2013) found that the majority of researchers (71%) adopted the latent construct approach. On analysing the consistency between theory building and empirical work, they found 66% of articles demonstrated inconsistency. This presents a significant problem for scientific rigour.

The lack of convergent validity makes it difficult to compare finding from different studies – they may be based on the same theory but different performance measures are used (Steigenberger, 2014). The use of antecedents of performance as performance indicators further exacerbates the lack of clarity (Hansen & Wernerfelt, 1989). Researchers mix different approaches whereby performance is conceptualised abstractly in theory, however indicators that are selected only measure specific aspects of performance (Miller, Washburn, & Glick, 2013). Such confusion results in the inability to compare findings from different studies, which creates a problematic situation for research synthesis. Miller, Washburn and Glick (2013) have placed a call on researchers to ensure that the approach in theory building must be carried through to the empirical work.

Further to this, they assert that abstract performance theorising is not scientifically grounded and should be replaced with more specific aspects of performance that are better aligned to existing practices in empirical work.

Scholars that conceptualise firm performance as a representation of how well an organisation generates value for its stakeholders argue that that the notion of value has been oversimplified and narrowed to focus on economic returns – this obscures other critical aspects of the organisation that are linked to the value creation process (Harrison & Wicks, 2013). Financial performance is important to the stakeholders of an organisation. However, it is not the only aspect of value that is important to stakeholders.

Focusing on economic returns is a focus on shareholders (Harrison & Wicks, 2013), to the exclusion of other stakeholders, including customers, staff and communities in which the firm operates. Steigenberger (2014) argues that there should be two categories of measures – those that focus on value creation of a firm and those that measure the value appropriation of a specific stakeholder group. Addressing issues associated with measuring performance from the perspective of different stakeholders puts the organisation in a better position to identify problems that are having a negative impact on the organisation's ability to create value (Harrison & Wicks, 2013).

The debates on firm performance extend to the number of measures - some scholars argue that having too many performance measures may dilute management focus (Chatterjie & Levine, 2005). However, Harrison and Wicks (2013) argue that multiple measures of performance are better than a single measure. Santos and Britos (2012) go as far as to propose an instrument which measures different aspects of performance .The tool makes use of subjective measures which allow for the assessment of non-financial criteria.

A criticism of such a measure would be its accuracy as a result of its subjective nature. However, Ketokivi and Schroeder (2004) have shown that subjective measures are preferable when there is a focus on inter-firm comparison - recording standards of objective indicators vary across firms and industries,

which may distort measurement. In order to minimise subjectivity, firm performance is measured over an extended period and the assessment of performance is done in comparison to peer competitors.

Another key consideration for performance measurement is the suitability and availability of information to be used in measuring performance. Halabi, Barret and Dyt (2010) found that although small firms employ accountants and produce financial information that could be used to assess firm performance, owner-managers tended to use cash in the bank as an indicator of performance. The financial information produced by the accountant was limited to use for tax purposes rather than decision making in running the company. This was attributed largely to the financial literacy of owner managers. The study conducted by Halabi, Barret and Dyt (2010) was qualitative and cannot be generalised to the context of this study. However, it is relevant as it highlights the risk that owner-managers that participate in this study may not be able to provide a reliable assessment of their firm's financial performance (Wijewardena, Nanayakkara, & De Zoysa, 2008), if they are not well acquainted with the chosen performance measures.

2.7.6 The link between digital banking adoption and SME performance

Research on the economic value of IT has primarily focused on firm-level impacts. However, there is an emerging trend where researchers are now examining the impact that technology has on an industry (Wimble & Singh, 2015). In their evaluation of the impact of information communications technology on SME performance, Tarute and Gatautis (2014) found that ICT has impact on the improvement of external and internal communication as it pertains to the SME. However, the technology was not as important as the role that technology plays in inducing social and economic achievements that contribute to improved performance. Based on this, it is expected that when evaluating the effect of digital banking on SME performance, digital banking will induce changes in an organisation's way of working that may enhance performance.

Digital banking provides users with an opportunity to cut costs, improve efficiency (Aliyu & Tasmin, 2012) and in so doing, increase capacity to create value in the organisation's chosen markets. For the purposes of this research, the separate constructs approach is adopted and performance measurement is viewed as assessment of the value created by the firm. Shareholders and customers are critical for ensuring the sustainability of SMEs and so performance is measured from their perspective.

Growth, which includes market share growth, revenues growth and asset growth, is used to measure performance from a shareholder perspective. Technology use enhances services quality which, in turn, has a positive impact on business performance (Aliyu & Tasmin, 2012; Abratt & Russel, 1999), and so it is expected that SMEs that use digital banking are better able to service their customers. Service quality is a precedent of customer satisfaction. Customer satisfaction is used to measure the performance of the SME from the perspective of its customers. Hence,the research aims to establish whether digital banking adoption has a positive influence on SME performance. We therefore hypothesise as follows:

Hypothesis 3: Digital banking adoption has a strong positive relationship with SME performance

Hypothesis 3 a: Digital banking adoption has a strong, positive relationship with SME growth

Hypothesis 3 b: Digital banking adoption has a strong positive influence on SME customers' satisfaction

2.8. Conclusion of Literature Review

Digital banking presents an opportunity to improve the interaction between SMEs and their banks. South African banks are making significant investments in their digital channels, with the intention of improving service levels, to drive customer loyalty and retention as well as to reduce operating costs. However, it is not clear whether they are achieving the anticipated gains. It is also not clear if SMEs are actually deriving the desired improvement in efficiency and ultimately,

performance. The effect of digital banking adoption on the long-term relationship between SMEs and their banks has not been established.

The literature review revealed a current gap in that statistics quantifying digital banking adoption by South African SMEs are not publicly available at an industry level. This is problematic for bank regulators and managers who are concerned with monitoring market activity in order to inform their strategies and initiatives. To address this gap, this study measures the levels of digital banking adoption within the SME population in South Africa.

The relationship between SMEs and their banks could benefit from a channel that generates mutual advantage for both parties. This benefit is expected to be in the form of improvements in customer satisfaction, loyalty as well as the performance of the SME. Although digital banking presents an opportunity to drive improvement in the symbiotic relationship between SMEs and their banks, little empirical evidence has been presented in support of this view.

The study examines the relationship between digital banking adoption and SME satisfaction as customer satisfaction has been shown to be pertinent to the maintenance of mutually beneficial long-term relationships between SMEs and their banks (British Academy of Management, 2015).

Therefore the study investigates if there is a correlation between digital banking adoption by South African SMEs and customer satisfaction. The hypothesis put forward is as follows:

Hypothesis 1a: Digital banking adoption has a positive influence on SME satisfaction

Customer satisfaction impacts customer retention positively as it leads to high levels of customer commitment and loyalty (Picon, Castro, & Roldan, 2014) and it has been found to have a positive influence on behavioural loyalty intention (Klaus & Maklan, 2012) .This implies that a satisfied SME customer is more likely to purchase more products from their bank and share their experience with other people. To establish this, the following hypothesis is proposed

Hypothesis 1b: SME satisfaction has a positive influence on SME loyalty towards banks.

Digital banking has the potential to provide much needed support to SME owner-managers in managing their business finances through providing critical information, enabling better access to funding as well as enabling SMEs to have regular interactions with their banks without the inconvenience of going to a branch. Despite this, it is not clear whether banks' investments in digital banking are yielding the expected returns in customer loyalty and retention. To make this determination, the following hypothesis is tested:

Hypothesis 2: Digital banking adoption, by South African SMEs has a positive influence on loyalty

Technology use enhances services quality which, in turn, has a positive impact on business performance (Aliyu & Tasmin, 2012; Abratt & Russel, 1999). Digital banking provides users with an opportunity to cut costs, improve efficiency (Aliyu & Tasmin, 2012) and in so doing, increase capacity to create value in the organisation's chosen markets. However, no studies have been done in South Africa to establish if digital banking adoption by SMEs enhances performance. To make this determination, the following hypothesis is tested:

Hypothesis 3: Digital banking adoption has a strong positive relationship with SME performance

As performance is a complex latent construct that cannot be measured directly, the separate constructs approach was adopted for this study wherein SME performance is operationalised as a combination of growth and customer satisfaction. Growth includes market share growth, revenues growth and asset growth and it is used to measure performance from a shareholder perspective. Customer satisfaction is used to measure the performance of the SME from the perspective of its customers. The associated sub-hypotheses are as follows:

Hypothesis 3 a: Digital banking adoption has a strong, positive relationship with SME growth

Hypothesis 3 b: Digital banking adoption has a strong positive influence on SME customers' satisfaction

Based on the hypotheses formulated, the conceptual model is as follows:

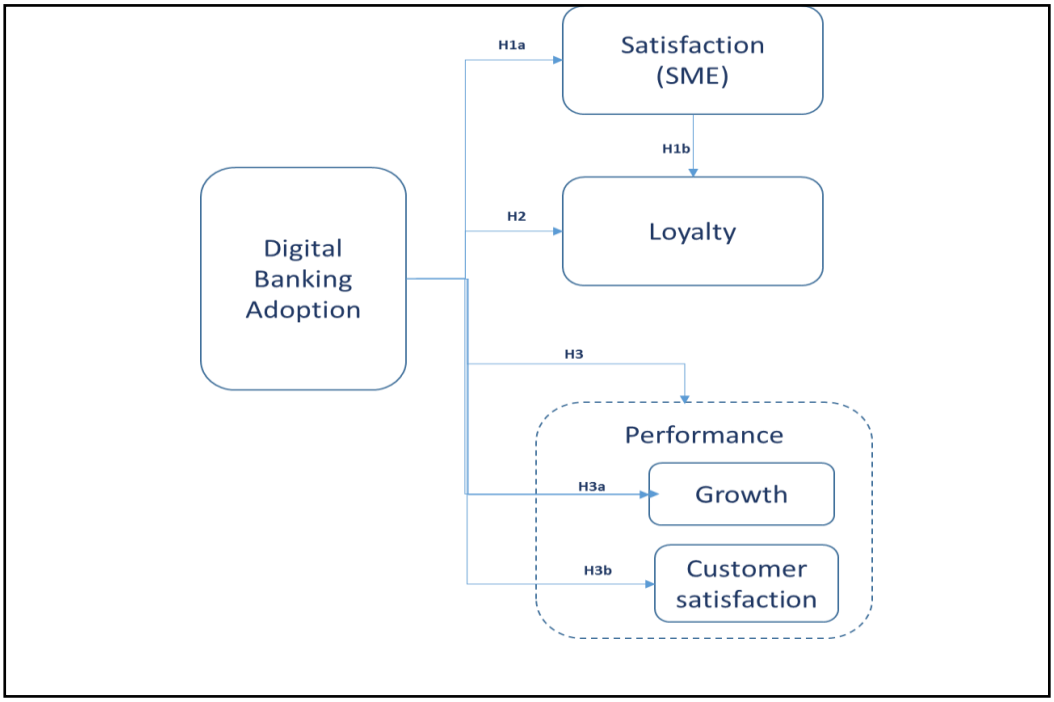


Figure 3: Conceptual Model

The conceptual model depicts relationships between digital banking adoption and SME satisfaction, loyalty and performance. Performance is depicted as a latent variable, represented by growth and customer satisfaction as its indicators. The model also depicts a relationship between SME satisfaction and loyalty. This model was validated using empirical data collected as part of the study.

CHAPTER 3: RESEARCH METHODOLOGY

This section describes the methodology that was followed to test the hypotheses that were put forward in order to answer the selected research questions. The discussion covers the research paradigm, research design, sampling method, the design of the research instrument, the procedure for data collection as well as the techniques that were employed in the analysis and interpretation of the data.

3.1 Research methodology /paradigm

The research is a correlational study that falls within the positivism paradigm. The positivist paradigm is an epistemological approach that is based on quantitative data and observation, with the goal of being independent from subjective opinions. This paradigm uses a deductive approach whereby theories are tested and hypotheses are generated. According to Cooper and Schindler (2014), qualitative research is exploratory and useful when important variables are not examined. In contrast, quantitative approaches emphasise measurement and analysis of the causal relationship between variables (Cooper & Schindler, 2014).

This was a quantitative study to test theories (Cooper & Schindler, 2014) about concepts that exist (Gall & Olson, 2012), including digital banking adoption, satisfaction, loyalty and SME performance. The selected methodology enabled the researcher to measure the dependent variables (customer satisfaction, loyalty and SME performance) as well as the independent variable (digital banking adoption) in order to establish if there are significant correlations between variables and where significant correlations exist, the nature of the correlations could be expanded upon. Established scales found in academic research were incorporated in a structured questionnaire in order to measure the identified variables, through an online survey. The research study is cross-sectional in nature – it measured the selected variables at a point in time. Although it would be desirable to examine how the levels of satisfaction and loyalty change over time, a longitudinal study was ruled out due to time constraints. Parametric statistical tests were applied in data analysis, as a means to determine relationships between the variables of interest. Analysis of the data

collected may (or may not) have provided evidence that supported the theories that have been put forward as hypotheses.

3.2 Population and sample

3.2.1 Population

The population of interest for this research comprised SME owners, managers and owner/managers that operate across various sectors in South Africa. Due to services provided as part of a typical incubation programme, businesses associated with an incubator were expected to have administrative support which makes them more likely to have a bank account and have access to the infrastructure required in order to make use of digital banking. The geographical distribution of the SMEs spanned a number of provinces, for the results to be generalisable to South Africa. The sampling frame is a list of elements from which the sample is drawn (Cooper & Schindler, 2014).

Due to the practical implications of contacting SMEs across South Africa, the sample was selected from SMEs that are associated with a business incubator (either currently under incubation or have previously been through incubation). This reduced the effort required to make contact with SMEs as some incubators were able to distribute the survey to SMEs that were previously involved in their programmes. Hence, the sampling frame for this research was initially SME owners, managers and owner-managers that operate across various sectors and provinces and who have gone (or are currently undergoing) a business incubation programme.

Once the survey was underway, the researcher found that participation from SMEs associated with an incubator was inadequate. As a result, the sampling frame was extended to include SMEs that were contactable through social media platforms including Facebook, LinkedIn and WhatsApp. It was assumed that a business that has access to social media would likely have the means to access digital banking, as the same infrastructure (computer or mobile device, internet access) is required to access both.

3.2.2 Sample and sampling method

The sample for the research was selected using non-probability, convenience sampling. In this method, the sample was selected with a pattern in mind (Cooper & Schindler, 2014). Due to limited time and budget available for the research, convenience sampling was used. The disadvantage of using this method is that it may introduce bias as it does not give all the businesses in the population an equal chance of being selected. Convenience sampling may introduce bias and as a result, the sample selected for the research may not have been representative of the entire population of SMEs in South Africa.

A sample of business incubators were selected as a conduit to accessing SMEs. The incubators were selected using the following criteria:

1. The incubator operates in South Africa

2. They publish information about their work in the public domain, including contact information

3. The incubator publishes contact information of their associates online and where they do not publish, they must be willing to distribute the survey to their associates

An initial online search yielded 16 business incubators that operated across various provinces in South Africa. Based on the information published online, incubators were selected. Of the 16 incubators, only six business incubators published their associate contact details online. Two incubators did not publish associate contact details online but were willing to distribute the research survey to their associate base. The remaining incubators did not respond to correspondence from the researchers. Details of participating incubators are summarised in table 3 as follows:

Table 3: Business Incubators included in research study

Incubator	Role in study	Number of associated businesses	Website
Riversands Incubation Hub	Associate contact details published online	77	www.riversandsihub.co.za/
Softstart BTI	Associate contact details published online	54	https://softstartbti.co.za/
Smart exchange	Associate contact details published online	42	www.smartxchange.co.za
702Business Accelerator	Associate contact details published online	19	business.702.co.za/
The innovation Hub	Associate contact details published online	20	www.theinnovationhub.com
Black Umbrellas	Associate contact details published online	271	www.blackumbrellas.org/
Standard bank business incubator	Distributed survey to associate base	6000	Contact details not published
Before you start	Distributed survey to associate base	320	Contact Details not published
IBM business incubator	Distributed survey to associate base	Not quantified	Contact Details not published
Total participants targeted		**6803**	

The target respondent for this study was the owner manager or a manager that has the responsibility of dealing with the bank, as part of their role within the SME. The geographical distribution of the SMEs spanned multiple provinces in which

the incubators operate. These provinces are Gauteng, KZN, Western Cape, Eastern Cape, Limpopo, Mpumalanga and North-West province.

Due to inadequate participation from businesses associated with an incubator, the sample was expanded to include SMEs that were contactable through various business groups on Facebook. The details of the groups are summarised in table 4 below:

Table 4: Facebook groups includes in research study

Facebook Business Group	**Membership**
Small Business in South Africa	74042
Vhembe Business exposure	33968
Mpumalanga Business Network	8105
Limpopo women in business	82350
PE Business Network	19235
Rustenburg Business opportunities	20 000
Black Business Network	27 000
Total Facebook participants targeted	**264 000**

The sample was further expanded by distributing the survey to business owners who were known to the researcher as well as their association, through the social media platform, WhatsApp. Requests for participation were sent to 60 business owners via WhatsApp. The request to participate was also posted on LinkedIn. However, the LinkedIn sample cannot be enumerated. The total sample for the research was therefore a combination of businesses associated with incubators, businesses that formed part of a business group on Facebook, businesses whose owners could be contacted via WhatsApp as well as businesses whose owners were associated with the researcher via LinkedIn.

3.3 The research instrument

Primary data was gathered using a structured research questionnaire. The following are advantages of collecting data through a survey (Cooper & Schindler, 2014):

- Fixed and low costs
- Data can be collected from large samples
- No geographical limitation
- Ease of administration

The research instrument was intended to measure levels of digital banking adoption as well as SME satisfaction and loyalty towards their banks. In addition to that, the instrument also measured the SME's perception of their performance as it related to growth and customer satisfaction. The instrument was developed, based on instruments that were previously used in similar studies. Where scales had previously been developed for measuring a variable under investigation in the current study, those scales were used as part of the data collection process, as opposed to developing new scales.

Using existing scales reduces the risk of low external validity i.e. it ensures that the survey instrument to be used has demonstrated proficiency in measuring what is intended (Cooper & Schindler, 2014). One of the main values of a scale is its ability to measure a concept using multiple indicators rather than one – a single item scale may be misleading and lacking in context (McMullan, 2005). Hence, multiple items scales were used in an effort to overcome these distortions.

Approximately a third of the criteria were stated in the negative to ensure a fuller measurement of the respondent attitude/measurement. Reverse items ensure respondents use both ends of the scale and keeps them from answering carelessly as well as to help correct for agreement bias (Hopper, 2017). Prior to analysis, negatively worded items must be reverse coded to ensure that respondents that are the most satisfied, loyal or those that display the best performance score the highest (Hopper, 2017).This makes it easier to interpret the data at a later stage. A 7-point Likert scale was used ranging from 1 to 7

(Cooper & Schindler, 2014).The wording on the scale was adapted for relevance to the nature of the question.

The following table summarises different sections of the research instrument:

Table 5: Research instrument summary

Section	Description	Source of questions	Type of questions	Comments
Section 1: Respondent biographical data	This section collects demographic information of the respondent including age, gender, education level	Adapted from (Madukua, Mpiranjingab, & Duhc, 2016) (Shanka, 2012) (Ozkan, Bindusara, & Hackney, 2010) (Kumar et al., 2017)	Dichotomous, multiple choice,	• Respondent age categories match life stages that correspond to economic activity i.e. Youth, Professional, pre-retirement and early retirement • Education level has been included as it has been found to be correlated to entrepreneurial activity (Venter & Urban, 2015)
Section 2: Business demographic data	Section 2 collects demographic information pertaining to the business	Compiled based on literature review (Venter & Urban, 2015) (The DTI, 2017)	Multiple choice	• For respondents whose business operates in multiple provinces, an option has been provided to select 'More than one province'. Although this option will be limited in terms of

		(Banking Association of South Africa, 2017)		providing granular information on which provinces they operate in, this limitation was found to be acceptable as it is not the details of the provinces that affects the research but rather the recognition of operations across multiple provinces that is insightful for the research. Collecting specific details about the multiple provinces in which they operate would create greater complexity for analysis with little incremental benefit.
Section 3: Banking relationship	This section collects data pertaining to the SME's banking services, including digital banking adoption and use	Compiled based on literature review (Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017)	Multiple choice, Dichotomous, 7 Point Likert scale	• Dichotomous data could be collected for digital banking adoption and use .However, this would inhibit correlation analysis. Hence items pertaining to adoption have been converted to a scale to enable correlation and regression analysis.

Section 4: SME performance	This section collects data on SME performance, which has been operationalised as growth and customer satisfaction. The selected scales measure perception of SME growth and satisfaction of the customers that purchase goods or services from the SME	(Santos & Brito, 2012)	7 Point Likert scale	• SME owner managers have been shown to have limited knowledge of financial measures (Halabi, Barret, & Dyt, 2010). Hence, simple indicators that are likely to be available to the respondent were selected as measures for growth • The growth measures require respondents to compare their performance to those of competitors – this assumes that SME owner managers conduct fairly detailed competitor analysis. In the absence of this, there is a risk that data that is collected for growth may not be reliable • The measures of customer satisfaction assume that SME owner managers invest time in gathering feedback from their customers, including those that

				have done business with their competitors such that they are able to provide an assessment of how satisfied their customers are relative to how satisfied they were when they purchased from competitors. This is a reasonable assumption as SMEs have been found to have customer experience management practices in place (Klaus & Maklan, 2012). In cases where such measures are not in place, the data collected may be unreliable.
Section 5: satisfaction	Section 5 measures satisfaction of the SME with the service provided by their main bank	(Klaus & Maklan, 2012) (Soderlund, 2006)	7 Point Likert scale	• It is acknowledged that the SMEs level of satisfaction with their bank may be influenced by other factors, outside of digital banking. Those factors have been identified in the literature but were excluded as this research seeks to

				determine if there is correlation between digital banking adoption and satisfaction.
Section 6:	Section 6 measures SME loyalty in relation to their main bank	(Klaus & Maklan, 2012) (Jones & Taylor, 2007)	7 Point Likert scale	• Similar to satisfaction, SME loyalty towards their bank may be influenced by other factors, outside of digital banking. Those factors have been identified in the literature but were excluded as this research seeks to determine if there is correlation between digital banking adoption and loyalty.

3.4 Procedure for data collection

The primary data used in the empirical analysis was collected through a survey using a structured questionnaire, rendered through an online survey tool (www.qualtrics.com). The questionnaire was distributed in the following ways:

1. Contact details of 465 businesses associated with an incubator were sourced from the internet by visiting the incubators website. An email was sent to the listed contact person for the business, inviting them to participate in the survey. The link to the survey was included in the email. The subject line of the email was worded such that the respondent was able to grasp the gist of the survey after reading the first five words of the subject line. This has been shown to improve response rates by approximately 7.8% (PeoplePulse, 2017). Reminders were sent out to invited participants who had not completed the survey every three weeks, throughout the period of data collection. Such reminders have been shown to contribute to an increase in response rates (FluidSurveys, 2017). Further to this, email reminders were sent to participants between 6:00 – 9:00 or after 3pm on a weekday, with the exception of Monday. Sending out surveys early on a weekday (excluding Monday) has been found to have a positive influence on response rate (PeoplePulse, 2017).

2. An email was sent to entrepreneurs associated with the Tshimologong digital innovation precinct by a programme executive, encouraging those entrepreneurs to contact the researcher, should they wish to participate in the study.

3. Due to inadequate response from participants invited by email, the researcher advertised the research survey by putting up posters at the Standard Bank business incubator in Rosebank. The posters included a unique QR code which, when scanned, would lead the participant to the online survey. These posters were visible to business owners who make use of the incubator facilities or come to the incubator to participate in a facilitated programme. The researcher notes that although this method of inviting survey participants has an advantage of increasing the research sample at low cost, it presents challenges as the number of SME

owner managers that saw the invitation to participate cannot be quantified, therefore making it difficult to quantify the population frame.

4. Further to this, a request to participate in the survey was distributed through social media platforms. This method draws inspiration from link tracing sampling strategies such as snowball sampling and respondent driven sampling. Link tracing methods are often used to study populations that are hard to reach as a result of the sensitivity of the subject under investigation (Gile & Handcock, 2015; Heckathorn, 2011) or due to geographical dispersion (Baltar & Brunet, 2012). Link tracing methods are non-probability convenience sampling methods that leverage social relationships of participants in the initial sample (also known as the seed sample) in order to increase sample size. Snowballing is defined as 'a technique for finding research subjects. One subject gives the researcher the name of another subject who in turn, provides the name of a third subject and so on. This strategy can be viewed as a response to overcoming the problems associated with sampling concealed and hard to reach populations' (Baltar & Brunet, 2012, p. 60). When executed over social medial, this method is termed virtual snowballing and it is useful for expanding sample size whilst reducing cost and time.

Snowballing and respondent-driven sampling has been criticised for being biased as the derived sample is not random and may not adequately represent the population under study. As a result of this, researchers may face difficulty making inferences from samples acquired in this manner (Gile & Handcock, 2015). Further to this, internet research has been questioned as a viable method for carrying out scientific research as there are doubts about its ability to produce valid and reliable data. However, in their 2012 study, Baltar and Brunet found that social networking sites can be an effective method for studying hard to reach populations with the added advantage of expanding geographical scope and facilitating the identification of individuals with barriers to access. Further to this, McCreesh et al. (2012) concluded that although inference methods failed to reduce bias when it occurred, respondent-driven sampling produced a representative sample of a non-hidden population.

On that basis, respondent-driven sampling was employed as a means to increase sample size in this study. The population comprised entrepreneurs that are

geographically dispersed across nine South African provinces. A request to participate in the survey was distributed via Facebook, LinkedIn, as well as WhatsApp. The researcher posted the request on Facebook groups with an interest in business as well as on the researcher's LinkedIn profile. Other requests to participate were sent via Whatsapp to some of the 465 owner managers who were initially invited to participate via email (this was done in instances where cellphone numbers were available). In addition to that, invitations to participate were also sent to the researcher's acquaintances through a WhatsApp. All requests for participation included an anonymous survey link, which would lead the participants into the Qualtrics platform, where the survey was hosted. It was anticipated that the barriers to participation would be lowered when respondents received a personal message from the researcher AND were able to complete the survey using a mobile phone. Although the survey was distributed through an anonymous link, the survey was set to track respondent's IP addresses and prevent multiple participation by the same respondent. An expiry date was set on the survey to prevent additional responses being received after data analysis had begun.

Survey data was collected between November and December 2017. The collected data was imported into IBM SPSS for statistical analysis.

To optimise response rate, the following was done as part of the data collection process:

a. Minimise non-response bias by ensuring that the survey renders well on a variety of devices, including smartphones and tablet devices. FluidSurveys (2017) argue that a large part of young adults and business workers respond to surveys using a smartphone. So, to lower the barriers for participation, the online survey was developed to be device agnostic such that it adjusts even when a participant is using a mobile device.
b. In addition to rendering well across a wide range of internet-enabled devices, the survey was designed to be as short as possible such that respondents would not be dissuaded by the need to devote a significant amount of time towards completion. The survey was estimated to require a maximum of seven minutes for a respondent to complete. This was emphasised in the invitation for participation.

c. Although incentives have been found to have a positive impact on survey respondents (PeoplePulse, 2017), no incentives were offered for participation in this study. This was largely due to the budgetary constraints. As an alternative to an incentive, participants were offered the opportunity to access the results of the study, once it had been concluded.

Average response rates from online surveys range from 26 to 30% (University of Texas, 2017; PeoplePulse, 2017; FluidSurveys, 2017). With 465 businesses having been contacted via email, the researcher sought to secure a minimum of 140 responses from the targeted population sample. This would ensure that an adequate sample was achieved for statistical analysis. The responses to the survey are summarized in table 6:

Table 6: Survey response by distribution medium

Distribution Medium	Audience Size	Number of responses	Response rate
Email	465	8	1.7%
QR Code	Unknown	1	Not quantifiable
Anonymous Link	Unknown	130	Not quantifiable

3.5 Data analysis and interpretation

Data analysis was initiated once data collection had been completed. The following section describes the steps that were taken to analyse and interpret the data collected through the structured survey.

3.5.1 Data Screening and Validation

To minimise the risk of invalid conclusions, data validation was conducted. This entailed screening the data and addressing problems such as missing / invalid data to ensure the data was of good quality prior to conducting analysis. To minimise the risk of invalid conclusions, the following steps were taken to validate the data:

3.5.2 Responses from participants that are not directors, owners or financial managers in an SME

The data set contained 137 responses. three responses were from respondents who selected ‘Other’ for position in the organisation. These responses were eliminated from the data set as they might not have been in a position to provide accurate and credible responses. Only responses from owners, managers or financial managers were retained – these roles would be closely involved in dealings with the bank and thus would be best placed to assess digital banking in the context of the business. The remaining data set had 134 responses.

3.5.3 Province variable

In the pilot questionnaire, respondents were asked to select in which province their business operated. They were allowed to select more than one province. This manifested as multiple variables in the data, with each province selection having its own variable. This made it difficult to summarise the data, especially in cases where businesses operate in more than one province. To overcome this in the main study, an option called ‘Business operates in more than one province’ was introduced, over and above the different provinces that a respondent could select. Although this option loses the granularity of the multiple provinces in which a business may operate, it allowed

the researcher to capture the essence of the business operating in more than one province – that was considered sufficient for this study.

3.5.4 Check missing data

Missing values are a common occurrence in research data. The presence of missing values reduces the quantity of data that is available to analyse and this in turn compromises the statistical power of the study, ultimately affecting the reliability of the results (Kwak & Kim, 2017). Missing data can occur at a unit level or at item level. Unit level missing data occurs when a respondent does not take a survey. Item level missing data occurs when incomplete information is collected from a respondent (Dong & Peng, 2013). When considering item-level missing data, researchers must consider the proportion of missing data, the missing data mechanisms as well as any patterns that may emerge from the missing data.

Missing data can assume a univariate, monotone or arbitrary pattern. A data displays a univariate pattern if the same respondents have not provided responses to multiple items. A monotone missing data pattern arises when sequential data is missing. Such a pattern is common in longitudinal studies where respondents drop out at a point in the study and subsequent measures are missing. The monotone missing data pattern is a form of the univariate missing data pattern as missing data is attributable to the same respondent. Data is said to have a missing data pattern if data is missing in any variable for any respondent, in a random fashion. The impact of missing data on quantitative research can be considerable as it could lead to biased estimates of parameters, decreased statistical power and ultimately reduces the generalisability of the findings (Dong & Peng, 2013). Dong and Peng (2013) argue that a data set with missing data needs to be edited into a complete data set to reduce the likelihood of being unsuitable for a statistical procedure or violating the assumptions of the statistical procedures applied.

Missing value analysis was performed. The overall summary is as follows:

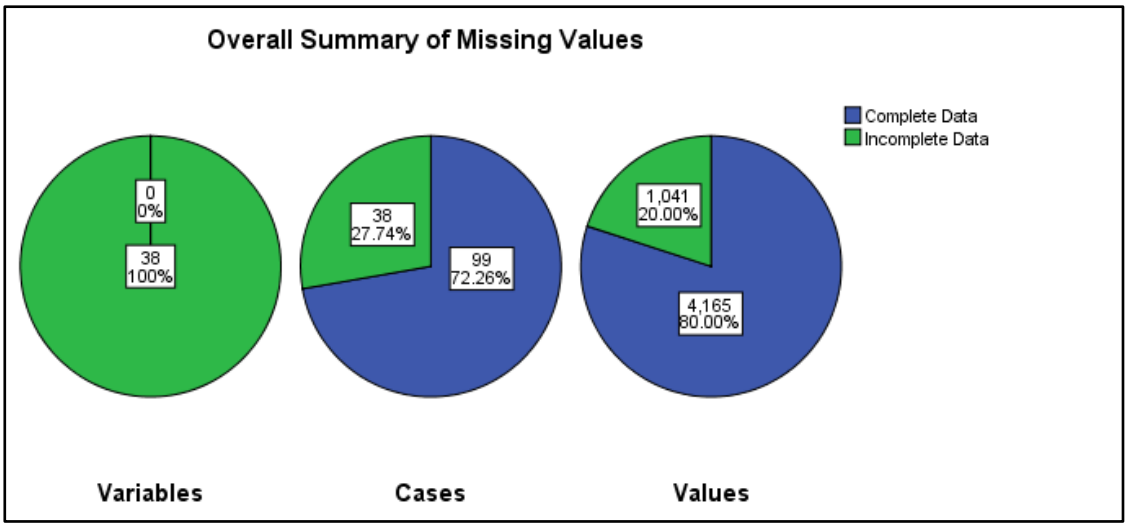


Figure 4: Sample missing value summary

All 38 variables in the data had incomplete data, which arises from 38 cases that are contained within the sample. The missing data constitutes 20% of the values in the data. According to Enders (2003), a missing rate of 15% to 20% is common in educational and psychological studies. The missing rate of this study is in line with what is common for studies of a similar nature.

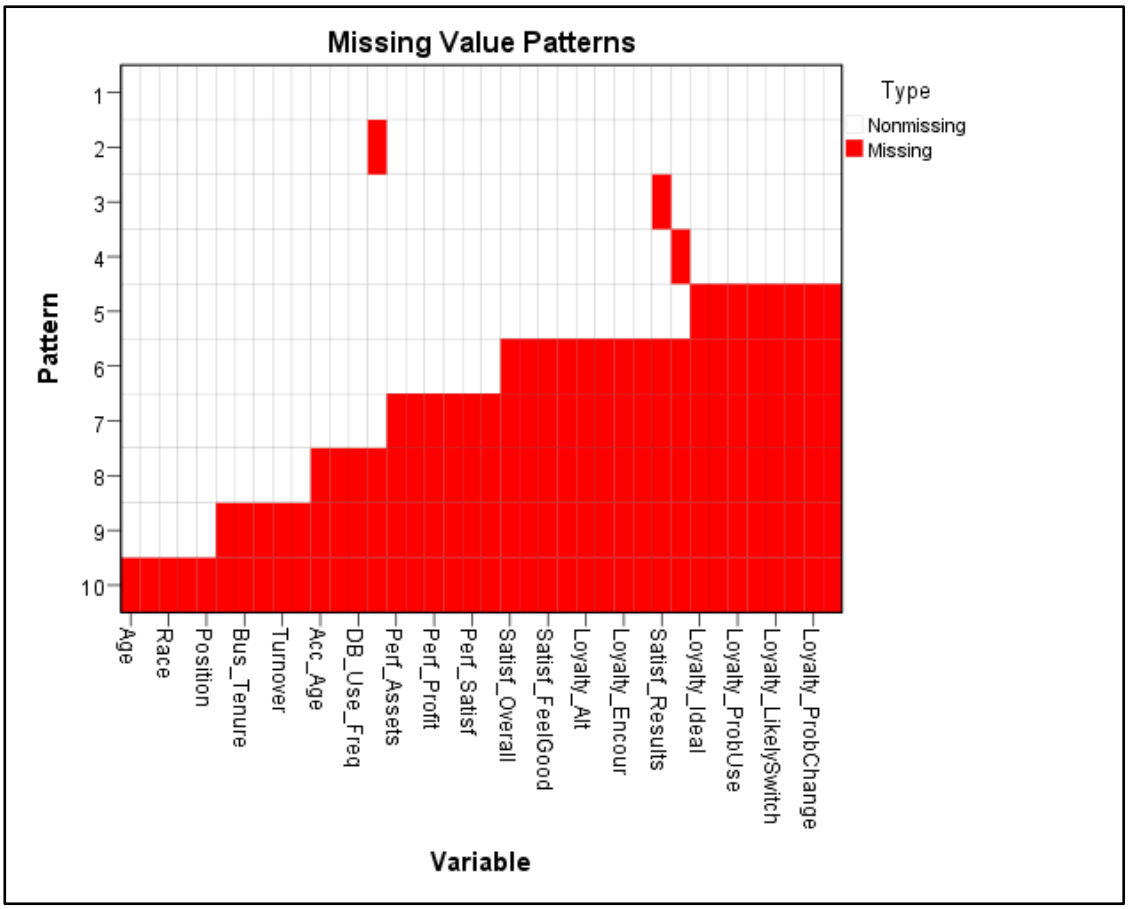


Figure 5: Sample Missing value patterns

The missing value pattern was such that there was more missing data for variables that were located at the end of the survey (e.g. loyalty_ProbChange) as opposed to those variables that were at the start of the survey. This suggests that some respondents may have started the survey but abandoned it before completion.

To determine the specific cases that were affected by missing values, the missing patterns table was examined:

Table 6 : Cases with missing values

Case	# Missing	% Missing	Case	# Missing	% Missing	Case	# Missing	% Missing
40	1	2,6	89	38	100,0	115	8	21,1
42	1	2,6	90	24	63,2	116	38	100,0
58	18	47,4	91	8	21,1	117	38	100,0
64	38	100,0	92	38	100,0	118	24	63,2
65	33	86,8	93	24	63,2	120	38	100,0
67	33	86,8	95	38	100,0	121	24	63,2
68	24	63,2	96	18	47,4	122	38	100,0
74	38	100,0	102	38	100,0	123	38	100,0
75	38	100,0	103	18	47,4	125	38	100,0
78	24	63,2	105	24	63,2	127	38	100,0
80	38	100,0	111	28	73,7	134	8	21,1
84	1	2,6	112	24	63,2	135	33	86,8
88	33	86,8	113	38	100,0			

Closer inspection of the cased revealed that 16 cases were missing 100% of the values. This is termed unit level missing data and often occurs when a respondent starts a survey but abandons it without having made any selections.Nineteen cases had item level missing data (varying degrees) that displayed a monotone pattern. These are likely to be cases where respondents started the survey but abandoned it prior to completion. The impact of missing data on analysis can be significant as it could introduce bias to the results unless remediated using an appropriate technique.

There are many methods of handling missing data, which can have significant effects on estimation (Cheema, 2014). So, it is critical that a researcher gives careful consideration when selecting a method that is suitable for his or her specific circumstances. Complete case analysis entails eliminating all cases with missing data and only including those cases that have complete data in the analysis. This method of handling missing data is also known as list-wise deletion and has been found to be a favourable method of handling missing data in conditions where the sample is sufficiently large as it carries less risk of adding measurement error to data, (Cheema, 2014). List-wise deletion has the added advantage of being simple, requiring minimal computational power to execute, yet providing consistent and unbiased estimates of population parameters (Cheema, 2014). The disadvantage of using this method is that it reduces sample size and lowers statistical power (Kwak & Kim, 2017).

Available case analysis entails using values that are available even when cases do not have complete data. This method allows a larger sample size as cases with missing data are not eliminated but only values that are available are included in the analysis. However, this can cause sample size to differ across the different variables included in the analysis (Kwak & Kim, 2017). Imputation analysis involves replacing missing values with computed values obtained from statistical analysis. Missing data imputation can raise the statistical power of tests of hypothesis by replacing missing values (Cheema, 2014). A key disadvantage of multiple imputation is that it introduces complexity in analysis as the researcher would need to compare results of statistical analysis on the original data to results obtained from the imputed data set. For the sake of simplicity, complete case analysis was applied to the data collected as part of this study. All cases that had missing data were eliminated from the data set. A total of 35 cases were eliminated - this was a feasible option as the sample size was adequate even after eliminating cases with missing data.

Missing value analysis was repeated after list-wise deletion was applied to 35 cases with the following results:

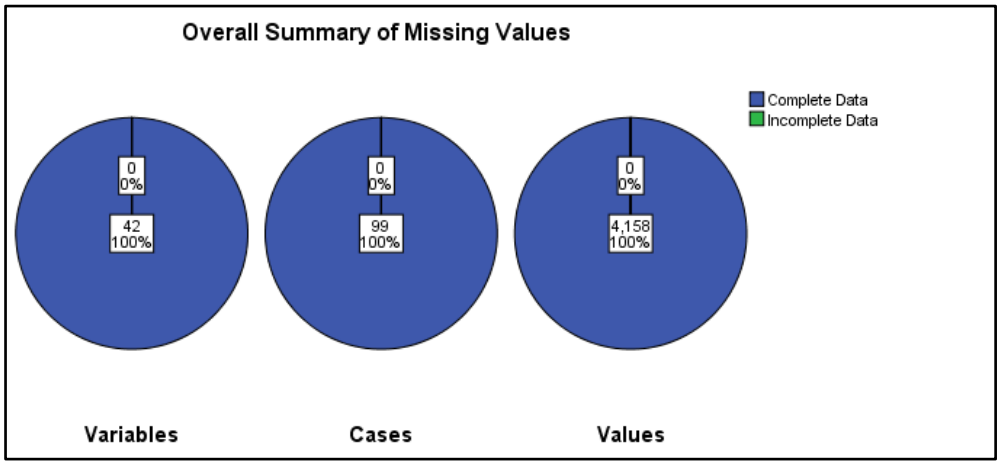


Figure 6: Sample missing values summary after list-wise deletion

All the cases included in the screened data set had complete data. The screened data set consisted of 99 cases which would be used in the analysis. The new sample size was 99.

3.5.5 Remove duplicate data

On inspecting the data, the researcher found that the following question has been asked twice in the survey:

Q25: I prefer my bank over other banks

Q36: I prefer my bank over other banks

This constitutes duplicated data, in instances where respondents completed the survey in full. To minimise confusion, responses to question 36 were eliminated from the data set across all cases thus effectively deleting the duplicated variable.

3.5.6 Reverse the coding of variables

In the design of the survey instrument, reverse questions were included. This was done in order to ensure a fuller measurement of the respondent attitude/measurement, keep respondents from answering carelessly as well as to help correct for agreement bias (Hopper, 2017).The following items were negatively worded in the questionnaire:

- Q20: My bank does NOT meet my expectations
- Q23: My feelings towards my bank are NOT positive
- Q32: It is NOT likely that I will use services offered by my bank in the next 6 months
- Q33: It is likely that I will switch my business account to another bank
- Q34: There is a chance that I will move my business account to another bank

Prior to analysis, negatively worded items must be reverse coded to ensure that respondents that are the most satisfied, loyal or those that display the best performance score the highest (Hopper, 2017).This makes it easier to interpret the data at a later stage. Reverse coding was done in SPSS and the following new variables were added:

Table 7: Reverse coded variables

Old Variable	New Variable
Satisf_Expect	Satisf_Expect_Rev
Satisf_FeelPos	Satisf_FeelPos_Rev
loyalty_LikelyUse	loyalty_LikelyUse_Rev
loyalty_LikelySwitch	loyalty_LikelySwitch_Rev
loyalty_ChanceMove	loyalty_ChanceMove_Rev

3.5.7 Check outliers

Outliers are values that differ significantly from others in a data set and they can affect the outcome of analysis. Researchers must evaluate outliers to determine if they are an accurate reflection of the observed phenomenon or if they were introduced as a result of errors. Where outliers are found to be due to erroneous data, corrective steps must be taken. This data set generated as part of this research study was examined for outliers and no outliers were found. No remedial action was necessary.

3.5.8 Check for normal distribution

A sample that displays normal distribution is considered to be a better representation of the larger population and so any conclusions drawn from studying that sample are more likely to be generalisable to the larger population (Field, 2009). Many statistical procedures including correlation, regression, t-tests and analysis of variance are based on the assumption that the data is normally distributed (Ghasemi & Zahediasl, 2012) – Normality is an assumption for parametric tests (Field, 2009). Parametric tests require that the dependent variable must be normally distributed for each category of the independent variable (Lofgren, 2013). Prior to conducting analysis, the data must be checked to ensure that it is normally distributed.

There are two main methods of assessing normality: graphical or numerical (Field, 2009). Graphical methods include the use of a frequency distribution (histogram), a P-P plot and a Q-Q plot. The frequency distribution plots observed values against their frequency enabling researchers to make a visual judgment about whether the distribution is bell shaped. It also provides insights about gaps in the data as well as values that are outliers (Ghasemi & Zahediasl, 2012). The P-P plot depicts the

cumulative probability of a variable against the cumulative probability of a normal distribution. If the data are normally distributed, the result would be a straight diagonal line (Field, 2009). A Q-Q plot is similar to the P-P plot except that it plots the quantiles of the data set instead of individual score in the data (Ghasemi & Zahediasl, 2012). Q-Q plots are easier to interpret in case of large sample sizes.

Statistical methods include the Kolmogorov-Smirnov test (also referred to as the K-S test) and the Shapiro-Wilk test. Both tests compare values in the sample to a normally distributed set of values with the same mean and standard deviation; the null hypothesis is that the sample is normally distributed. If the test is significant, it is an indication that the distribution is non-normal (Ghasemi & Zahediasl, 2012). The K-S test is highly sensitive to extreme values and it has been reported to have low power. It should not be seriously considered when testing for normality (Ghasemi & Zahediasl, 2012). The Shapiro-Wilk test provides better power than the K-S test and is recommended as the best choice for testing normality (Ghasemi & Zahediasl, 2012)

Statistical tests have the advantage of making an objective judgement of normality, but are disadvantaged by sometimes not being sensitive enough at low sample sizes or overly sensitive to large sample sizes. Graphical interpretation is better for assessing normality in situations where statistical tests cannot be applied. Graphical methods have the advantage of allowing good judgement to assess normality in situations when numerical tests might be over or under sensitive, but they have proven unreliable and do not guarantee normality (Ghasemi & Zahediasl, 2012) as the assessment is subjective (Lund Research Ltd, 2017).

For this study, statistical tests of normality were run on the dependent variables and the result was as follows:

Table 8 : Statistical tests of normality

	DB_adoption	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
satisfaction	1.00	.165	41	.007	.966	41	.245
	1.50	.145	41	.031	.962	41	.185
	2.00	.154	12	.200*	.951	12	.653
	2.50	.260	2	.			
loyalty	1.00	.149	41	.022	.921	41	.008
	1.50	.077	41	.200*	.983	41	.787
	2.00	.141	12	.200*	.956	12	.726
	2.50	.260	2	.			
performance	1.00	.083	41	.200*	.977	41	.563
	1.50	.102	41	.200*	.968	41	.297
	2.00	.171	12	.200*	.898	12	.148
	2.50	.260	2	.			

In line with recommendations in the literature, only the results from the Shapiro-Wilk test were reviewed. To conform to APA standards, *P* values were rounded off to 2 decimal points. For satisfaction, p = .25 when DB_Adoption is 1.00; p = .19 when DB_adoption is 1.50; p = .65 when DB_adoption is 2.00. All the p values for satisfaction, across different categories of DB_adoption are greater than 0.05, hence it can be concluded that data for the satisfaction variable are normally distributed.

For the loyalty variable, p =0.01 when DB_adoption is 1.00. This result is statistically significant as $p< 0.05$ and so it can be concluded that the data for this category of DB_adoption are not normally distributed. The departure from normality was confirmed by visually inspecting the Q-Q plot:

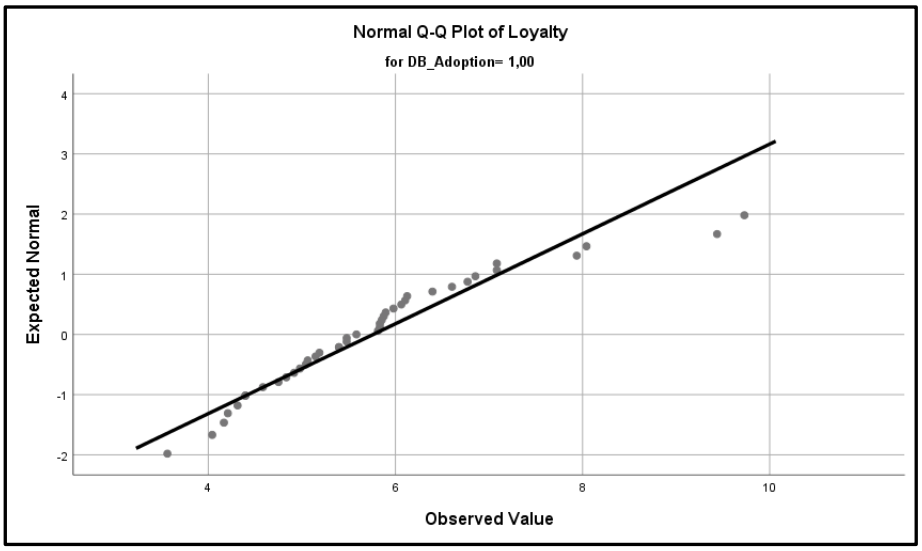


Figure 7: Q-Q Plot of loyalty

The Q-Q plot depicts the observed values deviating from the trendline, which confirms the departure from normality that was indicated by the statistical test. Ghasemi and Zahediasl (2012) argue that with sample sizes greater than 40, the violation of the assumption of normality should not cause problems and parametric tests can still be carried out even when data are not normally distributed. *P* = .79 when DB_adoption is 1.50; *p* = .73 when DB_adoption is 2.00. This is a non-significant outcome of the statistical test, indicating that data are normally distributed for those categories of DB_adoption.

For performance, *p* = .56 when DB_adoption is 1.00; *p* = .30 when DB_adoption is 1.50; *p* = .15 when DB_adoption is 2.00. All the p values for performance, across different categories of DB_adoption are greater than 0.05, hence it can be concluded that data for the performance variable are normally distributed.

3.5.9 Analysis and Interpretation

3.5.9.1 Descriptive Statistics

Once data validation was completed, descriptive statics were drawn using SPSS. Demographic data is statistical data that represents characteristics of a sample (Cooper & Schindler, 2014). When conducting research, it is important to examine the demographics of a sample to check if the sample is representative of the larger population from which the sample was taken. A population that displays characteristics that form part of the demographics is expected to be normally distributed (Field, 2009) – this means that most values in that population would occur in the middle of the range and then the rest of the values occur on the periphery, on either side. Relative frequencies of factors are illustrated using representations such as bar charts, line charts and tables. These are exploratory data analysis techniques and they generate insights using visual representations of the data.

The demographics of the respondents in this study include age, gender, education level, as well as their position in the company. The demographics of the business include sector, business tenure, number of permanent employees, annual turnover, province, account tenure, as well as their habits as it relates to using digital banking. A view of the respondent and business demographics creates a better understanding of the context in which the study was performed and may have implications for the generalisability of the results.

Descriptive statistics also enable the researcher to use of the mean and standard deviation to provide a general description of the responses. The mean is the average of distribution of responses for a specific variable, i.e. the sum of the data values divided by the number of valid responses for the variable (Gall & Olson, 2012). Standard deviation describes the average variance from the mean among the responses (Field, 2009). The lower the standard deviation, the closer the responses tend to be to the mean, and vice versa (Gall & Olson, 2012). The descriptive statistics are presented in Chapter4.

3.5.9.2 Factor analysis

Exploratory factor analysis (EFA) and principal components analysis (PCA) are methods that are used to represent multiple relationships between variables, in a simpler manner (Leech, Barrett, & Morgan, 2015). These methods indicate items that form logical groupings or are answered similarly by respondents (Leech, Barrett, & Morgan, 2015). Exploratory factor analysis differs from principal component analysis in that it assumes that there is a smaller set of constructs underlying the variables that have been observed whereas principal component analysis attempts to mathematically derive a small number of variables that can provide the same information that can be derived from a larger set of variables (Leech, Barrett, & Morgan, 2015). There are two main conditions necessary for factor analysis: The first is that there need to be relationships among the variables. Secondly, the sample size must be adequate - the larger the sample size, especially in relation to the number of variables, the more reliable the resulting factors.

Although it is a useful tool, the following drawbacks have been noted with respect to factor analysis:

Drawbacks of factor analysis (Brauer, 2017):

1) There is no criterion beyond interpretability against which to test the solution
2) Interpretation involves subjective judgements of researchers - different researchers may come to a different solution

In this study, entrepreneurs were surveyed in order to determine the effect that digital banking adoption has on satisfaction, loyalty and performance. Factor analysis was conducted on the survey data to confirm that the variables that were measured form the factors that are under investigation. Results of the factor analysis are presented in chapter 4.

3.5.9.3 Correlation Analysis

Prior to conducting regression analysis, it is important to establish if there is a linear relationship between the variables under investigation (Grande, 2015). This is known as a correlation (Field, 2009). The outcome of correlation analysis is an understanding

of the direction as well as the strength of the relationship between the variables. The Pearson correlation coefficient is a measure of the strength of association between two variables (Field, 2009). Correlation analysis was conducted using two methods: Graphical evaluation as well as statistical analysis. Graphical evaluation of the correlation between two variables involves plotting the variables on a graph such as a scatter plot and evaluating the graph to see if there is a pattern in how the data is distributed. Statistical tests produce correlation coefficients which may differ depending on whether it was parametric or non-parametric methods that were used.

When using parametric methods, the value of Pearson's correlation coefficient (r) ranges from -1 to 1. A positive correlation indicates that both variables increase or decrease together whereas a negative coefficient indicates that one variable increases as the other one decreases (Field, 2009). A 2-tailed significance value is calculated – it is 2-tailed as it evaluates the relationship in both directions i.e. how one variable affects the other and vice versa. A value closer to 1 indicates strong correlation whilst 0 indicates that there is no correlation. Correlation analysis was conducted in this study in order to determine if there is a correlation between digital banking adoption, satisfaction, loyalty and performance. Where correlations were evident, the direction and the strength of the relationship were determined. Results from correlation analysis are presented in Chapter 4.

3.5.9.4 Regression Analysis

Once it had been established that there is a linear relationship between the variables under investigation, regression analysis was conducted to generate a model that can be used to predict the dependent variable (outcome variable) using the independent variable (Predictor variable) (Field, 2009). The outcome of regression analysis is a model summary that contains the Pearson correlation coefficient (R). This coefficient indicates the strength of the relation such that a value closer to 1 signifies a strong relationship whilst 0 represents no relationship. A positive *R* value indicates a positive relationship where the outcome variable increases when the predictor variable increases whereas a negative R value indicates a negative relationship whereby the outcome variable decreases when the predictor variable increases.

R^2 is the coefficient of determination. It is a measure of the predictive capacity of the model. In essence, it measures how well the model fits the data. It also explains the proportion of variance that can be explained by the predictor variable. Once regression analysis had been completed, the researcher was able to interpret the data and determine if the data supports the hypotheses put forward.

3.6 Limitations of the study

Due to the use of a structured questionnaire for data collection, the following limitations apply to the research (Cooper & Schindler, 2014; Gall & Olson, 2012):

- Only a limited amount of questions could be asked
- Respondents could not be asked probing or clarifying questions
- Complex information such as feelings, beliefs or attitudes were not easily captured

The main aim of the research was to collect data about tendencies and patterns. Hence the above-mentioned drawbacks of using a questionnaire did not unduly prejudice the research.

Respondent-driven sampling was used to increase the sample. This method has limitations as it is a non-probability sampling method and may produce findings that are not generalisable to the broader SME population in South Africa. Further to this, only SME owner-managers that had access to the infrastructure required to access digital banking were targeted. The findings of this research may not apply to those SMEs that do not have the infrastructure required to make use of digital banking.

Due to missing data, a significant proportion of responses were discarded (26%). This significantly reduced the sample size and might have had implications for the inferences that were made in this research.

Furthermore, the research study was cross-sectional in nature. It examined SMEs digital adoption and related factors, at a point in time. Although it would have been desirable to examine how the levels of satisfaction, loyalty and performance (operationalised as growth and customer satisfaction) change over time, a longitudinal study was ruled out due to time constraints.

3.7 Validity and reliability of research

Validity and reliability are fundamental to social research.

Validity refers to the extent to which an instrument measures the intended variables (Cooper & Schindler, 2014). An instrument that demonstrates validity is able to produce accurate results and it measures what is supposed to be measured. There are two forms of validity, namely external and internal validity.

3.7.1 External validity

External validity refers to the data's ability to be generalised (Cooper & Schindler, 2014). McDermott (2011) defines it as the extent to which the conclusions of a given study can be applied to different populations or situations (cited in Krupnikov & Levine, 2014). The sampling method used by the researcher may raise some concerns pertaining to the external validity of the findings of this study - by selecting respondents that have the infrastructure to access the internet (i.e. they use infrastructure offered by their incubator, or they make use of social media) bias may have been introduced such that the results of this study cannot be applied to a different context where the SME owner-manager may not have the infrastructure to access the internet (e.g. a business owner in the rural areas or a hawker).

Such bias might have skewed the results as it related to determining the levels of digital banking adoption by SMEs in South Africa with the effect of overstating the said adoption. This was not a great concern to the research as quantifying adoption levels is secondary to determining if there are correlations between the different concepts under scrutiny. As digital banking adoption is an independent variable, high levels of adoption provided sufficient data to determine concluisively if there were crrelations between the concepts. Therefore the potential inaccuracy in stating the adoption level was justifiable.To avoid consuion, when the adoption levels are communicated, it must always be made clear that this applies to SMEs that have been through an incubation programme.

3.7.2 Internal validity

Internal validity refers to an instrument's ability to measure what is intended (Cooper & Schindler, 2014). To improve the internal validity of the research instrument, the following measures were taken:

- The variables that were measured (adoption, satisfaction, loyalty and performance) were known concepts, adopted from previous research
- A pilot survey was conducted and the data collected during the pilot was used to assess the reliability of the questionnaire
- The principle of parsimony was applied and questions were framed succinctly to reduce ambiguity
- Each respondent was asked to confirm their role in the SME – this was done in order to establish if they had a responsibility to engage with the bank. Owner-managers or financial managers are expected to have such a responsibility as part of their role.

3.7.3 Reliability

Reliability refers to the ability of an instrument to produce consistent results (Cooper & Schindler, 2014). An instrument that demonstrates reliability is free of random or unstable error. Reliability analysis was conducted to assess the internal consistency of the scale used in this research, using Cronbach's alpha (also known as the coefficient alpha). The value of the coefficient falls between 0 and 1. Values closer to 1 indicate higher internal consistency of the scales. A coefficient higher than 0.7 signifies a scale whose reliability is satisfactory (Radhakrishna, 2007). Reliability testing was conducted on the scales as follows:

3.7.3.1 Digital banking adoption

Digital banking adoption was measured using three items i.e.:

- I plan to use online banking in future (DB_ Intent)
- Do you use online banking? (DB_Use)
- How often do you use online banking for your business?(DB_Use_Freq)

When all three items are included, Cronbach's Alpha is 0.389. This indicates low reliability as a reliable scale should have a Cronbach's alpha of 0.7 or higher (Radhakrishna, 2007).

Table 9: Digital banking adoption inter-item correlation matrix

	DB_Intent	DB_Use	DB_Use_Freq
DB_Intent	1.000	-.032	-.090
DB_Use	-.032	1.000	.728
DB_Use_Freq	-.090	.728	1.000

Closer inspection of inter-item correlation reveals that DB intent is poorly correlated to DB_Use (-0.32) as well as DB_Use_Freq (-0.90) while DB_Use is strongly correlated to DB_Use_Freq (0.78). This suggests that DB_intent does not measure the same construct as the other two items. This is confirmed by examining the total statistics across items:

Table 10: Digital banking inter-item total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
DB_Intent	7.97	2.560	-.072	.010	.804
DB_Use	15.11	1.712	.551	.532	-.195[a]
DB_Use_Freq	9.42	1.247	.374	.535	-.064[a]

The total statistics across items reveals that the Cronbach's Alpha will increase to 0.804 if DB_Intent is deleted. This further supports the view that DB _ intent measures a different construct. Although there is extensive literature that argues that behavioural intent is a precedent to action as well as other researchers having used behavioural intent in their measurement as a proxy to adoption (Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017), there is evidence to suggest that DB_intent is not measuring the intended construct. Hence this variable was not used going forward.

3.7.3.2 Performance

Performance was measured using six items, namely:

How did your business perform compared to competitors? Please select a rating for each aspect:

- Assets (Including equipment, vehicles & property)(Perf_Assests)
- Sales Revenue (Perf_Rev)
- Net Profit (Perf_Profit)
- Did you receive more or less customer complaints than your competitors?(Perf_Complaints)
- Overall, how satisfied are your customers compared to those who deal with your competitors?(Perf_Satisf)
- My business launched more new products/services than competitors, in the last year (Perf_Prod)

The Cronbach's Alpha for the scale including the six items is 0.643. Although this shows some correlation between the items, it is below the recommended minimum of $\alpha = 0.7$ and so this suggests that the items that have been included may not be measuring the same construct.

Table 11: performance Reliability inter-Item Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Perf_Assets	29.78	17.889	0.601	0.571	0.51
Perf_Rev	29.85	17.293	0.637	0.773	0.492
Perf_Profit	29.83	16.817	0.613	0.695	0.495
Perf_Complaints	31.75	23.762	0.142	0.100	0.674
Perf_Satisf	31.75	22.007	0.356	0.169	0.608
Perf_Prod	15.84	24.137	0.023	0.06	0.738

The total statistics show that deletion of Perf_Prod would result in a significant improvement in the Cronbach's Alpha (α =0.738). As a result, values in Perf_Prod was not used in the analysis going forward.

3.7.3.3 Satisfaction

Satisfaction was measured using five items:

- Overall, I am satisfied with my bank and the service they provide (Satif_Overall)
- My bank does NOT meet my expectations (Satisf_Expect)
- I feel good about approaching the bank for services that my business needs (Satisf_FeelGood)
- I feel that my bank produces the best results that can be achieved for my business (Satisf_Results)
- My feelings towards my banks are NOT positive (Satisf_FeelPos)

Cronbach's Alpha was 0.891 for all five items. This signifies a high level of reliability and supports the proposition that the scale measures the intended construct. All five items were used in analysis going forward.

3.7.3.4 Loyalty

The loyalty construct was measured using 12 items as follows:

- Compared to my bank, there are few alternatives I would be satisfied with(Loyalty_Alt)
- I prefer my bank over other banks (Loyalty_Prefer)
- I consider my bank the first choice when I need financial services for my business (Loyalty_FirstChoice)
- I encourage other business owners to use my bank(Loyalty_Encour)
- I say positive things about my bank to other people (Loyalty_PositiveSay)
- My bank is the ideal bank for my business(Loyalty_Ideal)
- I will use services offered by my bank in the coming 6 months(Loyalty_WillUse)
- The probability that I will use services offered by my bank during the coming 6 months is…(Loyalty_ProbUse)
- It is NOT likely that I will use services offered by my bank in the next 6 months (Loyalty_LikelyUse)
- It is likely that I will switch my business account to another bank (Loyalty_ProbChange)
- There is a chance that I will move my business account to another bank (Loyalty_LikelySwitch)
- There is a low probability that I will change my bank(Loyalty_ChanceMove)

Cronbach's Alpha across the 12 items is 0.834. This signifies a high level of reliability for the scale.

Table 12: loyalty Reliability Item total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Loyalty_Alt	89.5152	162.824	-0.065	0.301	0.861
Loyalty_Prefer	91.1919	130.463	0.867	0.799	0.796
Loyalty_FirstChoice	90.8182	129.354	0.753	0.678	0.801
Loyalty_Encour	90.6162	130.729	0.758	0.703	0.802
Loyalty_PositiveSay	90.9697	137.54	0.669	0.712	0.811
Loyalty_Ideal	97.9697	129.907	0.714	0.69	0.804
Loyalty_WillUse	98.7374	138.849	0.674	0.594	0.812
Loyalty_ProbUse	98.2525	128.66	0.561	0.531	0.817
Loyalty_LikelyUse	74.7778	183.46	-0.504	0.442	0.888
Loyalty_ProbChange	97.9798	138.142	0.49	0.325	0.822
Loyalty_LikelySwitch_Rev	97.6364	127.703	0.644	0.815	0.808
Loyalty_ChanceMove_Rev	90.6465	129.884	0.69	0.848	0.805

The total statistics above show that Cronbach's Alpha for the scale would improve if two items were deleted. Loyalty_Alt and Loyalty_Likely_Use were excluded from analysis going forward.

The reliability of the subscales is summarised in table 13 as follows:

Table 13: Summary of reliability assessment of subscales

Construct	Number of Items	Cronbach's Alpha	Reliability Level
digital banking adoption	2	0.804	Very good
Performance	6	0.738	Acceptable
Satisfaction	5	0.891	Very good
Loyalty	12	0.888	Very good

The reliability level on all subscales was deemed adequate to enable statistical analysis.

CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the results of the study. Primary data was collected through a survey using a structured questionnaire. The questionnaire was electronically distributed using an on-line survey tool. The questionnaire had six sections which covered respondent demographics, business demographics, digital banking adoption, business performance as well as aspects of satisfaction and loyalty, respectively. The demographic profile of respondents is presented, followed by the demographics of the businesses that they represent. Thereafter, the variables under investigation are presented, together with their properties, as measured in the study. The chapter concludes with a presentation of the model.

4.2 Descriptive Statistics

Descriptive statics were drawn using SPSS. Demographic data is statistical data that represents characteristics of a sample (Cooper & Schindler, 2014). When conducting research, it is important to examine the demographics of a sample to check if the sample is representative of the larger population from which the sample was taken. A population that displays characteristics that form part of the demographics is expected to be normally distributed (Field, 2009) – this means that most values in that population would occur in the middle of the range and then the rest of the values occur on the periphery, on either side. Relative frequencies of factors are illustrated using representations such as bar charts, line charts and tables. These are exploratory data analysis techniques and they generate insights using visual representations of the data.

The demographics of the respondents in this study include age, gender, education level as well as their position in the company. The demographics of the business include sector, business tenure, number of permanent employees, annual turnover, province, account tenure, as well as their habits as it relates to using digital banking. A view of the respondent and business demographics creates a better understanding

of the context in which the study was performed and may have implications for the generalisability of the results.

Descriptive statistics also enable the researcher to use the mean and standard deviation to provide a general description of the responses. The mean is the average of distribution of responses for a specific variable, i.e. the sum of the data values divided by the number of valid responses for the variable (Gall & Olson, 2012). Standard deviation describes the average variance from the mean among the responses (Field, 2009). The lower the standard deviation, the closer the responses tend to be to the mean, and vice versa (Gall & Olson, 2012). The descriptive statistics is presented below.

4.2.1 Demographic profile of respondents

Demographic data is statistical data that represents characteristics of a sample (Cooper & Schindler, 2014). When conducting research, it is important to examine the demographics of a sample to check if the sample is representative of the larger population from which the sample was taken. A population that displays characteristics that form part of the demographics is expected to be normally distributed (Field, 2009) – this means that most values in that population would occur in the middle of the range and then the rest of the values occur on the periphery, on either side.

The section below examines the demographics of the respondents (age, gender, education level, as well as their position in the company). Further to this, the demographics of the business are analysed – this includes sector, business tenure, number of permanent employees, annual turnover, province, account tenure, as well as their habits as it relates to using digital banking. A view of the respondent and business demographics creates a better understanding of the context in which the study was performed and may have implications for the generalisability of the results.

4.2.1.1 Age

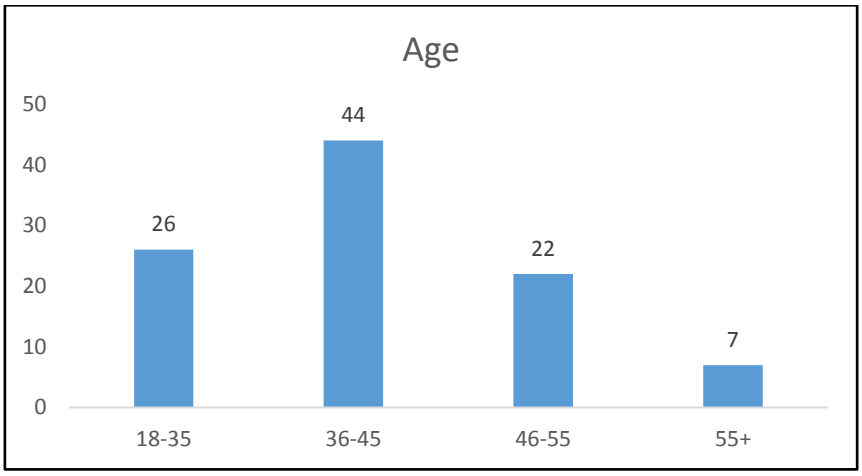


Figure 8: Respondent Age

In the sample, 26 respondents were between 18 and 35 years old. 44 respondents fall into the 36-45 years category. This constitutes 44% of the sample. 22 respondents were in the 46-55 years category. Lastly, seven respondents were aged 55 years or older. For respondent age, Mean = 2.10; standard deviation is 0.875. The data is positively skewed (skewness =0.454) towards younger respondents.

4.2.1.2 Gender

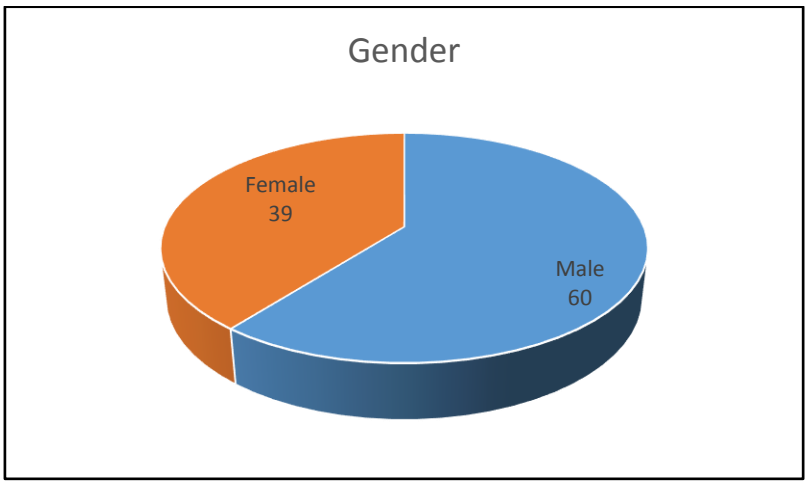


Figure 9: Respondent Gender

39 survey participants were females. Hence, 39% of the sample is made up of females. Sixty respondents (i.e. 60% of the sample) were male. The mean for respondent gender is 1.39 and the associated standard deviation is 0.491. Skewness is 0.441 indicating that respondent gender was positively skewed towards males.

4.2.1.3 Race

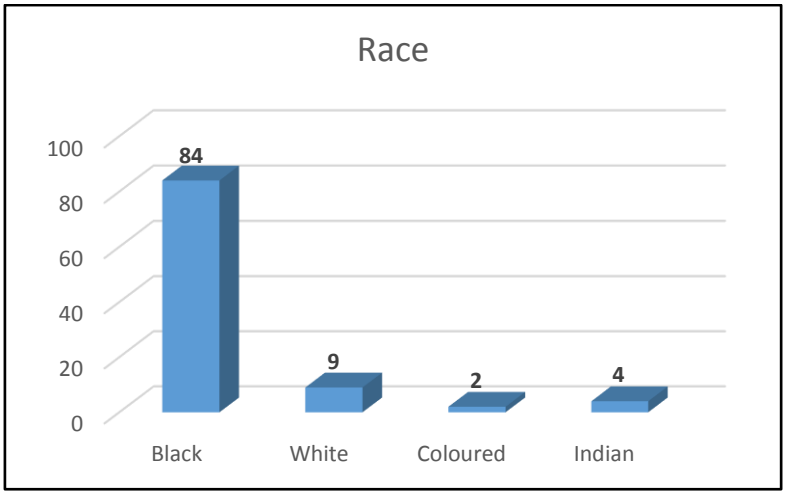


Figure 10: Respondent Race

84.8% of respondents were black followed by 9.1% whites, 4% indian and 2% coloured.This is in line with the demographics of the South African population where the vast majority of people are black .

4.2.1.4 Education

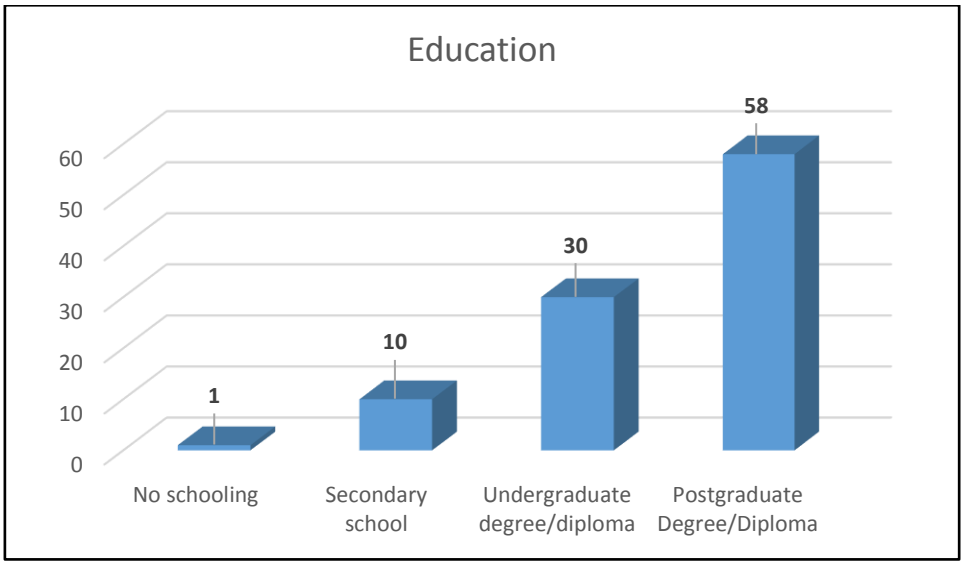


Figure 11: Respondent Education

The majority of respondents in the sample (59%) have a postgraduate level qualification while a significant proportion have an undergraduate qualification (30%).Those who did not progress beyond secondary schooling were in the minority (11%).The bias towards respondents with a post-matric qualification may be as a result of the sampling method or it could support the view that there is a positive correlation between education level and entrepreneurial behaviour (Venter & Urban, 2015).

As a result of the strong bias towards a higher education level, it can be concluded that the education level of the sample is not normally distributed. This is confirmed as the skewness (A measure of symmetry) for the education variable is -1.554 with an associated kurtosis (a measure of whether the data is heavy-tailed or light-tailed relative to a normal distribution) of 3.214. The value of skewness and kurtosis should be zero in a normal distribution (Field, 2009). Respondents' education level was not normally distributed. It is positively skewed towards a post graduate qualification.

4.2.1.5 Position

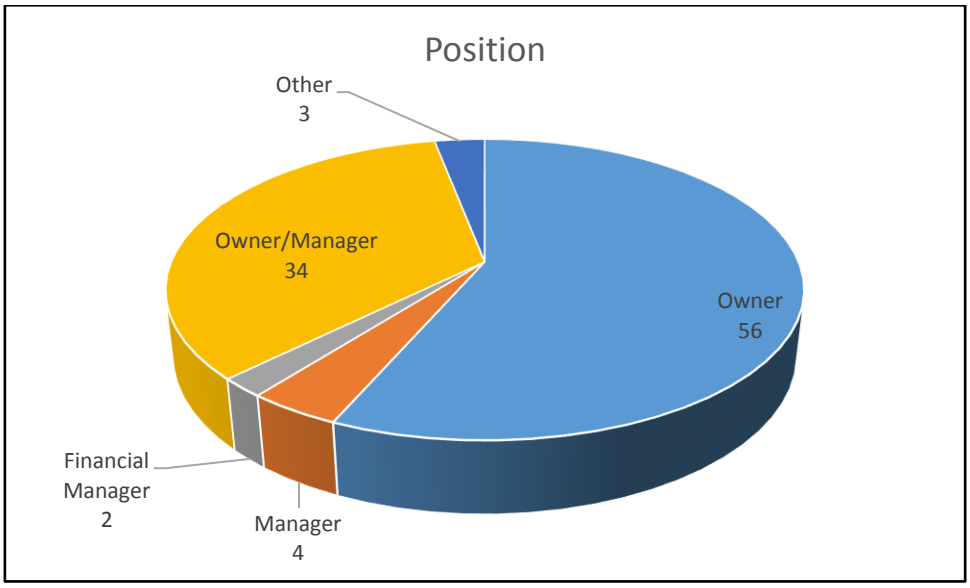


Figure 12: Respondent Position

57% of repondents were owners of the business, while 34% were owner managers in the business. 2% of respondents were financial managers of the business and 4% were managers. 3% of respondents indicated that they had roles other than those that were available in the selection. As the key informant approach was adopted in this research, it is critical that only the respondents who participate in the research are knowledgeable about the subject under investigation.

In the South African context, it can be expected that a business owner as well as financial manager of a small to medium enterprise would be involved in the day-to-day running of the business, including interfacing with the bank on behalf of the business. No inferences can be made on whether or not those respondents who hold roles that fall outside these have direct dealings with the business bank. Consideration was given to excluding their responses from the data analysis going forward as it is not clear if they are sufficiently close to the business banking such that they can bring an informed perspective to the research. However, due to concerns with sample size as well as the limited possibility of the two responses introducing bias in the results, the responses from those two respondents were retained.

4.2.2 Business Demographics

4.2.2.1 Sector

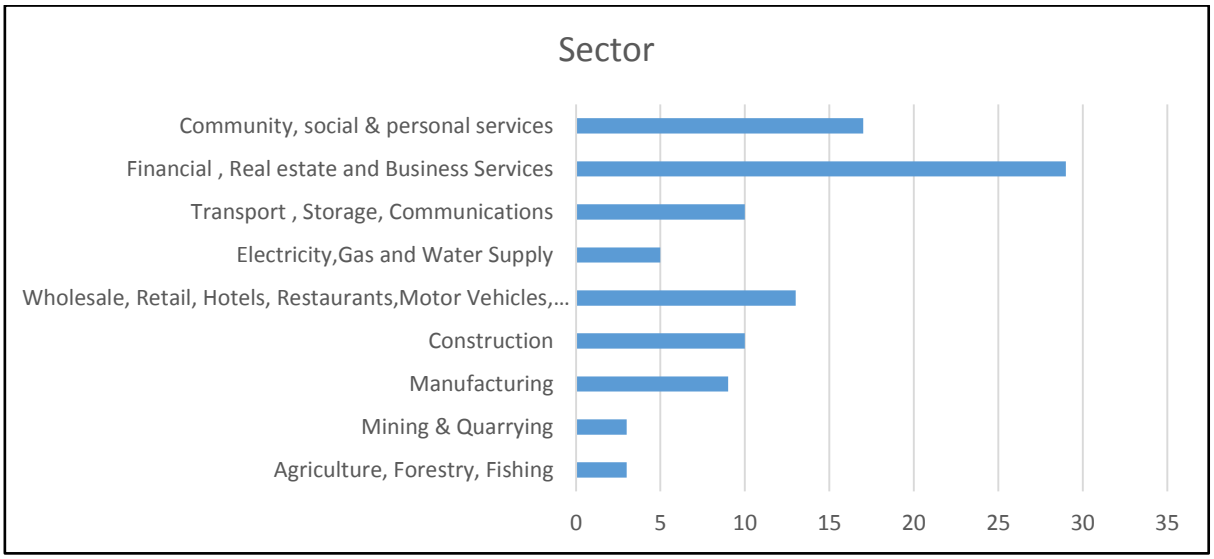


Figure 13: Business Sector

Sector descriptions used in the survey were adopted from the depatment of trade and industry's standard industrial classification codes (The DTI, 2017).The majority of businesses that participated in the survey fall within the financial, real estate and business services sector (29%). Businesses in the community, social and personal services were the second most populous category (17%) followed by wholesale, retail, hotels, restaurants, motor vehicles, personal and household goods (13%). There were also a significant number of businesses from the transport, storage and communications sector (10%) as well as the construction sector(10%). Although there was limited representation from agriculture, forestry and fishing (3%) as well as electricity, gas and water supply (5%), each sector was represented within the survey.

4.2.2.2 Tenure

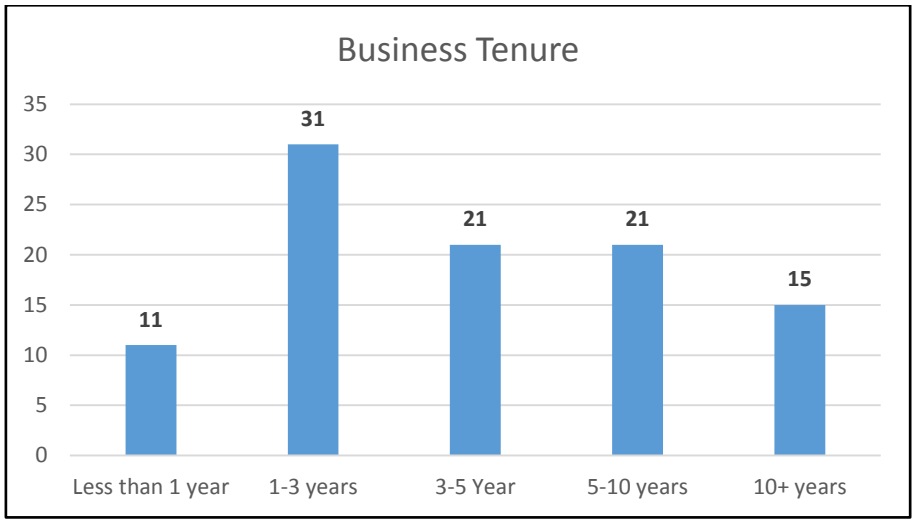


Figure 14: Business Tenure

31% of the businesses that participated in the survey have been operating in their sector between 1 and 3 years. 21% of participating businesses have been trading in that sector between 5 and 10 years. The mean for business tenure is 2.9 years with a standard deviation of 1.26. Business tenure is positively skewed towards businesses in the startup and growth phase (Skewness = 0.163).

4.2.2.3 Number of employees

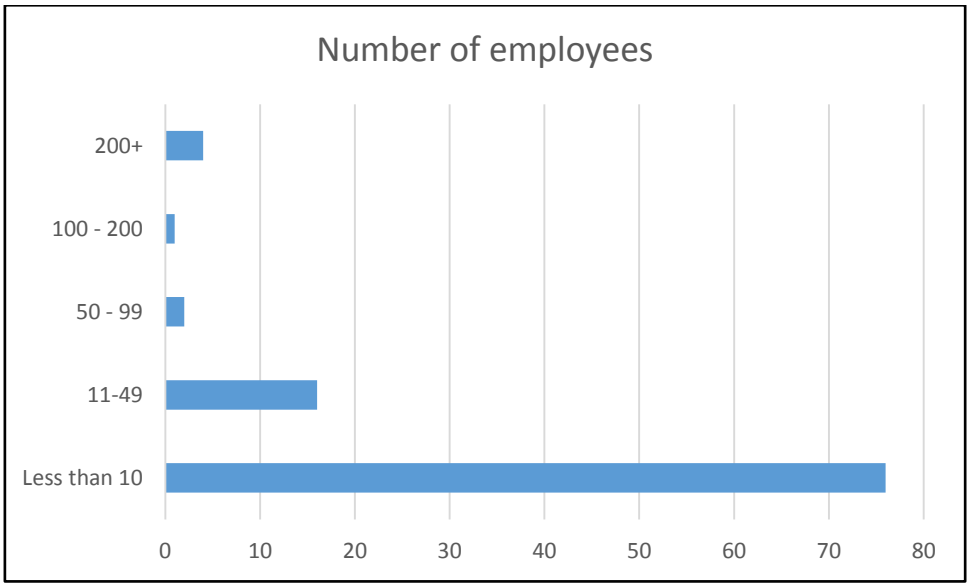


Figure 15: Number of employees

The majority of participating businesses fall into the micro – small enterprise category with 76.8% of them employing fewer than 10 people on a permanent basis.16.2% employ between 11 and 49 people, 2% employ between 50 and 99 people. 1% of participating companies employ between 100 and 200 people whilst 4% employ more than 200 people. 23% of participating businesses can be considered medium enterprises as they employ between 11 and 200 staff on a full time basis (The DTI, 2017).

4.2.2.4 Annual Turnover

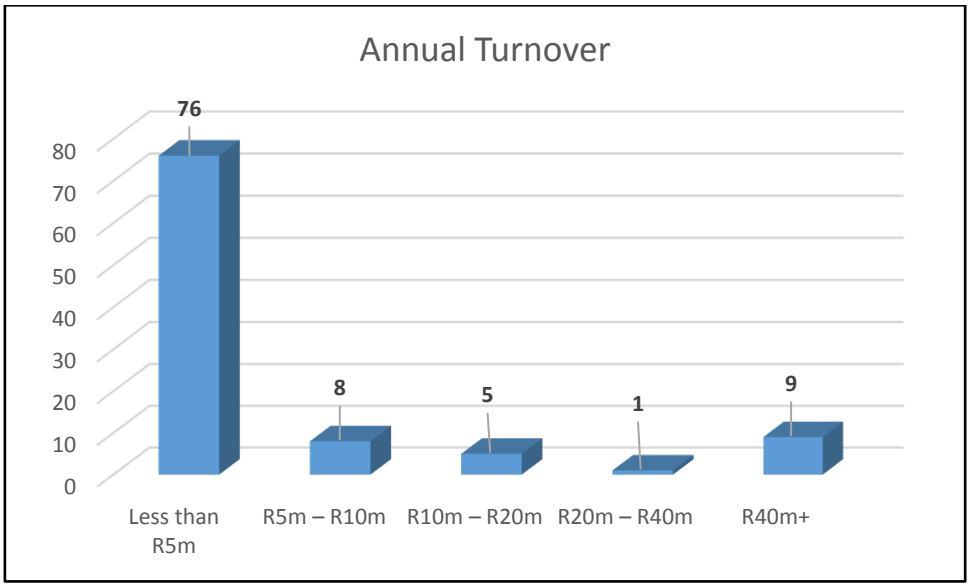


Figure 16: Annual Turnover

76.8% of participating businesses generate annual revenues (turnover) below R5m. This is indicative of a bias towards smaller businesses generating lower revenues per annum. Such businesses would be more susceptible to the liability of smallness.

4.2.2.5 Province

Enquiry into the location of the business operations revealed the following:

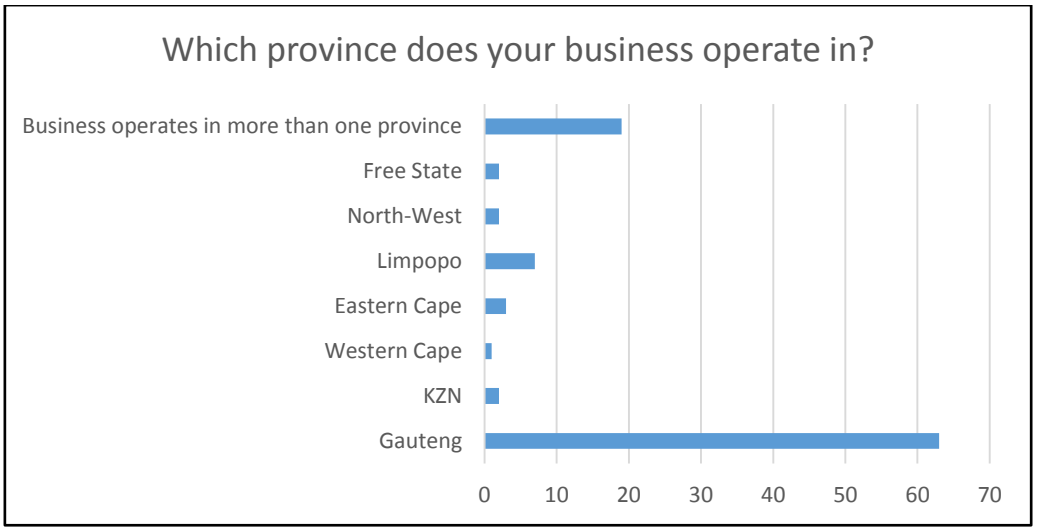


Figure 17: Business Province

The vast majority of businesses that participated in the study (64%) operate in Gauteng. As an economic hub, it is expected that a significant proportion of businesses would be located in Gauteng as opposed to other provinces. Further to this, technology infrastructure is more advanced in Gauteng, compared to other provinces. So, the researcher anticipated that there would be greater adoption of digital banking by SMEs located in Gauteng as opposed to other provinces. Businesses operating in other provinces were represented to a much lesser degree in the study – 7% operate in Limpopo, 3% operate in the Eastern Cape, 2 % operate in the North-west as well as the Free State, respectively.Only 1 % of participants operate in the Western Cape. This result is surprising as the Western Cape is also considered an economic hub and has seen an emergence of technology businesses which have contributed to the development of the local economy (Nel & Rogerson, 2007). The relatively low representation of the Western Cape may be a bias introduced by the sampling method.

19% of the participants operate in more than one province. Due to the geographical distribution of their businesses, it can be expected that businesses that operate in more than one province make use of digital banking as it does not confine their banking activites to specific locations.

4.2.2.6 Account Tenure

18% of participants have held business accounts with their current bank for less than one year. 32% have had their accounts between one and three years. 22% have had their accounts between three and five years, 14% have had them between five and 10 years and only 13% have had their accounts longer than 10 years. Interestingly, the distribution on account age bears resemblance to that of business tenure. This may suggest that businesses open their bank account when starting up and for the most part remain with their banks on an extended basis, such that switching is an exception to the rule rather than the norm. This needs to be interrogated further to see if this view is strongly supported by the data.

4.2.3 Demographic Data Summary

Table 14: Demographic data summary

	Category	Frequency	Proportion
Age	18 - 35	26	26.30%
	36 - 45	44	44.40%
	46 - 55	22	22.20%
	55+	7	7.10%
Gender	Male	60	60.60%
	Female	39	39.40%
Race	Black	84	84.80%
	White	9	9.10%
	Indian	4	4.10%
	Coloured	2	2%
Education	No Schooling	1	1%
	Secondary School	10	10.10%
	Undergraduate Degree/Diploma	30	30.30%
	Postgraduate Degree/Diploma	58	58.60%
Position	Owner	56	56.60%
	Manager	4	4.10%
	Financial Manager	2	2%
	Owner/Manager	34	34.30%
	Other	3	3%
Sector	Agriculture, Forestry, Fishing	3	3%
	Mining & Quarrying	3	3%
	Manufacturing	9	9.10%
	Construction	10	10.10%
	Wholesale, Retail, Hotels, Restaurants, Motor Vehicles, Personal and Household good	13	13.10%
	Electricity, Gas and Water Supply	5	5.10%
	Transport , Storage, Communications	10	10.10%
	Financial , Real estate and Business Services	29	29.30%
	Community, social & personal services	17	17.20%
Business Tenure	Less than 1 year	11	11.10%
	1-3 years	31	31.30%
	3-5 Years	21	21.20%
	5-10 years	21	21.20%
	10+ years	15	15.20%
Number of Employees	Less than 10	76	76.80%
	Nov-49	16	16.20%
	50 - 99	2	2.00%
	100 - 200	1	1.00%

	200+	4	4.00%
Annual Turnover	Less than R5m	76	76.80%
	R5m – R10m	8	8.10%
	R10m – R20m	5	5.10%
	R20m – R40m	1	1.00%
	R40m+	9	9.10%
Province	Gauteng	63	63.60%
	KZN	2	2.00%
	Western Cape	1	1.00%
	Eastern Cape	3	3.00%
	Limpopo	7	7.10%
	North-West	2	2.00%
	Free State	2	2.00%
	Business operates in more than one province	19	19%
Account Age	Less than 1 year	18	18.20%
	1-3 years	32	32.30%
	3-5 Years	22	22.20%
	5-10 years	14	14.10%
	10+ years	13	13.10%

4.3 Results pertaining to variables measurement

4.3.1 Responses on digital banking adoption

Three questions were asked in order to measure the SME's adoption of digital banking. The results are as follows:

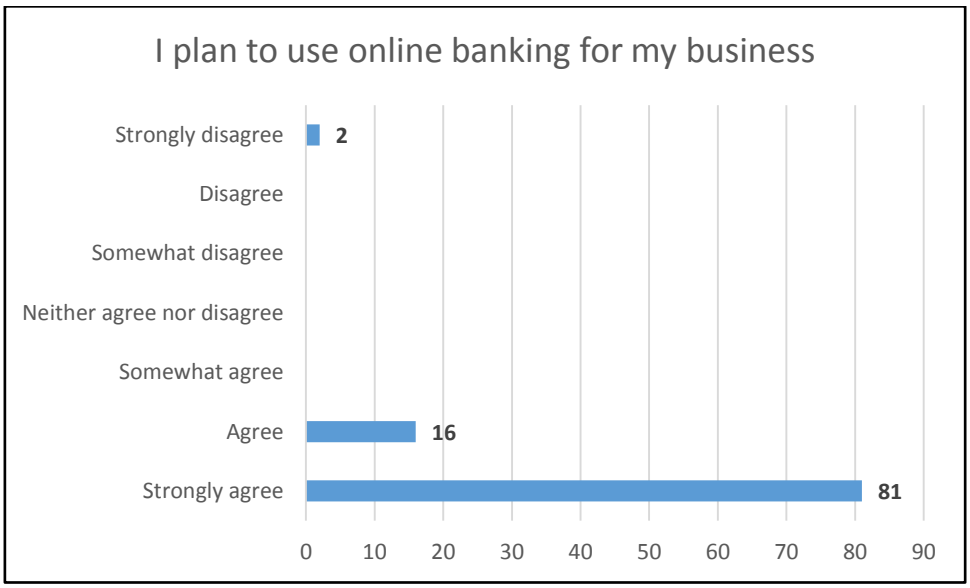


Figure 18: Digital banking adoption intent

97 respondents indicated that they plan to use digital banking for their businesses, in the future. Hence, there is evidence to suggest that 98% of the sample has formed the behavioural intent to adopt digital banking, with 81% indicating a strong intention to adopt. 2% of respondents do not intend to use digital banking for their business in future.

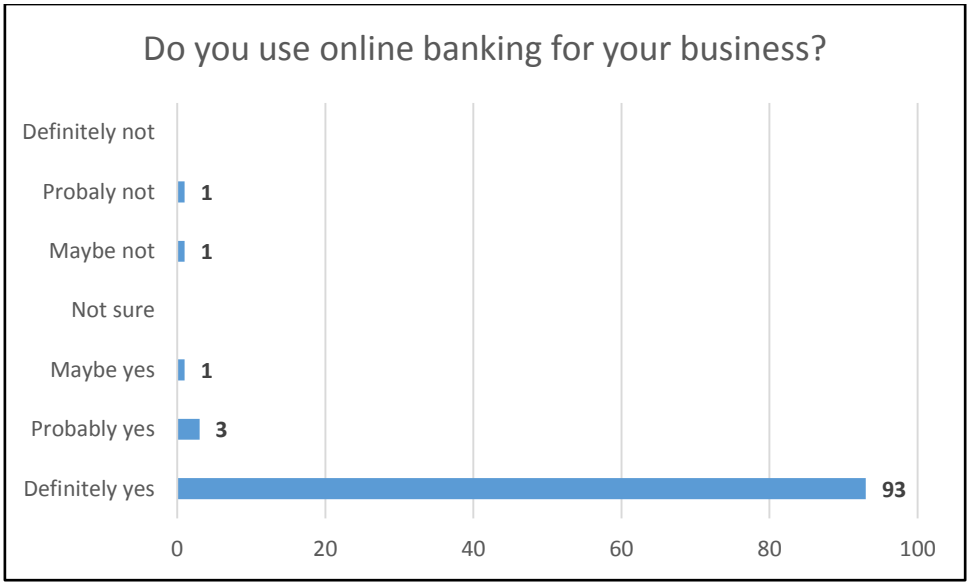


Figure 19: Digital banking usage

Following on from measuring the intention to adopt digital banking, participants were asked to indicate if they currently use digital banking for their business. 94% of respondents confirmed that they do use digital banking, 4% indicated that there is a likelihood that they use it whilst the remaning 2% expressed that it is unlikely that their business makes use of digital banking.

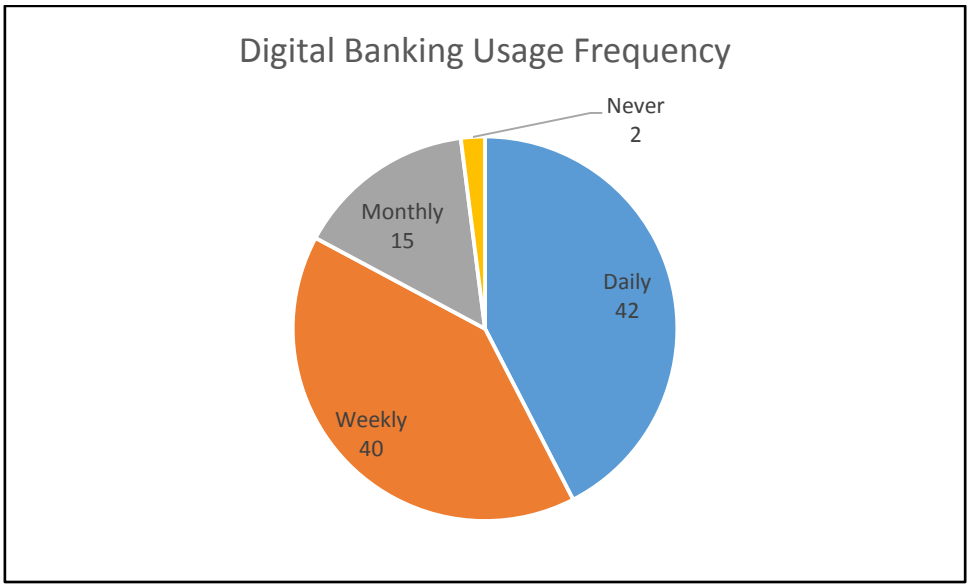


Figure 20: Digital banking usage frequency

To further understand the extent to which SMEs have adopted digital banking, they were asked to indicate how often they make use of it. 42.4% of respondents use digital

banking for their business on a daily basis, 40.4% make use of it weekly and 15.2% percent use it on a monthly basis.The two respondents who had indicated that they do not use online banking further confirmed this by selecting a usage frequency value of 'Never'. Interestingly, the three respondents who indicated that there is a likelihood that they make use of digital banking for their business were able to select a usage frequency other than 'Never'.

Table 15: Summary of responses for digital banking adoption

I plan to use online banking for my business in future			**Do you use online banking for your business?**			**How often do you use online banking for your business?**		
Response	Frequency	Proportion	Response	Frequency	Proportion	Response	Frequency	Proportion
Strongly agree	81	81.8%	Definitely yes	93	93.9%	Daily	42	42.4%
Agree	16	16.2%	Probably yes	3	3.1%	Weekly	40	40.4%
Somewhat agree	0	0.0%	Maybe yes	1	1.0%	Monthly	15	15.2%
Neither agree nor disagree	0	0.0%	Not sure	0	0.0%	Quarterly	0	0.0%
Somewhat disagree	0	0.0%	Maybe not	1	1.0%	Semi-Annually	0	0.0%
Disagree	0	0.0%	Probably Not	1	1.0%	Annually	0	0.0%
Strongly disagree	2	2.0%	Definitely Not	0	0.0%	Never	2	2.0%

The summary data confirms that 97 out of 99 respondents (98% of the sample) provided positive responses for digital banking adoption – they intend to use or currently make use of digital banking for their business on a regular basis (Daily, weekly or monthly). Only two respondents (2% of the sample) provided negative responses for digital banking adoption indicating that their businesses had not adopted nor had the intention to adopt digital banking in future.

4.3.2 Responses on satisfaction

Table 16: Responses on satisfaction

Responses on satisfaction (Percentage %)	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
Overall, I am satisfied with my bank and the service they provide	32,3	34,3	16,2	3,0	6,1	7,1	1,0
My bank does not meet my expectations	7,1	10,1	16,2	8,1	13,1	31,3	14,1
I feel good about approaching the bank for services that my business needs	26,3	41,4	10,1	4,0	5,1	8,1	5,1
I feel that my bank produces the best results that can be achieved for my business	17,2	28,3	22,2	14,1	5,1	10,1	3,0
My feelings towards my bank are not positive	5,1	10,1	12,1	6,1	12,1	44,4	10,1

Table 10 represents responses on satisfaction. 82.5% of participants agreed that on the whole, they were satisfied with the service that their bank provides.77.8% feel good about approaching their bank for additional services for their business. 67.7% of the respondents felt that their bank produces the best results that can be achieved for their business. In addition to this, 58.5% disagreed with the statement that their bank does not meet their expectations whilst 66.6% disagreed with the position of not having positive feelings towards their bank.

4.3.3 Responses on loyalty

Table 17: Responses on loyalty

Responses on loyalty (Percentage %)	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
Compared to my bank, there are few alternatives with whom I would be satisfied	13,1	27,3	20,2	15,2	5,1	17,2	2,0
I prefer my bank over other banks	26,3	28,3	22,2	11,1	5,1	5,1	2,0
I consider my bank the first choice when I need financial services for my business	21,2	28,3	19,2	10,1	6,1	11,1	4,0
I encourage other business owners to use my bank	15,2	26,3	20,2	18,2	4,0	13,1	3,0
I say positive things about my bank to other people	15,2	36,4	20,2	13,1	7,1	7,1	1,0
It is not likely that I will use services offered by my bank in the next 6 months	4,0	7,1	11,1	10,1	11,1	38,4	18,2
There is a low probability that I will change my bank	24,2	36,4	11,1	8,1	6,1	7,1	7,1

Loyalty was measured using various scales. 60.6% of respondents believe that there are few alternatives to their bank, with whom they would be satisfied. 76.8% prefer their bank over other banks whilst 68.7% consider their bank the first choice when they are in need of financial services for their business. Further to this, 71.8% of participants say positive things about their bank although only 61.7% actively encourage other business owners to make use of their bank for business purposes. When questioned about their future plans, 71.1% indicate that there is a low probability that they will change their bank whilst 67.7% disagree with the assertion that it is not likely that they will use services offered by their bank in the next six months.

Table 18: Additional responses on loyalty

Responses on loyalty (Percentage %)	It is ideal	Extremely close to the ideal	Very close to the ideal	Moderately close to the ideal	Not quite ideal	Far from ideal	Not ideal
My bank is the ideal bank for my business	15,2	36,4	20,2	13,1	7,1	7,1	1,0
	Definitely yes	Probably yes	Maybe yes	Might or might not	Maybe not	Probably not	Definitely not
I will use services offered by my bank in the coming 6 months	42,4	32,3	12,1	7,1	2,0	1,0	3,0
	Very high	Moderately high	Somewhat high	Not high or low	Somewhat low	Moderately low	Very low
The probability that I will use services offered by my bank during the coming 6 months is	44,4	23,2	10,1	13,1	5,1	2,0	2,0
	Extremely likely	Moderately likely	Slightly likely	Neither likely nor unlikely	Slightly unlikely	Moderately unlikely	Extremely unlikely
It is likely that I will switch my business account to another bank	9,1	11,1	13,1	6,1	7,1	24,2	29,3
	Definitely, I will	Probably, I will	Maybe, I will	Might or might not	Maybe not	Probably will not	Definitely will not
There is a chance that I will move my business account to another bank	6,1	10,1	11,1	11,1	11,1	31,3	19,2

Responses to the additional questions on loyalty were positive as 71.8% of participants believe that their bank is close to being ideal for their business needs. 42.2% definitely intend to make use of their bank in the coming six months whilst 44.4% indicated that there is a possibility that they will use services offered by their bank in six months. 53.3% of respondents believe that it is unlikely that they will switch their business account to another bank with 50.5% confirming that they will not / probably will not move their business account to another bank.

4.3.4 Responses on performance

Table 19: Responses on performance

Responses on growth (Percentage %)	Far above average	Moderately above average	Slightly above average	Average	Slightly below average	Moderately below average	Far below average
Assets (Including equipment, vehicles & property)	5.1	13.1	11.1	37.4	22.2	5.1	6.1
Sales Revenue	5.1	15.2	13.1	35.4	19.2	6.1	6.1
Net Profit	5.1	15.2	19.2	28.3	15.2	9.1	8.1

The measurement of financial performance comprised an assessment of growth in assets, sales revenue as well as net profit. 37.4% of participants indicated that their performance with respect to assets was average, in relation to competitors whilst 33.4% believe their performance was below average. Similarly, 35.4% of respondents felt that their performance, as measured by sales revenue was on par with competitors, meanwhile 33.4% believed the sales revenues by their businesses were greater than those of competitors. Furthermore, 28.3% assessed their net profits as being similar to that of competitors (average) whereas 39.5% believed their net profits were better than those of competitors.

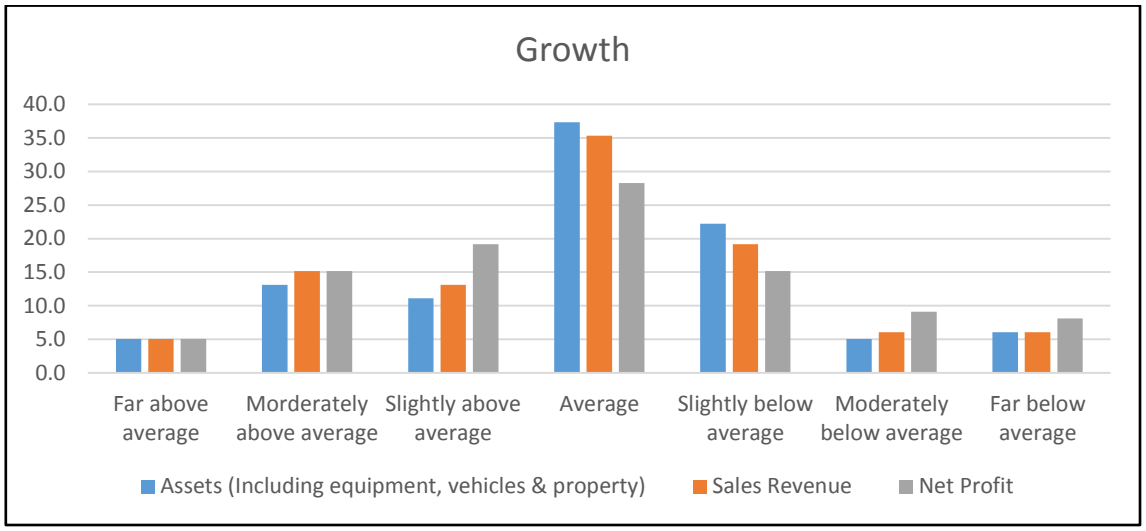


Figure 21: Responses on financial performance

The graph depicting the participants' responses on financial performance visually highlights the observation that across all three categories (assets, sales revenue and net profit), participants viewed their performance as average, in relation to competitors.

Table 20: Responses on customer satisfaction

Responses on customer satisfaction (Percentage %)	Much Less	Moderately Less	Slightly less	About the same	Slightly more	Moderately more	Much more
Did you receive more or less customer complaints than your competitors?	50	22.2	13.1	12.1	1	0	2
Overall, how satisfied are your customer compared to those who deal with your competitors?	0	0	3	13.1	11.1	27	46

To assess performance from the perspective of their customers, participants were asked to evaluate the extent to which their customers complain, in relation to those who deal with competitors. In addition to that, they were asked to consider how satisfied their customers are. 85.3% believe they receive fewer complaints from their customers, in comparison to competitors. 84% believe their customers' satisfaction levels are higher than those of customers who deal with their competitors.



Figure 22: Responses on Customer satisfaction

The above graph which summarises the responses on customer satisfaction emphasises that respondents had a positive outlook on their performance in relation to their customers such that 85.3% received fewer complaints than their competitors whilst 84% believe that their customers are more satisfied than those of competitors.

Table 21: Responses on product/service innovation

Responses on product development (Percentage %)	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	somewhat disagree	Disagree	Strongly Disagree
My business launched more NEW products/services than competitors in the last year	6	11	20	28	10	14	10

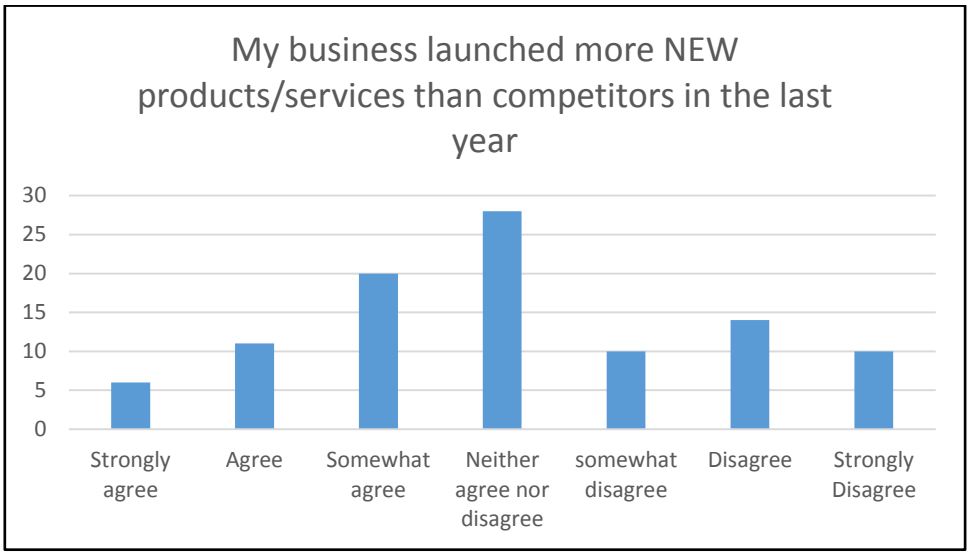


Figure 23: Responses on product development

Responses on product / service development indicate that most participants (28%) view their product development efforts as being equivalent to that of competitors.

4.4 Results pertaining to Hypotheses

4.4.1 Results from Factor Analysis

Factor analysis is used to represent multiple relationships between variables, in a simple manner (Leech, Barrett, & Morgan, 2015). This method indicates items that form logical groupings or are answered similarly by respondents (Leech, Barrett, & Morgan, 2015). There are two main conditions necessary for factor analysis: The first is that there needs to be relationships among the variables. Secondly, the sample size must be adequate - the larger the sample size, especially in relation to the number of variables, the more reliable the resulting factors. To validate the assumptions, the Kaiser-Meyer-Olkin test was run in conjunction with Bartlett's test of sphericity:

Table 22: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**0,753**
Bartlett's Test of Sphericity	Approx. Chi-Square	**1180,615**
	df	**300**
	Sig.	**0,000**

The Kaiser-Meyer-Olkin measure of sampling adequacy measures whether or not there are sufficient items for each factor. Any value above 0.5 is considered acceptable although 0.6 (and above is preferred) (Grande , 2014). The Kaiser-Meyer-Olkin measure of sampling adequacy for this study is 0.753. This confirms that there are sufficient items for each factor such that benefit can be derived from factor analysis.

Bartlett's test of sphericity measures if samples are from populations with equal variances (Grande D. T., 2014).This tests whether variables in the sample are unrelated and therefore unsuitable for structure detection. Values less than 0.05 indicate that factor analysis may be useful with the data. It is sensitive to departures from normality. For this study, $p = 0.00$ for Bartlett's tests statistic. This means that the variables are correlated highly enough to provide a reasonable basis for factor analysis (Leech, Barrett, & Morgan, 2015).

Factors were extracted using principal component analysis. Varimax rotation was applied. The result was as follows:

Table 23: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.737	26.950	26.950	6.737	26.950	26.950	5.668	22.673	22.673
2	3.006	12.024	38.974	3.006	12.024	38.974	2.814	11.257	33.930
3	1.723	6.893	45.867	1.723	6.893	45.867	1.841	7.365	41.296
4	1.432	5.728	51.595	1.432	5.728	51.595	1.708	6.833	48.129
5	1.327	5.309	56.904	1.327	5.309	56.904	1.668	6.672	54.801
6	1.214	4.857	61.761	1.214	4.857	61.761	1.400	5.600	60.401
7	1.057	4.228	65.989	1.057	4.228	65.989	1.249	4.997	65.398
8	1.008	4.034	70.022	1.008	4.034	70.022	1.156	4.624	70.022
9	.899	3.596	73.618						
10	.852	3.407	77.025						
11	.792	3.169	80.194						
12	.718	2.871	83.065						
13	.675	2.701	85.765						
14	.561	2.246	88.011						
15	.548	2.192	90.203						
16	.422	1.688	91.891						
17	.415	1.661	93.552						
18	.344	1.375	94.927						
19	.302	1.208	96.135						
20	.225	.898	97.033						
21	.209	.835	97.868						
22	.182	.726	98.595						
23	.166	.665	99.259						
24	.103	.412	99.671						
25	.082	.329	100.000						

Extraction Method: Principal Component Analysis.

Table 23 shows how the variance is divided among the 25 possible factors that were extracted. Only 8 out of the 26 factors have eigenvalues (a measure of explained variance) greater than 1.0, which is a common criterion for a factor to be useful. When the eigenvalue is less than 1.0 the factor explains less information than a single item would have explained (Leech, Barrett, & Morgan, 2015). Factor 1 has the strongest influence – it explains 26.95% of the variance, followed by factor 2 which explains 12.02% of the variance. Factor 3 explains 6.89% of the variance whilst factors 4 and 5 explain 5.73% and 5.31% of the variance, respectively. Factor 6 explains 4.86% of the variance while factor 7 explains 4.23%. The last factor with an eigenvalue greater than 1 is factor 8 which explains 4.03% of the variance seen in the data.

This research set out to investigate digital banking adoption, satisfaction, loyalty and performance. Only four factors were expected in the result. However, eight factors were extracted. To understand the nature of the extracted factors, the rotated component matrix was examined:

	Component							
	1	2	3	4	5	6	7	8
DB_Intent								0,767
DB_Use						-0,436	0,385	
DB_Use_Freq							0,760	
Perf_Assets		0,856						
Perf_Rev		0,923						
Perf_Profit		0,895						
Perf_Complaints						0,740		
Perf_Satisf		0,345				0,683		
Perf_Prod					-0,627			
Satisf_Expect_Rev					0,693			
Satisf_FeelPos_Rev					0,738			
Satisf_Results	0,799							
Satisf_FeelGood	0,688							
Loyalty_Alt		-0,310	0,443				0,537	
Loyalty_Pref	0,818		0,327					
Loyalty_FirstChoice	0,832							
Loyaty_Encour	0,843							
Loyalty_PositiveSay	0,892							
Loyalty_Ideal	0,846							
Loyalty_WillUse	0,454		0,672					
Loyalty_ProbUse	0,474		0,584					
Loyalty_Likely_Use_Rev				0,641				0,404
Loyalty_LikelySwitch_Rev	0,374			0,715				
Loyalty_ChanceMove_Rev	0,348			0,682				
Loyalty_ProbChange	0,310		0,663					-0,313

Extraction Method: Principal Component Analysis.

a. Rotation converged in 9 iterations.

When generating the rotated component matrix, all loadings with a value below 0.3 were supressed in order to simplify the matrix and make it easier to identify the factors that were extracted. Those items that loaded against multiple factors were ignored as they were lacking in measurement purity. To understand the extracted factors, the associated items were scrutinised.

Loyalty_FirstChoice, Loyalty_Encour, Loyalty_PositiveSay and Loyalty_Ideal have the strongest loadings against factor 1. These items measure the behavioural intent aspect of loyalty. Hence Factor 1 is behavioural loyalty intentions. Perf_Assets, Perf_Rev and Perf_Profit have the strongest loadings against factor 2. These items measure the growth aspect of performance. Hence factor 2 is performance – growth. None of the items that load against factor 3 are pure measures as they load across multiple factors. In order to draw conclusions about the nature of the factor, the items were examined. It was found that Loyalty_WillUse, Loyalty_ProbUse have strong loadings against this factor. These items measure repurchase intention - a dimension of loyalty. Loyalty_Alt and Loyalty_Pref also loaded against this factor although their loadings were moderate (0.44 and 0.33

respectively). These items measure strength of preference, which is an element of loyalty. Therefore, this factor appears to be largely driven by repurchase intention, with some influence from strength of preference. However, no definitive conclusions could be reached as there were no pure measures of the factor.

The variance in factor 4 is largely attributable to loyalty_LikelySwitch, loyalty_ChanceMove and loyalty_LikelyUse as they have the strongest loadings (0.71, 0.68 and 0.64 respectively). These items were designed to measure switching intention, which is an aspect of loyalty. There is evidence to support the view that factor 4 is loyalty – switching intention. However, no definitive conclusions can be reached as none of the related variables were pure measures. Variance in factor 5 is largely driven by Satisf_FeelPos, Satisf_Expect and Perf_Prod whose loadings are 0.7, 0.69 and 0.63, respectively. There is evidence to suggest that factor 5 is satisfaction. Factor 6 was measured by Perf_Complaints and Perf_satisfaction. The loading for each item was 0.74 and 0.68 respectively. It can be concluded that factor 6 is performance for a customer perspective.

Factor 7 was measured by DB_Use_Freq and DB_Use with associated loadings of 0.76 and 0.39 respectively. These items were designed to measure the SME's use of digital banking. Hence, this factor is digital banking adoption. Lastly, factor 8 was associated with loadings from DB_intent and loyalty_LikelyUse with loadings of 0.77 and 0.40 respectively. Both items measure the respondent's intention to use digital banking in future. Hence this factor is digital banking adoption intent. The factors can therefore be summarised as follows:

Table 24: Description of factors extracted during factor analysis

Factor	Construct Measured	Dimension Measured
1	Loyalty	Behavioural loyalty intention
2	Performance	Growth
3	Loyalty	Repurchase Intention / Strength of preference
4	Loyalty	Switching Intention
5	Satisfaction	satisfaction
6	Performance	Customer satisfaction
7	Digital banking adoption	Actual Use
8	Digital banking adoption	Intention

Extremely high correlations among two factors suggest that these two factors may be combined into a single factor (Brauer, 2017). All items that loaded against factor 3 also had cross loadings against factor 1 that were greater than 0.3. Similarly, all items that loaded against factor 4 also had cross loadings on factor 1 that were greater than 0.3.The cross

loadings for factor 1, 3 and 4 suggest a high correlation amongst those factors. Hence, the aggregate construct approach was adopted in order to enable further statistical analysis. Using this approach, the complex constructs under investigation (digital banking adoption, satisfaction, loyalty and performance) were assessed as a mathematical combination of the underlying variables and dimensions. To calculate scores for each dimension, an average of the item scores contributing to the dimension was calculated. Further, the dimensions scores were averaged to derive scores for the complex construct.

4.4.2 Results from Correlation Analysis

To determine if there is a correlation between digital banking adoption, satisfaction, loyalty and performance, the scatter plots were generated and scrutinised for trends:

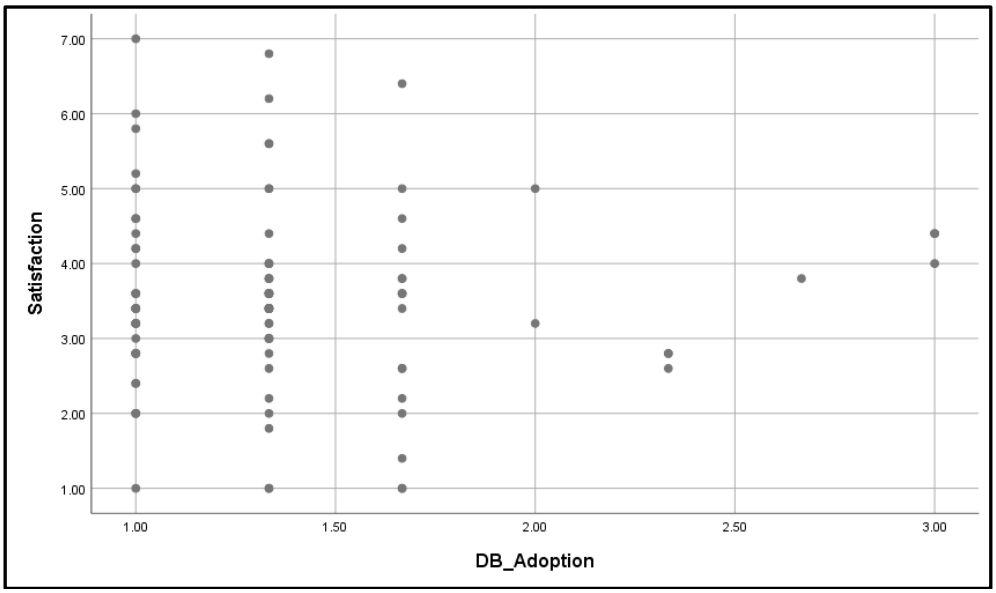


Figure 24: Correlation between digital banking adoption and satisfaction

Based on the visual inspection of the scatter plot, it appears that satisfaction increases even when digital banking adoption remains static. This suggests that there is no correlation between digital banking and satisfaction.

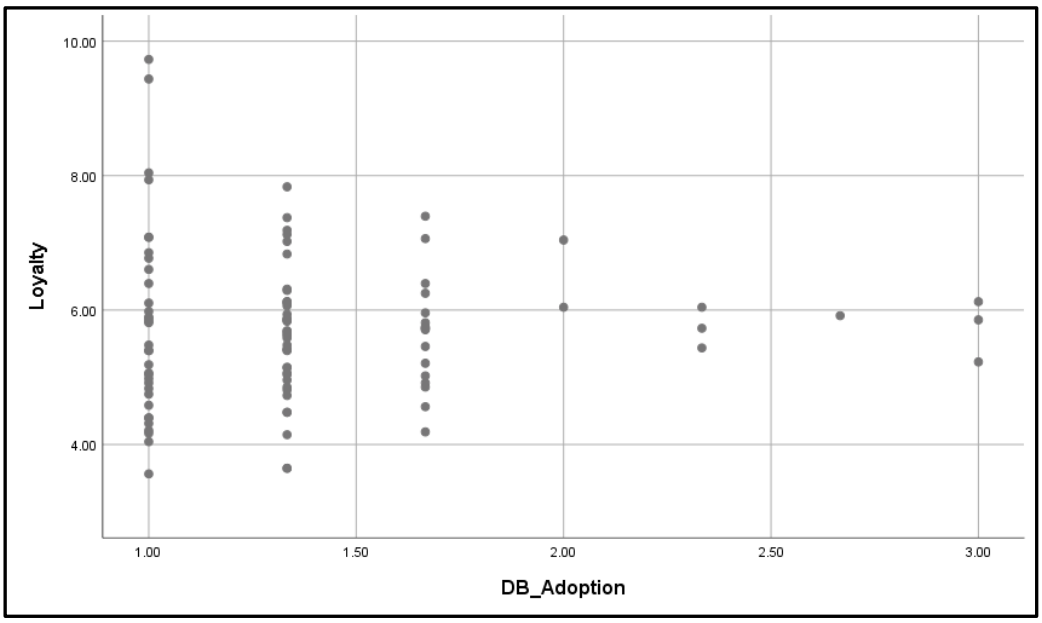


Figure 25: Correlation between digital banking adoption and loyalty

Similarly, loyalty appears to increase even when digital banking adoption remains the same. On the other hand, it appears that loyalty remains largely unchanged even when digital banking adoption increases. The evidence suggests that there is no correlation between digital banking adoption and loyalty.

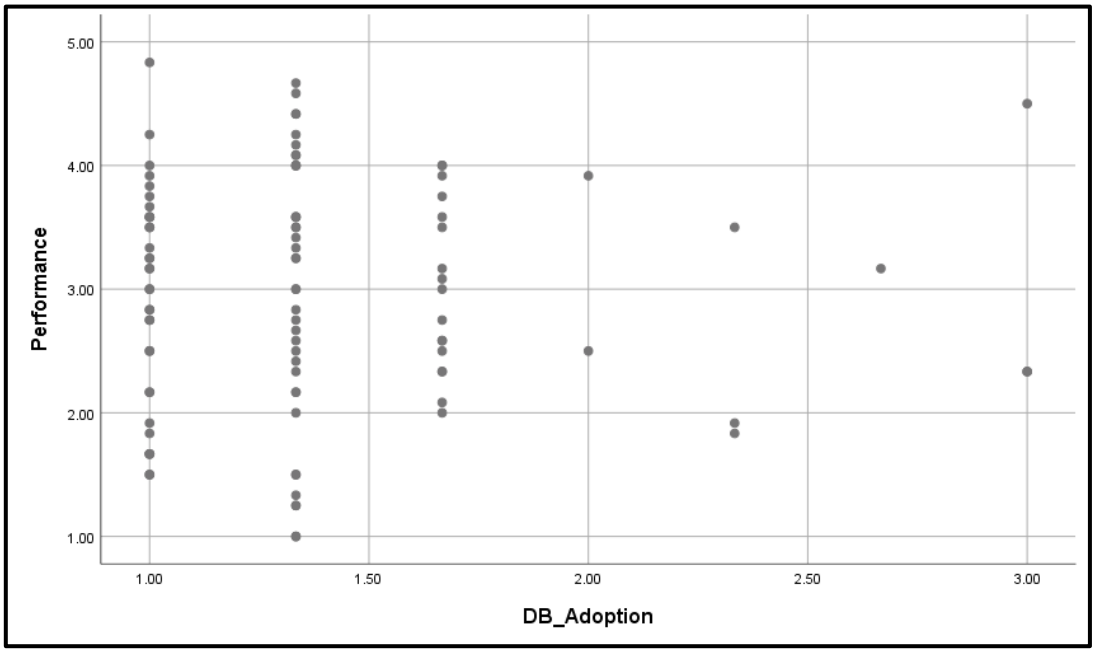


Figure 26: Correlation between digital banking adoption and performance

The distribution of data on the scatter plot suggests that performance increases even when digital banking adoption remains constant. This is suggestive of a poor correlation between the two variables.

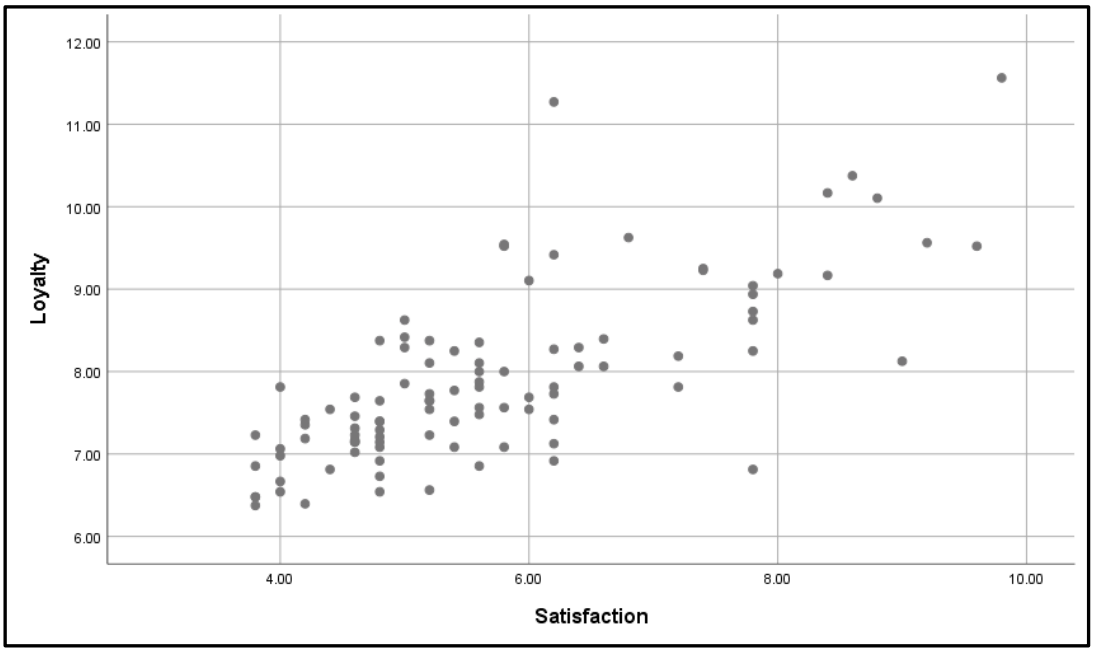


Figure 27: Correlation between satisfaction and loyalty

The scatter plot visualising data for satisfaction and loyalty depicts a trend whereby loyalty appears to increase as satisfaction increases. This is suggestive of a positive correlation, which should be confirmed through statistical tests.

Graphical means of determining correlation between the variables indicated that there is poor correlation between digital banking adoption, satisfaction, loyalty and performance. However, evidence suggests that there is a significant correlation between satisfaction and loyalty. The findings were corroborated using statistical tests as follows:

Table 25: Statistical Correlation Analysis

		DB_Adoption	Satisfaction	Loyalty	Performance	Performance_ Growth	Performance _Cust
DB_Adoption	Pearson Correlation	1	-0,008	0,012	-0,007	0,104	-0,154
	Sig. (2-tailed)		0,939	0,909	0,949	0,306	0,127
	N	99	99	99	99	99	99
Satisfaction	Pearson Correlation	-0,008	1	.684**	0,040	-0,011	0,088
	Sig. (2-tailed)	0,939		0,000	0,697	0,916	0,385
	N	99	99	99	99	99	99
Loyalty	Pearson Correlation	0,012	.684**	1	0,031	-0,006	0,066
	Sig. (2-tailed)	0,909	0,000		0,758	0,953	0,514
	N	99	99	99	99	99	99
Performance	Pearson Correlation	-0,007	0,040	0,031	1	.849**	.691**
	Sig. (2-tailed)	0,949	0,697	0,758		0,000	0,000
	N	99	99	99	99	99	99
Performance_ Growth	Pearson Correlation	0,104	-0,011	-0,006	.849**	1	.205*
	Sig. (2-tailed)	0,306	0,916	0,953	0,000		0,042
	N	99	99	99	99	99	99
Performance_ Cust	Pearson Correlation	-0,154	0,088	0,066	.691**	.205*	1
	Sig. (2-tailed)	0,127	0,385	0,514	0,000	0,042	
	N	99	99	99	99	99	99

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 1a states that digital banking adoption by SMEs has a positive influence on their levels of satisfaction. The value of Pearson's correlation coefficient for the relationship between digital banking adoption and satisfaction is *r (98)* = -0.01. Being a negative value, it suggests that as digital banking adoption increases, satisfaction decreases. However, because this value is considerably close to 0, this is a weak correlation. The null hypothesis for Pearson's correlation coefficient is that there is no correlation between the variables. The 2-tailed significance test yielded *p*=.94. This value is higher than 0.05, therefore it can be concluded that there is no significant relationship between digital banking adoption and satisfaction. In the absence of a correlation between the two variables, there is no evidence to suggest that there is a functional relationship between digital banking adoption and satisfaction. Hence hypothesis 1a is rejected.

Another relationship of interest within the model is that which exists between satisfaction and loyalty. This relationship is the subject of hypothesis 1b which states that satisfaction has a positive influence on loyalty. For this relationship, r (98) = 0.68, which signifies a strong positive relationship whereby loyalty increases as satisfaction increases. For the 2-tailed significance test, *P* = .00. Hence it can be concluded that there is a strong positive

relationship between satisfaction and loyalty. Based on the outcome of correlation analysis, loyalty increases when satisfaction increases. However, to test hypothesis 1 b, regression analysis must be conducted in order to determine if the strong correlation is as a result of a functional relationship between satisfaction and loyalty.

Hypothesis 2 states that digital banking adoption by South African SMEs has a positive influence on loyalty. For the relationship between digital banking adoption and loyalty, r (98) = 0.01. This suggests a weak positive relationship whereby loyalty increases as digital banking adoption increases. However, p = .94, which signifies an insignificant relationship between the two variables. Therefore, it can be concluded that there is no significant relationship between digital banking adoption and loyalty. Digital banking adoption has no bearing on loyalty as there is no significant relationship between the two. Hence, there is no evidence in support of Hypothesis 2.

Enquiry into the relationship between digital banking adoption and performance reveals that r (98) =0.01 and for the 2-tailed significance test, p = .95. Hence it can be concluded that there is no significant relationship between digital banking adoption and performance. This relationship is the subject of Hypothesis 3 which asserts that digital banking adoption has a strong positive relationship with SME performance. No evidence was found in support of this hypothesis.

Hypothesis 3a states that digital banking adoption has a strong, positive relationship with SME growth. For this relationship, r (98) = .10. The 2 tailed significance tests yield p= .31. As $p > 0.05$, it can be concluded that there is no significant relationship between digital banking adoption and growth. Therefore, hypothesis 3a is not supported.

Hypothesis 3b asserts that digital banking adoption has a strong positive influence on SME customers' satisfaction. For the relationship between digital banking adoption and customer satisfaction, r (98) = -0.15. The p value from the significance test is p = .13. As p>0.05, the null hypothesis cannot be rejected. SME digital banking adoption cannot be used to predict SME customers' satisfaction as there is no significant relationship between the two variables. Thus, hypothesis 3b is not supported as there is no evidence in support of a significant relationship between digital banking adoption and SME performance from the perspective of customers.

In addition to the relationships highlighted in the hypotheses, it was uncovered that there is a strong and positive relationship between performance and growth (r = .85; p < .05) and

there is also a strong and positive relationship between performance and customer satisfaction (r = .69; p <.05). Both correlations support the notion that performance is a composite construct with growth and customer satisfaction as its dimensions, as indicated in the model.

4.4.3 Results from Regression Analysis

Regression analysis can be conducted meaningfully when there is a linear relationship between two variables. Based on the correlation analysis, it was concluded that there is no significant relationship between digital banking adoption and satisfaction nor was there a significant relationship between digital banking adoption and loyalty. It was also found that there is no significant relationship between digital banking adoption and performance of the SME. However, it was confirmed that there is a strong positive relationship between satisfaction and loyalty.

In this study, satisfaction is the predictor variable; loyalty is the outcome variable. Regression analysis was employed to generate a model that could support the prediction of SME loyalty, based on satisfaction. The results were as follows:

Table 26: Model Summary - Predicting loyalty from satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.684[a]	0,468	0,463	0,81055	0,468	85,414	1	97	0,000
a. Predictors: (Constant), satisfaction									
b. Dependent Variable: loyalty									

R is the value of the Pearson correlation coefficient. In this analysis, R = .684. This confirms that there is a strong positive relationship between satisfaction and loyalty. R^2 is the coefficient of determination. It is a measure of the predictive capacity of the model and it measures how well the model fits the data. It also explains the proportion of variance that can be explained by the predictor variable. In this case, an R^2 value of 0.468 indicates that 46.8% of variance seen in loyalty can be explained by satisfaction. The adjusted R squared value adjusts the model fit, based on the sample size.

Table 27: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56,116	1	56,116	85,414	.000[b]
	Residual	63,728	97	0,657		
	Total	119,844	98			
a. Dependent Variable: loyalty						
b. Predictors: (Constant), satisfaction						

The null hypothesis of ANOVA is that all group means are equal. Results show that F = 85, 414 whilst p <0.05. The result is statistically significant and so the null hypothesis is rejected. This means that satisfaction is significant in predicting loyalty. In other words, SME satisfaction has a positive influence on loyalty towards banks. Thus, the data is in support of hypothesis 1b.

Table 28: Unstandardised and standardised coefficient for predicting loyalty

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,547	0,248		14,309	0,000
	satisfaction	0,612	0,066	0,684	9,242	0,000

a. Dependent Variable: loyalty

The constant is the value of loyalty when satisfaction = 0. Although in reality this is meaningless, it is a useful way to conceptualise how one value might be predicted from another. For this study, when satisfaction is zero, loyalty can be expected to be at 3.55 units. For every 1 unit of satisfaction, loyalty increases by 0.61 units. The standard error applicable to the model is 0.066.

4.4.4 Outcome of hypothesis testing

The main purpose of this study was to examine the effect of digital banking adoption on satisfaction, loyalty and performance. Related hypotheses were tested, and the outcome is summarised in the following table:

Table 29: Summary of hypothesis testing outcomes

	Hypothesis	Testing Outcome
H1a	Digital banking adoption has a positive influence on SME satisfaction	Not supported
H1b	SME satisfaction has a positive influence on SME loyalty towards banks.	Supported
H2	Digital banking adoption has a positive influence on SME loyalty towards banks.	Not supported
H3	Digital banking adoption has a strong positive relationship with SME performance	Not supported
H3a	Digital banking adoption has a strong, positive relationship with SME growth	Not supported
H3b	Digital banking adoption has a strong positive influence on SME customers' satisfaction	Not supported

Based on the data collected, it was found that there is no evidence in support of a strong relationship between digital banking adoption, satisfaction, loyalty or performance. However, there is evidence in support of a strong positive relationship between satisfaction and loyalty.

4.5 Summary of the results

94% of respondents confirmed that they do use digital banking with 42.4% using it on a daily basis, 40.4% making use of it weekly and 15.2% using it on a monthly basis. When enquiries were made into how satisfied South African SMEs are with their banks, 82.5% of participants agreed that overall, they were satisfied with the service that their bank provides.77.8% indicated that they feel good about approaching their bank for additional services for their business whilst 67.7% of the respondents felt that their bank produces the best results that can be achieved for their business.

SME loyalty towards their banks was measured using various scales and it was found that 60.6% of respondents believe that there are few alternatives to their bank, with whom they would be satisfied. 76.8% prefer their bank over other banks whilst 68.7% consider their bank the first choice when they need financial services for their business. Further to this, 71.8% of participants say positive things about their bank although only 61.7% actively encourage other business owners to make use of their bank for business purposes. When questioned about their future plans, 71.1% of participants indicated that there is a low probability that they will change their bank with 71.8% of respondents viewing their bank as being close to the ideal bank for their business.

The measurement of financial performance comprised an assessment of growth in assets, sales revenue as well as net profit. 37.4% of participants indicated that their performance with respect to assets was average, in relation to competitors whilst 33.4% believed their performance was below average. Similarly, 35.4% of respondents felt that their performance, as measured by sales revenue was on par with competitors meanwhile 33.4% believed the sales revenues by their businesses were greater than those of competitors. To assess performance from the perspective of their customers, participants were asked to evaluate the extent to which their customers complain, in relation to those who deal with competitors. In addition to that, they were asked to consider how satisfied their customers are. 85.3% believe they receive fewer complaints from their customers, in comparison to competitors. 84% believe their customers' satisfaction levels are higher than those of customers who deal with their competitors.

Results from Factor Analysis indicated that there were eight factors that could collectively explain 70% of the variance in the data. Behavioural loyalty intention, Growth, Repurchase Intention / Strength of preference, Switching Intention, Satisfaction, Customer satisfaction, Actual Use and Digital Banking Adoption Intention were the extracted factors. However, high correlations between factors enabled some factors to be combined into a single factor. This resulted in four composite factors, namely, digital banking adoption, satisfaction, loyalty and performance.

Correlation analysis provided supporting evidence for a strong, positive relationship between satisfaction and loyalty thus supporting hypothesis 1b. No evidence was found in support of a strong relationship between digital banking adoption, satisfaction, loyalty and performance, respectively. Hence the data did not support hypothesis 1a, 2, 3, 3a and 3b. It was also found that that there is a strong and positive relationship between performance and growth (r = .85; p < .05) as well as a strong and positive relationship between performance and customer satisfaction (r = .69; p <.05). These findings support the notion that performance is a composite construct with growth and customer satisfaction as its dimensions.

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter discusses and interprets the results of the study, following the results presented in chapter 4. The findings of the study are integrated with the literature review in order to generate meaningful insights in response to the problem statement. The main problem was that it was not clear whether banks' investment in digital banking channels is resulting in increased satisfaction and loyalty from their SME customers. It was also not clear if adopting digital banking enhances SME performance. The discussion in this section covers the demographic profile of respondents, followed by a discussion pertaining to the demographics of the business. The outcomes of hypothesis testing is reviewed and finally the implications of the findings are discussed. The chapter concludes with a synopsis of the key findings.

5.2 Demographic profile of respondents

5.2.1 Age

It was found that most respondents (44%) fall in the middle age category (36- 45 years). Venter and Urban (2015) contend that individuals tend to undertake entrepreneurship and new venture creation at a time when they have lower demands in terms of family and financial responsibility. This typically occurs in their youth or at a later stage in their life when family and financial responsibilities have reduced and they have had an opportunity to pursue a career. The outcome of this study is surprising as a smaller proportion of repondents (26%) fall within the young adults category (18 – 35 years) and an even smaller proportion (22%) falls within the older adults category (46-55) . As a solution to the high levels of youth unemployment in South Africa (Netshitenzhe, 2013), policy makers must focus on interventions that stimulate entrepreneurship in the young adults category.

5.2.2 Gender

The gender of the entrepreneur also plays a role in enterprise growth (Rogerson, 2001). Results showed that only 39% of respondents were women whilst 60% were male. Women are amongst the groups of previously disadvantaged groups in South Africa, with policy

interventions aimed at improving their quality of life and securing their incomes. The poor representation of women in business may be as a result of inequalities that form barriers to women's participation in the economy. Despite many policy interventions, women in South Africa are still marginalised economically and socially. As a result of this, they have limited access to education and resources (Netshitenzhe, 2013), which are essential for starting and running a successful business. In addition to that, the under-representation of women may be as a result of women attempting to balance income generation activities with household and child rearing responsibilities.

The sample comprised businesses that participate in incubation programmes. Such businesses largely adopt growth-oriented strategies. Women entrepreneurs may be reluctant to pursue aggressive growth strategies for their enterprises (Rogerson, 2001) in order to maintain balance between income generation and household and child rearing responsibilities. Growth-oriented strategies for enterprise development are at risk of alienating and neglecting large numbers of women entrepreneurs whose primary objective may be survival and security of income (Rogerson, 2001). To meet the objectives of poverty reduction, South African policy makers must find ways to support and promote the survival of businesses in industries that are compatible with the needs of women.

5.2.3 Education

Education forms part of an entrepreneur's human capital. Despite the common belief that one can flourish as an entrepreneur without an education, empirical evidence suggests that entrepreneurs have a higher level of education that non-entrepreneurs (Venter & Urban, 2015, p. 58). Results showed that 59% of owner-managers that participated in the research have a postgraduate level qualification while a significant proportion have an undergraduate qualification (30%). Those who did not progress beyond secondary schooling were in the minority (11%). The bias towards respondents with a post-matric qualification supports the assertion by Venter and Urban (2015) that there is a positive relationship between education level and entrepreneurial behaviour.

This result may also explain the underepresentation of women in the survey as due to social and economic marginalisation, many South African women still have limited access to quality education.

5.2.4 Business Tenure and Number of employees

Results show that 31% of the businesses that participated in the survey have been in operation between one and three years. Such businesses are in the start-up phase and are typically concerned with overcoming liability of newness (Venter & Urban, 2015) and undertaking activities that will ensure they fully exploit the opportunity in the market. 21% of participating businesses have been trading in that sector between five and 10 years. These businesses, are in the post start-up phase (Venter & Urban, 2015) and are concerned mostly with sustainability and growth.

Most of the businesses that participated in the research fall into the micro– small enterprise category with 76.8% of them employing fewer than 10 people on a permanent basis. Small size, limited access to resources, information, skills, technology and other business services are limiting factors for the competitiveness of small businesses (Reji, 2013). 23% of participating businesses can be considered medium enterprises as they employ between 11 and 200 staff on a full time basis (The DTI, 2017). Due to the dominance of micro-enterprises in the sample, it is expected that the insights generated are largely applicable to them. However, this supposition has not been substantiated by data.

5.3 To what extent have South African SMEs adopted digital banking?

Digital banking presents an opportunity to improve the interaction between SMEs and their banks. South African banks are making significant investments in their digital channels, with the intention of improving service levels, to drive customer loyalty and retention as well as to reduce operating costs. However, it was not clear whether they were achieving the anticipated gains. It was also not clear if SMEs were actually deriving the desired improvement in efficiency and ultimately, performance. The effect of digital banking adoption on the long-term relationship between SMEs and their banks had not been established.

Bank managers are of the view that the relationship between SMEs and their banks could benefit from a channel that generates mutual advantage for both parties. This benefit was expected to be in the form of improvements in satisfaction, loyalty as well as the performance of the SME. However, little empirical evidence has been presented in support of this view.

This study set out to investigate SME adoption of digital banking in South Africa. More specifically, the study sought to determine if digital banking adoption supports the maintenance of a long term symbiotic relationship between SMEs and their banks by

examining the relationship between digital banking adoption and satisfaction, loyalty and SME performance, respectively.

Having noted that statistics quantifying digital banking adoption by South African SMEs were not publicly available, the study commenced with closing this gap by quantifying the levels of digital banking adoption by South African SMEs. This information would be useful for bank regulators and managers who are concerned with monitoring market activity in order to inform their strategies and initiatives.

It was found that 98% of respondents that participated in this study had formed the behavioural intent to adopt digital banking with 94% actively using it. Based on this result, it can be concluded that South African SMEs have adopted digital banking to a large extent. However, in their 2016 Sitesfaction survey, Columinate (2016) established that only 16 million South Africans who have bank accounts (28% of the population) are internet users and only 5 million South Africans (9% of the population) use digital banking . Moreover in their 2010 study, Finscope found that internet banking penetration was 13% and cellphonne banking penetration was 31%. Both studies were conducted in the context of personal bank customer, not business. Considering the findings of the above mentioned surveys, the levels of digital banking adoption observed in this study appear to be in excess of the norm.

Only respondents that have the infrastructure to access the internet (i.e. they use infrastructure offered by their incubator, or they make use of social media) would have been able to participate in the online survey. Hence the sampling method used by the researcher may have introduced bias, which skewed the results. Furthermore, the majority of businesses that participated in the study (64%) operate in Gauteng where technology infrastructure is more advanced, compared to other provinces. It is doubtful that this result is representative of all SMEs in South Africa. The finding on the level of digital banking adoption may not be applicable to a different context where SME owner-managers may not have the infrastructure to access the internet (e.g. a business owner in the rural areas or a hawker).

5.4 Are those SMEs who have adopted digital banking more satisfied with their banks?

This study set out to establish if digital banking adoption supports the maintenance of a long term symbiotic relationship between SMEs and their banks. Digital Banking promises mutual benefit for SMEs and their banks by improving efficiencies and providing greater convenience for SMEs whilst reducing costs and improving service quality for banks. The benefits that can be delivered through digital banking are expected to result in more profitable banks and more satisfied SME customers. Satisfaction has been shown to be pertinent to the maintenance of mutually beneficial long-term relationships between SMEs and their banks (British Academy of Management, 2015). Although digital banking presents an opportunity to drive improvement in the symbiotic relationship between SMEs and their banks, little empirical evidence could be found in support of this view.

The following hypothesis was tested:

Hypothesis 1a: Digital banking adoption by SMEs has a positive influence on their levels of Satisfaction

Survey results indicate that 82.5% of participants were satisfied with the service that their bank provides.77.8% feel good about approaching their bank for additional services for their business and 67.7% of the respondents believe that their bank produces the best results that can be achieved for their business. In addition to this, 58.5% disagreed with the statement that their bank does not meet their expectations. This suggests that 58.5% believe that their bank meets their expectations. It is interesting to note that 24% of respondents were still satisfied with their banks even though they assessed the bank as not meeting their expectations. Based on the above result, it is evident that SMEs may be satisfied with their bank even though they may not meet expectations. Many theories on customer satisfaction conceptualise satisfaction as an evaluating judgement of how well a product or service meets expectations (Cardozo, 1965; Oliver & DeSarbo, 1988). A result that shows the existence of satisfaction even when expectations are not met raises questions about what drives satisfaction. What other factors are contributing to SME satisfaction?

Digital banking is purported to save time and money by providing customers with convenience and accessibility. When they make use of digital banking, customers can avoid travelling, standing in queues and they have greater privacy in their interactions with the bank (Mols, 1998). In addition to this, digital banking enables the bank to provide more timely

and complete customer information and improved service quality (Hanafizadeh, Keating, & Khedmatgozar, 2014; Gikandi & Bloor, 2010). Further, the use of technology in a service environment is expected to have a positive influence on costs and service quality (Chong et al., 2010). Good service quality has been shown to have a positive effect on customer satisfaction (Kakeeto-Aelen et al., 2014). Hence it was expected that there would be a strong positive relationship between digital banking adoption and SME satisfaction.

Contrary to expectations, correlation analysis revealed that there is no significant relationship between digital banking adoption and satisfaction. In the absence of a correlation between the two variables, there is no evidence to suggest that there is a functional relationship between digital banking adoption and satisfaction. Hypothesis 1a is therefore rejected. This implies that SMEs who make use of digital banking are not necessarily more satisfied. This raises questions about the factors that drive satisfaction in the context of a service that is rendered via a digital medium. Research has provided substantive understanding of satisfaction in face-to-face service encounters but not of service encounters involving both technology and the human touch (Makarem, Mudambi, & Podoshen, 2009). While service satisfaction is believed to directly shape a customer's long term purchasing behaviour (Groonroos, 1984), customer resistance to technology can reduce overall levels of satisfaction (Makarem, Mudambi, & Podoshen, 2009). The findings of this research give plausibility to these claims.

5.5 Can loyalty be predicted from satisfaction?

Satisfaction impacts customer retention positively as it leads to high levels of customer commitment, loyalty and it has been found to have a positive influence on behavioural loyalty intention. This implies that a satisfied SME customer is more likely to purchase more products from their bank and share their experience with other people. The following hypothesis was tested:

Hypothesis 1b: SME satisfaction has a positive influence on SME loyalty towards banks.

Correlation analysis yielded a Pearson correlation value $r(98) = 0.68$, and $p < .05$, which signifies a strong positive relationship whereby loyalty increases as satisfaction increases. In previous studies, it was found that customer satisfaction leads to high levels of customer commitment and loyalty (Picon, Castro, & Roldan, 2014; Shanka, 2012). In essence, customer satisfaction has a positive impact on customer loyalty (Bloemer, de Ruyter, &

Peeters, 1998). More specifically, customer satisfaction has a positive influence on behavioural loyalty intention (Klaus & Maklan, 2012) such that a satisfied customer is more likely to repurchase a product and share their experience with other people (Jones & Taylor, 2007). The findings in this study corroborate findings from previous studies.

To support the prediction of SME loyalty, based on their satisfaction, a predictive model was developed using regression analysis. The model had good predictive capacity as 46.8% of variance seen in loyalty could be explained by satisfaction. It was found that for every 1 unit of satisfaction, loyalty increases by 0.61 units, with a standard error of 0.066. It was confirmed that loyalty can be successfully predicted, based on satisfaction. Thus SME satisfaction has a positive influence on loyalty towards banks.

5.6 Are SMEs who use digital banking more loyal to their banks?

Due to increasing competition in the financial services sector, banks find themselves in a position where they now need to work harder to retain existing SME customers and secure repeat purchases from those customers in order to maintain revenues and profitability (Howcroft, Durkin, Armstrong, & Emerson, 2007). In response to this, South African banks are making significant investments in their digital channels in an effort to drive customer loyalty and retention.

Digital banking has the potential to provide much needed support to SME owner-managers in managing their business finances through providing critical information, enabling better access to funding as well as enabling SMEs to have regular interactions with their banks without the inconvenience of going to a branch. Previous studies by Buell, Campbell, and Frei (2010); Scherer, Wunderlich, and Von Wangenheim (2015) suggest that under certain conditions, technology use can play a role in customer retention. Despite this, it is not clear whether banks' investments in digital banking are yielding the expected returns in customer loyalty and retention. To make this determination, the following hypothesis was tested:

Hypothesis 2: Digital Banking adoption has a positive influence on SME Loyalty towards banks.

Based on the results of correlation analysis, it was concluded that there is no significant relationship between digital banking adoption and loyalty. Digital banking adoption has no bearing on loyalty as there is no significant relationship between the two. Hence, there is no evidence in support of Hypothesis 2. In the case of SMEs, use of digital banking does not

breed loyalty. South African banks are making significant investments in their digital channels in an effort to drive customer loyalty and retention (FirstRand, 2017; Barclays Africa, 2016; Standard Bank Group, 2016). However, based on this result, it is doubtful whether banks investments in digital banking are yielding the intended returns in customer loyalty and retention.

5.7 Does performance improve when SMEs adopt digital banking?

Research on the economic value of IT has primarily focused on firm level impacts. However, there is an emerging trend where researchers are now examining the impact that technology has on an industry (Wimble & Singh, 2015). In their evaluation of the impact of Information communications Technology on SME performance, Tarute and Gatautis (2014) found that ICT has an impact on the improvement of external and internal communication as it pertains to SME. However, the technology was not as important as the role that technology plays in inducing social and economic achievements that contribute to improved performance. Based on this, it was expected that when evaluating the effect of digital banking on SME performance, evidence would be found to suggest that digital banking induces changes in an organisation's way of working that may enhance performance.

Technology use enhances services quality which, in turn, has a positive impact on business performance (Aliyu & Tasmin, 2012; Abratt & Russell, 1999). Digital banking provides users with an opportunity to cut costs, improve efficiency (Aliyu & Tasmin, 2012) and in so doing, increase capacity to create value in the organisation's chosen markets. However, no studies have been done in South Africa to establish if digital banking adoption by SMEs enhances performance.

To make this determination, the following hypothesis was tested:

Hypothesis 3: Digital banking adoption has a strong positive relationship with SME performance

Analysis revealed that there is no significant correlation between digital banking adoption and performance. No evidence was found in support of hypothesis 3. Scholars who adopt the separate constructs approach to performance measurement argue that instead of an overall construct known as firm performance, there are different types of performance. Firm performance is viewed as a domain of separate constructs that are loosely related (Santos & Brito, 2012). This approach was supported by the finding of Miller, Washburn, and Glick

(2013), which confirmed that performance as a latent construct does not exist. Such scholars argue that the specific aspects of performance must be used both in theory development and empirical analyses such that researchers' arguments focus on specific attributes of performance and the same attributes are assessed separately as distinct variables in empirical work.

Factor analysis revealed two performance-related factors. One factor was highly influenced by growth in assets, revenue and profits while the second factor was heavily influenced by customer complaints as well as their level of satisfaction. No single factor was extracted, as it relates to performance. This gives credence to the findings by Miller, Washburn and Glick (2013).

To further explore performance as a complex latent construct that cannot be measured directly (Tarute & Gatautis, 2014), the separate constructs approach was adopted such that SME performance was operationalised as a combination of growth and customer satisfaction. Growth includes market share growth, revenues growth and asset growth and it was used to measure performance from a shareholder perspective. To determine the effect of digital banking adoption on growth, the following sub-hypothesis was tested:

Hypothesis 3 a: Digital banking adoption has a strong, positive relationship with SME growth

The first factor extracted in factor analysis was correlated to growth. Based on correlation analysis, it was concluded that there is no significant relationship between digital banking adoption and growth. No evidence was found in support of Hypothesis 3a, although the growth factor (an aspect of performance) was highly correlated to customer satisfaction (the second aspect of performance). This strong correlation between the two performance-related factors served to affirm the separate constructs approach. Further, it was uncovered that there is a strong and positive relationship between performance and growth and there was also a strong and positive relationship between performance and customer satisfaction. Both correlations support the notion that performance is a composite latent construct with growth and customer satisfaction as its dimensions.

The customer satisfaction element of performance was investigated by testing the following sub – hypothesis:

Hypothesis 3b: Digital banking adoption has a strong positive influence on SME customers' satisfaction

Contrary to expectations, no evidence was found in support of a significant relationship between digital banking adoption and SME performance from the perspective of customers. SME digital banking adoption cannot be used to predict SME customers' satisfaction as there is no significant relationship between the two variables. Hypothesis 3b was rejected.Technology use enhances services quality which, in turn, has a positive impact on business performance (Aliyu & Tasmin, 2012; Abratt & Russell, 1999). And so, it was expected that SMEs that use digital banking are better able to service their customers. Service quality is a precedent of customer satisfaction.

Digital banking was expected to contribute to performance in the following ways:

1. It enables SME owner-managers to do their banking without having to go to the branch. This should increase the SME's capacity to create value as owner-managers would have more time to devote to business development as well as driving efficiency in operations. The ability to do banking without going to a branch was expected to support SMEs in cutting costs and improving efficiency.

2. SME owner-managers have better access to information pertaining to the performance of their business. Information such as receivables, payments made to suppliers and account balances can assist SMEs in optimising their cash conversion cycle, which supports improvement in business performance. Moreover, digital banking can support SME owner-managers in becoming investment ready as it makes available financial information that would be required when making a decision to invest or lend money to that business, managing their business finances as well as assisting them to become investment-ready, thus enabling them to secure business financing.

3. By enabling regular interactions, digital banking should support entrepreneurs in applying for funding as many banks now offer the ability to apply for accounts online, including loans. This capability lowers the barrier to entry for funding as the effort involved in applying for a loan is reduced.

Based on the above, digital banking adoption was expected to have a significant positive effect on the satisfaction of SME's customers. However, no evidence was found to substantiate this claim. Based on the results, it was concluded that digital banking adoption does not lead to an improvement in performance. This finding is in contrast with the expectation that technology use would have a positive impact on business performance.

The departure of the findings from expectations raises a number of questions:

- Was digital banking adoption measured accurately within this study? Although existing scales were used and the digital banking adoption sub-scale showed good reliability (α = .804), it must be ascertained that variables used accurately measure the digital banking adoption construct.

- What features within digital banking do SME owner-managers use? Are there features within digital banking that have an influence on business performance? Digital banking platforms vary across banks and the features used by SMEs may differ. Estrella-Ramon, Sanchez-Perez, and Swinnen, (2016) and Durkin (2007) argued that the nature of the product or service affects digital banking adoption – products that require more frequent interactions are better suited for on-line use whereas products that are more complex in nature require support from bank staff. With this context, measuring the adoption of digital banking as a whole may be inappropriate – adoption many need to be assessed differently to determine if there are certain features that influence SME performance when adopted.

- Do SME owner managers have the capacity to leverage the information available on digital banking in order to drive improvements in business performance? Nemaezhe (2010) found that a significant proportion of business owners have limited experience in financial management. Seed Academy (2017) notes that poor financial management is a challenge for business owners in South Africa. In their Australian study, Halabi, Barret, and Dyt (2010) found that SME owner managers may not have an accurate view of the financial performance of their business as they tended to use cash in the bank as an indicator of performance, limiting the use of other financial information for tax purposes only. Are South African SMEs using all the information available to them on digital banking to draw conclusions about the performance of their businesses? In instances where this is being done, are they taking proactive and corrective actions based on the insights available to them? This may be a subject for future studies as a better understanding of owner-manager behaviours and limitations will enable bank managers to improve their offerings to better support SMEs.

5.8 Conclusion

The purpose of this study was to establish the effect of digital banking adoption on the SME-bank relationship by evaluating its influence on customer satisfaction, loyalty and SME performance. To establish the extent of digital banking adoption, digital banking adoption intent was measured alongside digital banking use and the associated frequency. It was found that 98% of respondents that participated in this study had formed the behavioural intent to adopt digital banking with 94% actively using it.

Based on this result, it can be concluded that South African SMEs have adopted digital banking to a large extent. In their 2016 Sitesfaction survey, Columinate (2016) found that only 9% of the South African population make use of digital banking. In an earlier study, Finscope (2010) had found internet banking penetration to be 13% and Cellphone Banking penetration to be 31% in South Africa. Although both studies did not specifically enumerate the level of digital banking adoption by SMEs, they provide an indication of the adoption level as owner-managers who have access to infrastructure for their personal use make use of those resources to advance their businesses.

The findings of this study are incongruent with previous findings. This may be due to the sampling method being biased towards SME owner-managers that had the necessary infrastructure to access digital banking.Hence, it is doubtful that the level of digital banking adoption attributed to SMEs in this study is generalisable to different contexts such as rural areas or the informal sector where SME owner-managers may not have access to the infrastructure required to make use of digital banking.

Digital banking promises mutual benefit for SMEs and their banks by improving efficiencies and providing greater convenience for SMEs whilst reducing costs and improving service quality for banks. The benefits that can be delivered through digital banking are expected to result in more profitable banks and more satisfied SME customers. Satisfaction has been shown to be pertinent to the maintenance of mutually beneficial long-term relationships between SMEs and their banks (British Academy of Management, 2015). Survey results indicated that 82.5% of participants were satisfied with the service that their bank provides even though 24% of those respondents felt that the bank does not meet their expectations. Customer satisfaction conceptualises satisfaction as an evaluating judgement of how well a product or service meets expectations (Cardozo, 1965; Oliver & DeSarbo, 1988). Thus, a result that shows the existence of satisfaction even when expectations are not met, raises

questions about what drives satisfaction. What other factors are contributing to SME satisfaction?

No evidence was found in support of a hypothesised positive relationship between digital banking adoption and satisfaction. This finding gives plausibility to previous research that found that although the use of technology can improve service quality which is known to have a positive impact on satisfaction (Kakeeto-Aelen et al., 2014), customer resistance to technology can reduce overall levels of satisfaction (Makarem, Mudambi, & Podoshen, 2009).

The results of this study corroborated findings from previous research as it was found that satisfaction has a positive impact on loyalty (Picon, Castro, & Roldan, 2014; Shanka, 2012;Bloemer, de Ruyter, & Peeters, 1998). This finding is a significant one for banks as it confirms that to drive customer loyalty and retention, they must ensure their SME customer base is satisfied. This research did not delve deeper into understanding other factors that drive SME satisfaction in the context of service encounters that involve both technology and human interaction. This may be a subject for future research.

It was also found that there is no significant relationship between digital banking adoption and loyalty. In the case of SMEs, evidence indicates that the use of digital banking does not breed loyalty. South African banks are making significant investments in their digital channels in an effort to drive customer loyalty and retention (FirstRand, 2017; Barclays Africa, 2016; Standard Bank Group, 2016). However, based on this result, it is doubtful whether banks' investments in digital banking are yielding the intended returns in customer loyalty and retention.

Analysis of the results revealed that there is no significant correlation between digital banking adoption and performance. Interestingly, performance did not emerge as a distinct factor in the factor analysis. Scholars who adopt the separate constructs approach to performance measurement argue that instead of an overall construct known as firm performance, there are different types of performance, which are loosely related (Santos & Brito, 2012).The findings in this study uphold the perspective of Miller, Washburn, and Glick (2013), who asserted that performance as a latent construct does not exist.

Instead of performance, growth and customer satisfaction emerged in the factor analysis as types of performance that could be used to evaluate how well the business is delivering on its objectives, as set by different stakeholders. Growth encapsulates improvement in assets, sales revenues and profits. Customer satisfaction encompasses complaints as well as the

levels of satisfaction of customers who do business with the SME. No evidence was found to support the hypothesis that digital banking adoption has a positive influence on SME growth nor was evidence found to validate the claim that digital banking adoption has a positive influence on the satisfaction levels of the customers who do business with the SME.

The ability to do banking without going to a branch was expected to support SMEs in cutting costs and improving efficiency. However, the poor correlation between digital banking adoption and growth does not support this. This raised questions about the suitability of the measures of digital banking adoption as a means to answer the research questions. Measuring the adoption of digital banking as a whole may be inappropriate - adoption many need to be assessed differently to determine if there are certain features within digital banking that influence SME performance when they are adopted.

Lastly, as digital banking provides SMEs with access to information that could support their financial management as well as monitoring other aspects of business performance, the poor correlation between digital banking adoption and performance raised questions about SME owner-managers' capacity to leverage the information available on digital banking in order to drive improvements in business performance. Previous studies established that business owners are challenged by limited experience and competence in financial management (Seed Academy, 2017; Nemaezhe, 2010; Halabi, Barret, & Dyt, 2010). It is not clear if South African SMEs are fully utilising all the information available to them on digital banking to make decisions and take actions to optimise business performance. This may be a subject for future studies as a better understanding of owner-manager behaviours and limitations will enable bank managers to improve their offerings to better support SMEs.

CHAPTER 6: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

The purpose of this chapter is to draw conclusions and make inferences from the data collected in the study. The discussion focus on the implication of these conclusions for banks as well as their SME customers. Recommendations are made based on these implications and suggestions for future research, aimed at researchers interested in this field of study.

6.2 Conclusions of the study

The purpose of this study was to establish the effect of digital banking adoption on the SME-bank relationship by evaluating its influence on customer satisfaction, loyalty and SME performance. The extent of digital banking adoption was established to be high as 98% of respondents had formed the behavioural intention to adopt digital banking with 94% actively making use of it on daily, weekly and monthly basis. However, the findings of this study are incongruent with previous findings which estimated digital banking adoption to be 28% and 31% respectively. This may be due to the use of a convenience sampling method that was biased towards entrepreneurs who have access to the infrastructure that is necessary for accessing digital banking. Hence, it is doubtful that the level of digital banking adoption attributed to SMEs in this study is generalisable to different contexts such as rural areas or the informal sector where SME owner-managers may not have access to the infrastructure required to make use of digital banking.

Digital banking promises mutual benefit for SMEs and their banks by improving efficiencies and providing greater convenience for SMEs whilst reducing costs and improving service quality for banks. The benefits that can be delivered through digital banking are expected to result in more profitable banks and more satisfied SME customers. Satisfaction has been shown to be pertinent to the maintenance of mutually beneficial long-term relationships between SMEs and their banks (British Academy of Management, 2015). Survey results indicated that there is no significant relationship between digital banking adoption and satisfaction – the use of digital banking does not lead to an improvement in satisfaction. Yet, those SMEs are largely satisfied (85%) even when banks do not meet their expectations. Previous studies found that although the use of technology can improve service quality

which is known to have a positive impact on satisfaction (Kakeeto-Aelen et al., 2014), customer resistance to technology can reduce overall levels of satisfaction (Makarem, Mudambi, & Podoshen, 2009). The findings of this study highlight that the drivers of SME satisfaction for digital services are not well understood.

There was no evidence of a significant relationship between digital banking adoption and loyalty. In the case of SMEs, evidence indicates that the use of digital banking does not breed loyalty. South African banks are making significant investments in their digital channels in an effort to drive customer loyalty and retention (FirstRand, 2017; Barclays Africa, 2016; Standard Bank Group, 2016). However, based on the results of this study, it is doubtful whether banks investments in digital banking are yielding the intended returns in customer loyalty and retention.

There is no significant relationship between digital banking adoption and performance. Failure to extract overall performance as a factor during factor analysis in this study gave credence to the perspective of Miller, Washburn, and Glick (2013), who, in a previous study, concluded that performance as a latent construct does not exist. Instead of performance, growth and customer satisfaction emerged as types of performance that could be used to evaluate how well the business is delivering on its objectives, as set by shareholders and customers, respectively. No evidence was found to support the hypothesis that digital banking adoption has a positive influence on SME growth nor was evidence found to validate the claim that digital banking adoption has a positive influence on the satisfaction levels of the customers who do business with the SME.

It can therefore be concluded that digital banking adoption does not lead to more satisfied SMEs, nor does it yield increased loyalty towards banks. However, a focus on improving satisfaction does give rise to more loyal customers. Moreover, digital banking adoption does not lead to improvements in SME performance, as signified by growth or customer satisfaction. Evidence suggests that banks are continuing to make significant investments in their digital channels. However, this does not necessarily result in more loyal or satisfied SME customers. Further, SMEs are encouraged to make use of digital banking with the expectation that this will improve their performance, but this is not the case. Consequently, no evidence was found to show that digital banking adoption makes a significant contribution towards the maintenance of a long-term symbiotic relationship between SMEs and their banks.

This study has contributed to the body of knowledge by quantifying the level of digital banking adoption by SMEs in South Africa, where no other studies of this nature have been

done. Furthermore, this study has proven that there is no significance to the relationships between digital banking adoption, satisfaction and loyalty albeit that this has been an area of focus for bank managers and practitioners in the financial services industry. Lastly, this study has forced bank managers to reconsider their assumptions about the returns they can expect on the investments made on their digital banking Channels.

6.3 Implications and Recommendations

The extent of digital banking adoption by South African SMEs was established to be high (94%) in instances where SMEs have access to the required technology infrastructure. For banks, this implies that when technology infrastructure is in place, SMEs are willing to adopt digital banking. As digital banking is purported to improve service quality and reduces the bank's cost of service, it may be practical for banks to focus on providing the enabling technology infrastructure in geographically dispersed areas where the cost of servicing SME clients is high.

As policy makers seek to drive growth in small businesses as a means to alleviate poverty, initiatives have been put in place to enable SMEs to access supporting services from wherever they operate. Digital banking enables entrepreneurs to access information and funding more easily. However, enabling entrepreneurial access to digital financial services has not been a priority for policy makers. It is recommended that banks partner with the government to avail infrastructure to SMEs who would otherwise not have access to digital financial services.

Drivers of SME satisfaction for service encounters involving both technology and the human touch are not well understood. This is especially true of digital banking. Yet it is known that even in digital service encounters, satisfaction drives customer loyalty. To make significant progress on their objectives of customer retention whilst embracing digital service strategies, banks must invest time and effort in understanding the factors that drive satisfaction in this context and prioritise the implementation of initiatives that will improve satisfaction for those customers who make use of digital banking.

Evidence suggests that SMEs are not deriving benefit, in the form of improvements in business performance, when they use digital banking. If banks are not able to demonstrate tangible benefit to SMEs for adopting digital banking, they run the risk of not realising the expected returns on the investments made in developing their digital banking channels. It is recommended that banks undertake to study their SME customers in some detail in order

to understand their capabilities when it comes to financial management. Banks must also invest in understanding current practices that SMEs employ to manage performance in their business.

Lastly, banks must ensure that all staff involved in developing digital financial services for SMEs have a sound understanding of financial management principles. By understanding the best practices in financial management together with entrepreneurs' behaviours and limitations, banks will be able to design more appropriate offerings to guide and support SMEs in managing their business finances, thus, providing an incentive for SMEs to continue using digital banking.

6.4 Suggestions for further research

A non-probability convenience sampling method was applied in this study. To improve the generalisability of the findings, it is recommended that a future study is conducted using a probability sampling method that includes all types of SME owner-managers, including those that may not have the infrastructure required to access digital banking. In addition, it is recommended that a larger sample size is used to ensure the validity of the findings.

Digital banking adoption was evaluated using behavioural intention, actual use as well as frequency of use. Behavioural intention did not converge with actual use and frequency of use. Although existing scales were used to measure digital banking adoption and reliability analysis indicated high reliability, it is still not clear whether the measures of adoption were adequate and accurate. It is recommended that research is conducted to develop a robust scale that measures technology adoption, taking into account various facets of adoption, including behavioural intention, use, frequency of use, as well as the extent of utilisation (i.e. functions used).

Results on the impact of digital banking adoption raised question about whether SME owner-managers have the capacity to leverage digital banking to optimise business performance. Based on previous findings indicating that entrepreneurs are challenged by limited experience with financial management, it is not clear whether South African SMEs are fully utilising the information and features available to them on digital banking to make decisions and take actions to optimise business performance. It is also not known whether some features make a more significant contribution to financial management such that the adoption of those features would have a stronger influence on business performance. It is proposed that future research interrogates the features that entrepreneurs actually use

within digital banking, how the use of these features fits within their management practices, as well as the effect that each individual feature has on the SME business performance.

The findings on satisfaction highlighted that the drivers of satisfaction in service encounters that involve a combination of technology and human interaction are not well understood. Further research needs to be done to determine combinations that optimise satisfaction in such a context. This research must take into account the variety in the nature of interactions (enquiries, transaction, new product purchase) as well as the complexity of the product (simple products versus complex products).

Lastly, this research did not evaluate the impact of digital banking adoption on bank performance or profitability. As banks are investing in digital banking channels with the intention to improve service quality and reduce the cost of service, it is imperative that the financial performance of banks is interrogated to determine if banks are realising a return on investments made.

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APPENDIX A : EMAIL INVITATION



Dear Belinda

- Do you do your business banking online?

- Is Digital Banking supporting you in achieving your business goals?

I am keen to hear your views!

I have observed that many South African banks are encouraging business owners, such as yourself, to do your banking online. I would like to understand if using online banking is helping YOUR business to perform better.

I am a student at the Wits Business School, studying towards a Masters in Entrepreneurship and New Venture Creation. As part of my studies, I am conducting academic research in order **to understand whether Digital Banking is supporting you in achieving your business goals**. As part of this research I would also like to establish if the use of online banking contributes towards an improved relationship between you, as a business owner, and your bank.

Belinda, your views are important!

Share your perspective by clicking on the link below - It will take approx. 7 minutes and you can easily complete the survey on your cellphone if you are away from your computer.

Take the Survey

This is an anonymous survey - no personal information that can directly identify you or your business will be recorded.

Once the research has been completed, you are welcome to contact me at 1664852@students.wits.ac.za and the results will be made available to you.

Thank you for your participation!

Regards,

Belinda

APPENDIX B : POSTER INVITING PARTICIPATION



Dear Entrepreneur.

Is your bank helping you achieve your business goals?

Do you do your banking online?

Does online banking adequately support entrepreneurs?

Please use the QR code to share your thoughts

Your participation in this research will be much appreciated!!!

APPENDIX C: SOCIAL MEDIA INVITATION

Dear Shaun.

I would like to invite you to share your opinion ...

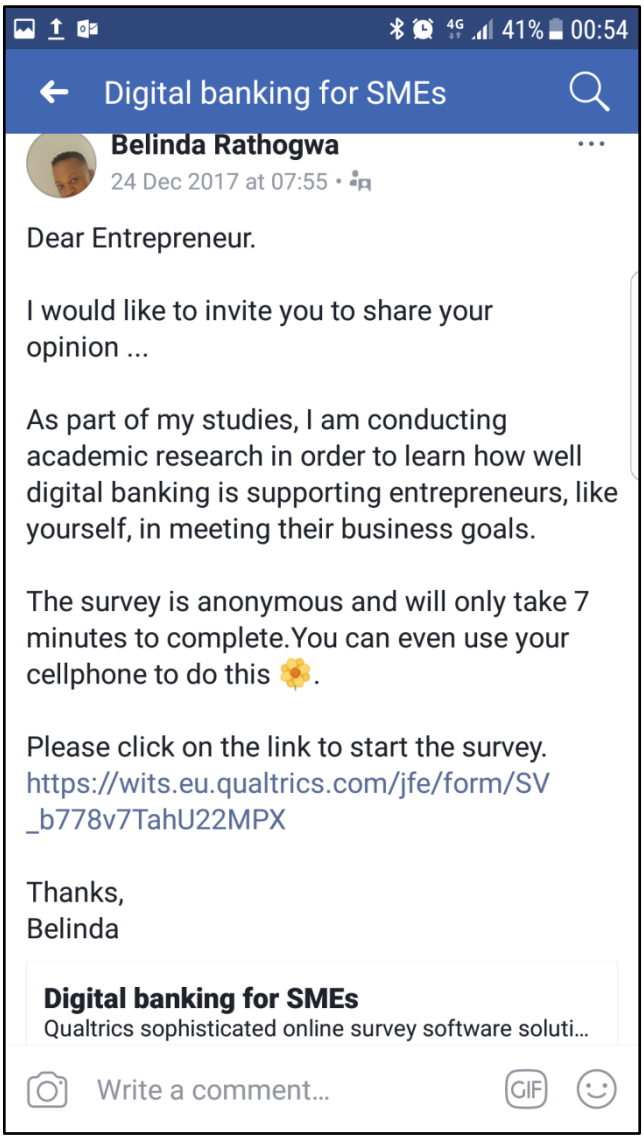
As part of my studies, I am conducting academic research in order to learn how well digital banking is supporting entrepreneurs, like yourself, in meeting their business goals.

The survey is anonymous and will only take 7 minutes to complete.You can even use your cellphone to do this 🌼.

Please click on the link to start the survey.
https://wits.eu.qualtrics.com/jfe/form/SV_b778v7TahU22MPX

Thanks,
Belinda

16:51



APPENDIX D: ACTUAL RESEARCH INSTRUMENT

Dear Sir/Madam.

- Do you do your banking online?
- Is Digital Banking supporting you in achieving your business goals?
- Are you thinking of moving your business account to another bank?

I would really appreciate your views on this matter.

Please participate in the survey - It will take approx. 13 minutes.

Your responses will be kept STRICTLY confidential

If you have any questions, please feel free to contact me.

Regards,

Belinda Rathogwa

Section 1: Please tell us about yourself ....

Q1 Please indicate your age (years)

- 18-35
- 36-45
- 46-55
- 56+

Q2 Please indicate your gender

- Male
- Female
- Other

Q3 What is your highest level of education?

- No schooling
- Primary School
- Secondary school
- Undergraduate degree/diploma
- Postgraduate Degree/Diploma
- Other

Q4 Which option best represents your position in the business?

- Owner
- Manager
- Financial Manager
- Owner/Manager
- Other

Section 2: Tell us more about your business...

Q5 Which sector does your business mainly operate in?

- Agriculture, Forestry, Fishing
- Mining & Quarrying
- Manufacturing
- Construction
- Wholesale, Retail, Hotels, Restaurants, Motor Vehicles, Personal and Household good
- Electricity, Gas and Water Supply
- Transport , Storage, Communications
- Financial , Real estate and Business Services
- Community, social & personal services
- Other

Q6 How many years has your business operated in this sector?

- Less than 1 year
- 1-3 years
- 3-5 Year
- 5-10 years
- 10+ years

Q7 How many people does your business employ full time?

- Less than 10
- 11-49
- 50 - 99
- 100 - 200
- 200+

Q8 What is your business' estimated annual turnover?

- Less than R5m
- R5m - R10m
- R10m - 20m
- R20m - R40m
- R40+

Q41 Which province does your business operate in?

- Gauteng
- KZN
- Western Cape
- Eastern Cape
- Limpopo
- Mpumalanga
- North-West
- Free State
- Northern Cape
- More than 1 province

Section 3: Please tell us about your banking relationship.

Kindly note that all questions from here on pertain to your Business, NOT your personal banking.

Q9 How long have you had your business account with your bank? If you use more than one bank, please answer in relation to your main bank.

- Less than 1 year
- 1-3 years
- 3-5 years
- 5-10 years
- 10 Years +

Q10 Have you registered your business for online banking (Through your computer or mobile phone)?

- Definitely yes
- Probably yes
- Maybe yes
- Not sure
- Maybe not
- Probably not
- Definitely not

Q11 Do you use online banking for your business?

- Definitely yes
- Probably yes

- Maybe yes
- Not sure
- Maybe not
- Probably not
- Definitely not

Q12 How often do you use online banking for your business?

- Daily
- Weekly
- Monthly
- Quarterly
- Twice a year
- Once a year
- Never

Q13 Do you plan to use online banking for your business, in future?

- Definitely yes
- Probably yes
- Maybe yes
- Not sure
- Maybe not
- Probably not
- Definitely not

Q14 I recommend use of online banking among peers and relatives

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Section 4: Tell us about how your business performed in the last year, when compared to others in the same sector...

Q15 How did your business perform financially, compared to your competitors?

Please select a rating for each aspect (Far above average ……Far below average):

- Market Share
- Assets (Including equipment, vehicles & property)
- Net revenue
- Number of employees

Q16 Did you receive more or less customer complaints than your competitors?

- Much Less
- Moderately less
- Slightly less
- About the same
- Slightly more

- Moderately more
- Much more

Q17 Overall, how satisfied are your customers compared to those who deal with your competitors?

- Much more satisfied
- Moderately more satisfied
- Slightly more satisfied
- About the same
- Slightly less satisfied
- Moderately less satisfied
- Much less satisfied

Q18 My business launched more NEW products/ services that competitors, in the last year

- Strongly Agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat agree
- Disagree
- Strongly Disagree

Section 5: Please select a rating for each of the following aspects in relation to your bank....

Q19 Overall, I am satisfied with my bank and the service they provide

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q20 My feelings towards my bank are very negative

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q21 I feel good about approaching my bank for services that my business needs

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree

- Strongly disagree

Q22 My bank is the ideal bank for my business

- It is ideal
- Extremely close to the ideal
- Very close to the ideal
- Maybe / Maybe not ideal
- Not quite ideal
- Far from ideal
- Not Ideal

Q23 My bank produces the best results that can be achieved for my business

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q24 The extent to which my bank has produced the best possible outcome for my business is satisfying

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q25 My bank does NOT meet my expectations

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q26 I consider my bank the first choice when I need financial services for my business

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q27 Compared to my bank, there are few alternatives with whom I would be satisfied

- Strongly agree

- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q28 I DO NOT say positive things about my bank to other people

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Section 6: Please select a rating for each item in the following section...

Q29 I will use services offered by my bank in the next 6 months

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

Q30 I intend to use my bank for other services that my business may need in future

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q31 The probability that I will use services offered by my bank during the coming 6 months is

- Very high
- High
- Somewhat high
- Neither high or low
- Somewhat low
- Low
- Very Low

Q32 It is likely that I will switch my business account to another bank

- Extremely likely
- Moderately likely
- Slightly likely

- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

Q33 I might move my business account to another bank

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q34 There is a low probability that I will change my bank

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q35 I prefer my bank over other banks

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q36 I would rank my bank as number 1 amongst other banks

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q37 Very few banks can satisfy my business needs in the way that my bank does

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q38 It is likely that I am going to use services offered by my bank in the next 6 months

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

Q39 I encourage other business owners to use my bank

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q40 I will use my bank for the next few years

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

APPENDIX C: SURVEY INSTRUMENT SOURCES

Table 30: Variables, Dimensions, Items and Sources

Variable	Dimension	Items	Sources
Digital banking adoption	adoption	• I plan to use digital banking, for my business, in future • I use digital banking for my business • How often do you use digital banking	(Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017)
loyalty	Repurchase intention	• I will probably use my bank gain **(Strongly Agree… Strongly Disagree)** • I intend to repurchase services from my bank again in future **(Strongly Agree…Strongly Disagree)** • It is possible that I will use my bank in the future **(Strongly Agree…Strongly Disagree)**	(Jones & Taylor, 2007)
	Repatronage intention	• I will use services offered by my bank in the next 6 months **(Very Likely … Very Unlikely)** • The probability that I will use services offered by my bank during the coming 6 months is **(High…Low))** • It is likely that I am going to use services offered by my bank in the next 6 months **(Strongly agree – Strongly disagree)**	(Soderlund, 2006)
	Switching intention	Rate the probability that you would switch to another bank: • **(Very Likely …Very Unlikely)** • **(Improbable…Probable)** • **(No chance …Certain)**	(Jones & Taylor, 2007)
	Strength of preference	• I prefer my bank to other banks **(Strongly Agree… Strongly Disagree)** • I would rank my bank as number 1 amongst other banks **(Strongly Agree… Strongly Disagree)** • Compared to my bank, there are few alternatives with whom I would be satisfied **(Strongly Agree… Strongly Disagree)**	(Jones & Taylor, 2007)

	Behavioural loyalty intentions	• I say positive things about my bank to other people **(Strongly Agree… Strongly Disagree)** • I recommend my bank to others **(Strongly Agree… Strongly Disagree)** • I encourage other business owners to use my bank **(Strongly Agree… Strongly Disagree)** • I consider my bank the first choice when I need financial services for my business **(Strongly Agree… Strongly Disagree)** • I will use my bank for the next few years **(Strongly Agree… Strongly Disagree)**	(Klaus & Maklan, 2012)
Customer satisfaction	satisfaction	• My feelings towards my bank are very positive **(Strongly Agree… Strongly Disagree)** • I feel good about approaching my bank for services that my business needs (**Strongly Agree… Strongly Disagree)** • Overall, I am satisfied with my bank and the service they provide **(Strongly Agree… Strongly Disagree)** • I feel that my bank produces the best results that can be achieved for my business **(Strongly Agree… Strongly Disagree)** • The extent to which my bank has produced the best possible outcome for my business is satisfying **(Strongly Agree… Strongly Disagree)**	(Klaus & Maklan, 2012)
	satisfaction	Think about your accumulated experience with your bank over the past 6 months: • How satisfied are you with your bank? **(Strongly Agree… Strongly Disagree)** • To what extent does it meet your expectations? **(Strongly Agree… Strongly Disagree)** Imagine a bank that is perfect in every aspect. • How near or far from this ideal is your bank?**(It is ideal …Not ideal)**	(Soderlund, 2006)
performance	Growth	How did your business perform financially, compared to your competitors? Please select a rating for each aspect: • Market Share **(Far above average – far below average)** • Assets **(Far above average – far below average)** • Net revenue **(Far above average – far below average)**	(Santos & Brito, 2012)
	Customer satisfaction	• Did you receive more or less customer complaints than your competitors? **(Much less…Much more)** • Overall, how satisfied are your customers compared to those who deal with your competitors?**(Much more satisfied…Much less satisfied)** • My business launched more NEW products/ services that competitors, in the last year • **(Strongly Agree….Strongly Disagree)**	(Santos & Brito, 2012)

APPENDIX D: CONSISTENCY MATRIX

Table 31 : Consistency Matrix

- Establish if digital banking adoption has an influence on SME satisfaction
- Determine the influence of digital banking adoption on SME loyalty towards banks.
- Establish if adoption of digital banking has an influence on SME performance (Growth; Customers satisfaction)

Sub-Problem	Literature review	Research questions	Hypothesis	Relevant question on instrument	Type of data	Analysis
Sub problem 1: South African Banks are investing in their digital banking channels with the objective improving service quality to their SME customers, whilst lowering the cost of servicing those customers. However, it is not clear whether digital banking adoption brings about improvement in SME satisfaction.	(Kumar et al., 2017) (Columinate, 2016) (Moghavvemi, Salleh, & Standing, 2016) (Estrella -Ramon, Sanchez-Perez, & Swinnen, 2016)(Madukua, Mpiranjingab, & Duhc, 2016) (Business Centric Services Group, 2015) (SME Survey, 2015) (British Academy of Management, 2015) (Railiene, 2014) (McKinsey & Company, 2013) (Kyobe, 2011) (Finscope, 2010) (Chong et al., 2010) (Ozkan, Bindusara, & Hackney, 2010) (Silver & Vegholm, 2009) (Xu, Shao, Lin, & Shi, 2009) (Dube, Chitura, & Runyuwa, 2008)	**Sub-question 1:** Are those SMEs who have adopted digital banking more satisfied with their banks?	**Hypothesis 1a:** Digital banking adoption has a positive influence on SME satisfaction **Hypothesis 1b:** SME Satisfaction has a positive influence on SME loyalty towards banks.	Q10-14 Q19 - 25 Q19 – 25 Q26-40	Ordinal/ Continuous	• Factor Analysis • Reliability Analysis • Correlation Analysis • Regression Analysis

	(Durkin , 2007)(Binks, Ennew, & Mowlah, 2006) (Singh, 2004) (Cloete, 2003) (Ibbotson & Moran, 2003) (Howcroft, Hewer, & Durkin, 2003) (Gidhagen & Thunman, 1999) (Chaston & Baker, 1998)					
Sub problem 2: It is not clear whether the banks' investment in digital banking channels is contributing to their objective of increased customer loyalty and retention. The effects of digital banking adoption on SME loyalty have not been tested.	(Kumar, Srikrishna, Govindaluri, Muharrami, & Tarhini, 2017) (Baker & Voorhees, 2014) (Bloemer, De (Durkin, McGowan, & Babb, 2013) (Aksoy, 2013) (Shanka, 2012) (Gall & Olson, 2012) (Soderlund, 2006) (Burke & Jaratt, 2004) Ruyter, & Wetzels, 1999) (Ennew & Binks, 1996)	**Sub-question 2:** Are SMEs who use digital banking more loyal to their banks?	**Hypothesis 2:** Digital banking adoption has a positive influence on SME loyalty towards banks.	Q26 - 40	Ordinal / Continuous	
Sub problem 3: SMEs are encouraged to adopt digital banking as it is expected to improve their efficiency.	(Katsikeas, Morgan, Leonidou, & Hult, 2016) (Wimble & Singh, 2015) (Steigenberger, 2014)(Tarute & Gatautis, 2014)	**Sub-question 3:** Does performance improve when SMEs adopt digital banking?	**Hypothesis 3:**Digital banking adoption has a strong positive influence on SME performance	Q15 - 18	Ordinal / Continuous	

However, the effects of digital banking adoption on SME performance have not been proven	(Miller, Washburn, & Glick, 2013) (Santos & Brito, 2012) (Kaplan & Norton, 2005)		**Hypothesis 3a:** Digital banking adoption has a strong positive influence on SME growth **Hypothesis 3b:** Digital banking adoption has a strong positive influence on customer satisfaction	Q15 Q16- 18		