



The Graduate School of Business Administration

Faculty of Commerce, Law and Management

**Factors Influencing Digital Banking Adoption: An Empirical Study in South Africa**

**A research study submitted in the Faculty of Commerce, Law and Management, University of the Witwatersrand for the degree of Master of Management in Strategic Marketing**

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## **ABSTRACT**

### Purpose

Various factors influence banking customers to adopt digital banking, also known as online banking or e-banking. This study sought to determine which factors influence continuous intention to use online banking among individuals over the age of 45 in South Africa

### Design/methodology

The study employed a quantitative approach. A convenience sampling method was used from a total of 256 participants who reside in South Africa. The participants were aged between 45 and 65 years, who had used online banking within the past 6 months completed an online questionnaire. The data was analysed using SPSS 28 and Structural Equation Modelling AMOS 28.

### Findings

All the hypotheses were significant, with perceived ease of use, perceived usefulness and convenience having the strongest relationship on continuous intention to use online banking. This is an interesting finding amongst the 45 – 55 year old generational cohort, showing that technology and convenience play a major role in this age segment.

### Practical Implications

The findings show that favourable banking conditions need to be in place, especially for Generation X (45-55 years) customers, who were the majority of participants. The findings could better assist marketing managers in the banking industry with developing strategies for this generational cohort.

### Originality/value

The findings of the current study add value to the body of knowledge on online banking usage amongst the elderly population, especially because it involves online consumer behaviour.

### **Keywords**

Digital banking, Generation X, baby boomers; convenience, banking, online consumer behaviour.

## DECLARATION

I, Shaun Amukelani Bvuma (0608172a), 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 Strategic Marketing at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other University.

Name and surname: Shaun Amukelani Bvuma

▪

Signed at Centurion, Gauteng

On the 22<sup>nd</sup> day of December 2023.

## **DEDICATION**

This report is dedicated to my grandfather George Mashangu Bvuma who's teachings, stern words and guidance has made me the man I am today – and to my two late grandmothers Mthavini Johanna Chauke and Mujaji Lillian Bvuma who both showered me with love and nurturing throughout my childhood until their departures. May both your precious souls continue to rest in eternal peace.

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Special gratitude goes out to my line manager Victor Bosman and the Absa Life Executive Committee who presented me the opportunity to further my studies. By doing so you have ensured that **“My story matters”**

Special shout out to my Wits MMSM colleague Len Sello for your awesome energy and positive vibes. You are a star in the making.

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# CHAPTER 1: OVERVIEW OF THE STUDY

## 1.1 Introduction

The chapter takes a glance at the banking industry in South Africa, focusing on the sub-sections which break-down the main problems which the study is seeking to address, such as the background of the study, its context, and problem statement which will all help answer the question on the factors which influence consumers to adopt digital banking.

## 1.2 Background of Study

In a rapidly growing economy, where technological advances and innovation are fundamental towards an organisation's pursuit of achieving sustainable competitive advantage, the concept of digital banking and consumers' adoption of digitisation are key focus areas which will assist banks in achieving this objective. Technology has revolutionised the way the modern-day consumer transacts in the economy and obtains services from services providers. Coetzee (2018), attested this due to an exponential rate going into the fourth industrial revolution. Furthermore it has been noted that with the rise of globalisation, banks have been forced to make use of new and various channels in order to gain competitive advantage (Koenait, Chuchu & Venter de Villiers, 2019) In addition, Koenait et al. (2018), are of the view that banks have been under significant pressure to reduce their costs and increase their financial positions through the development of innovative products and services. This has resulted in the banks adopting a multi-channel distribution approach giving the banks an overview of their customers ability to access banking services from across the region.

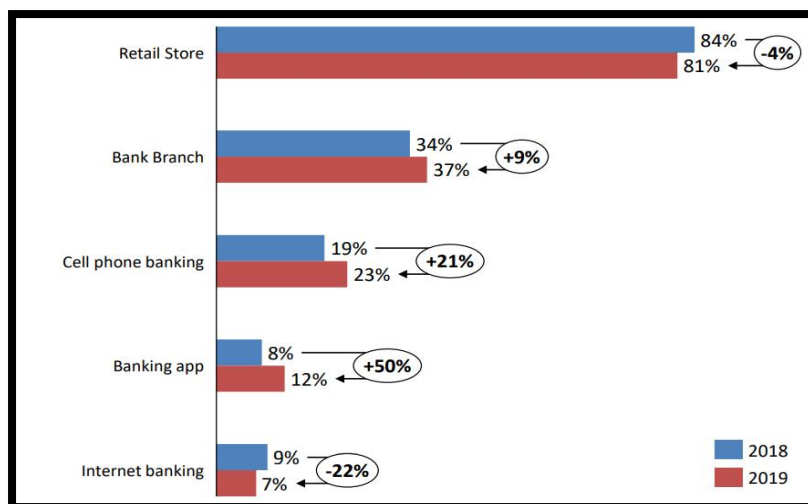
South Africa comprises of five commercial banks; namely, Amalgamated Banks of South Africa (ABSA), First National Bank (FNB), Nedbank, Standard Bank and Investec. The first four are the traditional big banks, with a vast majority of consumers having a primary bank account with one of these banks. Investec is the smallest of the five in terms of assets; however, Investec has retained its position as the country's best-performing lender due to its high scores for operational efficiency, asset quality and liquidity (Business Tech, 2022). Capitec Bank and African Bank rank in sixth and

seventh places, respectively, and this can be attributed mainly to their target market and the various banking products which they have to offer.

The way in which banks operate has changed dramatically over the last few years, with advancements in technology and the ever-changing consumer preferences being the main drivers. According to Masocha *et al.*, (2020) technology has been integrated into banking product and services offerings for the better part of the last three decades through the use of Artificial Intelligence (AI), biometrics and robotics, to name a few.

An outlook study conducted by the Financial Sector Conduct Authority (FSCA) in 2021 established that there has been an increase in the adoption of digital channels by consumers in South Africa (FSCA, 2021). The findings from the study are illustrated in Figure 1.1, and are as follows:

- The proportion of individuals that used a banking app and cell phone banking increased by 4% points between 2018 and 2019.
- Retail stores have become increasingly popular as a distribution channel for simple transactions, with Tyme Bank partnering with Pick 'n Pay and the Checkers Money Markey product, as examples.
- Individuals that used the retail stores to perform transactions between 2018 and 2019 increased 4%.
- Consequently, banks have been reducing the number of physical facilities available for transactions.
- The aggregate number of bank branches owned by the 5 largest banks decreased by 56 branches in 2020, from 3 204 branches in 2019.
- The number of ATMs available decreased in 2020.



*Figure 1.1 The proportion of the banked population that used a banking channel to make transactions (FinScope survey, 2019)*

The lockdown measures placed around the globe in 2020 further accelerated the rate at which consumers adopted the utilisation of and reliance on technology, especially in relation to their daily banking needs, leaving them with no choice but to adapt their banking habits. During this period, many branches were compelled to temporarily close, resulting in heavy reliance on mobile banking apps to conduct daily banking activities. For the millennials and generation Y consumers, however, this would be familiar territory, as they would have been already accustomed to the virtual world, as the internet has always been accessible and used extensively by these type of consumers. The most profitable segment of banking customers in South Africa comprises of Baby Boomers and generation X individuals. Understanding the behaviors and banking needs of seniors becomes an important task for banking institutions (Ramlall, Hattingh & Van Deventer, 2020). Due to this, banks must see to it that their product offerings are tailored in such a way that they constantly meet the needs of these customers while ensuring that they do not neglect the needs of the other customers in lower age groups. A summary report from the PBWM indicated that customers aged between 45 - 57 years of age had the highest growth rate between the years 2021 – 2022 (PBWM, 2022). Findings from this report may serve as extra motivation to take care of this segment of customers. New players, such as Discovery Bank and Tyme Bank, have also recently joined the banking industry, with the latter being earmarked as a fully-fledged digitised bank. Tyme Bank was launched in November 2018. However, to date it does not have any physical branches. Therefore, their operations and clientele base would not have been impacted by the global

pandemic, as the structure of their operating model (of being a fully digitised bank) alleviated them from that risk exposure.

### **1.3. Context of the Study**

This section situates the study within online consumer behaviour, and the banking industry, in particular, to facilitate understanding of the study.

#### **1.3.1 Overview of the Retail Banking Industry**

Studies in consumer behaviour have shown that consumers can be fickle and that consumer behaviour is unpredictable and ever-changing (Schiffman & Kanuk, 2000).

Consequently, banks relentlessly seek to understand the individual and group factors which influence consumer behaviour in the adoption of digital banking. An understanding of these factors will help management to keep abreast with technological advancements and in banks' efforts to adopt these developments into the banking operations and tendencies of their clients.

#### **1.3.2 Overview of the Global Banking Industry**

The banking sector can be roughly categorised into three types; namely, traditional banks, digital banks and open banks. According to Rubanov (2019), traditional banks typically offer services such as loans, deposits and payments. Digital banks use several channels of services to clients, while open banks collaborate to provide their clients with numerous banking services.

Since the 1990s, the banking sector has started to shift from its traditional financial delivery channels towards autonomous, self-service delivery channels (Pikkarainen et al., 2004). The advent of new technologies globally has revolutionised the way financial institutions conduct their business with their clients. This has, naturally, enabled greater market access and reach (Tan and Teo, 2000), significantly benefitting the commercial sector by allowing banks to provide better services to customers (Afshan and Sharif, 2016). In affirming that the banking sector has been impacted by these new technologies, a PriceWater-Cooper Digital Consumer Survey (2021), has revealed that within an eighteen-month period, since 2020, many US banking customers had switched to digital interactions for services such as payments, loan applications, insurance and investing habits. As stated previously, a few of these

shifts were attributed during the lockdown period, when over-the-counter or traditional banking was a high-risk activity for the transmission of the virus. Thus, the lockdown period, due to the global pandemic, can be credited with having facilitated the digitisation of banking globally, to an appreciable extent.

According to the survey, US banks were failing to meet consumer demands, as about 25% of the clients surveyed indicated that they would open a new digital banking account but could not do so at their current bank. Another trend which was observed were generational preferences. The survey showed, for example, that 60% of clients over 55, the so-called baby boomers, considered their primary banking account to be the one where they had a cheque account, compared to about half of Generation Z clients, who are clients aged 18 to 24 years.

### **1.3.3 Overview of the South African Retail Banking Industry**

PriceWater-Cooper (2022) further reported that banks in South Africa have noted the new developments and positioned themselves for relevance in a “marketplace without boundaries”. Consequently, the Big Four banks in South Africa are introducing new banking products to meet the ever-changing needs of their clients. Although the Big Four are already well-established in terms of clientele, they still strive to keep abreast with their clients’ individual and group banking needs and preferences, and seek innovative and competitive ways to deliver banking products, to meet the consumers’ growing needs. This is intended to ensure that they maximise their profits.

The PriceWater-Cooper Digital Consumer Survey (2021) showed that there is a growing section of banking clients which does not want to conduct its banking activities at branches at all, called digital natives. These are clients who avoid visiting branches altogether, preferring rather to conduct all their banking activities digitally. Additionally, the survey identified another group of banking clients, called phygital bankers, who are mainly digital, but retain the option of using a traditional bank to conduct some of their banking needs. According to the survey, US banks were failing to meet consumer demands, as about 25% of the clients surveyed indicated that they would open a new digital banking account but could not do so at their current bank. Another growing trend was generational preferences; for example, 60% of clients over 55, the so-called baby boomers, considered their primary banking account to be the one where they had a

cheque account, compared to about half of Generation Z clients, who are clients aged 18 to 24 years.

### **1.4 Problem Statement**

Most banks in South Africa provide digital banking opportunities for their clients because digital banking enables the use of technology to conduct banking transactions in a seamless manner (Alkhowaiter, 2020) however there still is a gap in the motivational factors which influence the uptake of digital banking applications and technology (Widjaja, 2016). Services offered by banking institutions continue to challenge and cater for the attitudes of consumers in their acceptance towards new technology (Chong et al., 2019). According to Chang, Wong, Lee, and Jeong (2016) most digital savvy banks changed their business processes and operational models to align with fintech capabilities who were now seen as their main competitor in the digital market. This can be ascribed to several noteworthy advantages concomitant with digital banking. These include providing the bank customers with options to conduct banking activities, such as transfers and bill payments, from the comfort of their homes, without a need to visit the branches. For instance, Zheng (2010) asserts that digital banking allows bank customers to make transactions on their accounts, without having to physically visit the banks. Instead, they use the banks' software over the internet and on mobile phones. An added advantage is the convenience of secure, year-round banking, 24 hours a day. In echoing these sentiments, Wu (2005) posits that digital banking improves clients' safety by reducing the need to carry large amounts of cash. Similarly, Redlinghuis and Rensleigh (2010) concur that convenience is one of the key factors influencing costumers' preference for digital banking.

According to Karsh (2020), Generation Z customers have the highest awareness level in financial technology (Fintech) than older generations. Sachdev (2019) revealed in his study that the Generation Z banking customers intensively depend on using technology in their lives. Conducting a study on factors influencing Generation Z customers adoption to digital banking would not have yielded much new findings as this generation was literally born with a smartphone in hand (Karsh, 2020). According to White (2021) the two groups which use mobile banking apps the most are millennials and Gen Z customers. In addition, White (2021) discovered that 99% of

Gen Z and 98% of millennials use a mobile banking app for a wide range of tasks, including viewing account balances, checking their credit score and depositing a check. Based on this, investigating banking customers aged 45 and above would have yielded more positive results as there is still a gap in this segment when it comes to digital adoption.

Despite all the advantages outlined above, however, a considerable section of banking customers still has not embraced digital banking. This is problematic because the expansion of a banking product depends on its popularity among its users, as measured by the percentage of the customers adopting it: the larger the percentage, the lower the bank costs and the higher the profitability, for the bank. Some of the pushback to the adoption of digital banking may be attributed to the rapid rise in cyber-attacks and cyber-crime around the globe, in the form of phishing, smishing and vishing, to name a few. A study conducted by Alwan and Al-Zubi (2016) stressed the need for commercial banks to place extreme measures on issues surrounding privacy and security within the banking sector as a way of mitigating this risk. From a South African context, the recent implementation of the Protection of Personal Information Act (POPIA) in 2020 required organisations to have measures in place and operational capability to ensure that customers personal information is protected at all times and any organisation which do not comply with this legislation shall face severe sanctions in the form of hefty fines (up to 10 million rands) and from a banking perspective, possible debarment from operating as a financial service provider (FSP). Cyber-attacks do not only result in financial losses for the bank, but non-financial losses, such as reputational damage, will also occur, resulting in a loss of confidence from customers towards their respective bank in terms of keeping their personal information, or in this case, money safe. Therefore, the issue of cyber-crime can be deemed as determining factor which may impact or influence consumers decision in adopting to digital banking. Determining factors which affect customer's adoption of digital banking will help the bank understand their client's needs, thereby assist the bank in tailoring their banking products to meet these customers' needs and make more profits in the long-term. Although the aspect of cyber-crime is one which could influence clients to delay digital banking adoption, it is not always clear what other individual and group factors influence banking customers to adopt a new technology. The proposed study, therefore, sought to investigate the factors which influence the

adoption of new technology by banking customers. It is envisaged that the findings will help the banks to meet their customers' ever-changing needs, while remaining competitive and profitable. According to Samans & Drzenick (2016), the success of future businesses and countries hinges on the adoption of digital technology.

### **1.5 Research objectives**

The study sought to investigate the factors which influence the adoption of digital banking in South Africa. The specific objectives are as follows:

- To determine bank customers' understanding of the concept digital banking
- To understand bank customers' experiences of using internet banking and the banking app.
- To understand the individual and group factors influencing the adoption of the two digital banking methods in South Africa.
- To find out which digital banking applications participants are aware of.
- To find out if participants are aware of the benefits of using digital banking

According to Nor and Pearson (2008), understanding the barriers which influence consumers to switch to digital banking is crucial, particularly from a managerial perspective. Agapito, *et al.*, (2020: 191) concur, contending that it is important for the banking industry to increasingly seek to understand the factors influencing consumers' decisions to switch to digital banking. This is because management decides which new bank products are appropriate to achieve digital transformation, based on the available best practices models. Furthermore, the bank switching to technology makes financial sense because the bank effectively remains open for 24 hours a day, with the added advantage of requiring fewer human resources.

A few of the previous studies on this topic have focused on managerial factors, adoption of internet banking in foreign contexts, consumer perceptions, inter-generational comparisons and customer loyalty in banking. Furthermore, most were conducted in foreign countries. Studies on individual and group factors which influence consumer switch to digitisation have, according to the available studies, and to the best of this researcher's knowledge, have not been investigated in South Africa by researchers before.

## **1.6 Research Question**

Main research question

Which factors influence continuous use of online banking amongst 45-65 year olds in South Africa?

## **1.7 Purpose of the Study**

The research purpose for individuals and groups was to generate information on each of the nature of digital banking, and how it is different from other forms of banking.

The study also sought to investigate respondents' experiences of using internet banking or the banking app. A review of the literature on this topic in South Africa yielded just one study. This shows that there is a dearth of studies on this topic in the South Africa. The research study is expected to yield findings which include unusual explanations, such as the effects of the Covid-19 pandemic. The research study also sought to investigate the major individual and group factors which influence consumers to adopt digital banking across all regions in South Africa, be it a rural or urban setting, which most studies in the adoption of digital banking were located.

## **1.8 Contribution of the Study**

The proposed study will contribute to knowledge on digitization in the banking industry, both practically and theoretically, across all geographic spheres in South Africa. This knowledge will benefit both the local and international banking industry.

### **1.8.1 Practical Contribution**

It is envisaged that the research study will contribute to the body of knowledge on consumer behaviour in general, and switching to digital banking, in particular. This is particularly so because individual and group factors influence consumers' buying power, which in turn influence the profitability of banks. A good understanding of bank clients' behaviour is therefore essential for the profitability of these banks.

In addition, both local and international banks can use the findings of this study to improve their product offerings, in accordance with consumer sentiments regarding their banking needs and preferences. Success in meeting the needs of banking customers will also help in improving bank profitability as more clients switch to

evolving technology. Furthermore, as Fintechs offer most of the services offered by commercial banks, Fintechs will also benefit from the findings of the proposed study.

According to Diener and Spacek (2021) digitalisation is also consistent with the United Nations Sustainability Development Goals. These goals state, among other things, that the current businesses have to be transformed, in order to achieve sustainable and economic environmental challenges. In that regard, digitisation implies fewer trips to the bank because the consumer can make bank transactions from home or anywhere convenient to them. This, in turn, implies less pollution, as cars are not required to reach the banks.

### **1.8.2 Theoretical Contribution**

Researchers, both seasoned and novices, investigating the effect of consumer behaviour on digital banking, will benefit from the findings of the present study. This is because the findings of previous studies can be used to guide future research. The suggested directions for future research will enrich the theoretical databank of digital banking adoption, leading to a broader understanding of consumer behaviour in general, and specifically adoption of digital banking. Furthermore, the current study focuses on both individual and group factors influencing the adoption of digital banking. No known study has taken this approach before. Therefore, the study could be one of the pioneers in research on the adoption of digital banking. Finally, majority of the research study was conducted in areas comprising of respondents who reside in the rural and suburban areas of South Africa. Presently, in South Africa, few researchers have focused on respondents from rural areas, preferring respondents from urban areas, only. Therefore, the study could add to the body of knowledge on the uptake of digital banking by respondents in both geographical areas.

### **1.9 Delimitation of the Study**

The study focused on the general banking consumers. This means that the findings may not be consistent with those which have focused specifically on respondents from urban and semi-urban settings. Secondly, the findings may not be consistent with stakeholders of the some of the areas where the surveys were completed. Finally, the study used questionnaires as the research instruments. Therefore, different research methodologies might have yielded different outcomes.

### 1.10 Definitions of Key Terms

**Consumer behaviour:** It is the study of individuals, groups, or organizations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society (Mothersbaugh et al. 2020).

**Digital Banking/e-Banking:** It is the utilisation of banking services through digital platforms, such as the internet, mobile and UPI (Unified Payment Interface), to name a few.

**Generation Y:** These are consumers born between 1977 to 1994 and are sometimes referred to as millennials. They are characterized by a strong sense of independence and autonomy coupled with a sense of being, innovative, and curious. Many of these consumers are familiar with digital banking.

**Generation X:** These are consumers born between 1965 to 1976. These types of consumers have shown a reluctance towards digital banking adoption and are the ideal sample population for this study. In the proposed study consumer behaviour means how potential consumers choose whether or not to adopt digital banking, also known as eBanking.

**Fintech:** It refers to any app, software, or technology that allows people or businesses to digitally access, manage, or gain insights into their finances or make financial transactions (Trificana, 2022)

**Internet of Things (IOT):** It is a network of interconnected devices, systems and services within the existing internet infrastructure. The core of the IoT is that it allows for 'all things connected' in the communication between devices and objects, creating a more direct integration between the physical world and computer-based systems. (Hollensen, 2020)

**Digital Adoption:** It is the incorporation new digital tools and systems to improve workflows and achieve overall objectives. In the proposed study, digital adoption consists of the utilisation of technology such as software, hardware, and online platforms in various industries to optimize operations, enhance communication, and promote innovation (Walk Me, 2023)

### **1.11 Organisation of the Study**

The proposal is divided into thirteen sections. It starts with the introduction, in which the researcher presents the background on digital banking from a local and global perspective. This is followed by a literature review on relevant research pertaining to digital banking locally and internationally. The definition of concepts defines the various terms and concepts to be used in the study, to prevent confusion for the reader. The study overview presents a snapshot of the areas the study focuses on, followed by a theoretical grounding, which discusses the theories which underpin the study. The aims and objectives of the study then follow. These are followed by the problem statement and research questions, which the study seeks to answer. The organization of the study outlines the study layout. These are followed by the contribution of the study as well as the delimitation of the study. The last part of the proposal presents the research methodology, where sampling, as well as methods for data collection and analysis are detailed.

### **1.12 Chapter Summary**

This chapter presented the introduction of the study on the factors influencing bank customers to adopt digital banking in South Africa. The researcher traced digital banking both locally and internationally, and examined the various factors which contextualise the proposed study. The chapter concluded by outlining the benefits and rationale of conducting the proposed study.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

The chapter discusses the banking industry with reference to the global banking industry, South African banking industry, category of consumers, marketing, advertising, and psychological factors. The theoretical groundings of the study consist of the Technology Acceptance Model (TAM), Theory of Diffused Innovation (TDI), Theory of Planned Behaviour (TPB) and Extended Unified Theory of Acceptance and Use of Technology (UTAUT). The Empirical literature makes reference to perceived ease of use, usefulness, facilitating conditions, hedonic motivation, security and continuous intention. The chapter concludes with the conceptual model and hypothesis development.

### **2.2 Banking Industry**

The banking industry has seen a dramatic shift in the ways it conducts its business in the last few decades. This industry has seen rapid digitisation, moving away from the traditional ways of conducting its business. The digitisation process is so intense that some banks will become extinct if they do not transform fast enough.

#### **2.2.1 Global Banking Industry from a Digital Banking Perspective**

Banks globally are changing drastically in the ways they provide the various services to their customers. At the same time, they are also changing dramatically. This is because there is a rapid shift in technologies, which influences customer behaviour and choices throughout the world. The advent of new technology, for example, has resulted in banking services being more conveniently available while also requiring a switch in technology, to enjoy these benefits.

#### **2.2.2 South African Banking Industry from a Digital Banking Perspective**

According to Nzama (2020), banking in South Africa forms an integral part of the economy, with the country boasting some of the biggest banking corporations on the African continent (SARB, 2018). Furthermore, there are financial organisations in the South African banking industry which have attracted attention locally and globally. Presently, the top five biggest banks on the continent are from South Africa. These are the following: Standard Bank group, ABSA, FirstRand, Nedbank.

However, an emerging bank; namely, Capitec bank group is fast catching up with them (BusinessTech, 2019:17).

In the South African context, digitisation has changed the way the banks conduct their business, including the available possibilities for the customers to connect with their clients. Digitisation has also brought along several benefits for the banking customer, leading to cost-effective, efficient and convenient banking experiences. There is a big war in progress in South Africa among the four major banks. The aim of the war is to win over customers through the banks' digitisation attractions. .

### **2.2.3 Category of Consumers and Digital Banking**

Herring (2019) identifies four main groups of consumers based on age. According to him there are Baby Boomers, who were born between 1946 and 1964; Generation X, who were born between 1965 and 1979; Millennials, born between 1981 and 1996; and finally, Generation Z, born between 1995 and 2012. According to Herring, Baby Boomers are traditionalists, who prefer visiting the branch for banking, and consider technology to be a means to stay connected with family members. The next group, Generation Z is a little more advanced than the baby Boomers in that they are both traditionalists and tech-savvy. They are also loyal to their favourite brands. Herring believes that the Millennials, who are the largest group, are less loyal to brands and prefer digital banking to traditional banking. According to Herring, the last group, Generation Z, is intertwined with technology. Furthermore, Generation Z consumers are conservative and many of them have not visited a bank branch in half-a-year. Thus, consumer behavior, for Herring, is influenced by generational group. Banks are therefore likely to focus their marketing based on group willingness to embrace new technology. The larger the groups, the higher the profitability for the bank.

However, according to Naidoo (2002), despite the development of new technology in the banking industry, the uptake of the technology has been slow. In a study on consumer behaviour among First National Bank clients, Naidoo found that factors such as internet costs, lack of infrastructure and consumers' mindsets are hindrances to the uptake of new technology. Lantos' (2019) views about consumer behaviour are slightly different from the preceding ones; for example, for Lantos, a consumer undergoes a decision journey from the moment he/she contemplates what needs to be bought, until

the 'post-purchase phase.' In the end, however, it is multimedia which map the ultimate journey taken, according to Nash (2019).

#### **2.2.4 Digital Banking and Marketing**

Despite the propensity to regard technology as the key to success in consumer behaviour, Ngoma & Ntale (2019) believe Word of Mouth (WOM) still has a significant role to play in marketing. The two researchers contend that this type of marketing is being underutilized by businesses. The researchers believe positive WOM is what is required to drive a business enterprise to greater heights, the same way marketing technology can.

Srinivasan and Thameemul Ansari (2019: 509) studied the impact of eBanking on Users of eBanking services. The two researchers first point out the various terms used synonymously in banking; namely, eBanking, online banking, internet banking and digital banking, among others. According to these researchers, all these terms refer to the same thing. According to the two researchers, eBanking has several advantages over traditional banking, including being safe, convenient, allowing full banking services and being accessible 24 hours a day. Bank products which provide the preceding conveniences are likely to be adopted.

#### **2.2.5 Digital Advertising**

According to Agapitos, *et al*, two of the factors which influence consumer behaviour in online banking are digital advertising and the convenience of paying for goods and services in the digital environment.

A further factor which influences consumers, according to Polanco-Diges and Debasia (2020), is what they shared on economy platforms. Based on these, banks try to come with digital strategies to sway customers who prefer this type of platform, to influence the customers to remain with the bank.

#### **2.2.6 Psychological Factors**

According to Hoyer, MacInnis & Pieters (2001), consumer behaviour comprises of four aspects; namely, a psychological component, a decision-making component, a consumer culture component and consumer behaviour outcomes. The finalisation of a decision by a consumer depends on the 'successful' engagement of all the four components. A consumer, according to these authors, will be motivated to decide to acquire, use and dispose of a product. These, according to the authors, depend on

three major steps, which must all work in tandem. The outcomes of this motivation include goal-relevant behaviour, significant processing of information and serious intent. According to Schiffman and Kanuk (2009) psychological factors are 'the inner intrinsic qualities of the individual consumer. This differentiation is based on the fact that there are individual differences based on factors such as motivations, personality, perceptions, learning and attitude. A detailed examination of these factors by the two researchers include activities, interests, and opinions.

Using Maslow's hierarchy of motivation, one could say all three outcomes (acquire, use and dispose) must be at a very high level (must-have) before an individual will acquire such a product. In the context of digital banking, for example, a consumer will not adopt digitalisation unless he/she has a need for it, there is personal drive and attitudinal factors favour the use of such a system.

## **2.3 Theoretical Grounding**

A study of this nature requires sound theoretical underpinnings. This is because without such theoretical underpinnings, the study will be of little value. In absence of theories which are strictly for the banking industry will have to borrow from other areas and fields. For the purpose of this study four theoretical models will be borrowed from other fields. These are, Technology Acceptance Model (TAM), Theory of Diffused Innovation (TDI), Theory of Planned Behaviour (TPB) and Extended Unified Theory of Acceptance and Use of Technology (UTAUT). These are theories from consumer behaviour in general, and not specifically for use in banking research.

### **2.3.1 Technology Acceptance Model (TAM) Theory**

The Technology Acceptance Model (TAM) was initially proposed by Davis in 1985, with the aim of studying the acceptance of a new technology by individuals. The theoretical model postulates that user's overall acceptance or adoption to new technology will be based on their sentiments towards its "perceived usefulness" and "perceived ease of use (Davis, 1989).

There are a few proponents of this model and its effectiveness in explaining consumer behaviour. TAM's popularity is due to its effectiveness in clarifying customers' adoption of information technology (Zaineldeen, Hongbo, Koffi & Hassan, 2020). According to these researchers, TAM is the best when it comes to explaining these decisions

because it is the most commonly-used model in consumer behaviour research (Liu, Wang & Koehler 2019). To put it into further perspective, this model determines consumer adoption of new information technology. It argues that adoption will be facilitated if the consumers generally believe that the technology is useful and easy to use. When all these conditions are met, a consumer is likely to adopt the new technology. The model gauges claims that users' (in the banking industry, customers') adoption of a computer system depends on their intention to use such a system. That, in turn, depends on their attitude and beliefs; namely perceived ease of use and perceived usefulness.

The model has been widely used to predict the acceptance and use of information systems. Lately, the system has also been used to predict the switch to digitisation in the banking industry.

According to TAM posits perceived usefulness and perceived ease of use predict a person's intention to adopt an innovation. The two measures, perceived usefulness and perceived ease of use are also believed to influence one another.

TAM users believe that the principles of perceived ease of use and perceived usefulness can be extended to the banking industry. For example, Rusu and Shen (2011) used the model in their e-banking study in the United Arab Emirates (UAE). The findings showed that the intention to adopt a new innovation was a factor in these two measures.

### **2.3.2 Theory of Diffused Innovation (TDI)**

The financial services sector is highly dependent on technological services. Therefore, banks can attribute the importance of technological innovations as a form of competitive advantage and ensure their survival in an ever-changing global technological environment. "The innovation of delivering financial services through mobile devices represents a complex interaction between an intangible service and technology based service delivery", (Black, Lockett, Winklhofer & Ennew, 2001). Furthermore, the Diffused Innovation theory is widely used to explain mobile banking adoption (Rogers, 1995). Rogers argued that the process of favouring innovation is determined by the way innovation is communicated, by means of different sources, over time, or amongst members in a social circle. In layman's terms, the proliferation

of innovation is influenced by five factors; namely, relative advantage, compatibility, complexity, number of trials and observability of the innovation.

Dearing and Cox (2018) define diffusion as “a social process that occurs among people in response to learning about an innovation such as a new evidence-based approach for extending or improving health care.” TDI was proposed by Rogers (1962). Rogers attempted to explain how ideas and technologies are not adopted all at once, some people are early adopters, while some are late adopters. The theory seeks to explain how adoption decisions are taken in waves.

Innovators are the first to try out new ideas and technologies. This is because they are the brains behind the ideas or technologies. Rogers (1962) believe innovators constitute about 2,5% of the population. These are rich people. Early adopters are believed to be opinion leaders; they want to be the first to try out new ideas and technologies. Furthermore, they are influential and are of a high social standing. Rogers believes these constitute 13,5% of the population. Rogers (1962) proposes a third group called the Early Majority. These are the skeptical group who take their time before adopting new technology. According to him, these constitute 34% of the population. The last group -called Laggards- comprises of mainly the elderly members of the population who only social with close friends and family. They are not too keen to adopt new ideas and they are suspicious of new technologies. These constitute 15% of the population.

According to Rogers, an idea need not be new to be adopted. Rather, a new innovation needs to have four characteristics, to enhance adoption; namely, complexity, triability, adaptability, observability and compatibility. Rogers stresses the significance of communication in the diffusion of new innovation, to ensure that information reaches all members of society. He proposes a five-stage process for adopting new technologies. These awareness, persuasion, decision, implementation and continuation. The five stages explain how news about new technologies spread and reach potential customers. This theory can be applied to adoption of eBanking.

### **2.3.3 Theory of Planned Behaviour (TPB)**

The Theory of Planned Behaviour was proposed by Azjen (1991). According to Azjen, one's behaviour can be predicated by one's intention to engage in that behaviour. This means, therefore, that the stronger the intention, the more likely that the individual will

engage in that behaviour. In the context of digital banking, the stronger the intention to adopt digital banking, the more likely that one will adopt the system. The onus therefore lies with the bank to ensure that potential customers have strong intentions to take up digital banking. According to Azjen, three variables influence this; namely, personal attitudes (attitudes towards digital banking, in the context of the proposed study); subjective norms, which refers to how we view other people's ideas regarding the behaviour (adopting digital banking, in the context of the proposed study); and perceived behavioral control. Perceived behavioral control refers to our perception of internal (such as ability and determination) and external factors (such as availability of resources and support) in the adoption of a certain behaviour. According to Azjen, the more control we think we have, the more likely we are to adopt a certain behaviour, which is digital banking, in our case. This theory is therefore relevant for the proposed study.

The theory of planned behaviour (TPB) is believed to be more effective in predicting than TAM. The theory was proposed as a framework to understand, predict and change human social behaviour. TPB model was proposed by Taylor and Todd (1973). According to this theory, intention precedes behaviour, and is influenced by attitude towards the behaviour. Several studies have provided empirical evidence that this theory is able to actually predict intentions and how intervention can change human behaviour. In the context of the proposed study, this model can be used to predict and help persuade consumers to adopt eBanking.

#### **2.3.4 The Extended Unified Theory of Acceptance and Use of Technology (UTAUT2)**

The UTAUT2 theory was introduced in 2012. It was an extension of the original UTAUT, which stated that four variables; namely, performance expectancy; effort expectancy; social influence and facilitating conditions, impacted individuals' acceptance of technology and their overall intention to adopt to it (Venkatesh, Morris, Davis & Davis, 2003). When the UTAUT2 theory was later improved, three new variables were included; namely, habit; hedonic motivation and price sensitivity (Kumar, Rejikumar & Ravindran, 2012). The strength and accuracy of this theory is derived from the incorporation of individual, technological and environmental constructs, which are used to understand the drivers behind individual adoption intention (Nwagwu & Akeem, 2013). It has been noted that the UTAUT2 theory

garners greater strength because it consists of hedonic variables, in addition to the utilitarian constructs addressed by the original UTAUT (Luo, Liub & Weic, 2016). That said, researchers have recommended that this theory needs to incorporate trust and perceived risk, in order to increase its predictive power and allow for a more rounded understanding of technology adoption as a concept (Luo, Li & Zhang, 2010).

The previous models that were developed prior to UTAUT2 succeeded in explaining the various variables involved in innovation adoption. However, it was felt that a unified model which provided a holistic understanding of the variables was required. This view led to the emergence of UTAUT.

UTAUT2 is a theory that was developed to provide a unified theory of technology acceptance. This was through integration of key constructs which predict behavioral intention. This feat was achieved by reviewing “the seminal IS acceptance literature to draw up theoretical and contextual similarities among technology acceptance theories emerging from three research stream -i.e. social psychology, IS management and behavioural psychology (Marikyan & Papagiannidis, 2021). According to UTAUT, the perceived likelihood of adopting a technology dependson four constructs; namely performance expectance, which is the belief that using the new technology will lead to gains in job performance; effort expectancy, which refers with the ease of using the system; social influence, which is “the degree to which an individual perceives that important others believe he or she should use the new system (Venkantesh, *et al.*, 2003); and -finally- facilitating conditions, which describes the degree to which an individual believes that support is available to use the new system. The developers of the theory acknowledge the moderation effects of consumer aspects such as age, gender, experience and voluntariness of use.

UTAUT has succeeded in providing further insight into innovation acceptance models by comparing several innovation acceptance theories. This is not an easy task due to the interactive nature of some of the variables involved.

## **2.4 Conceptual Development**

Several studies have been conducted on digital banking globally. However, most of them were on student adoption of digital banking. From the reviewed literature, there has not been a single study involving university staff’s adoption of either internet

banking or bank app use. According to Al-Fahim (2013), internet banking or online banking is a system of banking which requires the internet and a device such as a PC or a smartphone to conduct various transactions, such as checking balances, transferring funds, making bank loans or paying bills. He defines the adoption of digital banking as the acceptance and continued use of the product, service or idea. These decisions, according to research in consumer behaviour, are influenced by individual and group factors. The present study focuses on two forms of digital banking; namely, internet or online banking as well as the bank app. These are full online banking activities conducted using a personal computer or a smartphone. Full online services refers to activities, such as paying bills, transfers and loan applications. Therefore, the proposed study excludes any banking method which requires visiting bank counters, auto-teller machines or making telephone calls.

According to Mothersbaugh, Hawkins and Kleiser (2020), individual factors are characteristics which differentiate people individually, such as consumer motivation and ability. Studies have shown that consumers are more motivated by what the individual is involved in. Furthermore, Mothersbaugh (2020, *et al*) define motivation as a 'drive state created by consumer interests and needs. For example, a businesswoman will be more motivated by an advertisement of a product which provides new business solutions than a teacher. Ability, on the other hand is defined by Mothersbaugh (2020, *et al*) as 'an individual's capacity to attend to and process information'. Brand familiarity falls under this category.

Researchers have conducted many studies on factors which influence consumer behaviour globally. However, consumer behaviour, as it pertains to digital banking, is a relatively new area, as digital banking is a new area of research. According to Nor and Pearson (2008), this problem is aggravated by the fact that consumer behaviour does not have its own models to base their studies on. As a result, it has had to borrow some theories from other fields. In one of the following sections, the researcher presents a model which is often used in consumer behaviour research.

According to Milian et al (2019) advances in technology in the financial industry have led to the emergence of new buzzwords. Around 2018, the term or buzzword, financial technology (or FinTech) emerged. Fintechs, refer to financial technology startups which have changed the way banks operate. The word Fintech is a combination of

financial technology and computer technology. It also encompasses aspects of modern management practices, according to Milian (2019). In South Africa, Fintechs are relatively new. However, in rich countries Fintechs are engaged in activities such as cryptocurrency, money transfer, payments/billing and asset management, according to Mihan, et al (2019). Research on digital banking adoption is therefore relevant for Fintechs, too, as most of the products offered by Fintechs are also offered by regular commercial banks.

Researchers base their studies on theories and model, to make the findings more compelling. According to Schindler (2022) a theory is “an empirically supported description of the relationships among concepts, constructs and hypotheses that are advanced to explain or predict phenomena.” Schindler adds that theories are made up of hypotheses which -though supported by data- can be challenged by new data. A construct, according to Schindler (2022), is “an abstract idea specifically invented for a given research and/or theory-building purpose.” Schindler (2022) believes constructs are built by combining smaller, more concrete concepts, particularly in situations where the intended idea cannot be observed directly. These aspects cannot be observed directly, and are thus considered construct, which are easier to describe. In the proposed study the constructs observed consist of the following: Perceived Ease of Use, Perceived Usefulness, Facilitating Conditions, Hedonic Motivation (Perceived Enjoyment), and Security which all lead to Continuous Intention.

#### **2.4.1 Perceived Ease of Use**

According to Al-Fahin (2013) perceived ease of use has to do with the extent to which a user believes that using a product will be effortless. Therefore, if customers believe a new product is easy to use, it will be easy to adopt it, boosting the profitability of the company selling it.

A study by Cahete (2020:1) in Portugal found that consumers are “most willing to switch from traditional to digital if they are familiar with the system and the usability is friendly...”. However, Grant (2010: 253) contends that changes in consumer behaviour must be a result of “fundamental shifts in consumer buying behaviour, technology and a firm’s strategies.” This shows that consumer behaviour is unpredictable and changes constantly. These further necessitate a study on consumer behavior, to determine the influence of individual and group factors on adoption of new technology.

#### **2.4.2 Perceived Usefulness**

In order to adopt a new technology, it must be perceived to be useful by the consumer. A useful technology is likely to be adopted by potential consumers if it is perceived to be useful by the end-users. Researchers such as Venkatesh & Morris (2000) have found that perceived greater usefulness of an innovation was a significant determining factor for acceptance among women, but not among men. Together with ease of use, perceived usefulness form the key constructs of TAM, and lead to higher response efficacy.

#### **2.4.3. Facilitating Conditions**

Facilitating conditions refers to the extent to which an individual believes that there is technical infrastructure to support the use of a new technology (Venkatesh, *et al*, 2003). The construct for facilitating conditions emanate from conditions drawn from earlier models, such as TBP and IDT. According to the theory, facilitating conditions have a significant effect on intention to use. However, this effect becomes nonsignificant after initial use. Facilitating conditions are affected by interactions among the variables involved, such as age, gender, experience and voluntariness of use.

#### **2.4.4 Hedonic Motivation (Perceived Enjoyment)**

Traditional measures of consumer attitudes have often been criticized for not adequately reflecting symbolic, hedonic, and aesthetic aspects of consumption in the conceptualisations, and in the resulting operationalisation. Some of these critics are Holbrook & Hirschman, 1982).

According to Batra & Ahtola (1991) hedonic perspective does not limit its scope to cover just attitudes but includes other aspects of consumer behaviour. In other words it includes both affective and cognitive factors in explaining consumer behaviour.

#### **2.4.5 Convenience**

According to Agapitos, *et al*, two of the factors which influence consumer behaviour in online banking are digital advertising and the convenience of paying for goods and services in the digital environment. Online or e-Banking offers consumers the convenience of a 24-hour service bank availability. In addition, consumers can access all the banking services of their sofas, with just a smartphone or a laptop computer to make all banking services. e-Banking also helps consumer do away with having to

carry large amounts of money or standing in long queues because cash transfers and most of the normal bank transaction can be completed without leaving one's chair.

#### **2.4.6 Security**

Security is one of the major determining factors regarding prospective clients' eagerness to switch to electronic banking. Indeed several studies have shown that perceived security of a banking application was found by researchers such as Johnston, *et al* (2003) to influence consumers to switch electronic transactions. The proliferation of cybersecurity lapses has not made switching to e-banking easier for potential clients. We hear of cybercriminals trying to be a step ahead of banking security, resulting in loss of clients' cash. In South Africa, for example, skimming used to be a popular method used by fraudsters to steal bank users' cash a few years ago (Dagada, 2013). Skimming involves stealing the bank card details, notably the PIN, when the card owner swipes the card, to make a payment (for example, at a fast-food outlet). The advent of tapping (cards) when making payments helped to decrease this type of fraud. Positive perceived security of a banking application will therefore enhance prospective e-banking clients' intention to switch to e-banking. A breach in a banks online security system results in a general lack of trust from customers and loss in confidence from all key stakeholders resulting in reputational damage for the bank and a general loss in confidence and trust from all stakeholders. Trust, according to Al-Fahin (2013), has to do with the dependability of the product, meaning the consumer has to feel that there will be no negative outcomes from using the new product. The consumer has to maintain the trust throughout the whole customer journey from point of contact, service levels and post service interactions. If an institution can see to it that a customer's experience with their product or service is a pleasant one, then that institution is most likely to achieve positive results when it comes to acquisitions and retention of customers.

#### **2.4.9 Continuous Intention**

Internet banking/digital banking is increasingly important as it provides customers with an alternative channel to banking services which are convenient, efficient, timeously and low in cost (Yuan, Lai & Chu, 2018). Despite the perks which internet banking has to offer, resistance from customers has been evident in their continuous usage of this alternative channel and in many cases, the usage of internet banking has fallen short of expectations (Alwan & Al-Zubi, 2016). According to the eMarketer (2014), the

expansion of internet banking usage was forecasted to be moderate until the year 2018. With this study focusing on digital banking adoption, it was prudent for the researcher to take continuous usage of internet banking into consideration as not much studies have been done on continuous intention and in essence, as a digital service provider, all banks would not only want their customer base to adopt to digital banking but to also ensure that their customers continuously use digital banking platforms in the near future as a way of reducing the foot traffic in the banks. It is therefore important for banks to understand the resistance from clients to continuously use internet banking.

## **2.5 Conceptual Model and Hypothesis Development**

A model is defined by Schindler (2022) as “a representation of a theory or system that is constructed to study some aspect of that system or the system as a whole.” According to her, models are used to “increase our understanding, prediction and control of the complexities of the environment.” This ability, according to her, helps in advancing theories and decision-making.

In the adoption of digital banking by bank customers, theories and models are applied to try and understand how consumers behave (Schindler, 2022). Next, the researcher discusses a conceptual framework through a critical analysis of the literature. An outline illustrating the hypotheses will now follow.

## 2.5.1 Conceptual Framework

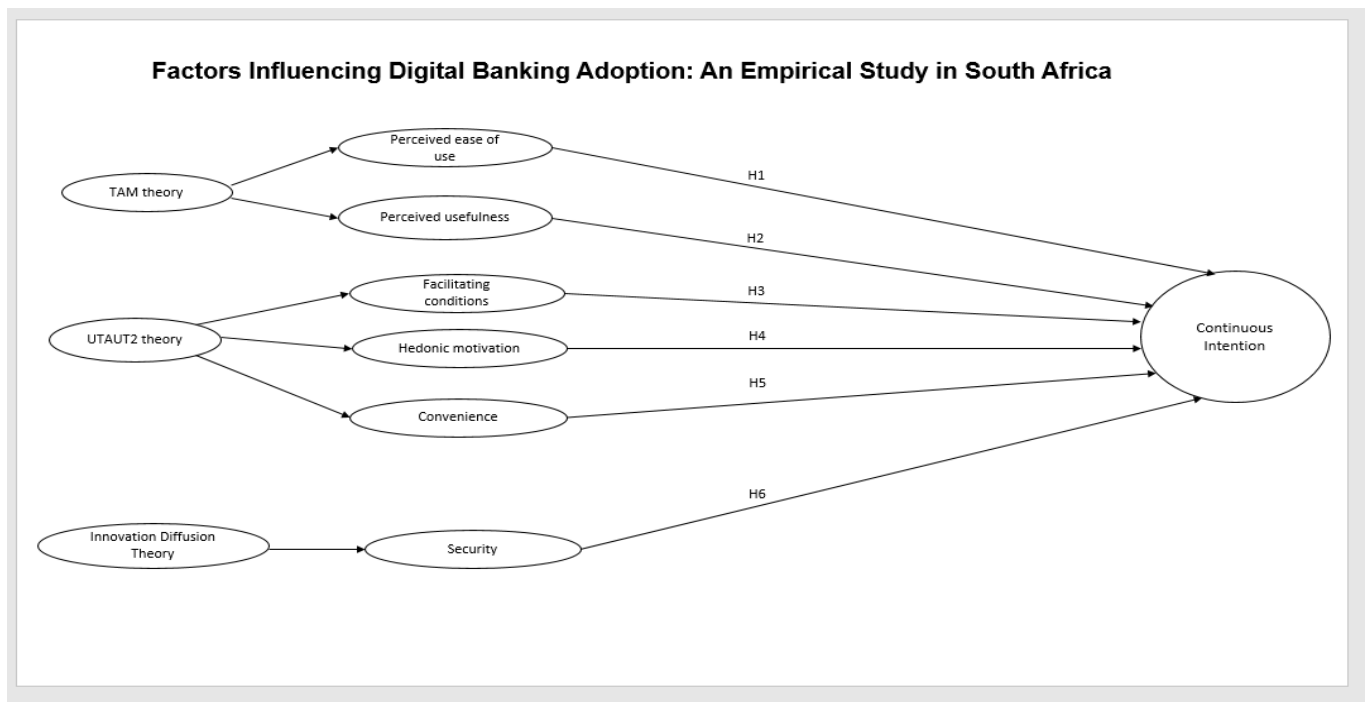


Figure 2.1: Conceptual framework of the study

Source: Author's own construction (2023)

## 2.5.2 Hypotheses Development

### 2.5.2.1 Perceived Ease of Use and Continuous Intention

Ease of use refers to the difficulty of using the new banking application by the prospective client. An application which is perceived to be difficult to use will be unlikely to be adopted by prospective clients. Along with enhanced performance, Davis (1986) found that perceived ease of use positively associated with clients' adoption of that banking application. However, other studies by Chong *et al* (2010) and Wu, *et al*, 2010) did not find such relationship. Based on this, it is hypothesized that:

*H1: There is a positive relationship between perceived ease of use and continuous intention*

### 2.5.2.2 Perceived Usefulness and Continuous Intention

Perceived usefulness has to do with whether the new application will enhance performance. When prospective clients believe the new application will lead to improved banking performance, they will be likely to adopt it. Indeed, a study by Davis

(1989) found that perceived usefulness was positively related with e-banking and intention to switch to such banking application. Based on this, it is hypothesized that:

*H2: There is a positive relationship between perceived usefulness and continuous intention*

### **2.5.2.3 Facilitating Conditions and Continuous Intention**

A new banking application will be easier for prospective clients to adopt if these clients believe the new technology positively impacted their satisfaction. Satisfaction is defined in terms of the number of functions the new banking application will perform. If the application significantly adds several new functions, it is likely to be adopted by prospective clients. Indeed Hossain, *et al*, (2019) found that when facilitating conditions of an application are plentiful, prospective clients are likely to take up such an application. Based on this, it is hypothesized that:

*H3: There is a positive relationship between facilitating conditions and continuous intention*

### **2.5.2.4 Hedonic Motivation and Continuous Intention**

Another crucial determinant of e-banking adoption was found to be motivation and intention to adopt new technology. Prospective clients who had the motivation and intention to adopt new technology would therefore find it easier to adopt e-banking, as opposed to those who were reluctant to embrace new technology. Previous literature has indicated that, if consumers are of the perception that they receive high levels of utilitarian and hedonic value from their experiences, then they tend to develop positive behavioral intentions, such as repeat purchase and continued use (Akdim, Casalo & Flavian, 2022). Based on this, it is hypothesized that:

*H4: There is a positive relationship between hedonic motivation and continuous intention*

### **2.5.2.5 Convenience and Continuous Intention**

Convenience in banking is a significant determiner of whether or not a new application will be adopted or not. According to Black *et al* (2003), convenience is measured in terms of time and effort required by the client. In the banking context convenience would entail a comparison of, for example, a comparison of internet banking and

telephone banking. A better service would be one that can be completed quicker. Gerrard and Cunningham (2003) add the convenience of 24-hour availability of a service and time savings as further considerations. Based on this, it is hypothesized that:

*H5: There is a positive relationship between convenience and continuous intention*

#### **2.5.2.6 Security and Continuous Intention**

Banking clients prefer a banking service that will be safe to conduct, to ensure that their money is also safe from cybercriminals. A banking system that will be adopted by clients will be thus one which will ensure the highest levels of security for the client to conduct their banking, as well as the security of the money. Indeed, several studies have found this relationship. Examples of such studies are Al-Sajjan & Dennis (2009) and Sathye (1999). In addition, security is closely associated with trust because consumers need to have a great level of trust in their banks and online security measures in place. Trust has been found to play a crucial role in clients' adoption of digital banking. This is because prospective clients are likely to adopt an application they trust. This is evident of rural areas, where technology takes a while to take root. Studies by Boateng, et al., (2016) and Al-Khalaf & Choe (2020) have found a direct relationship between trust and clients' likelihood to adopt new technology. Based on this, it is hypothesized that:

*H6: There is a positive relationship between security and continuous intention*

#### **2.5.2.7 Continuous Intention to adopt to Digital Banking**

With the majority banks constantly keeping abreast with technological trends and innovations, one of the key focus areas in their digital offering should be simplicity. Customers are resistant to complex or ambiguous technology. Therefore if banks make their digital offering simple and seamless then their customers will not hesitate to continue using their digital platforms as they will be satisfied with the service offered. Customers overall happiness and satisfaction with a product or service definitely influences their intention to continue using that particular product in the not too distant future.

## **2.6 Chapter Summary**

The second chapter presents the literature reviewed on the factors which influence the adoption of digital banking by banking customers in South Africa and globally. The various findings showed that several factors, such as perceived product quality, perceived usefulness, ease of use, social image, age group and psychological factors, have been found to influence banking customers' decision-making regarding the adoption of digital banking. The chapter concluded by presenting the model on which the study is based; namely, Technology Acceptance Model, or TAM. In the following chapter, the research methodology is discussed.

## **CHAPTER 3: RESEARCH METHODOLOGY**

### **3.1 Introduction**

A researcher is not an island: he/she is surrounded by various factors, which influence many aspects of his/her study. The current study was mindful of this.

In this chapter the researcher presents the research approach that was adopted for the present study. According to Schindler (2022), “one expects good research to be purposeful with a clearly defined focus and plausible goals; with defensible, ethical, and repeatable procedures, and with evidence of objectivity.” Research methodology outlines how researchers formulate a particular problem and how they state the objectives of the research. Once that is accomplished, the results will be tabulated and presented from the information obtained during the course of the study

### **3.2 Research Philosophy**

Scientific research philosophy can be defined as a system of the researcher’s thought, following which new, reliable knowledge about the research object is obtained. Basically, it is therefore seen as the basis of research, which consists of the choice of research strategy, formulation of the problem, data collection, processing, and analysis. The paradigm of scientific research, in turn, consists of ontology, epistemology methodology, and methods (Zukauskas, Vveinhardt & Andriukaitiene, 2018). According to Holden and Lynch (2004), methodological choices should be related to the philosophical position of the researcher and the phenomena of analyzed social science. Zukauskas *et.al* further state that research philosophies consists of four main trends which are the following: positivist research philosophy; interpretivist research philosophy, pragmatist research philosophy, and realistic research philosophy.

Positivists claim that the social world can be understood in an objective manner. According to this philosophy, the scientist is an objective analyst and, on that basis, dissociates himself from personal values and works independently. On the other hand interpretivists state that it is not easy to understand the social world on the basis of principle (Zukauskas, *et al.*, 2018). Furthermore, interpretivists view the social world in a more subjective manner. Based on this, a quantitative research approach may be

directly related to positivism as it is based on only the facts and a qualitative research approach may be directly related to interpretivism which is more subjective in nature. A Pragmatic research philosophy also deal with facts and is of the view that the choice of research philosophy is mostly determined by the research problem. Alghamdi and Li (2013) further state that that pragmatism does not belong to any philosophical system and reality. For this type of research philosophy, practical results are deemed important which also makes objective in nature therefore linking it to quantitative research. A realistic research philosophy is based on a combination of both positivism and interpretivism research philosophies. This philosophy uses assumptions which are required for the perception of subjective nature of the human (Zukauskas, *et al.*, 2018). Therefore the realistic approach may be deemed as being linked to a mixed method research approach which is discussed in-depth detail in the next section

### **3.3 Research Design**

Research design, on the other hand, is defined by Schindler (2022) as the blueprint for fulfilling research objectives and answering questions. In other words, a research design is like a house plan which a builder uses to construct a house. Schindler further states that a design is based on the following features:

- It is a time-based, procedural plan for every research activity.
- It is always focused on the research question
- It guides selection of sources of information
- Lastly it provides the framework for specifying the relationships which exist amongst the study variables

The framework is vital, as it determines the integrity and relevance of the data and information gathered from the research. As depicted from the research philosophy section, the three commonly used research approaches are quantitative research, qualitative research and mixed method research. Qualitative research uses interpretive techniques to describe, decide, translate and come to terms with the meaning of a certain phenomenon (Schindler, 2022) it is often used during exploration, but it may follow a statistical approach, too, to further understand what is being measured. Quantitative research focuses on the quantity, frequency or magnitude of a phenomenon and is based on a statistical study (Schindler, 2022). Quantitative

research places heavy reliance on the quality of measurement instruments used for surveys, experimental tests and observations. The mixed method approach utilizes multiple ways of exploring a research question (Creswell & Clarke, 2011). Some researches deem this approach to be more stringent than the other two mentioned approaches. This is due to the former requiring more analysis, more resource consumption and being more time-bound, compared to a single approach.

For the purpose of this study the researcher used a quantitative research approach, based on aspects of both exploratory and statistical studies. Schindler (2022) defines exploration as “the process of collecting information to formulate or refine management, research, investigative, or measurement questions; loosely structured studies that discover future research tasks, including developing concepts, establishing priorities, developing operational definitions and improving research design.” Although exploratory studies are often associated with studies which are relatively new and being qualitative in nature, a study consisting of a large samples conducted in an exploratory manner can be quantitative aswell (Gonzales, 2016). Statistical studies attempt to capture a populations characteristics by making inferences from a samples characteristics by testing the hypothesis quantitatively (Schindler, 2022). Generalisations about the findings are based validity of the design and representativeness of the sample. The quantitative study will provide the researcher an in-depth and wider understanding of the context of digital banking and consumer behaviour. Therefore making it more effective in explaining how banking consumers adopt new products.

### **3.4. Population and Sampling**

#### **3.4.1 Target Population**

According to The World Bank, more than 40 million South Africans have a bank account. This is approximately 84.11% of the total South African population. Furthermore, there has been a spike in the percentage of South Africans, aged 15 years and above, with bank accounts and this has risen from 54% in 2011 to 84% in 2021 (Wilcox, 2021). Based on White's studies in 2021, where it was found that the highest users of mobile banking applications are millennials and Generation Z

customers. As a result of this the target population was focused on a much older age segment of ranging between 45 - 65 years of age.

The definition of the target population may be apparent from the management problem or research question but it is not always the case (Schindler, 2022). The target population can consist of the following: People (individuals or groups; that is, employees, students and customers); Organisations or institutions (companies, trade associations, professional online communities, unions); Events and happenings; objects and artifacts; settings and environments; texts (annual reports, social media posts, e-mails). With the study being on digital banking adoption, the target population was initially rural clients. However, this focus changed just before the commencement of the study, to include any banking client, in order to be inclusive of bank clients in South Africa.

The target population had the following characteristics:

- Any bank user who was using digital banking
- Participants born between 1965 to 1980 (Generation X)

### **3.4.2 Sampling Frame**

The sampling frame can be defined as the list of cases in the target population from which the sample is actually drawn (Schindler, 2022). The sample frame can often be different from the desired population. For this study the respondents consisted of general digital bank users. The population of this study was unknown in terms of numbers because it can vary.

### **3.4.3 Sampling Method**

Sampling consists of non-probability and probability sampling. Schindler (2022) defines non-probability sampling as an arbitrary and subjective procedure in which each population element does not have a known non-zero chance of being included. In other words, the population elements do not have an equal chance of being included in the sample. Non-probability sampling consists of convenience, purposive, quota, snowball, and self-selection. Probability sampling, on the other hand, is based on the concept of random selection, and is defined as a controlled procedure which assures that each case is given a known non-zero chance of selection (Schindler, 2022). Probability sampling techniques consist of simple random sampling, stratified sampling, systematic and cluster sampling

The study was based initially on purposive sampling, consisting of rural clients in Limpopo, but later expanded, through the use of online completion of the research instrument, to expand the reach of the research study to all consumers across the regions in South Africa. The research was quantitative. Data was collected physically and online using google forms. Respondents accessed the questionnaire via a link which was sent via e-mail, as well as via WhatsApp. With the participants conforming to some sort of similar criterion (which is digital banking adoption in this case), the form of purposive sampling to be used was judgement sampling. During the early stages of an exploratory study, the judgement sampling method is appropriate to use. Another type of purposive sampling is quota sampling, which used mostly to improve representativeness. The logic behind quota sampling is that certain relevant characteristics describe dimensions of the population (Schindler, 2022).

#### **3.4.4 Sampling Size**

A total of 250 questionnaires was envisaged. Participants who did not have access to the internet were the ideal target population, as this further illustrated that these customers do not need only to adopt to digital banking, but also basic technology itself, as the internet can be deemed as something basic in some spheres of the world. However, in many parts of South Africa, the phrase “it is not always as it seems” would be applicable. The desired sample ultimately achieved was 256 participants.

#### **3.5 Measures**

The researcher used an online questionnaire, were provided to the prospective participants, with an intended target of 250 responses. Those completing at branches used the researcher’s tablet. The researcher ensured that the questionnaire designed was clear and concise, valid, reliable and not ambiguous, to ensure that the data collected could be validated in the research conducted. Likert scales were used for questions focusing on respondent’s beliefs and opinions towards the adoption of digital banking. The independent variables were measured by using a multi-item five point Likert scale where “1” denoted a Strongly Disagree (SD), “2” denoted as Disagree (D), “3” denoted as Neither Agree or Disagree (N), 4 denoted as Agree (A) and “5” denoted as Strongly Agree (SA), respectively.

### **3.5.1 Perceived Ease of Use (PEU)**

Perceived Ease of Use was measured on a five-point scale with 1 = strongly disagree and 5 = strongly agree. It consisted of seven items adapted from Davis (1989), Venkatesh et. al (2003), Pikkarainen et al., (2004) and Wang et al., (2019) as follows:

PEU1. I find it easy to use the banking app.

PEU2. I can use digital banking for all my banking needs.

PEU3. I require little assistance to perform certain functions on my banking app.

PEU4. I feel confident using internet banking.

PEU5. Digital banking provides a practical banking experience.

PEU6. Digital banking is user-friendly.

PEU7. Digital Banking requires easy-to-use steps.

### **3.5.2 Perceived Usefulness (PU)**

Perceived Usefulness was measured on a five-point scale with 1 = strongly disagree and 5 = strongly agree. It consisted of three items adapted from Davis (1989), Venkatesh et. al (2003), Pikkarainen et al., (2004) and Wang et al., (2019) as follows:

PU1. Internet banking is a useful application.

PU2. I can conduct all my banking activities through digital banking.

PU3. Digital banking streamlines all my banking facilities (overdraft, credit card, investments, personal accounts, vehicle account, bond account).

### **3.5.3 Facilitating Conditions (FC)**

Facilitating Conditions was measured on a five-point scale with 1 = strongly disagree and 5 = strongly agree. It consisted of three items adapted from Hossain, et al., (2019) and Venkatesh, et al., (2003) as follows:

FC1. Computer literacy is required to conduct digital banking.

FC2. Internet knowledge is required to conduct digital banking.

FC3. Only customers on high income brackets are able to transact using digital banking.

### **3.5.4 Hedonic Motivation (HM)**

Hedonic Motivation was measured on a five-point scale with 1 = strongly disagree and 5 = strongly agree. It consisted of three items adapted from Batra & Ahtola (1991) and Holbrook & Hirschman (1982) as follows:

HM1. I enjoy using my digital banking app.

HM2. I enjoy having access to all my accounts on the digital banking app.

HM3. I enjoy helping others conduct digital banking.

### **3.5.5 Convenience (CIB)**

Convenience was measured on a five-point scale with 1 = strongly disagree and 5 = strongly agree. It consisted of five items adapted from Davis (1989), Pikkarainen et al (2004), Gerrard & Cunningham (2003) and Black *et al.*, (2003) as follows:

CIB1. Digital banking is convenient to use.

CIB2. Digital banking saves time

CIB3. Digital banking provides the best banking services.

CIB4. Digital banking transactions can be conducted from the comfort of my chair

CIB5. Digital Banking services are available 24/7

### **3.5.6 Security (SITB)**

Security was measured on a five-point scale with 1 = strongly disagree and 5 = strongly agree. It consisted of four items adapted from Al-Khalaf & Choe (2020 Al-Sajjan & Dennis (2009)), Banu et al., (2019), Boateng, et al., (2016), Dagada (2013) and Sathye (1999). As follows:

SITB1. Digital banking is a secure form of banking.

SITB2. Digital banking is a trustworthy service.

SITB3. Using digital banking exposes one's banking account to cybercrime.

SITB4. I trust my bank's online security verification checks.

## **3.6 Data Collection**

Data was collected from respondents via an online survey questionnaire, as a questionnaire is the simplest and quickest way of collecting large amounts of data. The research instrument was distributed to participants via WhatsApp and posted on the internet. A link had been created to enable participants to access the questionnaire. However, some respondents were approached inside the banks after permission was sought from the branch managers and those participants completed the survey on the researcher's tablet.

A pilot study is a trial run for a researcher, where he/she runs the study on two or three potential participants, to check whether the research questions are clear or need to be refined or changed. The participants in the trial run have the same characteristics as those who will participate in the final study. However, those who take part in the pilot study do not form part of the actual study. For the purpose of this study, no pilot study was conducted.

### **3.7 Data Analysis**

The statistical packages used by the researcher are the Statistical Package for Social Science's (SPSS) 28 and the SEM-AMOS 28 . The SPSS package is ideal when the objective of the research is comparison analysis, which in this case will be amongst various banking customers. This statistical package is user-friendly and various statistical tests can be conducted using this software. SPSS undertakes both comparison and correlational statistical tests in the context of univariate, bivariate and multivariate analysis for both the parametric and non-parametric statistical techniques (Hair, Ringle & Sartedt, 2011)

The AMOS software is widely used to confirm a theory, as it uses the ML estimation techniques in the SEM analysis (Byrne, 2010). In addition, AMOS software is automatically offered together with the SPSS software version 20.0.

### **3.8 Validity and Reliability**

Validity and reliability are closely inter-related and form part of a characteristic of good measurement. Reliability looks at the accuracy and precision of a measurement procedure while validity looks at the extent at which a chosen or developed scale (measurement question) actually measures the desired measurement (investigative question) (Schindler, 2022). Schindler further states that the relationship between reliability and validity can be illustrated in the form of a bathroom scale. If the scale measures your weight correctly then it may be deemed as being both valid and reliable. The inverse is also correct being that any consistent discrepancies in the weight results (even by 2 kilograms) can be deemed as being reliable but also invalid. Furthermore, if scale measurement is erratic from time to time, then it is neither reliable nor valid. Essentially, Schindler believes that reliability is a necessary contributor to validity, but not a sufficient condition for validity.

#### **3.8.1 Internal Validity**

Internal validity is defined as the extent to which the observed results represent the truth in the population we are studying and are, thus, not due to methodological errors. Various threats can be identified during the internal validity of a study (Patno & Ferreira, 2018). Some of these threats may be in the form of errors in measurement

or in the selection of participants in the study. Researchers should be cognisant and try to avoid these types of errors.

### **3.8.2 External Validity**

External validity is the subjective in nature and assumes that an instrument measures what it intends to measure in terms of relevance (Borsboom et al., 2004). Questions around the ability of the data to be general across individuals, settings and times come into play.

### **3.8.3 Content Validity**

Content validity focuses on the extent at which it provides adequate coverage of the investigating questions used in the study. If the investigation adequately covers the topic of interest then the content validity is good (Schindler, 2022).

### **3.8.4 Reliability**

Reliability looks at the extent in which a measurement is free from random or unstable error. Consistency is key when the researcher seeks to achieve reliable results.

## **3.9 Ethical Considerations**

According to Denzin and Lincoln (2011), ethics or ethical considerations are principles which a researcher must observe in the process of conducting a study, whether the participants are human or non-human. It is vital for a researcher to have moral principles and ensure that their research does not cause any harm to the participants in any form or manner.

### **3.9.1 Permission**

The researcher obtained an ethics clearance certificate from the University of the Witwatersrand research ethics committee which will need to be presented together with a permission letter from the Wits Registrar's office to conduct the proposed research. Permission was also obtained from bank managers at Absa and First National Bank (FNB) to conduct the study among the clientele.

### **3.9.2 No Harm to Subjects**

The researcher may not ask questions which will affect the research subject's emotional and overall mental well-being. Should the research questions give a participant a general feeling of having their human right violated, then the researcher

needs to stop immediately and if possible, refer the participant to the relevant body as an attempt to remediate the grievance. The researcher did not experience this problem.

### **3.9.3 Informed Consent**

Another aspect is voluntary participation, which stipulates that research subjects must participate freely, and be allowed to quit without any form of prejudice. The researcher must explain to the participant what the research will be used for as well as the duration of which the research will take place. All respondents were informed about all aspects of the study.

### **3.9.4 Confidentiality, Privacy and Anonymity**

The researcher should treat the data provided by the research subjects confidentially, and desist from sharing research data with unauthorised people. Research subjects' data must be kept securely and not be accessible to unauthorised people. Finally, research must be anonymous, meaning the research subject must not be identifiable. Therefore, no personal details must appear on documents such as questionnaires. The present researcher observed these, as well as other research principles. Furthermore, the researcher followed the stipulated procedures before formally undertaking this research.

## **CHAPTER 4: DATA ANALYSIS AND RESULTS PRESENTATION**

### **4.1 Introduction**

The chapter begins with the presentation of the results. The researcher used SEM, AMOS 28 and SPSS for the analysis the chapter then proceeds to the descriptive statistics and thereafter delves deeply into a comprehensive review of the validity and reliability of the measuring tools utilised in the study. After presenting the inferential statistics and discussing validity and reliability using confirmatory factor analysis (CFA) and model fit, the hypotheses are tested.

### **4.2 Descriptive Statistics**

An online questionnaire survey was used in this study to find out how well each dimension was recognized by consumers. A total of 270 questionnaires were distributed and returned, after 19 invalid surveys were eliminated, 256 were legitimate for further analysis. Table 4.1 presents the findings of the descriptive statistics derived from all valid questionnaires.

**Table 4.1: Demographic Data Profile of Respondents**

| <b>Construct</b>                                                   | <b>Item Description</b>        | <b>Frequency</b> | <b>Valid Percent</b> |
|--------------------------------------------------------------------|--------------------------------|------------------|----------------------|
| <b>Age Group</b>                                                   | 45 to 50 years                 | 143              | 55.9%                |
|                                                                    | 51 to 55 years                 | 45               | 17.6%                |
|                                                                    | 56 to 60 years                 | 26               | 10.2%                |
|                                                                    | 61 to 65 years                 | 42               | 16.4%                |
|                                                                    | <b>Total</b>                   | <b>256</b>       | <b>100.0</b>         |
| <b>Education Level</b>                                             | Bachelor's Degree              | 51               | 19.9%                |
|                                                                    | Certificate/Higher Certificate | 34               | 13.3%                |
|                                                                    | Diploma                        | 57               | 22.3%                |
|                                                                    | High School (Matric)           | 39               | 15.2%                |
|                                                                    | Postgraduate Degree            | 50               | 19.5%                |
|                                                                    | Some Primary School            | 25               | 9.8%                 |
|                                                                    | <b>Total</b>                   | <b>256</b>       | <b>100.0</b>         |
| <b>Please indicate your monthly individual income bracket</b>      | Above R20 001                  | 95               | 37.1%                |
|                                                                    | R10 001 – R20 000              | 74               | 28.9%                |
|                                                                    | R5 001 – R10 000               | 43               | 16.8%                |
|                                                                    | Up to R5 000                   | 44               | 17.2%                |
|                                                                    | <b>Total</b>                   | <b>256</b>       | <b>100.0</b>         |
| <b>Please indicate the MAIN bank that you currently bank with.</b> | ABSA                           | 59               | 23.0%                |
|                                                                    | CAPITEC                        | 93               | 36.3%                |
|                                                                    | FNB                            | 43               | 16.8%                |
|                                                                    | NEDBANK                        | 24               | 9.4%                 |
|                                                                    | STANDARD BANK                  | 37               | 14.5%                |
|                                                                    | <b>Total</b>                   | <b>256</b>       | <b>100.0</b>         |

### 4.2.1 Age Group

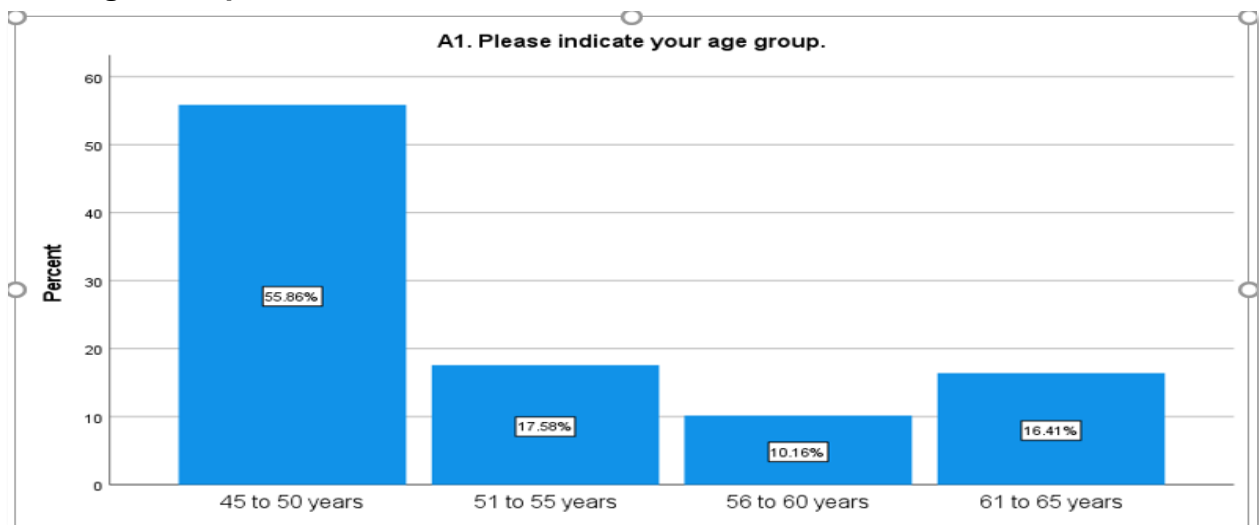


Figure 4.1 Age Group

Figure 4.1 above indicates that approximately 55.86% of the respondents are in the 45 – 50 years age group; 17.58% falls in the 51 – 55 years age group; 10.16% are in the 56 – 60 age group and 16.41% fall under the 61-65 age group. It is quite evident that the majority of respondents were the 45-50 years age group at 55.86% whilst the age group with the least respondents was the 56 – 60 years age group, at 10.16%.

### 4.2.2 Education Level

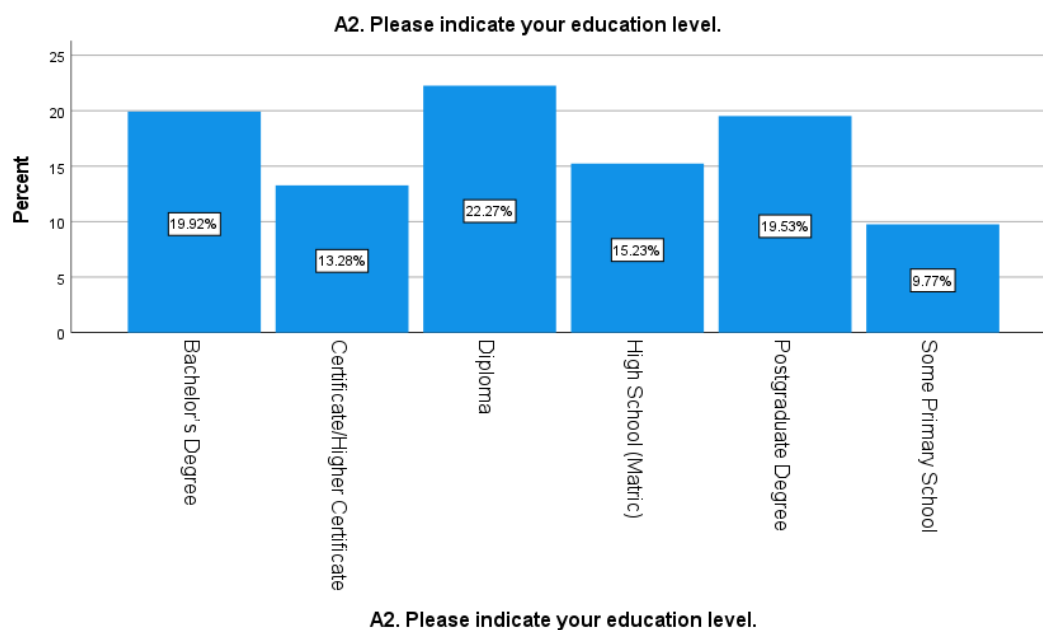
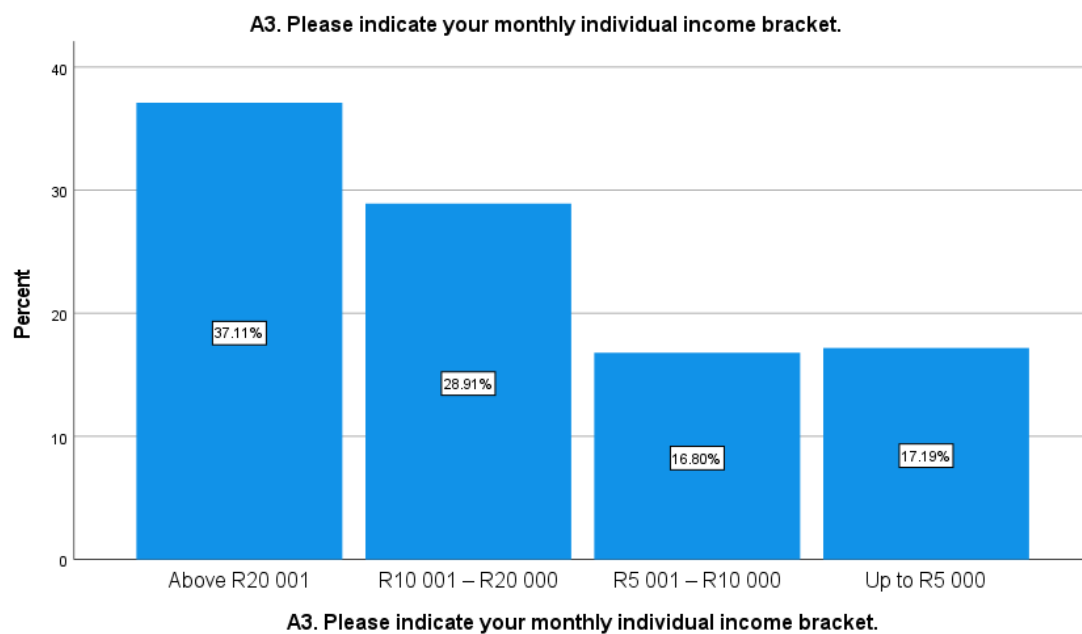


Figure 3.2 Education Level

The diagram shows the education level for participants in the study. Figure 4.2 above indicates that majority (22.3%) of the respondents holds a diploma, followed by 19.9%% of those with a bachelor's degree; 19.5% indicated that they have a postgraduate degree; 15.2% have a high school or matric certificate; 13.3% have a higher certificate; 9.3% had least responses for those with some primary school.

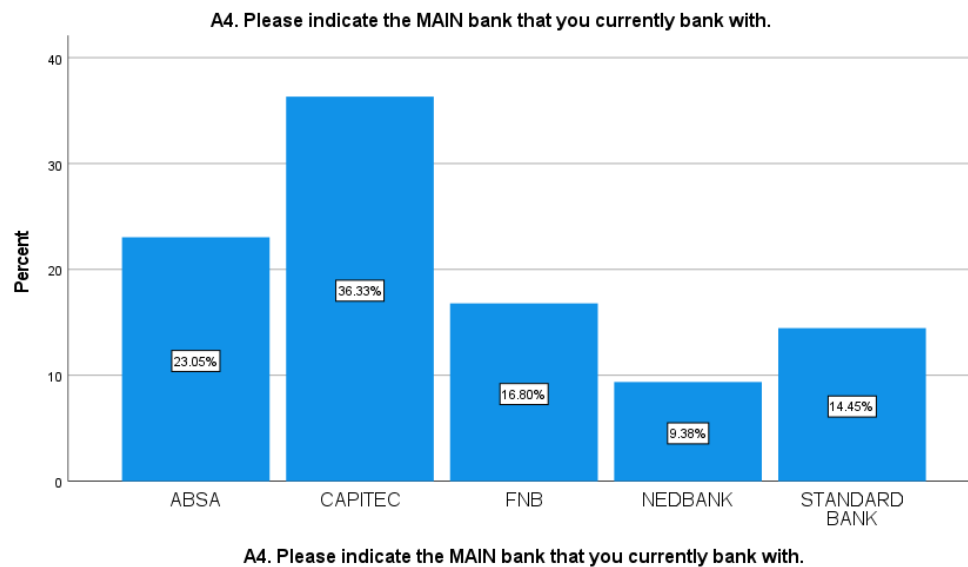
### 4.2.3 Monthly Individual Income



*Figure 4.3 Monthly Individual Income*

The distribution of participants' income is displayed in Figure 4.3. The findings on the distribution of respondents' income show that 37.1% earned more than R20,000, with 28.9% falling between R10,001 and R20,000.

#### 4.2.4 MAIN Bank That You Currently Bank With



*Figure 4.4 Main Bank of Choice*

Figure 4.4 displays the main bank which participants are currently using. The results show that CAPITEC was the bank of choice for the majority of respondents, at 36.3%, followed by ABSA (23.0%), FNB (16.8%), STANDARD BANK (14.5%), and NEDBANK (9.4%).

#### 4.3 Structural Equation Modelling

The structural equation modelling is defined as a multivariate statistical analysis method for examining structural relationships. This method, which examines the structural link between measurable variables and latent constructs, combines multiple regression analysis and component analysis. The researcher utilised this approach, as it estimates the interconnected and multiple dependences in a single analysis. Endogenous variables and exogenous variables are the two categories of variables employed in this investigation (Collier, 2020).

#### 4.4 Reliability Measurements

Reliability can be defined as the degree to which a scale yields consistent findings each time the repeated measurements are taken on the same characteristic under the same circumstances (George & Mallery, 2018).

To assess the reliability of the measuring instruments, the researcher employed Cronbach's alpha ( $\alpha$ ), item to total values, and Composite Reliability (CR). An overview of the outcomes from these three tests can be found in the following section:

#### **a. Cronbach Alpha ( $\alpha$ )**

Cronbach Alpha is a measurement of the internal consistency of a group of items, or how closely connected they are to one another. It is regarded as a scale reliability metric. The definition of consistency encompasses the essence of reliability. A measuring instrument is considered dependable if, for instance, it yields the same results with the same subjects on various occasions (Park, 2021).

The measurement scales of constructs' internal reliability were evaluated in this study using Cronbach's alpha. The following Cronbach Alpha values were found for each construct, based on the variable' reliability: perceived usefulness = 0,899 security of using internet banking = 0,927, facilities conditions = 0,830, perceived ease of use = 0,942, hedonic motivation = 0,96, convenience of internet banking = 0,930, and continuous intention = 0,883. Therefore, all of the constructs were deemed to be highly reliable, as they are above the cut-off value of 0.70, recommended by Kennedy (2022). This implies that the survey instrument is reliable to measure all constructs consistently and is free from random error. The Cronbach alpha results are presented in Table 6.2, while the Cronbach Coefficient Alpha presents the results of the Cronbach alpha values.

As a result, every construct was judged to be highly dependable, as every construct is over Kennedy's (2022) suggested cut-off value of 0.70,.This suggests that the survey instrument is trustworthy in measuring every construct consistently and is error-free. The Cronbach alpha values are displayed in the Appendix: Cronbach Coefficient Alpha's, while the results of the Cronbach alpha analysis are shown in the reliability table below.

**Table 4.2: Reliability Measures**

| Research Construct |       | Descriptive Statistics |       |                    |       | Cronbach's Test |                | C.R. Value | AVE Value | Factor Loading |
|--------------------|-------|------------------------|-------|--------------------|-------|-----------------|----------------|------------|-----------|----------------|
|                    |       | Mean Value             |       | Standard Deviation |       | Item - total    | $\alpha$ value |            |           |                |
| PU                 | PU1   | 3,867                  | 3,625 | 1,334              | 1,380 | 0,802           | 0,899          | 0,899      | 0,848     | 0,864          |
|                    | PU2   | 3,465                  |       | 1,463              |       | 0,800           |                |            |           | 0,871          |
|                    | PU3   | 3,543                  |       | 1,342              |       | 0,801           |                |            |           | 0,861          |
| SITB               | SITB1 | 3,176                  | 3,202 | 1,421              | 1,397 | 0,854           | 0,927          | 0,927      | 0,900     | 0,896          |
|                    | SITB2 | 3,199                  |       | 1,396              |       | 0,866           |                |            |           | 0,910          |
|                    | SITB4 | 3,230                  |       | 1,374              |       | 0,834           |                |            |           | 0,894          |
| FC                 | FC1   | 3,754                  | 3,881 | 1,276              | 1,205 | 0,714           | 0,830          | 0,835      | 0,823     | 0,885          |
|                    | FC2   | 4,008                  |       | 1,134              |       | 0,714           |                |            |           | 0,807          |
| PEU                | PEU1  | 3,438                  | 3,381 | 1,550              | 1,460 | 0,894           | 0,942          | 0,971      | 0,836     | 0,934          |
|                    | PEU2  | 3,336                  |       | 1,499              |       | 0,864           |                |            |           | 0,903          |
|                    | PEU3  | 2,984                  |       | 1,508              |       | 0,583           |                |            |           | 0,580          |
|                    | PEU4  | 3,328                  |       | 1,532              |       | 0,912           |                |            |           | 0,947          |
|                    | PEU5  | 3,500                  |       | 1,296              |       | 0,837           |                |            |           | 0,857          |
|                    | PEU6  | 3,410                  |       | 1,487              |       | 0,910           |                |            |           | 0,937          |
|                    | PEU7  | 3,668                  |       | 1,344              |       | 0,680           |                |            |           | 0,691          |
| HM                 | HM1   | 3,559                  | 3,366 | 1,440              | 1,412 | 0,871           | 0,896          | 0,908      | 0,857     | 0,959          |
|                    | HM2   | 3,676                  |       | 1,349              |       | 0,837           |                |            |           | 0,929          |
|                    | HM3   | 2,863                  |       | 1,447              |       | 0,689           |                |            |           | 0,726          |
| CIB                | CIB1  | 3,727                  | 3,887 | 1,315              | 1,261 | 0,781           | 0,930          | 0,930      | 0,830     | 0,855          |
|                    | CIB2  | 4,051                  |       | 1,244              |       | 0,861           |                |            |           | 0,874          |
|                    | CIB3  | 3,676                  |       | 1,259              |       | 0,838           |                |            |           | 0,902          |
|                    | CIB4  | 4,023                  |       | 1,252              |       | 0,840           |                |            |           | 0,850          |
|                    | CIB5  | 3,957                  |       | 1,234              |       | 0,761           |                |            |           | 0,774          |
| CI                 | CI1   | 3,605                  | 3,429 | 1,264              | 1,291 | 0,775           | 0,883          | 0,886      | 0,777     | 0,836          |
|                    | CI2   | 3,730                  |       | 1,186              |       | 0,795           |                |            |           | 0,835          |
|                    | CI3   | 2,785                  |       | 1,339              |       | 0,629           |                |            |           | 0,662          |
|                    | CI4   | 3,594                  |       | 1,377              |       | 0,802           |                |            |           | 0,906          |

**b. Item to total values**

Table 4.2 above displays item to total values, which varied from 0,583 to 0,912. These are higher than the 0.3 cut-off point, indicating that the item is measuring something other than the entire scale (Wang, Batt, Kessler, Neff, Iyer, Cooper, & Kempton, 2017).

**c. Composite Reliability (CR)**

Composite reliability, often referred to as internal consistency (Fornell & Larcker, 1981), is the combination reliability of latent constructs that supports a scale (Hair et al., 2019). Two well-liked approaches to composite reliability are alpha and omega (Sujati, & Akhyar, 2020). Dunn, Baguley, and Brunnsden (2013) recommend using alpha if a researcher is certain that the scale has satisfied the unidimensional principle.

On the other hand, omega may be used if the researcher is unsure if the scale is unidimensional. According to Sujati and Akhyar (2020), when test takers with similar proficiency utilise an instrument, it is considered unidimensional if the covariant between its items is zero (0).

Composite reliability was also used in this study to assess internal reliability (CR). All latent variables should have composite reliability greater than 0.70 (Sujati, & Akhyar, 2020). According to Hair et al. (2019), the acceptable range of 0.7 (from 0,835 to 0,971), was reached by the CR for every latent factor, demonstrating strong reliability for every construct (Hair et al, 2019). The findings are displayed in Table CR below.

**Table 4.3: Composite Reliability**

| Standised regression Estimates (all variables and instruments included) |      |       |          |                                     |                                               |                                                                              |
|-------------------------------------------------------------------------|------|-------|----------|-------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------|
|                                                                         |      |       | Estimate | Composite reliability (CR)          |                                               |                                                                              |
|                                                                         |      |       |          | ( $\sum \lambda Y_i$ ) <sup>2</sup> | summation of error terms<br>$\sum \epsilon_i$ | $CR\eta = (\sum \lambda y_i)^2 / [(\sum \lambda y_i)^2 + (\sum \epsilon_i)]$ |
| PU                                                                      | <--- | PU1   | 0,864    | 6,739                               | 0,254                                         | 0,754                                                                        |
|                                                                         | <--- | PU2   | 0,871    |                                     | 0,241                                         |                                                                              |
|                                                                         | <--- | PU3   | 0,861    |                                     | 0,259                                         |                                                                              |
| SITB                                                                    | <--- | SITB1 | 0,896    | 7,290                               | 0,197                                         | 0,570                                                                        |
|                                                                         | <--- | SITB2 | 0,910    |                                     | 0,172                                         |                                                                              |
|                                                                         | <--- | SITB4 | 0,894    |                                     | 0,201                                         |                                                                              |
| FC                                                                      | <--- | FC1   | 0,885    | 2,863                               | 0,217                                         | 0,566                                                                        |
|                                                                         | <--- | FC2   | 0,807    |                                     | 0,349                                         |                                                                              |
| PEU                                                                     | <--- | PEU1  | 0,934    | 34,211                              | 0,128                                         | 1,038                                                                        |
|                                                                         | <--- | PEU2  | 0,903    |                                     | 0,000                                         |                                                                              |
|                                                                         | <--- | PEU3  | 0,580    |                                     | 0,000                                         |                                                                              |
|                                                                         | <--- | PEU4  | 0,947    |                                     | 0,000                                         |                                                                              |
|                                                                         | <--- | PEU5  | 0,857    |                                     | 0,266                                         |                                                                              |
|                                                                         | <--- | PEU6  | 0,937    |                                     | 0,122                                         |                                                                              |
|                                                                         | <--- | PEU7  | 0,691    |                                     | 0,523                                         |                                                                              |
| HM                                                                      | <--- | HM1   | 0,959    | 6,833                               | 0,080                                         | 0,690                                                                        |
|                                                                         | <--- | HM2   | 0,929    |                                     | 0,137                                         |                                                                              |
|                                                                         | <--- | HM3   | 0,726    |                                     | 0,473                                         |                                                                              |
| CIB                                                                     | <--- | CIB1  | 0,855    | 18,105                              | 0,269                                         | 1,370                                                                        |
|                                                                         | <--- | CIB2  | 0,874    |                                     | 0,236                                         |                                                                              |
|                                                                         | <--- | CIB3  | 0,902    |                                     | 0,186                                         |                                                                              |
|                                                                         | <--- | CIB4  | 0,850    |                                     | 0,278                                         |                                                                              |
|                                                                         | <--- | CIB5  | 0,774    |                                     | 0,401                                         |                                                                              |
| CI                                                                      | <--- | CI1   | 0,836    | 10,491                              | 0,301                                         | 1,345                                                                        |
|                                                                         | <--- | CI2   | 0,835    |                                     | 0,303                                         |                                                                              |
|                                                                         | <--- | CI3   | 0,662    |                                     | 0,562                                         |                                                                              |
|                                                                         | <--- | CI4   | 0,906    |                                     | 0,179                                         |                                                                              |

PU = perceived usefulness, SITB = security of using internet banking, FC = facilities conditions, PEU = perceived ease of use, HM = hedonic motivation, CIB = convenience of internet banking, and CI = continuous intention.

Source: Researcher (2023)

## 4.5 Validity Measurements

Validity is the degree to which a study is accurate (Hair et al., 2019). Convergent and discriminant validity tests were among the validity assessments carried out in this investigation. The CFA results demonstrated the measuring of the model's convergent and discriminant validity (Fornell & Larcker, 1981).

### i. Convergent Validity

Convergent validity determines the relationship between two tests that should be highly related to one another (Richardson & Flyr, 2023). In order to evaluate the existence of convergent validity, the factor loadings of the constructs were examined (Fornell & Larcker, 1981). The value of the standardised factor loadings have to be

higher than 0.5, in order to evaluate the scales' convergent validity (Anderson & Gerbing, 1988; Fornell & Larcker, 1981). Table 4.4 below shows the factor loading for each construct.

## **ii. Factor Loading and Items**

Factor loading ( $\lambda$ ) of each item and factors that develop scale are two outcomes of the first order confirmatory factor analysis. The researcher had seven constructs and 29 measurement instruments for the study. However, after preliminary analysis, only 27 of the 29 instruments were valid. Thus, SITB3 and FC3 were the only two that were removed. The factor loading for each factor and its elements is displayed in Table below.

**Table 1.4: Factor Loadings and Items**

| <b>Construct</b>                          | <b>Number of Items</b> | <b>Item</b>                                                                       | <b>Factor Loadings</b> |
|-------------------------------------------|------------------------|-----------------------------------------------------------------------------------|------------------------|
| <b>Perceived Usefulness</b>               | 1                      | PU1. Internet banking is a useful application.                                    | 0,864                  |
|                                           | 2                      | PU2. I can conduct all my banking activities through digital banking.             | 0,871                  |
|                                           | 3                      | PU3. Digital banking streamlines all my banking facilities                        | 0,861                  |
| <b>Security of Using Internet Banking</b> | 4                      | SITB1. Digital banking is a secure form of banking.                               | 0,896                  |
|                                           | 5                      | SITB2. Digital banking is a trustworthy service.                                  | 0,910                  |
|                                           | 6                      | SITB4. I trust my bank's online security verification checks.                     | 0,894                  |
| <b>Facilitating Conditions</b>            | 7                      | FC1. Computer literacy is required to conduct digital banking.                    | 0,885                  |
|                                           | 8                      | FC2. Internet knowledge is required to conduct digital banking.                   | 0,807                  |
| <b>Perceived Ease of Use</b>              | 9                      | PEU1. I find it easy to use the banking app.                                      | 0,934                  |
|                                           | 10                     | PEU2. I can use digital banking for all my banking needs.                         | 0,903                  |
|                                           | 11                     | PEU3. I require little assistance to perform certain functions on my banking app. | 0,580                  |
|                                           | 12                     | PEU4. I feel confident using internet banking.                                    | 0,947                  |
|                                           | 13                     | PEU5. Digital banking provides a practical banking experience.                    | 0,857                  |
|                                           | 14                     | PEU6. Digital banking is user-friendly.                                           | 0,937                  |
|                                           | 15                     | PEU7. Digital Banking requires easy-to-use steps.                                 | 0,691                  |
| <b>Hedonic Motivation</b>                 | 16                     | HM1. I enjoy using my digital banking app.                                        | 0,959                  |
|                                           | 17                     | HM2. I enjoy having access to all my accounts on the digital banking app.         | 0,929                  |
|                                           | 18                     | HM3. I enjoy helping others conduct digital banking.                              | 0,726                  |
| <b>Convenience Of Internet Banking</b>    | 19                     | CIB1. Digital banking is convenient to use.                                       | 0,855                  |
|                                           | 20                     | CIB2. Digital banking saves time                                                  | 0,874                  |
|                                           | 21                     | CIB3. Digital banking provides the best banking services.                         | 0,902                  |
|                                           | 22                     | CIB4. Digital banking transactions can be conducted from the comfort of my chair  | 0,850                  |
|                                           | 23                     | CIB5. Digital Banking services are available 24/7                                 | 0,774                  |
| <b>Continuous Intention</b>               | 24                     | CI1. I have a positive attitude towards new technology                            | 0,836                  |
|                                           | 25                     | CI2. Digital banking is a significant form of innovation                          | 0,835                  |
|                                           | 26                     | CI3. I have no intention of making use of over-the-counter banking                | 0,662                  |
|                                           | 27                     | CI4 I intend to continue using digital banking in the future                      | 0,906                  |

Source: Researcher (2023)

Factor loading refers to the relationship between each variable and the factor (Rönkkö & Cho, 2022). One method of interpreting each variable's contribution to determining its factor is through factor loading. As a result, the variable would be more reflective of the factor if the factor loading were higher. This theory calls for careful consideration of the amount of factors loaded. Factor loading of at least 0.50 is practically significant,

according to Hair et al. (2019). All factors and items displayed factor loading values greater than 0.5, according to the results of the first order confirmatory factor analysis of values between 0,580 to 0,959, which are presented in Table 4.4 above. Every item and factor was therefore practically significant and viable to use in the data collection process (Sujati, & Akhyar, 2020).

### **iii. Discriminant Validity**

When developing an instrument with latent variables, a discriminant validity test is necessary (Franke & Sarstedt, 2019). According to DeVelis and Thorpe (2021), discriminant validity, also known as divergent validity, requires that there be conceptually meaningful distinctions between two concepts. The goal of a discriminant validity test is to demonstrate how significantly distinct one construct is from the other (Sujati, & Akhyar, 2020). The degree to which a construct in a model can be discriminated from other constructs is shown by discriminant validity (Hair et al., 2019)

A correlation between latent components, which is not too high or low in the covariance factor, demonstrates discriminant validity (Sujati, & Akhyar, 2020). Discriminant validity verifies the individuality of each latent construct. What this means is, there should not be a strong correlation between two latent constructs. The inter-construct correlation matrix, AVE, as well as AVE and SV, were evaluated in order to test for discriminant validity.

To ascertain how different and/or less similar the constructs were from one another, the inter-construct correlation matrix was utilized (Hair et al., 2010). The highest correlation, according to the data, is 0.904. There was sufficient discriminant validity in the measuring scales, as the inter-factor correlation values for all paired latent variables were below the suggested maximum threshold of 1.0 (Hair et al., 2010). Furthermore, the inter-correlation values for every paired latent variable, as shown in table below, were less than 1.0, indicating the presence of discriminant validity.

**Table 4.5: Inter-Construct Correlation Matrix**

|      | PU      | SITB    | CIB    | HM      | PEU     | FC     | CI |
|------|---------|---------|--------|---------|---------|--------|----|
| PU   | 1       |         |        |         |         |        |    |
| SITB | .785**  | 1       |        |         |         |        |    |
| CIB  | .848**  | .734**  | 1      |         |         |        |    |
| HM   | .836**  | .764**  | .822** | 1       |         |        |    |
| PEU  | .835**  | .760**  | .815** | .904**  | 1       |        |    |
| FC   | -.214** | -.204** | -.125* | -.275** | -.289** | 1      |    |
| CI   | .812**  | .694**  | .823** | .839**  | .856**  | -.161* | 1  |

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

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

#### 4.6 Convergent Validity

Convergent validity is the extent to which comparable constructs are assessed using different variables (Rogge, Daks, Dubler, & Saint, 2019). Convergent validity, then, guarantees that the variables in question are part of the latent construct that is to be tested (Wang, French & Clay, 2015). Based on the correlation between responses of various variables while assessing the same construct, convergent validity is established (Rogge et al., 2019). Variables and the latent construct should therefore have a strong correlation (Sujati, & Akhyar, 2020).

One of the most important factors in establishing convergent validity is the amount of factor loading (Hair et al., 2019). According to Rogge et al. (2019), a latent variable is considered good if its factor loading is less than or equal to 0.50. According to Hair et al. (2019), an average variance extracted (AVE) of 0.5 or above is considered convergent validity, as it can describe the extent to which items are shared across constructs in structural equation modelling (SEM).

The study used seven constructs to formulate the scale: perceived usefulness (PU), security (SITB), facilitating conditions (FC), perceived ease of use (PEU), hedonic motivation (HM), convenience of internet banking (CIB), and continuous intention (CI) to adopt digital banking. The outcome demonstrated that the seven constructs' respective AVE values were PU = 0,848; SITB = 0,900; FC = 0,823; PEU = 0,836; HM = 0,857; CIB = 0,830; CI = 0,777. Given that every construct surpassed the AVE acceptable threshold of >0.50, it may be inferred that they are capable of measuring the latent variables. Thus, they met the requirements for convergent validity. The table below presents detailed AVE.

**Table 4.6: Average Variance Extracted**

| Average Variance Extraxted |      |       |          |                 |                      |                    |                         |                                                                     |
|----------------------------|------|-------|----------|-----------------|----------------------|--------------------|-------------------------|---------------------------------------------------------------------|
|                            |      |       | Estimate | $\lambda y_i^2$ | $\sum \lambda y_i^2$ | $\hat{\epsilon}_i$ | $\sum \hat{\epsilon}_i$ | $\sum \lambda y_i^2 / (\sum \lambda y_i^2 + \sum \hat{\epsilon}_i)$ |
| PU                         | <--- | PU1   | 0,864    | 0,746           | 2,246                | 0,136              | 0,404                   | 0,848                                                               |
|                            | <--- | PU2   | 0,871    | 0,759           |                      | 0,129              |                         |                                                                     |
|                            | <--- | PU3   | 0,861    | 0,741           |                      | 0,139              |                         |                                                                     |
| SITB                       | <--- | SITB1 | 0,896    | 0,803           | 2,700                | 0,104              | 0,300                   | 0,900                                                               |
|                            | <--- | SITB2 | 0,91     | 0,828           |                      | 0,090              |                         |                                                                     |
|                            | <--- | SITB4 | 0,894    | 0,799           |                      | 0,106              |                         |                                                                     |
| FC                         | <--- | FC1   | 0,885    | 0,783           | 1,434                | 0,115              | 0,308                   | 0,823                                                               |
|                            | <--- | FC2   | 0,807    | 0,651           |                      | 0,193              |                         |                                                                     |
| PEU                        | <--- | PEU1  | 0,934    | 0,872           | 5,849                | 0,066              | 1,151                   | 0,836                                                               |
|                            | <--- | PEU2  | 0,903    | 0,815           |                      | 0,097              |                         |                                                                     |
|                            | <--- | PEU3  | 0,58     | 0,336           |                      | 0,420              |                         |                                                                     |
|                            | <--- | PEU4  | 0,947    | 0,897           |                      | 0,053              |                         |                                                                     |
|                            | <--- | PEU5  | 0,857    | 0,734           |                      | 0,143              |                         |                                                                     |
|                            | <--- | PEU6  | 0,937    | 0,878           |                      | 0,063              |                         |                                                                     |
|                            | <--- | PEU7  | 0,691    | 0,477           |                      | 0,309              |                         |                                                                     |
| HM                         | <--- | HM1   | 0,959    | 0,920           | 2,310                | 0,041              | 0,386                   | 0,857                                                               |
|                            | <--- | HM2   | 0,929    | 0,863           |                      | 0,071              |                         |                                                                     |
|                            | <--- | HM3   | 0,726    | 0,527           |                      | 0,274              |                         |                                                                     |
| CIB                        | <--- | CIB1  | 0,855    | 0,731           | 3,630                | 0,145              | 0,745                   | 0,830                                                               |
|                            | <--- | CIB2  | 0,874    | 0,764           |                      | 0,126              |                         |                                                                     |
|                            | <--- | CIB3  | 0,902    | 0,814           |                      | 0,098              |                         |                                                                     |
|                            | <--- | CIB4  | 0,85     | 0,723           |                      | 0,15               |                         |                                                                     |
|                            | <--- | CIB5  | 0,774    | 0,599           |                      | 0,226              |                         |                                                                     |
| CI                         | <--- | CI1   | 0,836    | 0,699           | 2,655                | 0,164              | 0,761                   | 0,777                                                               |
|                            | <--- | CI2   | 0,835    | 0,697           |                      | 0,165              |                         |                                                                     |
|                            | <--- | CI3   | 0,662    | 0,438           |                      | 0,338              |                         |                                                                     |
|                            | <--- | CI4   | 0,906    | 0,821           |                      | 0,094              |                         |                                                                     |

PU = perceived usefulness, SITB = security of using internet banking, FC = facilities conditions, PEU = perceived ease of use, HM = hedonic motivation, CIB = convenience of internet banking, and CI = continuous intention.

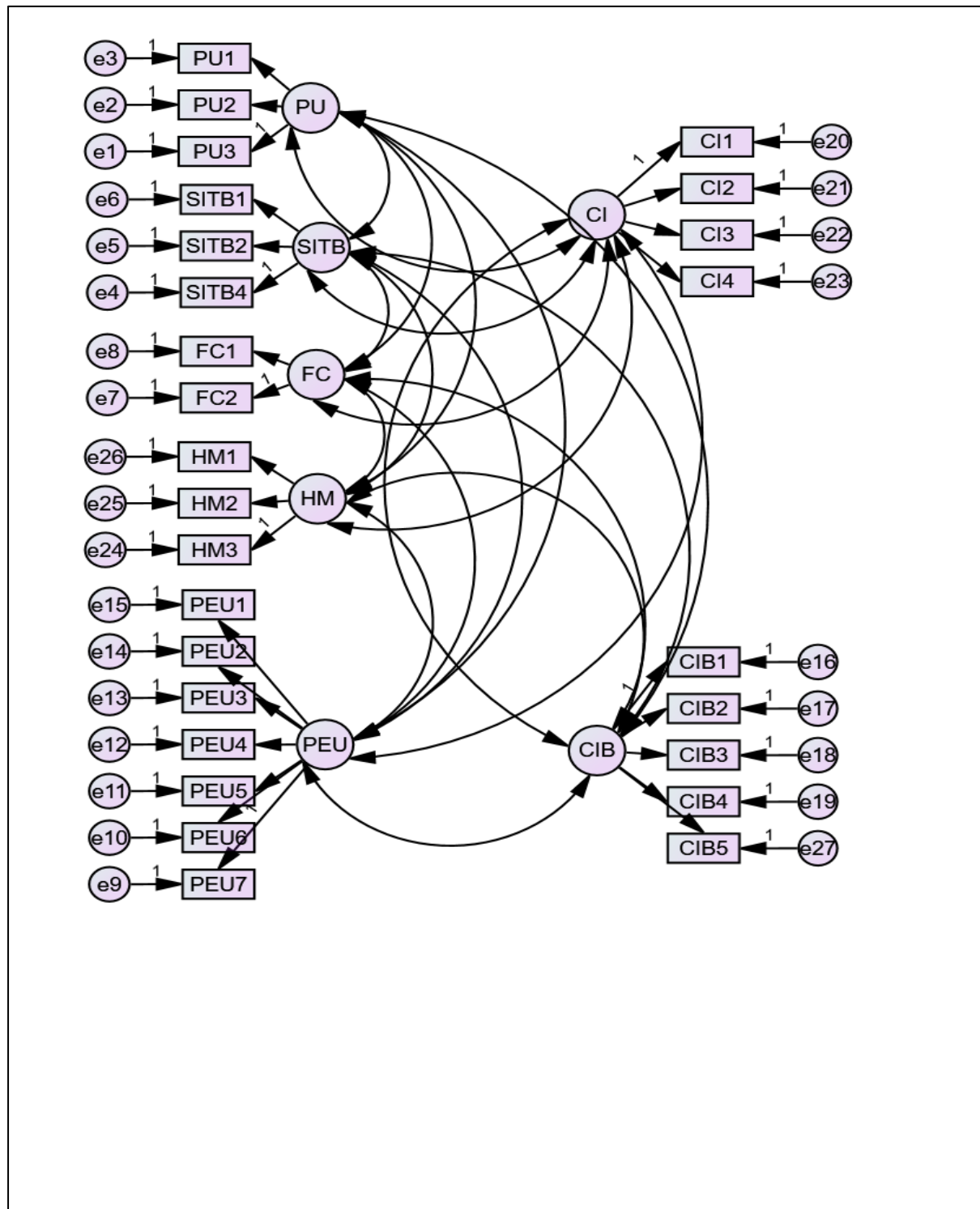
Source: Researcher (2023)

## 4.7 Model and Model Fit Assessment

The study follows Anderson and Gerbing's (1988) recommendation to use a two-step model approach: a measurement model followed by a structural model. The model fit assessments will be based on confirmatory factor analysis (CFA) and structural model respectively.

Using AMOS 28 software, confirmatory factor analysis (CFA) was carried out in order to assess the measurement model. The CFA model is depicted in the figure below.

**Table 4.7: CFA Model**



PU = perceived usefulness, SITB = security of using internet banking, FC = facilities conditions, PEU = perceived ease of use, HM = hedonic motivation, CIB = convenience of internet banking, and CI = continuous intention.

The measurement model includes observed and latent variables, which are represented by rectangular and circular forms in the above figure. The measurement errors are next to the observed variables and are shown as circular shapes. Directional arrows are used to show how latent variables relate to one another.

#### **4.8 Model Fit Assessment Results**

The measurement model of all seven constructs include, perceived usefulness measured on a three-item scale, security of using internet banking with four items, perceived ease of use (seven items), hedonic motivation (three items), convenience of internet banking (five items), and continuous intention (four items).

The model produced good-fitting indices: the Chi-square ( $\chi^2/df = 2,585$ , which is less than 3 for the acceptable fit (Collier, 2020). The strong values of Normed Fit Index (NFI) is equal to 0,936, Incremental Fit Index (IFI) = 0,968, Tucker Lewis Index (TLI) = 0,957, Comparative Fit Index (CFI) = 0,968, Goodness of Fit Index (GFI) = 0,901, all greater than 0,900, which is the acceptable good-fitting model threshold.

A satisfactory model fit is shown by the Root Mean Square Error of Approximation (RMSEA) of 0.039, which is less than the recommended threshold of less than 0,05 0.080. (Collier, 2020). All the indicator values in this study meet the previously established standards, as can be seen in light of the aforementioned results. All values were within acceptable ranges according to the literature that is currently available (Marsh, Guo, Dicke, Parker, & Craven, 2020).

**Table 4.8: Summary of Model Fit Assessment**

| <b>Model Fit Indices</b>                               | <b>Acceptable Threshold</b> | <b>Study Threshold</b> | <b>Acceptable/ Unacceptable</b> |
|--------------------------------------------------------|-----------------------------|------------------------|---------------------------------|
| Chi-Square Value: $\chi^2/df$                          | <3                          | 2,585                  | Acceptable                      |
| Normed Fit Index (NFI)                                 | > 0.900                     | 0,936                  | Acceptable                      |
| Incremental Fit Index (IFI)                            | > 0.900                     | 0,968                  | Acceptable                      |
| Tucker Lewis Index (TLI)                               | > 0.900                     | 0,957                  | Acceptable                      |
| Comparative Fit Index (CFI)                            | > 0.900                     | 0,968                  | Acceptable                      |
| Goodness of Fit Index (GFI)                            | > 0.900                     | 0,901                  | Acceptable                      |
| Random Measure of Standard Error Approximation (RMSEA) | < 0.08                      | 0,039                  | Acceptable                      |

Source: Researcher (2023)

#### 4.9 The Structural Model Fit and Analysis of Path Modelling

IBM Amos version 28 was used to estimate the structural model after the measurement model had been confirmed, using a maximum likelihood estimate. Structural model estimation, measurement model analysis, and proposed research hypothesis testing are all done with SEM. Using a structural model, the relationships between the various constructs were investigated. Structural equation modelling (SEM) was used for path analysis and path modelling in this phase of the SEM two-step model (Anderson & Gerbing, 1988) to investigate the structural pathways of the proposed research model. The theory that outlines the relationships between the constructs is represented by this phase, which Malhotra, Nunan, and Birks (2020) refer to as the second of the two models estimated by SEM.

The hypothesised relationships were tested using a structural equation model created by AMOS. If the values of the Tucker and Lewis (1973) index (TLI), the goodness-of-fit (GFI) indices (Hair et al., 2019), the Confirmatory fit index (CFI) (Bentler, 1990), and the CMIN/df are all  $\geq 0,900$ , the model is considered well-fitting (Hair et al., 2010). Furthermore, if the root mean square error approximation (RMSEA) is between 0.05 and 0.08 and the AMOS computed value of the standardised root mean square residual (RMR)  $< 0.05$ , the model is deemed appropriate (Hair et al., 2010). The permissible limits of indices and actual value of indexes of the proposed model on the basis of field data is presented in Table 4.8 below.

**Table 4.9: Structural Model Fit Assessment**

| Model Fit Indices                                      | Acceptable Threshold | Study Threshold | Acceptable/ Unacceptable |
|--------------------------------------------------------|----------------------|-----------------|--------------------------|
| Chi-Square Value: $\chi^2/df$                          | <3                   | 1,587           | Acceptable               |
| Normed Fit Index (NFI)                                 | > 0.900              | 0,947           | Acceptable               |
| Incremental Fit Index (IFI)                            | > 0.900              | 0,972           | Acceptable               |
| Tucker Lewis Index (TLI)                               | > 0.900              | 0,970           | Acceptable               |
| Comparative Fit Index (CFI)                            | > 0.900              | 0,972           | Acceptable               |
| Goodness of Fit Index (GFI)                            | > 0.900              | 0,903           | Acceptable               |
| Random Measure of Standard Error Approximation (RMSEA) | < 0.08               | 0,026           | Acceptable               |

Source: Researcher (2023)

The table above shows the model fit for the path analysis. The structural model had good fit: chi-square value of ( $\chi^2/df = 1.587$ ), which is well within the acceptable range of 3, as recommended by Hair et al. (2019). NFI = 0,947; IFI = 0,972; TLI = 0,970; CFI = 0,972; GFI = 0.903. All these indices were within the recommended acceptable value range of 0,900 or above (Collier, 2020). RMSEA = 0.026 which is beneath the acceptable cut off level of below 0,08 or below 0.05 which is better (Marsh et al., 2020). The structural model had a good fit, with all the fit indices higher than the recommended cut-off values.

#### 4.10 Hypotheses Testing

The researcher carried out hypothesis testing after confirming the model fit. Model fit was evaluated and then the structural routes according to the hypothesised relationships were analysed. There were three significance levels: 1%, 5%, and 10% ( $p < 0.01$ , 0.05, and 0.1). The results from the hypotheses are shown in Table 4.9.

**Table 4.10: Hypothesis Results and Path Coefficients**

| Hypothesised Relationship | Hypotheses | Estimate/Path Coefficients | P-value | Outcome                       |
|---------------------------|------------|----------------------------|---------|-------------------------------|
| PEU--->CI                 | H1         | 0,828                      | ***     | Supported and significant     |
| PU --->CI                 | H2         | 0,211                      | ***     | Supported and significant     |
| FC--->CI                  | H3         | 0,118                      | 0,004   | Supported and significant     |
| HM--->CI                  | H4         | 0,101                      | 0,005   | Supported and significant     |
| CIB--->CI                 | H5         | 0,487                      | ***     | Supported and significant     |
| SITB--->CI                | H6         | -0,096                     | 0,008   | Significant and not supported |

Notes: (<sup>ns</sup>) is not significant at \*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$ ; \*  $p < 0.1$

PU = perceived usefulness, SITB = security of using internet banking, FC = facilities conditions, PEU = perceived ease of use, HM = hedonic motivation, CIB = convenience of internet banking, and CI = continuous intention.

Source: Researcher (2023)

#### 4.11 Discussion of Hypotheses Results from the Conceptual Model of the Study

The results are given when the significance of the proposed relationships has been determined. The above table displays the outcomes. It was determined what the probability value, or p-value, was. The table above indicates that all the hypotheses were found to be significant at a significance level of 0.01, with a 1% confidence interval.

**H1:** *There is a positive relationship between perceived ease of use and continuous intention*

The results revealed that perceived ease of use had a positive and significant impact on continuous intention ( $\beta = 0,828$ ;  $p < 0,01$ ) to adopt digital banking. Hence H1 is supported.

**H2:** *There is a positive relationship between perceived usefulness and continuous intention*

The results revealed that perceived usefulness had a positive and significant impact on continuous intention ( $\beta = 0,211$ ;  $p < 0,01$ ) to adopt digital banking. Hence H2 is supported.

***H3: There is a positive relationship between facilitating conditions and continuous intention***

The results revealed that facilitating conditions had a positive and significant impact on continuous intention ( $\beta = 0,118$ ;  $p < 0,004$ ) to adopt digital banking for elderly. Hence H3 is supported.

***H4: There is a positive relationship between hedonic motivation and continuous intention***

The results revealed that hedonic motivation had a positive and significant impact on continuous intention ( $\beta = 0,101$ ;  $p < 0,005$ ) to adopt digital banking for elderly. Hence H4 is supported.

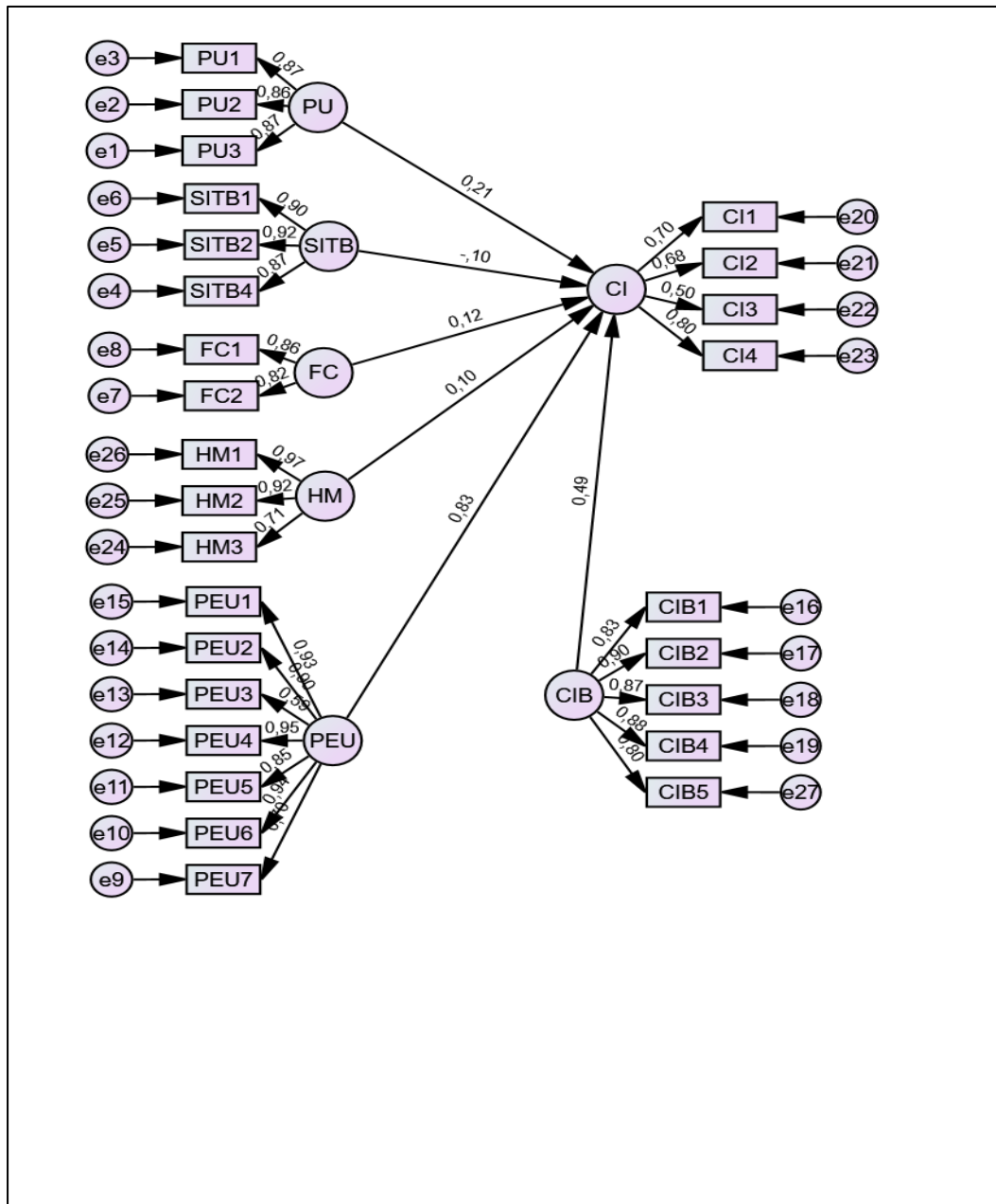
***H5: There is a positive relationship between convenience and continuous intention***

The results revealed that convenience of internet banking had a positive and significant impact on continuous intention ( $\beta = 0,487$ ;  $p < 0,01$ ) to adopt digital banking for elderly. Hence H5 is supported.

***H6: There is a positive relationship between security and continuous intention***

The results revealed that security of using internet banking had a negative impact on continuous intention ( $\beta = -0,096$ ;  $p < 0,008$ ) to adopt digital banking. H6 is not supported, hence is not significant.

#### 4.12 Results of Structural Model: Hypothesis Testing



PU = perceived usefulness, SITB = security of using internet banking, FC = facilities conditions, PEU = perceived ease of use, HM = hedonic motivation, CIB = convenience of internet banking, and CI = continuous intention.

#### **4.13 Chapter Summary**

This chapter presented the research findings from the statistical analysis and the interpretation of the data gathered on the factors that influence continuous intention for digital banking adoption, including perceived usefulness, perceived ease of use, security of using internet banking, facility conditions, hedonic motivation, and convenience of digital banking. Two major sections were covered. Descriptive statistics were presented in the chapter, then the validity and reliability of the measurement tools were examined. Testing of the hypotheses followed after the inferential statistics and confirmatory factor analysis (CFA), which address validity and reliability. The research findings are presented in the next chapter.

## **CHAPTER 5: DISCUSSION OF RESULTS**

### **5.1 Introduction**

The research findings are critically discussed in this chapter, in the context of previous studies. This chapter is divided into two stages. The first stage represents the respondents' demographic information, while the second stage represents results of each hypothesis, along with a comparison of the findings with earlier research and a discussion of how the findings may be applied to marketing practice. Furthermore, recommendations and conclusion are also discussed.

### **5.2 The Study's Demographic Characteristics**

The age, level of education, and primary bank of the respondents were the demographic characteristics were considered in this study. The following headings list the demographic characteristics of the study. In this research, a comprehensive analysis of demographic and financial variables was conducted. The data encompassed four key aspects: age group, education level, monthly individual income bracket, and the main bank with which respondents were affiliated. The age distribution revealed a predominant group of 45 to 50 years, constituting 55.9% of the sample, followed by 51 to 55 years (17.6%), 56 to 60 years (10.2%), and 61 to 65 years (16.4%). The income distribution showed that 37.1% of respondents earned above R20,001, followed by 28.9% in the R10,001 – R20,000 bracket. The majority of respondents banked with CAPITEC (36.3%), followed by ABSA (23.0%), FNB (16.8%), STANDARD BANK (14.5%), and NEDBANK (9.4%). These findings provide valuable insights into the demographic and financial profile of the surveyed population, contributing to a more nuanced understanding for future research or policy considerations in South Africa.

### 5.3 Discussion of Hypotheses Displayed from the Model under Investigation

The results of the hypotheses provide insight into consumers' adoption to digital banking from the leading banks in South Africa - ABSA, Capitec Bank, FNB, Nedbank and Standard Bank in South Africa. Results from hypotheses testing suggest the following:

#### ***H1: Perceived Ease of Use positively influences Continuous Intention***

The results revealed that perceived ease of use had a positive and significant impact on continuous intention ( $\beta = 0,828$ ;  $p < 0,01$ ) to adopt digital banking. Hence H4 is supported. The results are presented in table above. The structural model is presented in Figure 4.6 above.

According to Gunawan et al. (2019), perceived ease of use refers to the degree in which an individual feels that utilising a specific technology is effortless (free of effort). Interest in using is intention, which is commonly understood to be a strong desire to carry out a desired action (Ramli & Rahmawati, 2020). Knowing information about a website might pique someone's interest and motivate them to take action in that direction.

In this study, ease of use might pose difficulty of using the new banking application by the prospective client, i.e. elderly, majority of them are not tech savvy. An application which is perceived to be difficult to use will be unlikely to be adopted by prospective clients. Along with enhanced performance, Davis (1986) found that perceived ease of use positively associated with clients' adoption of that banking application. However, other studies by Chong et al (2010) and Wu, et al, 2010) did not find such relationship.

#### ***H2: Perceived Usefulness positively influences Continuous Intention***

Perceived usefulness, according to Ramli & Rahmawati (2020), refers to people's belief that using a specific technology will enhance their performance. Furthermore, the study clarified that intention is the term used to describe interest in using something that is favoured. Knowing information about a website might pique someone's interest and motivate them to take action in that direction. Thus, the results revealed that perceived usefulness has a positive and significant impact on continuous intention ( $\beta = 0,211$ ;  $p < 0,01$ ) to adopt digital banking. Hence, H2 is supported. The results are

presented in the table above. The structural model is presented in Figure 4.6 above. When prospective clients believe the new application will lead to improved banking performance, they will be likely to adopt it. The results are consistent with the previous studies that have also found that perceived usefulness was positively related with e-banking and intention to switch to such banking applications (Tiong, 2020; Ramli & Rahmawati, 2020).

***H3: Facilitating Conditions positively influences Continuous Intention***

The results revealed that facilities conditions had a positive and significant impact on continuous intention ( $\beta = 0,118$ ;  $p < 0,004$ ) to adopt digital banking for elderly. Hence H3 is supported. The results are presented in table above. The structural model is presented in Figure 4.6 above. A new banking application will be easier for prospective clients to adopt if these clients believe the new technology positively impacted their intention to continuous use. If the application significantly adds several new functions, it is likely to be adopted by prospective clients. Hossain, et al., (2019) found that when facilitating conditions of an application are plentiful, and prospective clients are likely to take up such an application.

***H4: Hedonic Motivation positively influences Continuous Intention***

The results revealed that hedonic motivation had a positive and significant impact on continuous intention ( $\beta = 0,101$ ;  $p < 0,005$ ) to adopt digital banking for elderly. Hence H4 is supported. The results are presented in table above. The structural model is presented in figure 4.6 above. A new banking application will be easier for prospective clients to adopt if these clients believe the new technology positively impacted their satisfaction. If the application significantly adds several new functions, it is likely to be adopted by prospective clients.

Hedonic motivation was defined by Venkatesh et al. (2012) as a feeling that is elicited by using technology and can be a feeling of happiness or joyfulness. When it comes to customers, it was found that intrinsic characteristics, such as enjoyment and amusement, have a significant influence on how they feel about the new technology (Sharif & Raza, 2017). Hedonic motivation elements are believed to be the most significant factors influencing a customer's readiness to adopt internet banking (Sharif & Raza, 2017; Salimon, Yusoff & Mohd Mokhtar, 2016). According to Gbadebo (2016), the two fundamental elements of e-trust; namely, integrity and ability are impacted by

hedonic (intrinsic) motivation. This indicates that managers should ensure consumers who enjoy themselves and are entertained had a similar perception of online banking and gained confidence in using it. This finding correlates with Akhlaq and Ahmed (2013), who found that increasing customer trust in online banking is significantly influenced by hedonic motivation. Thus, hedonic motivation has a positive impact on the continuous adoption of digital banking in South African customers

***H5: Convenience positively influences Continuous Intention***

The results revealed that convenience of internet banking had a positive and significant impact on continuous intention to adopt digital banking ( $\beta = 0,487$ ;  $p < 0,01$ ) to adopt digital banking for elderly. Hence H5 is supported. The results are presented in table above.

The findings are consistent with the conclusions of previous literature (Jebarajakirthy & Shankar, 2021; Raman, 2019; Duarte et al., 2018).

***H6: Security positively influences Continuous Intention***

The results revealed that security of using internet banking had negative impact on continuous intention ( $\beta = -0,096$ ;  $p < 0,008$ ) to adopt digital banking. H6 is not supported, hence it is not significant. The structural model is presented in Figure 4.6 above. The results are presented in the table above. They are not consistent with previous literature (Nel & Boshoff, 2021; Raman, 2019). A new banking application will be easier for prospective clients to adopt if these clients believe the new technology positively impacted their continuous intention to use digital banking.

Customers may feel uneasy utilising mobile banking if it lacks sufficient security measures because a mobile device that facilitates banking services presents a number of security risks. This could be the case since making use of mobile banking apps does not always require assistance as the device is personal in nature. Customers that use mobile apps need technical support and help due to security issues. Therefore, the likelihood that senior citizens will use digital banking is directly related with their level of comfort when utilising the internet. If the application significantly adds several new functions, it is likely to be adopted by prospective clients. Nel and Boshoff (2021), draw attention to the fact that, although trust is crucial for online transactions, customers' decisions to use online services may be more

influenced by mistrust. Thus, banks have to assure elderly clients that security to use internet banking is their priority.

#### **5.4 Chapter Summary**

The results in the previous chapter show that customers frequently make use of digital banking services because they believe they can get secured banking services via banking platforms around-the-clock and from any location. Customers may also be encouraged to switch to digital banking, as they believe that these platforms allow them to conduct transactions and access banking services with only a few clicks. Furthermore, customers believe that there are multiple ways to get in touch with the customer service team on digital banking platforms when they have some problems (Raman, 2019).

In this study, users' continuous intentions to use online banking in South Africa were examined, along with the factors that influence those intentions. Through a combination of theoretical frameworks, the research aimed to investigate the following factors: hedonic motivation, the state of the facilities, perceived utility, perceived simplicity of use, and convenience to adopt digital banking, and security to use internet banking. The findings showed how important each factor was to South Africa's adoption of digital banking.

## **CHAPTER 6: CONCLUSION AND RECOMMENDATIONS**

### **6.1 Introduction**

This chapter provides the conclusion for the study as well as recommendations for future research. These are made based on the study findings presented in chapter 4. The research study sought to investigate the factors which influence banking customers to switch to digital banking, also known as e-banking or internet banking.

Studies in consumer behaviour have found consumer choice as a complex and multidimensional phenomenon. Thus, studies on consumer behaviour are required, to help researchers understand the phenomenon better.

### **6.2 Conclusion of the Study**

The study has shown that banking consumers have complex needs, which banks must provide, in order for these consumers to take up new products, such as e-banking, which are provided by the banks.

In order to maximise customer satisfaction, trust, and adoption of digital banking, it is critical for e-banking decision-makers to have a thorough understanding of the reasons for and constraints placed on customers' use of the service (Rahi, Ghani, & Ngah, 2020).

### **6.3 Implications and Recommendations of the Study**

Digital transformation is crucial for the profitability of banks. As a result, banks constantly try to implement new technology. Matt, Hess and Benlian (2015) argue that digital transformation is holistic, involving technology, organisations and company strategy, focusing on the development of new technologies and replacing outdated ones. According to Gartner (2020), digitalisation seeks to achieve the following objectives:

- Shifts in thinking
- Changes in leadership
- Technology adoption

- Digitalisation of resources
- Acceptance of innovation

The preceding objectives are consistent with the business of banking because banks seek to transform or digitalise their systems in order to improve their business models and create new ones which are more profitable. These are achieved through the adoption of new technology. Gartner (2015) differentiates digitalisation from digitisation, by stating that digitisation entails shifting from analogue to digital.

According to Diener and Spacek (2021), the adoption of new technologies leads to complex transformations will necessitate changing many aspects of a business, in response to the dictates of the transformation. Some aspects which might be affected are the following:

- Strategic direction
- Competitiveness
- Business model
- Decision-making
- The innovation itself
- Entrepreneurship
- Productivity
- Customers

Businesses therefore constantly juggle their practices, in order to keep up to date with the latest information on transformation, to ensure that the relevant aspects (among the ones above) are adjusted to respond to the transformation(s).

The research study shed light on many aspects of consumer behaviour, specifically consumers' decisions on whether to take up digital banking or not. These decisions are made based on several factors which banking customers believe will help make the banking experience pleasurable.

The findings showed that banks should offer most of their services online, so that customers can access them whenever they want them, wherever they are, as

convenience is very important, especially in mitigating criminal activities in South Africa. Additionally, banks should offer strong methods to lower the number of unsuccessful transactions, in order to improve transaction convenience for elderly consumers. In order to alleviate doubt, banks should provide confirmation documents, as evidence of transactions and investments to customers. In addition, banks should ensure that customers can access all banking services using digital banking platforms on their mobile devices, in order to improve convenience of banking on the internet (Jebarajakirthy & Shankar, 2021; Broby, 2021).

The current research study also offers an empirical framework designed to facilitate the understanding of the factors influencing banking customers' adoption of digital banking in terms of its perceived usefulness, security, perceived ease of use, convenience, hedonic motivation, and continuous intention to use it. In order to maximise customer satisfaction, trust, and adoption of digital banking, it is critical for e-banking decision-makers to have a thorough understanding of the reasons for and constraints placed on customers' use of the service (Rahi, Ghani, & Ngah, 2020).

In light of this, researchers can use this study as a foundation for future research and to further develop their models of acceptance. In order to build, improve, and launch internet banking services that have high customer acceptability, practitioners must grasp the fundamental ideas of the suggested research approach. South African internet banking service providers should communicate with customers about the benefits of their services, including their practicality, ease of use, and short-term, more immediate advantages. They should also try to enhance user experience, enjoyment, and fun aspects of the channel whenever possible.

One of the major factors that banks ought to focus on is the security of internet banking. This is because banking security influences the majority of senior consumers' decisions to utilise or adopt digital banking. To address this issue, banks must raise the level of proficiency among their clientele in using internet banking. This can be accomplished by providing in-branch training and setting up facilitation centres, that can lead clients from simple to sophisticated tasks, such as logging in and completing transactions using online banking (Tiong, 2020).

Banks should also include a fun aspect when customers use internet banking. This will increase the customers' hedonic motivation. In addition, incentives should be given

to clients who sign up for online banking or use it frequently. This would change the consumers' behaviour and modify their habit. Additionally, the banks want to replace their outdated online banking interfaces with a more cutting-edge one. These actions will raise the customers' hedonic values and cultivate a favourable attitude toward online banking. The current findings recommend that banks pay attention to these criteria, as doing so will enhance the likelihood that customers will switch to online banking (Nguyen et al., 2020).

One of the most fundamental aspects of digital banking is trust. Customers' trust in banks can be increased by enhancing the functionality and quality of their digital banking services, as well as altering policies that have an impact on structural assurance (Nel & Boshoff, 2021). Nonetheless, prompt information flow from the banks and consumer testimonies regarding the technology's user-friendliness are other supplementary ways to foster confidence. Furthermore, the user-friendliness of online banking should be advertised on bank statements and/or posted on the walls of financial institutions. Marketing, in the form of advertising, is one method the bank could use to further solidify customers' trust in the bank. Despite the propensity to regard technology as the key to success in consumer behaviour, Ngoma & Ntale (2019) believe Word of Mouth (WOM) still has a significant role to play in marketing. The two researchers contend that this type of marketing is being underutilized by businesses. The researchers believe positive WOM is what is required to drive a business enterprise to greater heights, the same way marketing technology can. Marketing can be used in innovation adoption projects to create greater trust and awareness among consumers regarding internet banking. This is especially true amongst any consumer around the globe. In the context of banking, marketing resources should also be directed at creating optimal internet banking awareness among community members, to enhance its uptake.

The findings further demonstrated how important each factor was to South African customer's adoption of digital banking. Internet banking provides a modern and unique value proposition for South Africans market, which contributes to the internal incentive to expand these channels. The dynamic importance of intrinsic desire in predicting continuous intention to adopt digital banking has been substantially acknowledged by Sharif and Raza (2017). Furthermore, it was found that hedonic motivation was a powerful predictor of customer trust in digital banking. Akhlaq and Ahmed (2013)

concluded that a client's sentiments and emotions have a major role in how much they trust the digital banking system. These findings suggest that banks have to find creative ways to cater for elderly clients. Customers in South Africa are more likely to accept online banking if they believe it is a dependable and trustworthy network for financial services. It was further noted that consumers carefully considered the aspects linked to trust, when deciding whether or not to use such significant services, such as online banking transactions (Salimon et al., 2016).

The factors influencing the use of digital financial services were the main focus for the majority of studies reviewed. It was observed that -as these technological trends are relatively new- the majority of elderly consumers still require education or training in using them. For this set of customers, trust and security rank highly, among other considerations (Msweli & Mawela, 2020).

To alleviate concerns among customers in digital banking, banks have to find ways to accommodate all their clients. The banks can use a variety of security measures to allay customers' concerns and enable them to bank conveniently and safely online. Among these are the following: if the device is not authenticated, a restricted set of services will be offered. As an extra precaution, users who conduct transactions using online banking will also need to validate the transaction on their banking application (Nel and Boshoff, 2021). The results correlate with previous research by Akhlaq and Ahmed (2013) and Riffai et al. (2012). The vast majority of participants in this study were actual adopters. Their usage of digital banking is therefore a crucial factor in hastening their actual behaviour towards it and boosting their desire to use it in future. Lastly banks should be further motivated to ensure digital banking is a seamless process for customer segments aged 45 and above as these clients make up the bulk of high income earners in South Africa (PBWM, 2022).

#### **6.4 Limitations of the Study and Future Research**

The researcher had initially planned on conducting interviews with the respondents. However, ultimately, an online questionnaire was administered, using the researcher's tablet. The questionnaire was distributed through a link via various online platforms, such as WhatsApp, e-mail, Facebook and at various bank branches, where participants who did not have a smartphone or data were allowed to use the

researchers tablet to complete the questionnaire. These changes could have contributed to the results obtained. For example, through this manner of data collection, it was possible for respondents to complete the survey more than once. In addition, the literacy issue among respondents could have meant that semi-literate potential respondents could not participate in the study. The views of the semi-literate bank consumers –who would have possibly provided useful data- could not do so. However, literacy/academic qualifications alone are not the determining factor for digital banking adoption. For example, a respondent with a post-graduate qualification stated that they still preferred to do all their transactions in the bank, as they felt that it is safer and that a banking app exposes them to online scams and cybercrime. This further supports that security is one of the major determining factors for digital banking adoption.

The choice of research method could have affected the findings of the study, notably, the use of the quantitative method, which is generalizable. Using the qualitative method would have produced more descriptive findings, shedding more light on the views of the respondents. For example, questions such as ‘why?, how? How come?, and so on’, for further clarity, cannot be answered because the quantitative method was used to conduct the study

Perhaps the size of the sample should have been higher, considering that this was a quantitative study, which is generalizable to all bank users. A study with a much larger sample size could have done better justice in this study, notably, in producing more accurate findings.

The study initially sought to target rural bank users, who are expected to be low users of digital banking. However, this was changed to target the general bank clients. Therefore, the findings do not distinguish between bank users from rural and urban backgrounds. Separate studies targeting the two groups separately would shed a better light on consumer behaviour between the two groups.

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## APPENDICES

### Appendix A: Participation Information Sheet



#### **PARTICIPANT INFORMATION SHEET**

Dear Sir/ Madam

My name is Shaun Bvuma. I am a Master's student in Strategic Marketing at the University of the Witwatersrand. I am conducting a research study on factors which influence consumers' adoption to online/internet banking under the supervision of Dr. Neo Ligaraba. I want to investigate the general understanding of consumers' comfortability and willingness to adopt internet/online banking

I kindly request 5-10 minutes of your time to participate in completing the survey questionnaire which can accessed through the link below.

[https://docs.google.com/forms/d/e/1FAIpQLSexWyYa03J6k\\_qtj9nWFLYPBTZRQWVH-bfDmXfnO-3P7-mC0Q/viewform?usp=sharing](https://docs.google.com/forms/d/e/1FAIpQLSexWyYa03J6k_qtj9nWFLYPBTZRQWVH-bfDmXfnO-3P7-mC0Q/viewform?usp=sharing)

Your participation is completely voluntary and responses will be completely confidential and anonymous.

If you have any questions afterwards about this research, feel free to contact me on the details listed below. If you have any queries, concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (non-medical), telephone + 27(0)11 717 1408, or email at [hrecmedical.researchoffice@wits.ac.za](mailto:hrecmedical.researchoffice@wits.ac.za)

Thank you in anticipation of your willingness to participate in the study.

Researcher: Shaun Bvuma [0608172a@students.wits.ac.za](mailto:0608172a@students.wits.ac.za) | 081 534 0198

Supervisor: Dr. Neo Ligaraba [neo.ligaraba@wits.ac.za](mailto:neo.ligaraba@wits.ac.za) | 011 717 8299

## Appendix B: Research Instrument

### QUESTIONNAIRE

Kindly help me understand your familiarity with internet banking, by completing the questionnaire below. The questionnaire comprises of Part A and B.

**SCREENING QUESTION:** Have you used internet banking or the banking app in the last 6 months

|                                             |   |
|---------------------------------------------|---|
| YES                                         | 1 |
| NO<br>If NO, discontinue your participation | 2 |

### SECTION A: BIOGRAPHICAL QUESTIONS

Please, answer the following questions by clicking the appropriate number.

**A1. Please indicate your age group:**

|                |  |
|----------------|--|
| 45 to 50 years |  |
| 51 to 55 years |  |
| 56 to 60 years |  |
| 61 to 65 years |  |

**A2. Education Level**

|                                |  |
|--------------------------------|--|
| Some Primary School            |  |
| High School (Matric)           |  |
| Certificate/Higher Certificate |  |
| Diploma                        |  |
| Bachelor's Degree              |  |
| Postgraduate Degree            |  |

**A3. Please indicate with an X on your monthly individual income bracket:**

|                        |  |
|------------------------|--|
| Up to R5 000 per month |  |
| R5 001 – R10 000       |  |
| R10 001 – R20 000      |  |
| Above R20 001          |  |

**A4. Please indicate the MAIN bank that you currently bank with:**

|               |  |
|---------------|--|
| ABSA          |  |
| FNB           |  |
| NEDBANK       |  |
| STANDARD BANK |  |
| CAPITEC       |  |

:

**A5. Please indicate with an X your Occupation:**

|          |  |
|----------|--|
| Student  |  |
| Employed |  |
| Retired  |  |
| Other    |  |

## **SECTION B**

Based on the bank that you are using, please complete the following questionnaire by indicating the extent to which you agree with the following statements. Mark with an X on the relevant box indicating your choice. The choices are, Strongly Disagree (SD), Disagree (D), Neither Agree or Disagree (N), Agree (A) or Strongly Agree (SA):

**PERCEIVED USEFULNESS (Based on your main bank)**

|                                                                                                                                                     | SD | D | N | A | SA |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|----|---|---|---|----|
| PU1. Internet banking is a useful application.                                                                                                      |    |   |   |   |    |
| PU2. I can conduct all my banking activities through digital banking.                                                                               |    |   |   |   |    |
| PU3. Digital banking streamlines all my banking facilities (overdraft, credit card, investments, personal accounts, vehicle account, bond account). |    |   |   |   |    |

**SECURITY OF USING INTERNET BANKING (Based on your main bank)**

|                                                                           | SD | D | N | A | SA |
|---------------------------------------------------------------------------|----|---|---|---|----|
| SITB1. Digital banking is a secure form of banking.                       |    |   |   |   |    |
| SITB2. Digital banking is a trustworthy service.                          |    |   |   |   |    |
| SITB3. Using digital banking exposes one's banking account to cybercrime. |    |   |   |   |    |
| SITB4. I trust my bank's online security verification checks.             |    |   |   |   |    |

**CONVENIENCE OF INTERNET BANKING (Based on your main bank)**

|                                                                                  | SD | D | N | A | SA |
|----------------------------------------------------------------------------------|----|---|---|---|----|
| CIB1. Digital banking is convenient to use.                                      |    |   |   |   |    |
| CIB2. Digital banking saves time                                                 |    |   |   |   |    |
| CIB3. Digital banking provides the best banking services.                        |    |   |   |   |    |
| CIB4. Digital banking transactions can be conducted from the comfort of my chair |    |   |   |   |    |
| CIB5. Digital Banking services are available 24/7                                |    |   |   |   |    |

**HEDONIC MOTIVATION (Based on your main bank)**

|                                                                           | SD | D | N | A | SA |
|---------------------------------------------------------------------------|----|---|---|---|----|
| HM1. I enjoy using my digital banking app.                                |    |   |   |   |    |
| HM2. I enjoy having access to all my accounts on the digital banking app. |    |   |   |   |    |
| HM3. I enjoy helping others conduct digital banking.                      |    |   |   |   |    |

**PERCIEVED EASE OF USE (Based on your main bank)**

|                                                                                   | SD | D | N | A | SA |
|-----------------------------------------------------------------------------------|----|---|---|---|----|
| PEU1. I find it easy to use the banking app.                                      |    |   |   |   |    |
| PEU2. I can use digital banking for all my banking needs.                         |    |   |   |   |    |
| PEU3. I require little assistance to perform certain functions on my banking app. |    |   |   |   |    |
| PEU4. I feel confident using internet banking.                                    |    |   |   |   |    |
| PEU5. Digital banking provides a practical banking experience.                    |    |   |   |   |    |
| PEU6. Digital banking is user-friendly.                                           |    |   |   |   |    |
| PEU7. Digital Banking requires easy-to-use steps.                                 |    |   |   |   |    |

**FACILITATING CONDITIONS (Based on your main bank)**

|                                                                                         | SD | D | N | A | SA |
|-----------------------------------------------------------------------------------------|----|---|---|---|----|
| FC1. Computer literacy is required to conduct digital banking.                          |    |   |   |   |    |
| FC2. Internet knowledge is required to conduct digital banking.                         |    |   |   |   |    |
| FC3. Only customers on high income brackets are able to transact using digital banking. |    |   |   |   |    |

**CONTINUOUS INTENTION (Based on your main bank)**

|                                                                    | SD | D | N | A | SA |
|--------------------------------------------------------------------|----|---|---|---|----|
| CI1. I have a positive attitude towards new technology             |    |   |   |   |    |
| CI2. Digital banking is a significant form of innovation           |    |   |   |   |    |
| CI3. I have no intention of making use of over-the-counter banking |    |   |   |   |    |
| ITA4 I intend to continue using digital banking in the future      |    |   |   |   |    |

## Appendix C: Ethical Clearance Certificate

Graduate School of Business Administration  
University of the Witwatersrand, Johannesburg



Wits Business School Ethics Committee  
Constituted under the University Human Research Ethics Committee (Non-Medical)

### Ethics Clearance Certificate

Ethics protocol number: WBS/SM0608172A/526

*This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below)*

This certificate is only valid if accompanied by formal permission from the relevant stakeholder(s).

Project title Factors influencing digital banking adoption in South Africa

Investigator / Researcher Mr Shaun Bvuma

Nature of Project MM (Strategic Marketing)

Decision of the Committee Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.

Issue Date of Certificate 23 01 2023

Expiry date Date of submission of the project / research report

Chairperson Dr Pius Oba  
☎ +27 11 717 3976  
☎ +27 82 733 6587  
✉ pius.oba@wits.ac.za

#### Declaration by Researcher

*One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.*

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature

28 September 2023

Date:

## Appendix D: Standard Regression Weights

| Standardised Regression Weights |  |      |      |          |
|---------------------------------|--|------|------|----------|
|                                 |  |      |      | Estimate |
| PU1                             |  | <--- | PU   | 0.864    |
| PU2                             |  | <--- | PU   | 0.871    |
| PU3                             |  | <--- | PU   | 0.861    |
| SITB1                           |  | <--- | SITB | 0.896    |
| SITB2                           |  | <--- | SITB | 0.91     |
| SITB4                           |  | <--- | SITB | 0.894    |
| FC1                             |  | <--- | FC   | 0.885    |
| FC2                             |  | <--- | FC   | 0.807    |
| PEU1                            |  | <--- | PEU  | 0.934    |
| PEU2                            |  | <--- | PEU  | 0.903    |
| PEU3                            |  | <--- | PEU  | 0.58     |
| PEU4                            |  | <--- | PEU  | 0.947    |
| PEU5                            |  | <--- | PEU  | 0.857    |
| PEU6                            |  | <--- | PEU  | 0.937    |
| PEU7                            |  | <--- | PEU  | 0.691    |
| HM1                             |  | <--- | HM   | 0.959    |
| HM2                             |  | <--- | HM   | 0.929    |
| HM3                             |  | <--- | HM   | 0.726    |
| CIB1                            |  | <--- | CIB  | 0.855    |
| CIB2                            |  | <--- | CIB  | 0.874    |
| CIB3                            |  | <--- | CIB  | 0.902    |
| CIB4                            |  | <--- | CIB  | 0.85     |
| CIB5                            |  | <--- | CIB  | 0.774    |
| CI1                             |  | <--- | CI   | 0.836    |
| CI2                             |  | <--- | CI   | 0.835    |
| CI3                             |  | <--- | CI   | 0.662    |
| CI4                             |  | <--- | CI   | 0.906    |

## Appendix E: Turnitin Report

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### ORIGINALITY REPORT

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