The perceived influence of digital banking on the financial wellness of the South African middle-class

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Abstract

This study explores the impact of digital banking on the financial wellness of the South African middle class. Using online questionnaires, quantitative research methods are employed to gather data on digital banking adoption, perceived financial wellness, easy access to credit, and prior exposure to digital marketing strategies among middle-class individuals. Data analysis encompasses the use of descriptive statistics, correlation analysis, and regression analysis to examine the relationships between variables and draw relevant conclusions. This study aims to enhance comprehension of the perceived impact of digital banking on the financial wellness of middle-class South Africans by addressing specific research goals. The study found that autonomous and controlled motivation had a positive impact on the individual's financial wellness; it further highlighted that personalised credit offers contributed positively towards their financial wellness, despite the fact that convenient access to credit is a significant factor in the adoption of digital banking but not the sole determinant factor.

Keywords

Digital Banking, Ease Access, Credit, Financial Inclusion, Digital marketing, Financial Wellness, and Over-indebtedness.

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DECLARATION OF ORIGINAL WORK

I Tiyiselani Mabasa Student number: 1772790 am a student registered for a Masters' in Business Administration in the year _2022/2023.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that ALL the work submitted for assessment for the above course is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

Signature: Date: 2024-02-28

List of acronyms

ATM	Automated Teller Machine
CAGR	Compound Annual Growth Rate
COVID-19	Coronavirus disease 2019
DTI	Debt-To-Ratio
ECS	Electronic Clearing Service
GDP	Gross Domestic Product
FRB	FirstRand Bank
FSCA	Financial Sector Conduct Authority
NCA	National Credit Act
RCS	Registered Credit and Financial Services Provider
SA	South Africa
SARB	South African Reserve Bank
SDG	Sustainable Development Goals
SDT	Self Determination Theory
US	United States
NCA	The National Credit Act
PCA	Principle Component Analysis
SPSS	Statistical Package for Social Sciences

1. CHAPTER 1 - INTRODUCTION

1.1 Background to the Study

The adoption of digital banking has been on the rise in South Africa, with more and more people turning to digital banking services to manage their finances. South African has experienced 4% increase in respect of digital banking adoption between the year 2018 to 2019. (FSCA, 2021). However, the perceived influence of digital banking on the financial wellness on South African (SA) middles class is an area that requires to be further explored. Several studies have been conducted to examine the consequence of technological advancement in the financial industry from the data privacy and cybercrime perspective, however, only a few studies have been conducted to focus on the influence of digital banking on the financial wellness of middle-class South Africans. To define middle-class in South African context, StatsSA (2009) cited that to be classified as middle-class an individual or household will have the following attributes: living in a formal home; running water with a flushing toilet inside the house; electricity as the primary source of light; electricity or gas as the primary cooking source; owning a private vehicle and possessing a smart phone.

There is a growing concern that digital banking may be contributing to over-indebtedness among consumers, particularly among those who lack the self-discipline and financial literacy necessary to effectively manage their debt. Financial literacy can be defined as the capacity to understand a person’s financial situation and to make sound decisions about how to allocate one's resources with the objective to achieve personal, family, and broader objectives (National Financial Educators Council , 2022). A similar study was conducted in Asia, China to determine the impact of digital finance developments on the households. (Yue, Korkmaz, Yin, & Zhou, 2022). Therefore, further research is needed to understand the perceived influence of digital banking on the financial wellness on South Africans middle class.

Digitization is leveraging digital technologies to transform a business model to generate new revenue streams and value-adding opportunities. Digital banking can be defined as the digitization of traditional banking services to provide customers with financial services (Mothibi & Rahulani, 2021). Digitalization affords banks new opportunities to put the customer at the centre of their product development through product innovation and new offerings (Omarini, 2017).

Digital marketing is the utilisation of various techniques and channels to engage with customers in the location where they spend most of their time i.e., online. It encompasses all marketing endeavours that employ electronic devices or internet to effectively connect with current and potential consumers through digital channels such as search engines, social media, email, and websites (Desai, 2019). Digital marketing strategy is method by which business establishes it's the goals and objectives and leveraging internet-based resources and tools to reach the intended audience (Emeritus, 2023).

COVID-19 pandemic was an unprecedented catalyst for the global adoption of digital banking as formal digital banking grew around the world (The World Bank, 2022).
In 2021, digital banking global market size was assessed to be around eight point four billion USD dollars, and the market is anticipated to grow at a CAGR of 14.80% to reach nineteen point two billion USD dollars by year 2028. North America is estimated to have the highest market share in digital banking (Market N Research, 2022).

Digitalization has increased financial inclusion by lowering access barriers with the emergence of low- or no-cost banking. From consumer usage perspective, as of 2021 as many as two billion consumers actively used online banking services, and the figure is anticipated to reach two comma five billion by the 2024, with Asia market being the largest. South Africa, which is accounted under Sub-Saharan Africa region reported to be only three per cent (Mothibi & Rahulani, 2021). According to research, it was estimated that about eighty-six per cent of South African with bank accounts preferred conducting day-to-day banking digitally, particularly via mobile app. The majority of affluent and middle-income consumers preferred using a mobile application for their daily banking tasks. (Discovery Bank, 2022).

Credit is integral part of human in modern society. When income is insufficient to cover expenses, it assists individuals in smoothing their consumption and preserving their standard of living. It is said to enable people to respond to unanticipated events such as emergency, illness, and job loss (ref). Credit offers individual an opportunity to buy houses, vehicles as well as financing their education (Mutsonziwa & Fanta, 2019). From the macroeconomic point of view, credit serves as catalyst for household consumption, a crucial component in fostering economic expansion (McCarthy and McQuinn, 2015 as cited in Mutsonziwa & Fanta, 2019). Globally, easier access to credit has increased as a result of democtratization of credit (FintechOS, n-d).

Financial wellness entails having the financial competencies and knowledge required to confidently make decisions that optimally satisfies an individual's personal, family, and interpersonal objectives (National Financial Educators Council , 2022). According to Consumer Financial Protection Bureau (2015), to be professed as state of being financial wellness one must demostrate control over their day to day finances, be able to withstand a financial setback, be progressing toward their personal financial objectives and have the financial independence to make life-enriching decisions.

Over-indebtedness refers to a systemic circumstance wherein households or individuals are in arrears or behind on credit payments. IIt occurs when an individual's anticipated resources are inadequate to fulfil their financial responsibilities without compromising their standard of living (Financial Sector Conduct Authority, 2022). Over-indebtedness remain a challenge in South Africa with more than fifty per cent of citizens credit-active consumers being considered as over-indebted. The financial suffering caused by the COVID-19 pandemic compelled many consumers to obtain more credit in order to make ends meet, resulting in a sharp increase in active credit in 2020 (FSCA, 2022). COVID-19 did not only impact South African citizen but the whole world, the global debt increased from thirty percent point of Gross Domestic Product (GDP) to two hundredth sixty three percent of GDP. This growth was pervasive, affecting government and private debt, internal and foreign debt, and most countries (Kose et al., 2021).

Studies have suggested that increased availability of credit in financial sector combined with pressure to consume goods and services may be responsible for rising over-indebtedness or excessive credit in many nations. For example (Anderloni, Bacchiocchi, & Vandone, 2012) found that impulsive individuals are more prone to get into debt because they are more inclined to engage in impatient, short-sighted patterns of behaviour that make it hard for them to truly comprehend the repercussions of their financial and spending decisions.

Many South African customers are finding it challenging to keep up with their mounting debt and other financial responsibilities (Karambakuwa & Ncwadi, 2021). Household debt has steadily increased, combined with a high debt-to-income ratio and a rise in repayment defaults, posing a danger to the credit sector and economic stability. Increases in debt levels exacerbate borrowers' propensity to default and result in irregular financial cycles, consequently endangering a financial system catastrophe equal to that observed in the year 2007-2009 (Karambakuwa & Ncwadi, 2021). Considering that digital technology enables access to financial goods and services more ubiquitous, bank customers are also becoming more exposed to credit offerings via various digital platforms. while digital banking has brought about immense convenience and value to the customer, there is a potential side effect regarding debt consumption which has not received adequate attention in both empirical and practice literature. Therefore, it is important to explore the perceived influence of digital banking on the financial wellness of South African middle-class. This study intends to investigate this topic by studying the experiences and views of digital banking users and shedding light on potential problems associated with digital banking usage.

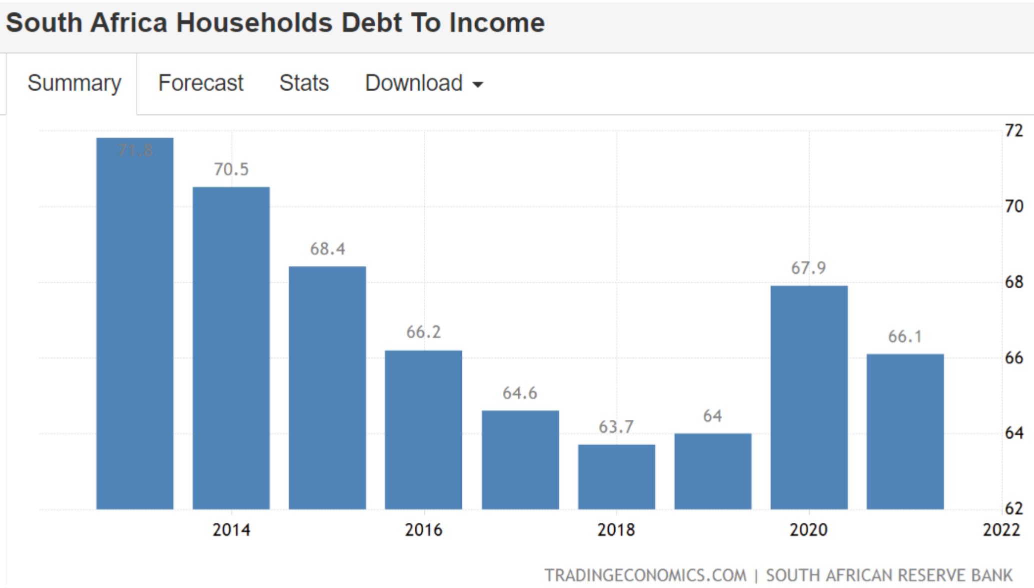
1.2 Context of the Study

COVID-19 has revoutionalised how organisations conduct businesses in order to remain afloat. To stay ahead and meet the demands of customers, many companies worldwide must digitize their services. (Shahid, Islam, Malik, & Hasan, 2022). While the COVID-19 pandemic has presented corporate organizations with huge hurdles, it has also forced them to innovate and find new business models to survive. Financial institutions have maintained competitive edge in digitization because of the high intensity of product information and when the world faced the lockdown era, digital banking adoption witnessed an acceleration. (Seetharaman, 2020). Digital banking enables customers to conduct banking transactions involving debit/credit access such as transferring of funds instantly, receive notification and applying for various financial services such as credit. Digital banking provides cost-effective strategies for both consumers and banking institution. For consumers, it saves them time and money, it further provides them convenience of effecting transaction anywhere anytime. For the banking institution, it reduces costs associated with maintaining physical branches and improves customer reach (Shahid et al., 2022).

Credit is very crucial to South African middle-class customers. It facilitates the acquisition of products and services by consumers that they otherwise could not afford on account of an upsurge in living standards. Additionally, credit empower individuals to respond to unanticipated situations including emergencies, job loss, and illness (Mutsonziwa & Fanta, 2019). According to a study conducted by Allen, Babus and Carletti (2009) Consumer debt has been associated with recessions in the economy and financial crises. During the financial crisis that occurred in 2008-2009, South Africa observed an upsurge in the household debt to income ratio. Household debt is defined as all house debt liabilities such as mortgage loans and consumer credits. The indicator is expressed as a proportion of the net disposable income of the household. (OECD, 2023). Household Debt-To-Income (DTI) ratio compares the amount of money consumers spend on debt repayments in relation to the money received as an income in a household. Higher DTI ratio indicates that a consumer has high level of debts, and a lower ratio indicates a healthy balance between debt and income (Crace, 2023).

In 2018, Business Tech reported that the middle class in South Africans are dealing with a deep financial crisis; many individuals are taking out loans and credits to cover essential expenses that include food and transportation, and those with bad debt typically had DTI ratio of sixty-three per cent (Karambakuwa & Ncwadi, 2021). While ratio has indicated in decline between the year 2020 and 2022 where households DTI ratio decline by one point eight per cent from sixty-seven point nine to sixty-six point one respectively as indicated in figure 1 below.

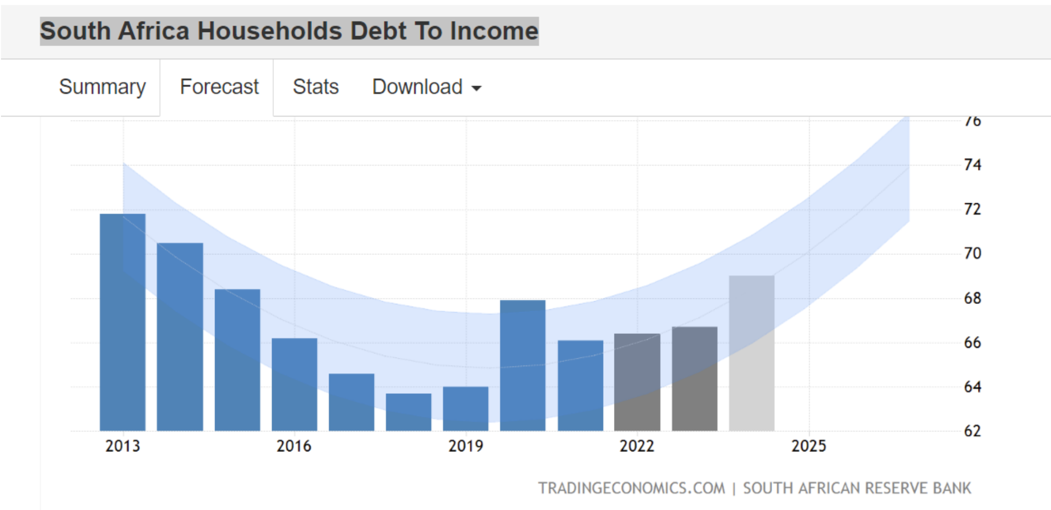
Figure 1 South Africa House Debt to Income ratio



Source: Trading economics, south African Reserve Bank

however, from the forecast perspective as indicated in figure 2 below, the DTI ratio is said to reach sixty-nine by 2024. (South African Reserve Bank, 2022). Suggesting that South African consumers will continue to express this financial distress.

Figure 2 South Africa House Debt to Income ratio Predictions



Source: Trading Economics | South Africa Reserve Bank

Research indicates that over-indebtedness may results from number of factors, including unemployment, poor financial management, unprecedented expenses such as medical services, a death in the family, or changes in family dynamics such as divorce (Mutsonziwa & Fanta, 2019). Other similar studies have attributed excessive debt matter to supply-side factors, which are financial institutions that are offering credits to individuals. According to Kilborn (2005) study, Intense competitive demands compelled lenders to formulate aggressive marketing strategies and organize their goods to exploit the psychological biases and frailties of their consumers. The same study was supported by Ironfield-Smith, Keasey, Summers, Duxbury and Hudson (2005) which claimed financial services were partially responsible for the UK over-indebtedness. The study further highlighted that though debt acquisition is personal responsibility, increased support from the financial services industry is crucial.

In the South African context, over-indebtedness was attributed to a political and legislative approach that promoted greater access to formal financial services. (Hurwitz and Luiz, 2007 as cited in Mutsonziwa & Fanta, 2019). Observing numerous individuals grappling with excessive debt within my social circle amid the rise of the digital revolution has prompted questions about the potential role digital banking might play in this phenomenon. This research attempts to investigate the complex relationship between advancements in banking technology, financial behaviors, and overall financial wellness.

1.3 Research Problem

Digital banking has become prevalent in South Africa, providing customers with convenient access to financial services using technology such online banking, mobile application, and other form of digital capabilities. Digital banking has transformed financial system of both developed and developing countries, and it has accelerated financial inclusion and catalyst for achieving the 2030 Sustainable Development Goals (SDGs). Based on 2017 World Bank Global index in report, a mere thirty-three per cent of adults owned bank account in the authorised financial institution in Sub-Saharan Africa in 2017 (Chinoda & Kapingura, 2023).

While the digital finance has brought financial inclusion in the life of consumer predominantly in areas where they were financial inclusion gaps due to various impediments (Chinoda & Kapingura, 2023). Individuals and households find themselves more intertwined with the global economy as a consequence of the economic expansion and experimentation of the last few decades. Digital banking advancements have enabled financial products and services more accessible to a larger and more diverse individuals (Froud et al., 2000 as cited in Cuesta-Gonzalez et al., 2021). According to World Bank (2020) digital banking platforms have made credit facilities more accessible to consumers, and ease access to credit has contributed to a rise in credit uptake.

Digital banking has become an increasingly common method for gaining access to financial services and conducting transactions, providing users with better convenience and accessibility. According to Statista (2023) the leading five banks in South African by number of clients; Capitec Bank (nineteen million), Standard Bank Group (ten point two million), Absa Bank (nine point six million), FirstRand Bank (nine million and sixty thousand), and Nedbank (six million four hundred and eight thousand). Out of the five banks, the three banks namely, FRB, Absa Bank and Capitec Bank have implemented a feature on their digital platforms that generates personal tailored "Offers" or rather pre-approved credit for their existing customer. Pre-approved loan/credit pre-approved loans/credit are disbursed to clients with minimal documentation requirements and without collateral or security. A consumer must have a solid credit record and repayment history (Bank Bazzar, n.d.). The purpose of offers is to encourage consumers to apply for credit through the formal application procedure; however, approval is not guaranteed because the bank must still approve or disapprove the pre-approved offers. (RCS BNP Paribas Group, 2023).

Tailored loans/credit offerings are built and offered by banks to consumers based on consumer credit score that bank receives from credit bureaus; by examining consumer credit history and noticing a good bank balance and transaction rate; prompt repayment of loans in the past and the bank has (Bank Bazzar, n.d.). On digital platforms, pre-approved credit applications can be processed with the press of a few buttons, and funds are disbursed promptly upon approval.

The aforementioned three banks have taken their marketing strategies a step further by including a pop-up window with a variety of credit offers on the landing page. Once the user has successfully logged in, they may proceed to their account profile without accepting those offers. The mobile application also has a built-in tab with all pre-approved available offers. While this functionality has the potential to enhance access to credit for underprivileged communities, considerable concern exists that it may also contribute to consumer over debt and financial distress. (Hoyes,) n.d. emphasized that the reason financial institutions provide credit increases to customers is because they know customers will utilise them eventually.

Excessive debt remains an issue within the country financial outlook, more than fifty per cent of South African with active credit are said to be over indebted and the value of consumer credit has been on rise since 2009 (FSCA, 2022). Adoption of digital banking is growing at an accelerated speed in South Africa due to its effectiveness and convenience to manage personal finances (Mothibi & Rahulani, 2021). There is a need to study whether the increasing use of digital banking among South Africa's middle class has contributed to the growth of their personal debt levels. Excessive debt has a detrimental effect on households and has even resulted in personal suicides in certain extreme circumstances. It also has an impact on the workplace, causing demotivation, absenteeism, and even a propensity to steal. Because of this, many countries with similar constitutions and human rights cultures have very prescriptive legislative and regulatory approaches to consumer credit (Trade and Industry Republic of South Africa, 2004). Thus, the results of this study aim to enlighten policymakers and financial institution on how to minimize the detrimental effects of digital banking on financial security, particularly for middle-class consumers who are already struggling with debt.

1.4 Research Questions

1. How has the adoption of digital banking influenced the financial wellness of middle-class South African consumers?

2. How does the perceived ease of accessing credit through digital banking platforms influence credit acquisition among middle-class consumers in SA?

1.5 Intended Contributions

According to the World Bank (2021), South Africa exhibits a notable prevalence of household debt, with South African consumers' excessive indebtedness being recognised as a significant problem that affects the financial wellness of individuals and households. The same was also highlighted in the Financial Conduct Fiscal Authority (FSCA) report in 2022 where it was stated that more than fifty per cent of South Africans with open credit were considered excessively indebted. Increased availability and accessibility of digital banking services may contribute to the negative impacts on personal finance management.

Digital banking service providers are profit seeking business that employ aggressive marketing strategies on their digital platform to maximize the profit of businesses. To persuade high as well as moderate-income consumers to utilise their digital banking platforms, banks may employ a more aggressive marketing strategy to lure them in acquiring their service and products. (Ozili, 2022). Therefore, investigating the relationship between digital banking and financial wellness moderated by easy access to credit among middle-class South Africans can help to identify potential strategies to prevent financial distress and promote responsible borrowing practices through legislative and regulatory approaches to consumer credit that are prescriptive.

Theoretical contribution

The study evaluated the perceived impact of digital banking on the financial wellness of middle-class South Africans. The study significantly contributed to the application and extension of Self Determination Theory (SDT) in the context of financial wellness and digital banking adoption. While SDT largely focuses on the notions of autonomous motivation, controlled motivation and amotivation, this research introduced a new dimension by including digital banking as a significant independent variable. This integration offered various key theoretical advancements including the extension of SDT to the financial context. Previously the framework was applied extensively in fields such as education, healthcare, and workplace. Applying SDT to the financial domain, particularly digitally banking adoption, it expanded the scope of SDT, which demonstrated its relevance and applicability in understanding financial behaviours and wellness .

Additionally, the study findings suggested that autonomous and controlled motivations positively impacted financial wellness, while amotivation had an equivocal relationship. This nuanced understanding highlighted the importance of distinguishing between different types of motivation in financial contexts, These findings contributed to enriching the theoretical framework of SDT with empirical evidence from the financial domain.

Empirical contribution

The research provided empirical insights into how South African middle-class customers perceived the impact of digital banking on their financial wellness. It delved into their perspectives, beliefs, and experiences with digital banking and the influence it had on their financial conduct, including credit acquisition. The research provided comprehensive knowledge of the South African middle-class consumer market in terms of digital banking adoption and financial behavior.

Practical contribution

The risks associated with digital banking in the lives of middle-class consumers in South Africa were explored through research. The findings could be used to inform laws and regulations to ensure that consumers have access to financial services that contribute to their financial wellness. In addition, this research could assist financial institutions and other stakeholders in comprehending the impact of digital banking on the lives of middle-class South Africans and in identifying opportunities for improvement in designing and delivering credit offers through digital platforms.

Consumer empowerment

The study prompted a shift in consumer mindset, which fostered great awareness and mindful financial decisions made in the digital domain. By heeding the research cautionary tales, individuals could make proactive efforts to safeguard their financial wellness in the increasingly digitalised landscape. The study served as a crucial wakeup call, drawing attention to the potential risks associated with digital banking and encouraging a prudent approach to financial conduct.

1.6 Delimitations

- Data was gathered from individuals residing in urban areas, particularly Gauteng Province. Individuals from rural or remote areas were excluded from participating.
- The study's delimitation was evident in its focus on middle class South African demographics; however, data was only collected in one province out of nine. This limitation influenced the generalizability of the outcome since the experiences and behaviours of middle-class individuals in the chosen province may not entirely mirror those of middle-class inhabitants in other parts of South Africa.
- The study targeted middle-class South Africans who use digital banking services. It excluded those without access to digital banking or those who have not yet adopted digital banking services.
- The study included a limited number of participants who were selected using convenience sampling techniques.
- The delimitation recognised that the findings of this study will only reflect the perspective and experiences of the selected sample, which added another barrier to generalising its findings.
- The research was limited by the fact that it only collected data from participants over a certain timeframe, which was insufficient to fully understand the patterns of digital banking use and how these patterns evolved over time.
- The research depended on self-reported data from an online survey, which could have been biased or have been subject to recollection issues. Participants might not have always correctly remembered or described their financial habits or beliefs, potentially impacting the reliability or validity of the results.

1.7 Definition of Terms

Digitization is using digital technologies to completely transform a business model or system to create additional revenue streams and and prospects for creating value (Mothibi & Rahulani, 2021). Digitalization affords banks new opportunities to put the customer at the centre of their product development through product innovation and new offerings. (Omarini, 2017). Jenkin & Naude (2018) argued that digitization refers to the use of digital means to improve the efficiency and effectiveness of existing resources and procedures through the application of digital technology. There distinction between digitization and digitilization, *digitilization* refers to making use of digital technologies and capabilities to transition to a digital business by modifying business models, operational procedures, and the development of new offerings. Digitalisation is accelerating, and the banking sector is likely to experience more innovations over the next decade. (Jenkin & Naude, 2018).

Digital banking can be defined as the digitization of traditional banking services to provide customers with financial services (Mothibi & Rahulani, 2021). Another researcher argued that digital banking refers to the process of making various financial products and services accessible via digital devices. It encompasses all online and internet transactions for various purposes (Sujana, 2018). Jenkin & Naude (2018) argued that digital banking encompasses the process of integrating cutting-edge technology into an existing financial infrastructure, they further added that digital banking enbales consumers to access and administer their account and make payment using their digital devices such as mobile or computer.

According to the WorldBank (2022) *financial inclusion* pertains to the provision of cost-effective and suitable financial products and services, such as insurance, payments, transactions, savings, credit, and transactions, in a sustainable and ethical fashion, to both consumers and businesses. Financial inclusion has been identified by the World Bank as a critical facilitator in the efforts to decrease poverty and enhance shared prosperity. United Nations (2022) stated that *financial inclusion* refers to the provision of a complete suite of high-quality financial services to anyone who can use such services, resulting in an increase in financial capability. From african context, financial inclusion entails offering low-income and other vulnerable households adequate and high-quality financing that is both available and affordable. This process specifically target communities who have historically been excluded from the official financial industry and ensure that they are included (African Development Bank, 2013).

Financial well-being is a state of being in charge of your day-to-day finances; being able to withstand financial crises; being on track towards achieving your own financial objectives and having the financial freedom to make life-enriching decisions (Consumer Financial Protection Bureau, 2015). United Healthcare(2021) supported the definition by emphasing that financial well-being is a sense of having autonomy over one's finances, the capacity to endure a financial setback, being on track to achieve one's financial objectives, or the freedom to make financial decisions. They further emphasized that financial well-being is a state of being able to adequately meet present and future financial commitments, and also being confident about one’s financial future. (United Healthcare, 2021).

Financial wellness is a desired condition that people often aspire for. Researchers largely agree that personal financial wellness is fundamental aspect of overall well-being. financial wellness is regarded a multifaceted concept that encompasses several aspects like as financial satisfaction, objective assessment of one's financial state, financial attitudes, and behaviour. It cannot be accurately examined by a single metric. (Raveendran, et al., 2021). This defination was supported by (Gerrans, Speelman, & Campitelli, 2014) that financial wellness can not be measure by a single metric, the reseachers further added that financial wellness refers to holistic notion that comprises financial well-being, desirable objective status, Optimistic financial mindset and prudent financial conduct. Financial wellness and financial well-being are interrelated. Financial wellness is a comprehensive term that incorporates multiple aspects of financial well-being, such as stability, security, and total financial health.

Financial literacy refers to the ability to competently handle personal financial matters, which includes the knowledge to make sound choices regarding personal finances. It further entails understanding of various economics and financial concepts, as well as proficiency in using suitable financial resources (Hung et al., 2020; Zait & Bertea, 2014 as cited in Madeira & Margaretic, 2022). Another researcher argued that Financial literacy is described as a comprehension of financial principles and the ability to evaluate financial data accurately (Gathergood, 2012).

Over-indebtedness is defined as an instance in which individuals or families are behind on credit obligations on a systemic basis. When an individual's expected finances are insufficient to satisfy their financial obligations without decreasing their level of life, this is also referred to as a financial crisis (FSCA, 2022). Mutsonziwa & Fanta (2019) supported this defination by starting that being over-indebted is when an individual or household have ongoing difficulty meeting their Financial obligations may include repaying secured or unsecured debt, as well as covering utility expenses, rent, and other household expenses. Comparably, excessive credit is the availability or use of credit over and above what is necessary or prudent. It accentuates the overextension of credit limits, whether by creditors extending an excessive amount of credit or by debtors excessively utilising credit. Both over-indebtedness and excessive credit will be used intercheably in this document.

Credit is the ability to borrow money from an individual or corporation (a bank) with the intention to repay it, usually with interest. (Experian, 2022). Standard Bank of South Africa defined credit as an agreement that allows consumer to purchase products now and make payment later. debt is defined as the amount of money that one party borrows from another party in order to fulfil a financial need that would not otherwise be able to be met in totality. (Corporate Finance Institution, 2023). Credit

Egan (2021) defined *middle-class* as individual or household earning between R22 000 and R40 000 per month, these group of individuals are likely to be in possession of high-level education and have access to private vehicle to move around. However, Visagie (2013) contended that defining middle class in South Africa is confounded by the country's low and avarage income levels and substantial disparities in wealth distrubution. Essentially, households characterised by moderate standard of living are near the pinnacle of the nation's income ladder. Many definitions of middle class are are subjective and value laden. Two common approach are adopted in defining middle class; The statistical method of defining the middle class is to analyze a country's economic ladder and define middle class households as those that fall within a certain income range, based around the median household income. A second popular way to define the middle class is to select a range of household income per individual that gives some idea of relative wealth (Visagie, 2013).

n the South African context, there is no clear definition of the middle class, since different definitions refer to different household income thresholds. The study will employ the definition of middle-class as defined by (StatsSA, 2009), which states that a middle-class individual or household will have the following attributes: living in a formal house; running water in the house with a flushing toilet; electricity as the primary source of light; electricity or gas as the primary cooking source; owning a private vehicle and possessing a smart phone.

1.8 Assumption

- The research assumes that middle-class South African consumers are aware of and are familiar with digital banking services, including their features, benefits, and possible risks associated with them.
- It is assumed that South African middle-class consumers have embraced digital banking to certain extents, with a significant number of them utilizing digital banking platforms for financial operations such as managing their accounts, payments, and credit facility access.
- The study assumes that middle-class South African consumers believe digital banking has an influence on their financial behavior, including credit acquisition, financial management, and ultimate financial wellness.
- The sample population will be representative of the South African middle class.
- The study assumes that survey data are accurate and reliable and that participants provide honest and impartial responses.
- It is assumed that the majority of middle-class consumers view digital banking as a convenient, easily accessible, and efficient method for conducting financial transactions and that they have a positive outlook concerning its use.

1.9 Summary of Chapter 1

Chapter 1 established a foundation for the research by providing a comprehensive background on the study. The study delved into the research problem and research questions, outlining the complexities of the digital banking environment and its effects on the financial wellness of middle-class individuals in South Africa. Through an exploration of key definitions, the chapter ensures conceptual clarity and coherence in understanding the essential terminologies.

In addition, the chapter outlined the intended contributions of the study, extending beyond academic discourse to add to the practical contribution by influencing policy decisions and enabling enhancements in the financial industry concerning digital banking. It further acknowledged the limitations of the research, scrutinising factors such as the use of self-reported data and restricted geographic reach to a single province in South Africa with respect to data collection.

2. CHAPTER 2 - LITERATURE REVIEW

2.1 Introduction

This chapter is segmented into 4 main sections with the aim of gaining an understanding of the influence of digital banking on the financial wellness of the middle-class in South Africa. The primary theory being investigated is based on the idea that the aggressive marketing strategy adopted by some South African banks, which involves the employment of advanced analytics tools in the digital banking space and the provision of customers with alluring credit offer options, may be causing more harm than good. The chapter commences with a theoretical review that has been used by other scholars to explore different phenomena within human behaviour. The theory has been identified as the most suitable theoretical framework that will be adopted for this study.

The second section provided a literature review that incorporated an empirical assessment of digital banking, its evolution, and some of the consequences that have been found by previous scholars, as well as unpacking the concept of debt & credit and its role in the South African economy, understanding financial wellness, and understanding the context of over-indebtedness.

The third section of this study examined the research question as well as the hypotheses that will be used to construct the survey and the high-level questions that will be used to formulate survey questions in order to determine whether or not the hypotheses were true. The third section introduced the adopted theoretical framework for the study. Lastly, the conclusion of the literature review.

2.1.1 Theoretical Framework

Numerous theoretical frameworks have been used by different scholars to explain different phenomena that are similar to this study. The economic theory of debt was used to assess the indebtedness of the African middle class in South Africa. Consumption has been shown to play a significant part in determining whether or not a household would incur debt, according to economic theory\ (Scott, 2019).

Another similar study by Karambakuwa and Ncwadi (2021) employed debt overhang theory by Sachs and Krugman to examine the factors influencing household debt in South Africa. The theory defines a situation in which a household's total debt is so high that it can't afford to take on any more debt to even make future investments that are lucrative. According to the theory, debtors are unlikely to skip credit repayment when they have sufficient income to cover repayments (Diamond and He, 2014 as cited in Karambakuwa & Ncwadi, 2021). Furthermore, the theory suggests that current income determines consumption. The findings of the study were that over-indebtedness could be attributed to various factors, including lack of financial management skills and adequate protection against lenders' exploitative activities (Karambakuwa & Ncwadi, 2021).

Another study was conducted by Gathergood (2012) to ascertain, with an emphasis on UK consumers, the link between financial literacy, self-control, and excessive debt on consumer credit. The study used self-control theory as a theoretical framework to highlight that a lack of self-control can increase consumer exposure to a variety of risks. Lack of self-control was found to play a major role in consumer over-indebtedness.

This study will adopt self-determination theory as a theoretical framework to ascertain the influence of digital banking on the lives of middle-class consumers. The theory provides an all-encompassing framework for comprehending the psychological, social, and environmental influences on consumer behaviour. Self-determination theory highlights the significance of intrinsic motivation, which are internal factors that inspire humans to behave in particular ways, and extrinsic motivation, which is externally led or motivated.

Studies can gain a better understanding of the motivations behind the influence of digital banking on the financial wellness of South African middle-class consumers by employing self-determination theory. This knowledge can then be utilized to build approaches to assist these consumers in financial distress. In contrast, theories such as debt theory, self-control theory, and debt overhang theory focus on the financial elements of debt and do not provide a comprehensive understanding of the psychological, social, and environmental factors.

2.1.2 Self Determination Theory

In an attempt to ascertain what motivates individuals to comprehend and manage their finances, we employ concepts from motivational psychology and personality development, namely Self Determination Theory (SDT) can be advantageous (Ryan and Deci 2017 as cited in Di Domenico et al., 2022). SDT refers to a person's capacity to make their own decisions and manage one's life. The theory was initially developed by psychologist Edward Deci and Richard Ryan in 1985 in a book titled Self-determination and Intrinsic Motivation in Human Behaviour and it has been widely advanced by many scholars across the globe (Gilal et al., 2020)

According to SDT, there are two different types of human motivation, and human actions are typically both intrinsically and extrinsically motivated (Gilal et al., 2020). According to Deci and Ryan theory, intrinsic motivation is the motivation that comes from within, which are internal forces that motivate individuals to behave in a particular way, such as core values, our interests, and our personal sense of morality. In contrast, extrinsic motivation is the drive to conduct oneself in specific ways based on external sources, which leads to external rewards. It may appear like intrinsic and extrinsic motivation are inverses driving conduct in line with our "ideal self" and extrinsic encouraging us to adapt to others' standards—but there is another key distinction between the forms of drive. (Ackerman, 2018).

SDT differentiates between autonomous and controlled motivational aspects, as well as amotivation (a lack of motivation), as distinct methods for individuals engaging with their personal finances. More autonomous types of motivation have repeatedly been linked to improved performance and wellness results in a range of applicable domains, including education, healthcare, and employment (Di Domenico, Ryan, Bradshaw, & Duineveld, 2022).

Autonomous motivations are those that are carried out with a sense of willingness. Research has demonstrated that autonomous motivation leads to higher-quality outcomes and more enduring behavioural changes. The SDT argues that the quality of motivation is more significant than its amount (Missinne, 2019). Autonomous regulation type: intrinsic and identified regulation are regarded as the most advantageous because the actions are motivated by their own determination or will.

(Missinne, 2019). An intrinsic regulation entails that involvement in activities that people choose is driven by the interest or joy they derive during the enactment of the activity. Identified regulation highlights another sort of autonomous motivation when an individual intentionally values an activity and accepts its underlying goals. (Di Domenico, et al., 2022).

In contrast, controlled motivations, according to SDT are those in which a person feels coerced or pressured to perform them. External regulation and internal regulation are types of controlled motivations. External motivation refers to the behaviour that individuals engage in to acquire external rewards or avoid punishments. Such actions are dependent on external circumstances; when those circumstances fall away, people lose their motivation. (Di Domenico, Ryan, Bradshaw, & Duineveld, 2022). Introjected regulation is a behaviour where motivation is partially internalized, and one takes action to prevent feeling guilty, or shame if they do not do it. (Hurst, Dittmar, Banerjee, & Rod Bond, 2017).

Ryan and Deci (2017, as cited in Di Domenico, et al., 2022) argued that both autonomous and controlled motivations explain why people behave a certain way. It is further mentioned that SDT defines amotivation as the absence of intent to act. In the perspective of education, a study conducted by Di Domenico & Fournier (2015) found that university students with greater levels of autonomous motivation for their academic work had greater grade-point averages, a correlation that was maintained even after accounting for cognitive rating was considered. From the healthcare perspective, a study conducted by Ng et al. (2012) as cited by Di Domenico et al. (2022) found that people are more successful and likely to maintain beneficial changes over time when they are autonomously motivated to make health-related changes such as exercising often. Additionally, from a work perspective, it was reported that there is a negative correlation between autonomous motivation and job weariness, but a positive correlation was reported between controlled motivation and work exhaustion. (Fernet, Austion, & Vallerand, 2012). Suggesting that those who are autonomously motivated in their work tend to experience lower levels of work weariness.

Because the SDT model has the ability to evaluate people's behaviour, Di Domenico et al., (2022) argue that it can provide a unique perspective from which to evaluate how individuals manage their finances. The results of the study on motivations for personal financial management showed that autonomous motivation was linked to several good financial behaviours such as saving, investing, financial self-efficacy, well-being, and self-awareness. In contrast, amotivation was positively associated with overspending.

The absence of comprehensive framework for assessing individual's motives for personal finance is rather startling, given that psychologists have long recognized that individuals may act sub-optimally even when they greater awareness, due to lack of high-quality motivation. Although researchers maintain that individuals possessing financial knowledge are less probable to acquire credit but have better financial credit score, and make prudent financial decisions, emphasizing that high credit acquisition can be attributed to financial illiteracy (Fernandes, et al., 2014 as cited in Di Domenico et al., 2022). However, a study by Gutierrez-Nieto and others argued that financial institution pressures can lead to individual excessive debt acquisition through their aggressive marketing strategies as well as competitive pressures that drive banks to enter to reckless lending practise. At the same time, cheap interest rates and increased credit limits may initially entice clients to acquire more debt but subsequently leave them over-indebted. (Gutierrez-Nieto et al., 2017 as cited in Julio & Botelho, 2022). Similarly study by Murthi, Girju, & Steffes (2019) indicated that low-percentage rate (ARP) offers attract customers who move balances and utilize revolving credit. Some cannot repay the money at the end of the promotion time and become overindebted. Low promotional APRs help needy clients in the near term but might lead to overcommitment and over-indebtedness eventually (Murthi, Girju, & Steffes, 2019).

Another study ascribed the issue of excessive debt to macroenvironment factors, including economic crises, macroeconomic conditions and legal system efficacy. In context of South African, household debt is positively correlated with changes in house prices, inflation, the gross domestic product, household consumption expenditures, and household savings, but household income and prime rates are inversely correlated with household debt, leading to over-indebtedness in the future (Meniago et al., 2017 as cited in Julio & Botelho, 2022). The liberalisation and deregulatory of financial markets, as well as low wages and income disparity can also lead to over-indebtedness. (Meyll & Pauls, 2019).

2.1.3 Relevance of Self-Determination Theory to Research Problem

The Self-Determination Theory is a well-established framework that can provide valuable insights for the study of human motivation (Ryan and Deci, 2017 as cited in Di Domenico et al., 2022), and help unpack how digital banking influence the financial wellness of South African middle-class by explaining humans' motivation and behaviour. It suggests that individuals are inclined to engage in activities that align with their psychological needs for competence, autonomy, and relatedness. (Deci & Ryan, 2015). The lack of a comprehensive framework for examining people's motives for personal finance is rather startling, given that psychologists have long recognized that individuals may act sub-optimally even when they "know far better", when they lack strong motivation. (Di Domenico et al., 2022).

The results of using STD across a variety of contexts, including education, healthcare, and the workplace, show that self-motivation is favorably correlated with improved performance and wellness outcomes (Ryan R. M., Deci, Vansteenkiste, & Soenens, 2021). Based on the results of previous studies that incorprated this framework, (Di Domenico, Ryan, Bradshaw, & Duineveld, 2022) recommended that it could be applied in applied research in personal finance.

The theory recognizes that humans have universal psychological needs, and that satisfying these needs can improve motivation, engagement, and contentment. Therefore, SDT can assist in determining how digital banking affects the psychological requirements of middle-class South African consumers. SDT is a more appropriate theoretical framework for addressing the research problem of the perceived influence of digital banking on the financial wellness of the South African middle-class because it focuses on psychological needs, is applicable to diverse populations, emphasizes the connection between behaviour and motivation, and has practical implications for designing interventions or strategies to improve consumers' motivation, engagement, and well-being.

2.2 Digital Banking and Over indebtedness

2.2.1 Digital banking

For the last several decades, the world has been astonished by the fast improvements in technology. There are several instances in which technology is developing and damaging society and companies, one of which is the banking industry. The adoption of digital technology into the banking industry has resulted in a paradigm change, giving rise to what is today known as Digital Banking. (Sardana & Singhania, 2018). Digital banking only took off around 1980 when online services were offered for the first time. Bank of Scotland was the first bank to provide electronic banking services to its client in the year 1985 and the first banking website was launched in 1994 by Stanford Credit Union, since then the growth of internet banking seemed inevitable. (UBS Group AG, 2022) The introduction of mobile phones accelerated the digitization in the banking sector and made it more accessible to the public.

Many scholars have defined digital banking since its inception. Digital Banking can be defined as a combination of two concepts, which is online banking and mobile banking. Online banking entail ability to access banking features and services using one's computer via the online banking portal. Mobile banking is the use of mobile application to access banking features (Napoletano & Foreman, 2021). The definition highlights key features of accessibility and technology. The FSCA expanded this definition by stating that digital banking entails digitization of conventional banking services such as marketing, customer boarding, procedures, processes, products, and services. (Mothibi & Rahulani, 2021). Another scholar argued that digital banking comprises the entire spectrum of banking services delivered or consumed using technology systems, which include internet banking, mobile banking, Automated Teller Machine (ATM) plastic cards, electronic funds transfer (EFT) and Electronic Clearing Service (ECS). It is the employment of technology to carry out banking transactions efficiently. (Sardana & Singhania, 2018) This definition extended the key features and incorporated convenience and different services within digital banking and the study aim to adopt this definition.

Digital banking has become a popular and convenient choice for many people, offering a variety of services that can be accessed from the comfort of one's own home. South Africa consumers are increasingly interested in using digital banking because it provides convenience and effective options for managing their personal finances (Mothibi & Rahulani, 2021). According to MoneyWeb (2023), South Africa’s banking sector witnessed triple-digit growth in digital banking channels. Statista (2023) stated that seventy-eight-point six percent South African population had access to device with internet connection and it was estimated to grow to ninety percent by 2026. The increase in mobile uptake has contributed to the adoption of digital banking.

Digital banking has transformed financial system of both developed and developing countries, and it has accelerated financial inclusion and catalyst for achieving the 2030 Sustainable Development Goals (SDGs). According to World Bank Global index in report only thirty-three per cent of adults owned bank account in the formal financial institution in Sub-Saharan Africa in 2017. (Chinoda & Kapingura, 2023).

The adoption of digital banking has amplified financial inclusion in mostly emerging economies with pursuit to decrease unbanked populace statistics. In 2021 the World bank data indicated impressive growth in Sub Saharan Africa, more than fifty-five-point seven percent of adults were reported to own a bank account or be subscribed to mobile money services. (The WorldBank Group, n-d). mobile money is defined as electronic financial services such as deposits and money transfers, conducted through mobile cell phone. The mobile money balances are maintained by the mobile network operator though their SIM cards and is not linked to any individual bank accounts (ACP, 2014).

While the digital finance has brought financial inclusion in the life of consumer predominantly in areas where they were financial inclusion gaps due to various impediments (Chinoda & Kapingura, 2023). Individuals and households have become increasingly intertwined with the global financial system as a result of the economic growth experimentation of the last few decades, and technological advancements have increased the accessibility of financial products and service, including credits offers to a larger and more diverse audience. (Froud et al., 2000 as cited in Cuesta-Gonzalez, Paredes-Gezquez, Ruza, & Fernandez-Olit, 2021)

Numerous studies have been conducted to assess the consequence of technological advancement in the financial industry from the data privacy and cybercrime perspective. In addition, there have been limited studies conducted from the financial wellness standpoint. There is a growing concern that digital banking may be contributing to over-indebtedness or excessive credit among consumers, particularly among those who lack the self-discipline and financial literacy necessary to effectively manage their debt. A similar study was conducted in Asia, China to determine the impact of digital finance developments on the households, the results indicated that Increased access to credit markets maximizes household consumption by completely shifting the marginal propensity to consume. Furthermore, it was indicated that easier access to credit market amplified households' debt acquisition. (Yue, Korkmaz, Yin, & Zhou, 2022).

In the South African context, Karambakuwa & Ncwadi (2021) reported or attributed over-indebtedness to certain demographic characteristics, such as being a recipient of female-headed households, renting households, social grant households and urban-based households. In a similar study conducted by Idris, Rahim, & Kassim (2019) which aimed to comprehend the impact of digital technology on excessive debt among Malaysian millennials. The study placed emphasis on the fact that easy access to credit has motivated people to keep up their spending patterns. It emphasised the issue of excessive debt among millennials, which has detrimental effects on their health, psyche, and overall well-being.

World Bank (2020) has also asserted that digital banking platforms have made credit facilities more accessible to consumers, and ease access to credit has contributed to a rise in credit uptake. Excessive debt remains an issue within the country financial outlook, more than fifty per cent of South African with active credit are said to be over indebted and the value of consumer credit has been on rise since 2009. COVID-19 similarly magnified credit active accounts due to financial distress. (Financial Sector Conduct Authority, 2022).

The literature will further unpack the concept of over-indebtedness by first understanding four concepts: financial well-being, financial wellness, credit or debt, and over-indebtedness.

2.2.2 Outlook on financial well-being and financial wellness

Financial well-being is the condition of being in control of one's daily finances; being resilient irrespective of financial setback; being on pace to achieve your own financial objective and having the financial freedom to make life-enriching decisions (Consumer Financial Protection Bureau, 2015). This description was also supported by the United Healthcare(2021) by highlighing that financial well-being is a sense of being in control over one's finances, the ability to withstand a financial setback, being on schedule to achieve one's financial objectives, or the freedom to make financial decisions. They further emphasized that financial well-being is a state of being able to adequately meet present and future financial commitments, and also being confident about one’s financial future. (United Healthcare, 2021).

For one to be able to keep track or being in charge of the day to day, which is one component of being financial well-being, digital banking provides features that assist consumers with managing their finances on their devices via digital platforms. Moreover, digital banking makes it easier for customers to access services, facilitate acquisition of additional services, and also strengthen relationship between banking institution and consumers (Muluka, Kidombo, Munyolo, & Oteki, 2015).

Financial wellness is a coveted state that individuals typically want to achieve. Researchers widely concur that personal financial wellness is a fundamental aspect of overall well-being. Financial wellness is regarded as a multifaceted concept that encompasses several aspects, such as financial satisfaction, an objective assessment of one's financial state, financial attitudes, and behavior. It cannot be accurately examined by a single metric. (Raveendran, et al., 2021). Gerrans, Speelman, & Campitelli (2014) agreed that financial wellness cannot be measured by a single metric. The researchers further added that financial wellness refers to a holistic notion that comprises financial well-being, desirable objective status, an optimistic financial mindset, and prudent financial conduct. Financial wellness and financial well-being are interrelated. Financial wellness is a comprehensive term that incorporates multiple aspects of financial well-being, such as stability, security, and total financial health.

Financial well-being and financial wellness are mutually reinforcing concepts that often assess the financial health and overall well-being of individuals or households. Both notions acknowledge that financial well-being or wellness is not only defined by one's income level or net worth but also by aspects such as financial literacy, financial habits, attitudes towards money, and general life happiness.

Knowledge and awareness of financial matters is a crucial component of financial wellness. Several studies have determined that digital banking increases consumers' financial knowledge and awareness. it has empowered consumers in a variety of ways by granting them the ability to monitor their income and expenses and access to simple financial management tools. The digital banking push notification functionality has provided consumers with control over incoming and outgoing funds. Spending monitoring and budgeting tools are another feature that promotes consumers' financial well-being by providing them with spending reports and allowing them to set spending limits to avoid exceeding their budget (Young, 2023).

2.2.3 Outlook on Debt or credit

Credit can be defined as the ability to borrow money from an individual or corporation (a bank) with the intention to repay it, usually with interest (Experian, 2022). Standard Bank of South Africa defined credit as an agreement that allows consumer to purchase products now and make payment later. debt is defined as the amount of money that one party borrows from another party in order to fulfil a financial need that would not otherwise be able to be met in totality. (Corporate Finance Institution, 2023).

Experian argued that debt and credit are distinct concepts and that debt refers to the amount someone owes, while credit refers to the ability to borrow money or obtain goods and services with the intention of paying them at a later date. This study will look at debt as money that you have already borrowed but have not yet paid back, and credit as individual capacity to get debt. Excessive credit refers to an instance in which an individual acquires or uses credit to a degree that exceeds what is considered reasonable or sustainable given their financial ability to repay the loan.

Debt can either be classified as good or bad depending on many variables. Good debts are the kind of debts they have lasting benefits which includes mortgage loan, student loan and business investments loan which has a long-term advantage. A bad debt on the other hand is the loan whose value drops immediately after buying such as vehicle loans, clothing credit account, credit card loan, revolving loan, personal loans and instant loans etc. (Corporate Finance Institution, 2023). This study will be focusing on the bad debt aspect.

The role of credit in South African economy

Debt is a crucial factor in individuals' daily lives. Household consumption has the potential to drive economic development in a country by generating revenue for the financial sector, creating job opportunities, and resulting in advantageous business outcomes. (Idris, Rahim, & Kassim, 2019) . Credit is necessary in the economy where consumers want to purchase products or services that cannot be purchased with one month's salary.

Credit enables consumers to consume a product or service, at a cost indicated by an interest rate, before having paid for it, or, if an item cannot be purchased with a one month's salary, to extend out the payments over a number of months. This supports the argument put forth by Idris et al., (2019) concerning the capacity of credit to stimulate the economy. Large items such as cars, house and in South African context, credit enables majority of consumers to pay for school fees, house furniture and some it helps with starting of small businesses, which would not be afforded or not be acquired by many individuals due to their limited disposal of income. Thus, credit allows for a broad spectrum of opportunities, some of which are economic, some educational, and yet others just improve one's level of living. (Trade and Industry Republic of South Africa, 2004).

Looking at the South Africa consumer debt standpoint, according to the South African Reserve Bank (SARB) quarterly report, ratio of South African household debt to nominal disposable income was reported at sixty-six per cent, this means that consumer spent sixty-six per cent of their income servicing debt every month. Also reported is with accelerated growth rate in household debt of six point nine per cent at the end of 2021 from four point two per cent at the end of 2020. (South African Reserve Bank, 2022). Excessive debt may result in detrimental consequences such as weak GDP growth, effects on financial institutions, and pose challenges to the life of individuals. (Idris, Rahim, & Kassim, 2019).

South African consumers are increasingly dependent on debt, as the use of credit exceeds their discretionary income from employment. As a result of increasing debt repayments commitments, household finances have become more precarious, and savings rates have also decreased. (Scott, 2019). It is important to highlight that whilst credit gives access to products or services that would be impossible to obtain with a single month's salary, it may also be a dangerous tool that results in excessive levels of debt and indebtedness. (Trade and Industry Republic of South Africa, 2004)

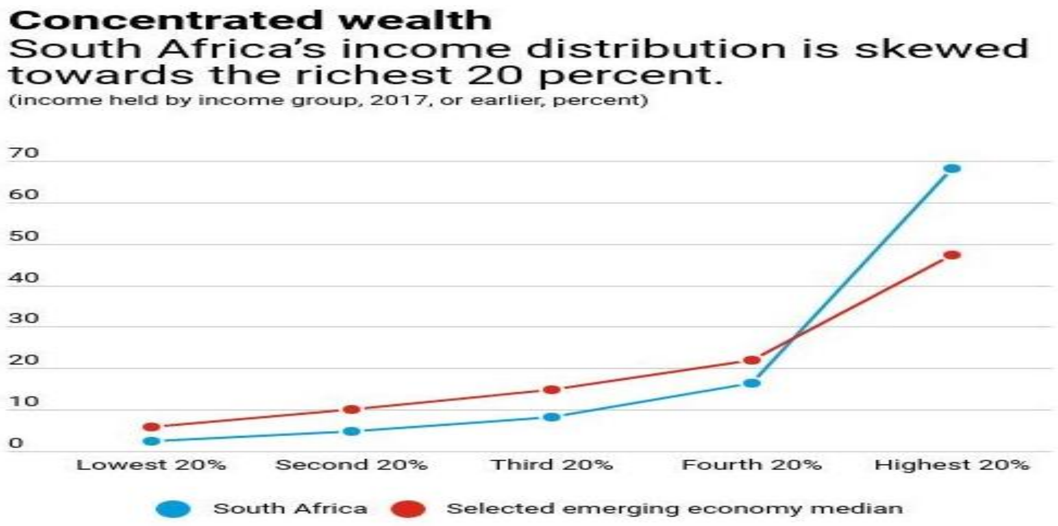
2.2.4 Over-indebtedness

Over-indebtedness can be defined as a structural financial condition rather than an interim situation where a consumer is experiencing financial difficulties and is unable to satisfy credit obligations (Mwase, 2017). In context of the European Commission, based on a set of criteria that were applied to understand this phenomenon, over-indebtedness was defined as a concept where an individual or household income is inadequate to satisfy all financial commitments over a lengthy period, without lessening living standards. Which might refer to lowering it below the permissible minimum acceptable in the country concerned, which could have both social and policy ramifications. (D'Alessio & Lezzi, n-d). The National Credit Act (2005) contended that over-indebtedness is a financial condition that signifies whether or not a consumer can or will be incapable of meeting credit obligations in light of the information at the time of loan issuance (history and current financial obligations).

The study adopts the definition by the NCA, which defined over-indebtedness as a financial state that implies a consumer is or will be unable to fulfil credit agreements based on available information. This definition is widely accepted in the South African context, and this study will expand and adopt the definition as, an over-indebtedness financial state where a consumer has acquired more debts than they can afford in respect of the repayment obligation.

In South Africa, debt has been attributed to numerous factors, such as low wages and a high unemployment rate, as a consequence of the country's wealth, which is largely concentrated in the upper echelons of society. South Africa remains one of the world's most unequal countries. In addition to failing to resolve the painful legacy of social injustice that excluded certain individuals from economic participation, the postdemocratic government has exacerbated inequality. Rising debt limits the ability to employ fiscal policy for further redistribution. Sixty-eight percent of the income is held by the highest twenty percent of the population, while the bottom forty percent hold only seven percent of the income, as depicted in figure 3 below. South Africa's low economic growth and rising unemployment have been asserted to be substantially higher than those of emerging economies. (IMF organisation, 2020).

Figure 3 : South Africa's income wealth distribution when compared to other emerging countries.



Source : World Bank Poverty and Equity 2.1. *Note: Comparable emerging market countries: Argentina, Brazil, China, Colombia, Mexico, Malaysia, Peru, Romania, Russia, Thailand, and Turkey.*

A study attributed over-indebtedness to factors related to the macroenvironment, such as economic crises, macroeconomic variables, and the efficiency of the legal system. In the context of South Africa, household debt is positively correlated with changes in house prices, inflation, the gross domestic product, household consumption expenditures, and household savings, but household income and prime rates are inversely correlated with household debt, leading to over-indebtedness in the future (Meniago et al., 2017 as cited in Julio & Botelho, 2022). The liberalisation and deregulatory of financial markets, as well as low wages and income disparity, can also lead to over indebtedness. (Meyll & Pauls, 2019).

Similarly, a study by (Murthi, Girju, & Steffes, 2019) indicated that low-percentage rate (ARP) offers attract customers who move balances and utilize revolving credit. Some cannot repay the money at the end of the promotion period and become overindebted. Low promotional APRs help needy clients in the near term but might lead to overcommitment and over-indebtedness eventually. (Murthi, Girju, & Steffes, 2019).

2.3 Conceptual Model

2.3.1 Integration with theoretical framework

Based on previously conducted studies, excessive credit is a multifaceted phenomenon, and it can be attributed to a variety of factors, which makes it challenging to unpack or, rather explain. However, in the context of this research, it is assumed that comprehending individuals' motivations for financial management is thus essential. This will not only help to understand why individuals handle their money the way they do, but also what drives them to acquire debt, particularly bad debt. The study may also help to identify effective targets for improving financial education and management (Di Domenico, Ryan, Bradshaw, & Duineveld, 2022). The SDT framework can be helpful in comprehending human motives and behaviour with respect to their financial well-being as well as the management of their finances.

Despite scholars' arguments that people with financial knowledge are less likely to acquire credit but have better scores and make better financial decisions, they emphasise that high credit acquisition can be attributed to financial illiteracy (Fernandes, et al., 2014 as cited in Di Domenico, et al., 2022). However, a study by Gutierrez-Nieto and others argued that financial institution pressures can lead to excessive individual credit through their aggressive digital marketing strategies as well as competitive pressures that drive banks to adopt reckless lending practices. At the same time, cheap interest rates and increased credit limits may initially entice clients but subsequently leave them over-indebted. (Gutierrez-Nieto et al., 2017 as cited in Julio & Botelho, 2022).

The conceptual framework indicates that the research will focus on the influence of digital banking on the financial wellness of the South African middle-class. It encompasses self-determination theory and the easy access to credit that supports aggressive digital marketing contained within digital banking. The conceptual framework is based on the Ryan and Deci (2000) concepts of autonomous, controlled, and amotivation which expanded the proposed model to include an independent variable: digital banking adoption, 3 mediating variables: autonomous motivation, controlled motivation and amotivation. Financial wellness is the dependent variable, and easy access to credit is a moderating variable.

Independent Variable : Digital banking adoption refers to the degree to which South African middles class individuals adopt and ultilise digital banking services. It is the primary factor being investigated to comprehend its influence on financial wellness.

Mediating Variables : These variables elucidate the mechanism by which financial wellness is influenced by the adoption of digital banking;

- Autonomous motivation - refers to engaging in digital banking for personal reasons and perceived value, resulting in increased satisfaction and positive impact on financial wellness.
- Controlled motivation – refers to engaging in digital banking as result of external influence or obligations, which can have different effects on one's financial wellness.
- Amotivation – this reflect a lack of motivation to engage in digital banking, which may be attributed to a lack of perceived benefit or understanding. This could potentially have a detrimental effect on financial wellness.

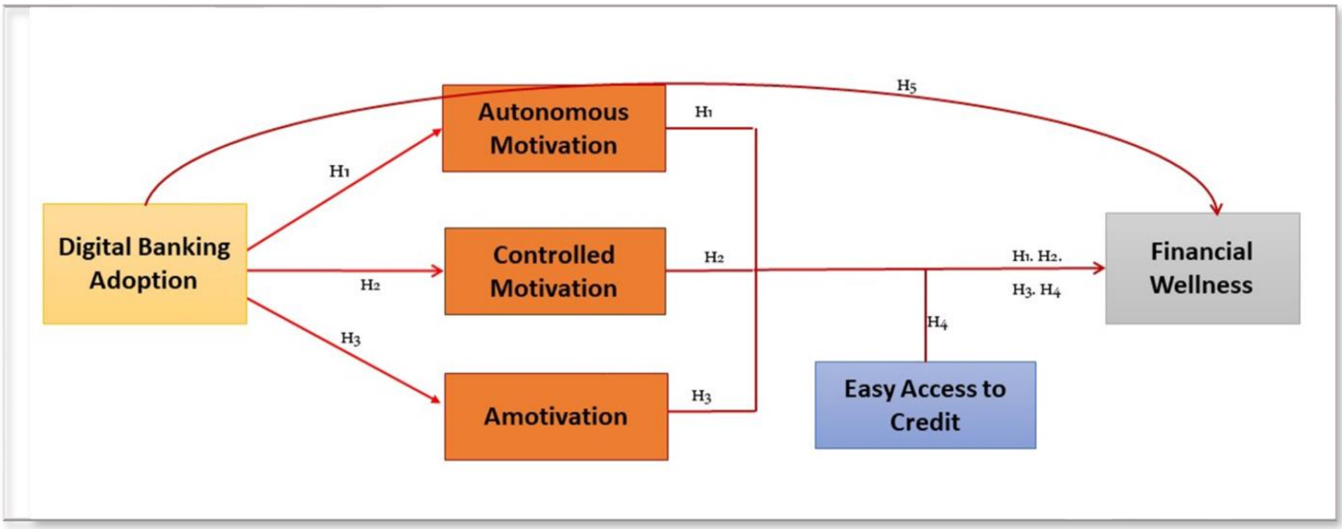
Dependent Variable: Financial Wellness – this is the outcome variable that measures the overall financial wellness of South African middle-class individuals. The study aims to ascertain the extent to which financial wellness is influenced by the adoption of digital banking, as mediated by various forms of motivation.

Moderating Variable: - Easy Access to Credit – this variable influences the strength or direction of the relationship between digital banking adoption and financial wellness. easy access to credit through digital platforms may amplify the benefits of digital banking for financial wellness.

Other scholars have adopted SDT framework to investigate individual's motivation and behaviours towards their finance management. They explored the concept of autonomous and controlled motivation for comprehending and managing their finances , as well as their as their amotivation. It remains to be determined by researchers how specific motivational attributes may be linked to the manner in which individuals manage their finances. (Di Domenico et al., 2022). Another study conducted by Mielitz, MacDonald, Ratzlaff, Joseph and Smodic (2021) employed SDT to invistigate the impact of financial autonomy, relatedness and competence on financial well-being of students, as evaluated by Consumer Financial Protection Bureau.

The study aims to provide comprehensive understanding of perceived influence of digital banking on financial wellness by analysing these relationships . Specifically, it aims to determine the extent to which the financial behaviour and outcome of the South African middle class can be influenced by the adoption of digital banking. Additionally, it explore the psychological mechanisms such as autonomous motivation, controlled motivation and amotivation that mediate this relationship. Understanding these mediating factors can explain how digital banking affects financial wellness. Moreover, to investigates the moderating role of easy access to credit, asessing whether the availability of credit facilities through digital banking platforms enhances or diminishes the influence of digital banking on financial wellness.

Figure 4 Conceptual Framework



Source: Researcher

2.3.2 Linking self-determination theory with financial wellness

The research proposed three concepts of self-determination theory namely, autonomous motivation, controlled motivation and amotivation can be used to explain the motivation and behaviour of individual in personal financial management (Di Domenico et al., 2022) such as digital banking platform. Motivation has a direct impact on level of credit uptake from consumer perspective. Numerous of studies have repeatedly demonstrated that greater levels of autonomy (as opposed to control and amotivation) are correlated with enhanced behavioural persistence and improved performance, especially in demanding or sustained-effort activities. Additionally, autonomous motivation is consistently correlated with increased positive experiences and improved financial wellness. (Di Domenico, Ryan, Bradshaw, & Duineveld, 2022) and inverse was true for controlled and amotivation, controlled motivation is influenced external factor. Incorporating insights from literature, the table below highlight the mediating variables including their measures.

Construct	**Intepretation**	**Measures**	**References**
Autonomous Motivation	A human's intrinsic desire to do something for their personal interest.	Assesses a person's motivation for a particular behavior, the ability to make sound financial decisions, assess what motivation individual to avoid over-indebtedness in their debt acquisation, what motivate individual to remain under-indebeted	(Deci & Ryan, 2015); (Ryan & Deci, 2000)
Controlled maotivation	Behaviour that a human engage in order to receive some kind of external reward or to avoid punishiment.	Use of TSRQ to assess the motivation for financial behavior change in human.assess the motivation to acquire debts that lead into over-indebtedness.	(Deci & Ryan, 2015); (Ryan & Deci, 2000)
Amotivation	Lack of motivation to act, where human does not value a behaviour or outcome of it	Assess the lack of motivation in acquiring debts, assess lack of motivation to be over-indebted	(Deci & Ryan, 2015); (Ryan & Deci, 2000)

The following hypotheses for propositions/research questions for a quantitative study are generated from the above relationships:

- *H1: The relationship between the adoption of digital banking and financial wellness is mediated by autonomous motivation.*
- *H2: The relationship between the adoption of digital banking and financial wellness is mediated by controlled motivation.*
- *H3: The relationship between the adoption of digital banking and financial wellness is mediated by amotivation.*

2.3.3 Linking easy access to credit through digital banking

Scholars have found a link between aggressive digital marketing strategies that promote easy access to credit and excessive debt. As a moderating variable, easy access to credit plays a crucial role in this proposed conceptual framework. According to a study conducted from a Chinese perspective by (Yue et al., 2022) , suggested that Increased consumer participation in the credit market can be attributed to the widespread availability of digital banking and credit offerings on those digital platforms. Similarly, a study by (Murthi, Girju, & Steffes, 2019) indicated that low-percentage rate (ARP) offers attract customers who move balances and utilize revolving credit. Some cannot repay the money at the end of the promotion period and become overindebted. Low promotional APRs help needy clients in the near term but might lead to overcommitment and over-indebtedness eventually. (Murthi, Girju, & Steffes, 2019).

Digital banking service providers aggressively market their products to maximize corporate profits. Banks may use aggressive marketing to entice high and middle-income individuals into utilizing a digital finance platform to acquire more banking credit services. (Ozili, 2022). Literature pointed out the multifaceted nature of digital banking advertising strategies, which include ; personalization, convinience and engagement.

Construct	Intepretation	Measures	References
Personalization	The ability to use data analytics to develop customised products or service based on the customers preferences and needs	Self-reported satisfaction with personalized banking services, level of indebteness with the use of personalised products, level of descilpine in accepting personalised products	(Marous, n.d.); (Ozili, 2022)
Convienience	The ease of access to the products and services offered on the digital platform.	Number of digital chanel accessible, perceived easy of use, availability of digital chanel, the speed and effeciency, turnaround time for application approval.	(Murthi, Girju, & Steffes, 2019); (Ozili, 2022)
Engagement	The ability of digital marketing strategies to captivate consumers' attention and inspire them to take action.	Frequency and duration of digital usage, customer satisfiation.	(Murthi, Girju, & Steffes, 2019); (Ozili, 2022)

The hypothesis is linked to the concept of ease of access to credit as the moderating varaible is as follows :

- *H4: The relationship between the adoption of digital banking and financial wellness is moderated by easy access to credit .*

2.3.4 ***Linking digital banking adoption with overall financial wellness of middle-class South Africans***

The use of digital banking has revolutionised the financial systems of both developed and developing nations. It has played a crucial role in promoting financial inclusion and has acted as a catalyst for reaching the 2030 Sustainable Development Goals (SDGs). There is a noticeable inclination towards better understanding of financial matters, increased convenience of use, and improved accessibility to financial resources.

Digital finance has significantly increased financial inclusion for consumers, particularly in locations where there were gaps in financial access owing to various impediments (Chinoda & Kapingura, 2023). The economic growth experimentation of recent decades has led to an increased integration of individuals and households into the global financial system. Furthermore, advancements in technology, particularly in digital banking platforms, have extended the accessibility of financial products and crdit offerings to a wider and more diverse individuals (Froud et al., 2000 as cited in Cuesta-Gonzalez et al., 2021). World Bank (2020) states that digital banking platforms have enhanced the accessibility of credit facilities for customers, resulting in a rise in credit uptake. As digital banking evolves, its revolutionary influence on financial wellness is expected to have significant influence on the economic stability of South Africa's middle class.

Construct	**Intepretation**	**Measures**
Frequency of Digital Usage	The frequency at which individuals in the middle class employ digital banking platforms to conduct a variety of financial activities and transactions.	Frequency of login in, number of transactions conducted digitally, the duration of time dedicated to digital banking operations.
Access to financial services	The accessibility and use of financial assets and services enabled by the advent of digital banking. The metrics include access to credit facilities, savings and investment possibilities, insurance products, and other financial instruments provided via digital platforms.	Availability of credit facilities accessible through digital banking platforms, savings rate, investment opportunities offered.
Financial management practise	the efficacy of individuals' financial management behaviors and practices made possible by digital banking utilization. It entails evaluating how people budget, save, invest,	The proportion of income allocated to savings and investments through digital banking, as well as the debt to

	and manage debt using digital banking tools and platforms.	ratio derived using digital banking transaction data.

The hypothesis is linked to the concept of digital banking adoption for financial wellness as follows :

- *H5: Adoption of digital banking is positively associated with financial wellness among the middle-class population in South Africa.*

2.4 Summary of Chapter 2

In conclusion, the chapter provided a comprehensive review of the perceived impact that digital banking has on the financial wellness of the South African middle-class population. The chapter highlighted the theoretical framework that formed the basis of the research, with a particular emphasis on self-determination theory (SDT). The theory provided significant insights into the motivation and behaviour of individuals.

Additionally, the literature review extensively examined the progression and implications of digital banking, emphasising its pivotal function in revolutionising the banking industry and broadening the scope of financial accessibility. It also underlined the growing concern around digital banking adoption and its potential contribution to excessive borrowing among consumers, particularly those who have limited financial knowledge and lack self-control. Numerous studies have highlighted factors such as aggressive marketing strategies, easy access to credit, and socioeconomic factors as catalysts for excessive debt. Moreover, it acknowledges the crucial role of credit within the South African economy, while also stressing the potential risk it poses to financial stability, which may have adverse effects on both individuals and the economy.

Overall, the chapter laid the groundwork for empirical investigation into research studies and hypotheses detailed in the following sections. Its objective is to offer significant perspectives on the domain of digital banking and its impact on financial wellness in South Africa.

3. CHAPTER 3 : METHODOLOGY

3.1 Introduction

To ascertain the perceived influence of digital banking on the financial wellness of the South African middle-class, a sample research technique was employed. The purpose of the study was to determine the influence of digital banking on the financial wellness of middle-class individuals who live in SA and what the outcomes or benefits of adopting these platforms are.

The objective of research is to find answers to questions by using scientific processes. Research methodology is a method for systematically dealing with the research problem through the logical use of numerous adopted steps Typically, it includes concepts such as framework, theoretical model, stages, and quantitative or qualitative methods. (Patel & Patel, 2019). This chapter detailed all the crucial points in the procedure for conducting research as well as the implemented strategies.

3.2 Research Design

Williams (2007) highlighted three research approaches that can be adopted in research design: quantitative, qualitative and mixed-methods research. This study adopted quantitative research approach to ascertain the influence of digital banking on the financial wellness of South African middle-class. Quantitative research has been characterized by its emphasis on objective hypotheses. (Williams, 2007), It is an approach for testing objective theories through studying the association between variables (Creswell, Part I: Preliminary Considerations, 2009, p. 4) .It is especially useful when answering research questions that necessitate numerical data analysis. Empirical arguments and methodologies are used in this method to examine how well a policy or program meets a norms or standards. (Taherdoost, 2022).

Qualitative research entails comprehensive approach in exploring and understanding phenomena in their normal setting. The approach applies empirical and interpretative techniques to discover novel knowledge, ideas, and theories. (Tashakkori & Creswell, 2007). The research process consists of the formulation of research questions and methods, data acquisition, data analysis (developing inductively from specifics to overarching themes), and the researcher's interpretation of the findings (Creswell, Part I: Preliminary Considerations, 2009, p. 4).

The mixed methods approach enables data triangulation, i.e. contrasting and comparing results from quantitative and qualitative data sources (Creswell, 2009). The application of triangulation helps to validate and confirm findings, which ultimately contributes to an increase in the overall credibility of the study. Williams (2007) argues that mixed methods build on both approaches instead of aiming to replace them. The ultimate objective of researchers employing the mixed methods approach to research is to capitalize on the strengths of quantitative and qualitative research approaches while minimizing their shortcomings. (Johnson & Onwuegbuzie as cited in Williams, 2007). A mixed-methods approach can provide a more comprehensive and nuanced understanding of the research study.

The study adopted quantitative research techiniques and research instruments to gather data from participants. The employed method was chosen to test relationships between variables outlined in the defined conceptual model under figure 2.1. The adopted method facilitated rigorous analysis, which enabled the verification of these relationships and contributed to the understanding of factors impacting financial wellness.

3.3 Data collection methods

Data gathering is an essential component of research study to answer the research questions. Data collection is a procedure or process using to gather data (Patel & Patel, 2019). To better understand the perceived influence of digital banking on the financial wellness of South African middle-class, the study adopted quantitative method approach. Data was collected through online questionnaires.

In the context of quantitative research, the employing of research questionnaires as a tool for collecting vast quantities of data is highly beneficial (Dörnyei & Dewaele, 2022). Furthermore, questionnaires provide a standardized technique to collect data, ensuring that variables are measured uniformly across participants. The use of structured questions with predetermined response alternatives ensures consistency in data gathering, limiting potential sources of bias and improving response comparability (Sukamolson, 2007). Another denefit that can be derived from this method is that questionnaires enable researchers to effectively gather data from a reasonably large sample size. Online questionniare has capacity to reach a larger audience through online distrubution, which increases the statistical power of the study (Mazikana, 2023).

3.4 Population and sample

Sampling frame are crucial component of the research design. Sampling techniques offer a variety of strategies for reducing the quantity of data you need to collect by focusing on data from a subset of cases or elements rather than all possible cases or elements. (Saunders, Lewis, & Thornhill, 2009, p. 210). Several contextual factors were taken into consideration when determining the appropriate population and sample frame for this study due to unavailability of population and assumptions techniques were employed.

According to Eighty20 (2023), South Africa has four point one million middle-class individuals based on middle-class being defined as adults earning typically between R22 000 and R40 000 per month (Egan, 2021). From the adopted definition of middle-class by Statistics SA, a middle-class were individuals' that had the following components ; resinding in a formal house; running water in house with flushing toilet; electricity being the main source of light; electricity or gas being the main cooking source; has private vehicle (StatsSA, 2009) and in possession of a smart phone.

There's no precise population size that could be determined based on the adopted definition by Stats SA. Since there is no established or documented population size under study, an estimate was derived based on the assumptions of the researchers and the information at hand. The sample size was derived from an assumed population.

3.5 Population

Population describes the collection or assortment of all the individual entities to which the conclusions of the study will ultimately be applied (Shukla, 2020). The total number of events from which a sample is drawn is known as the population. Sample frame consists of a comprehensive listing of each instance in the population from which your sample will be derived. (Saunders, Lewis, & Thornhill, 2009, p. 214). From the population of the middle-class income earners within South Africa borders, the target population include those individuals who are currently employed & must receive an income and owns an account with ABSA, FNB and Capitec Bank. The respondent must also have access to the digital banking platforms offered by any of the aforementioned banks and be a registered to use the platform.

Due to the lack of a comprehensive data source or dependable information on the population size, the study relied on a best estimate derived from multiple sources.

Here are the assumptions and rationale;
Gauteng has an estimated 16 267 000 people and 80.7% households lived in formal dwellings, 83.1 % connected to the main electricity supply, 76.55 used electricity as main source of energy for cooking, and 98% connected to piped or tap water in their dwellings (Stats SA, 2022). Combined stats percentage will be 85.6% which gave a population of 13 924 552.
We assumed that 139,246 individuals who meet the middle-class requirements of South Africans, as defined by StatsSA (2009), own an account with FNB, representing 1% of the 13,924,552 total population. Similarly, we assumed that 111,396 individuals who meet the middle-class requirements own an account with Absa, which is 0.8% of the total population. For Capitec, it was assumed that 69,622 individuals meet the middle-class requirements, accounting for 0.5% of the

total population. Capitec's percentage is lower than the others because it primarily targets the low-end market, with most of its clients residing in rural areas. Altogether, this results in a total of 320,264 individuals.

3.6 Sample and Sampling Method

The study adopted convenience sampling technique, which is a non-probability sampling technique in which cases are selected arbitrarily based on their availability. The sample selection procedure is repeated until the desired sample size is attained. (Saunders, Lewis, & Thornhill, 2009, p. 241). Convenience sampling promotes the selection of conveniently accessible and available research participants. Active users of digital banking services in the middle class of South Africa may be more accessible through channels such as online platforms, social media, and community networks.

Explanatory research study entails studying situation or problem in order to give explanation regarding the association between the two variables (Saunders, Lewis, & Thornhill, 2009, p. 140). Convenience sampling can serve as a starting point for comprehending the relationship between digital banking users and

their financial wellness when examining the perceived impact of digital banking.

Based on the population of 320, 264, below is the sample size and how it was derived

Sample Size = *(Z^2 * p * q) / E^2*

Z = 1.96 (corresponding to a 95% confidence level) p = 0.8 (estimated proportion)

*Sample Size = (Z^2 * P * (1 - P)) / (E^2)*

*= (1.96^2 * 0.8 * (1 - 0.8)) / (0.05^2)*

*= 3.8416 * 0.8 * 0.2 / 0.0025*

= 0.614656 / 0.0025

= 245.8624

$$Sample\ Size = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1+\left(\frac{z^2 \times p(1-p)}{e^2 \times N}\right)} = \frac{\frac{1.96^2 \times 0.8(1-0.8)}{0.05^2}}{1+\left(\frac{1.96^2 \times 0.8(1-0.8}{0.05^2 \times 320\ 264}\right)} = 246 \quad (1)$$

3.7 The research Instrument.

- The study used a questionnaire for the purpose of data collection. Qualtrics was the selected platform that was used to administer the online research questionnaire. The survey was designed to be mobile friendly to accommodate respondents who preferred participating using their mobile phones. The design aspect of the online survey:
- Questions were structured in an orderly manner to ensure alignment with the relevant section or areas.
- The questionnaire was designed to terminate immediately when participants did not give consent to participate.
- To prevent misunderstandings, some explanations of terminology were supplied above the questions.
- Logic order was maintained to keep respondent interested.
- Research questionnaires were designed to ensure that participants would willingly complete all the questions.
- Various scales were employed in the data collection process, including Likert scale for measuring attitudes or perceptions, as well as dichotomous scales such as yes-no questions for capturing responses ordinal scales to measure frequency & impact assessment.

The questionnaire section structure is:

- Introduction: Brief description of the purpose of the study and basic instructions to complete the survey
- Section 1 demographic information such as age, gender, employment status, education level, their primary bank, and their work-related experience.

- Section 2: a questionnaire regarding the frequency with which participants interact with digital banking platforms.
- Section 3: a questionnaire regarding their motivation when interacting with digital banking, autonomous, controlled motivation, and amotivation.
- Section 4: a questionnaire regarding easy access to credit that is offered on digital platforms, the frequency with which individuals accept such offers, and the motivations behind the accumulation or acceptance of such offers.
- Section 5 : questionnaire about their financial wellness from the digital perspective of platforms, to ascertain whether the platforms have a positive or detrimental impact on users' financial wellness.
- Section 6: questionnaire to ascertain barriers that have deterred adoption of digital banking and their credit offers.
- Conclusion and expression of gratitude towards the respondent. Also providing respondents with contact information for follow up or raising any concerns regarding the survey.

3.8 Data analysis

Several statistical techniques were employed in order to analyse and make sense of the data. This includes descriptive analysis, inferential analysis and regression analysis. Some of the methods used are discussed below.

- *Descriptive analysis*

Descriptive analysis is a commonly used method for summarising and organising data. The general distinction between inference analysis and descriptive analysis is that the latter is used to interpret and give meaning to data, while the former is used to observe and summarize data. Descriptive analysis consists of multiple elements, such as shape, tendency, and dispersion measures. The standard deviation and range are measures of dispersion, whereas the mean, median, and mode make up measures of central tendency (Gogtay & Thatte, 2017).

Finally, the skewness and kurtosis make up measures of shape. Since descriptive analysis offers an overview of the kind of data the researcher is working with, it serves as the foundation for econometric modelling. Descriptive analysis is also essential for decomposing large amounts of data into manageable chunks that clarify the variability and pattern in the data. Two elements of descriptive analysis namely, central tendency and variability, are used to achieve this. Measures of variability offer comprehensive details regarding the range and degree of data point dispersion.

- *Inferential analysis*

Inferential analysis is used to interpret and make sense of information. Inferential analysis involves a number of methods, such as correlation analysis, hypothesis testing, and sampling distribution. The correlation test is the most acceptable method for this study given the nature and availability of the data as well as the goals of the investigation. The correlation test is useful when analysing the relationship between two variables, that is, the degree to which two variables are strongly or weakly correlated (Gogtay & Thatte, 2017). It's sufficient to note that correlations can be non-linear or linear. Multicollinearity between variables can also be predicted using the correlation test. A major drawback of the correlation test lies in its inability to investigate the impact and causal relationship between two or more variables. The Pearson's Product Moment Correlation Coefficient and Spearman's Rank Correlation Coefficient are the two widely utilized correlation methods. For the purposes of this study, we employed the Pearson correlation test. (Hauke & Kossowski, 2011).

According to Mukaka (2012), the Pearson correlation test seeks to determine whether there is a linear relationship between two variables and how strong it is. The probability value indicates whether there is a linear relationship between two variables, typically at the 1%, 5%, or 10% interval levels. The coefficient value indicates the degree of the linear relationship between two variables. According to Cohen (1988), a coefficient value of less than 10% suggests a weak linear relationship between the two variables in question, whereas a coefficient value of 10% to 30% suggests a moderate linear relationship. When the coefficient value of two variables is greater than 50%, it indicates a strong linear relationship between them.

- *Regression analysis*

Various econometric procedures can be utilized in a particular study, contingent on the goal of the investigation, nature of the data, and accessibility of the information. The Ordinary Least Squares method was applied in this investigation. The Ordinary Least Squares technique is the most commonly used procedure to regression analysis. When there is no multicollinearity and the regressors are exogenous, the Ordinary Least Squares approach yields reliable and objective results (Mukaka, 2012).

- *Development of Financial Wellness index*

To assess participants' levels of financial wellness, principal components analysis (PCA) was used to compute the financial wellness index. The composite index encompasses all criteria that assess financial well-being, such as flexibility, information, comparison, frequency and wellness. The variable "barriers" was excluded due to it being a category variable. It was used for descriptive analysis to provide additional insights into participants' perceived barriers to financial wellness. the choice to employ PCA for constructing financial wellness index was based on its capacity to condense multiple variables into single composite measure while retaining vitality as possible. The method enables comprehensive assessment of financial wellness while minimising redundancy. (Greenacre, et al., 2023).

3.9 Model specification

Several models have been developed to accomplish the study's objectives. The model was based on previous studies with a few adjustments. Our model can be expressed mathematically as:

$$FW\ index_t + \alpha_0 + \beta_1 \sum_p^k Z + \beta_2 \sum_p^k L + \beta_3 \sum_p^k J + \beta_4 \sum_p^k Q + \beta_5 \sum_p^k R + \varepsilon_t \qquad (2)$$

Where FW index is the dependent variable measured by the financial wellness index. The financial wellness index was computed using the principal components analysis. Z is a set of demographic factors including age, gender, educational background, years of experience and employment status. L is a set of variables that capture autonomous motivation, J is a set of variables that measure controlled motivation, Q denotes variables that capture amotivation and R is a set of variables that measure the ease of access to credit through digital banking platforms. The operator α represents the constant term, Bit denotes slope coefficients to be estimated and ε_t is the idiosyncratic error term.

3.10 Procedure for Data Collection

The data analysis sample was specified to include 245 people from developed regions in Gauteng Province. The procedure commenced only after receiving ethical approval. Convenience sampling strategy was employed to collect data using online surveys on the Qualtrics platform. Wits University students received a URL asking for their voluntary participation in an online survey. The Wits administration was approached to disseminate the URL to Wits students. A hyperlink to my social media profiles was included in my biography for participants to access and provide their feedback. The link was shared in all my social media stories. Additionally, my colleagues were asked to participate in this research by email. I shared the link via WhatsApp and asked my social contacts to further distribute it within their own networks.

The data was cleaned post-collection by identifying mistakes, missing values, and outliers. SPSS software tools were used for doing accurate statistical analysis. The data analysis findings were analysed to draw relevant judgments. The findings are well communicated via the use of tables, graphs, and descriptive statistics. A comprehensive research report is compiled, including an introduction, methods, findings, and discussion sections.

3.11 Ethical Consideration

Ethical issues are critical in research to ensure participant safety and well-being. The following ethical considerations were considered in the context of this study on the perceived influence of digital banking on the financial wellness of the South African middle-class:

Informed permission was obtained from participants, making sure they understood the study's objective, methods, potential dangers, and benefits. Their rights to participate voluntarily, to remain anonymous, and to withdraw at any time were explicitly explained. The privacy of participants' personal information and survey responses was maintained.
Any data collected was securely handled, and any publishing or reporting of the study findings ensured the privacy of participants was not compromised. The emphasis was placed on voluntary participation, and it was made clear that they had the right to leave at any time without consequence. The research was conducted with honesty, precision, and integrity. Throughout data analysis, and reporting, all forms of deception, fabrication, or plagiarism were avoided.

3.12 Summary on Chapter 3

In conclusion, Chapter 3 provided a comprehensive overview of the research methodology used to explore the perceived influence of digital banking on the financial wellness of the South African middle-class. The chapter discussed the chosen research methodology, a quantitative approach, as well as the justification for its applicability to testing hypotheses and relationships between variables.

The methods of gathering information were described, with an emphasis on online, closed-ended questionnaires. The advantages of utilizing questionnaires for this study were emphasized, including their effectiveness, simplicity of data analysis, and capacity to collect huge amounts of quantitative data.

In addition, the chapter covered population and sample selection. Due to a lack of valid population data, the researcher's assumptions were used to define the population. Due to logistical considerations and schedule constraints, convenience sampling was chosen as the sampling method. Using the appropriate formula and error margin, the sample size was calculated to ensure enough participants for meaningful data analysis.

Ethical considerations were also discussed, with an emphasis on the significance of confidentiality, security of data, voluntary participation, and research integrity.

4. CHAPTER 4: FINDINGS AND DISCUSSIONS

4.1 Introduction

This section provides a summary of findings from various statistical tests performed, including descriptive analysis, correlation analysis, and regression analysis. It highlights the validity and reliability of the study and summarises several statistical analyses. These analytical techniques have been instrumental in uncovering significant patterns, relationships, and insights within the data. The chapter discusses the findings that emerged from statistical analysis, providing valuable insights into the research study.

4.2 Validity and Reliability

The Cronbach's Alpha ranges from 0 to 1, with a value beyond 0.70 indicating the reliability of the research instrument and composite findings. Table 1 below provides a summary of Cronbach's Alpha values for different categories. The Cronbach's Alpha values for autonomous motivation, controlled motivation, and access to credit are all above 0.7, suggesting that the research instrument for these variables demonstrated high internal consistency. However, the study tool used to assess demographic parameters and financial well-being did not demonstrate internal consistency.

Table 1: Cronbach's Alpha across group

Group	N of Items	Cronbach's Alpha
Demographic factors	6	0.173
Autonomous motivation	3	0.727
Controlled motivation	3	0.766
Amotivation	4	0.498
Access to credit	8	0.781
Financial wellness	4	0.132

Source: author's computation

The results in Table 2 indicate that all variables that capture the population's demographics have Cronbach's Alpha values that are below 0.70. This implies that the composite scores recorded in relation to demographic factors are not reliable.

Table 2: *Cronbach's Alpha (Demographics)*

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Age	11.17	4.150	0.163	0.075
Gender	12.23	5.257	-0.124	0.252
Education	10.15	3.215	0.183	0.005
Employment	12.73	5.460	-0.236	0.241
Bank	11.46	3.592	-0.005	0.273
Level	11.29	3.749	0.297	-0.044[a]
a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item coding.				

Source: author's computation

The results in Table 3 indicate that all variables that measure autonomous motivation have Cronbach's Alpha values that are closer to 0.70. This implies that the composite scores recorded in relation to autonomous motivation are satisfactorily reliable.

Table 3: Cronbach's Alpha (Demographic)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Autonomy	3.16	2.070	0.548	0.641
Goals	3.04	1.944	0.592	0.586
Experience	3.20	2.339	0.512	0.684

Source: author's computation

The results in Table 4 indicate that all variables that measure controlled motivation have Cronbach's Alpha values that are closer to 0.70. This implies that the composite scores recorded in relation to controlled motivation are reliable. Furthermore, this serves as evidence that the research instrument was internally consistent.

Table 4: Cronbach's Alpha (controlled motivation)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Incentives	6.35	6.922	0.575	0.712
Social	5.76	6.130	0.619	0.662
Consequences	6.14	6.232	0.603	0.681

Source: author's computation

The results in Table 5 indicate that the majority of variables that measure amotivation have Cronbach's Alpha values that are below 0.70. This implies that the composite scores recorded in relation to Amotivation are not reliable.

Table 5: Cronbach's Alpha (Amotivation)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Amotivation	10.53	4.547	0.524	0.206
Engagement	10.83	4.121	0.535	0.164
Outcomes	12.26	6.202	0.037	0.675
Management	10.67	6.446	0.180	0.511

Source: author's computation

The results in Table 6 indicate that all variables that capture access to credit have Cronbach's Alpha values that are above 0.70. This implies that the composite scores recorded in relation to access to credit are reliable. In addition, this indicates that the research instrument demonstrated internal consistency.

Table 6 : Cronbach's Alpha (Access to credit)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Access	16.06	34.776	0.239	0.790
Exceeded	16.00	35.698	0.453	0.776
Influenced	14.82	26.553	0.441	0.783
Available	16.12	34.729	0.590	0.766
Convenient	14.87	26.204	0.666	0.722
Preapproved	16.13	33.843	0.358	0.775
Adoption	15.00	25.230	0.741	0.705
Tailored	14.86	25.655	0.710	0.712

Source: author's computation

The data in Table 7 indicate that all variables that capture financial wellness have Cronbach's Alpha values that are way below 0.70. This implies that the composite scores recorded in relation to financial wellness are not reliable. This also indicates that the research instrument was internally inconsistent, particularly with factors related to financial wellness.

Table 7: Cronbach's Alpha (Financial wellbeing)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Flexibility	5.46	2.943	0.145	-0.069[a]
Information	5.53	2.655	0.288	-0.368[a]
Compare	6.58	5.191	0.010	0.149
Frequency	6.36	5.034	-0.163	0.402
a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item coding.				

Source: author's computation

4.1 Descriptive analysis

Table 8 presents summary statistics on demographics. Demographic factors comprise of age, gender, educational background, employment status, level of experience and bank. The level of educational background averaged 3.65 followed by age (2.64), level of experience, (2.51) and bank (2.35). Similarly, the level of educational background had the highest standard deviation (1.15) followed by bank (1.28), age (0.76) and level of experience (0.77). According to Naape (2021), lower standard deviations imply that the data points are scattered around the mean. Nonetheless, all the variables had a minimum value of 1 and maximum values ranging between 2 and 6.

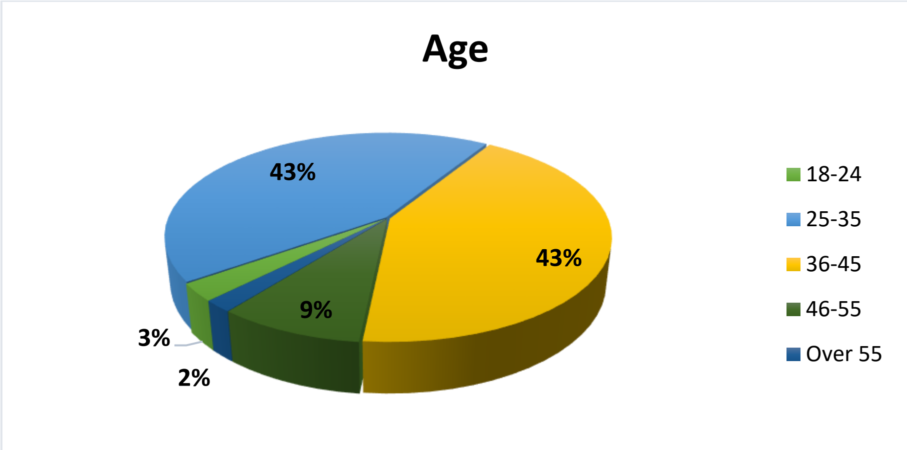
Table 8 : Summary Statistics on demographic

Statistics						
	Age	Gender	Education	Employment	Experience	Bank
Mean	2.64	1.57	3.65	1.08	2.51	2.35
Median	3.00	2.00	4.00	1.00	3.00	2.00
Mode	2	2	4	1	3	1
Std. Deviation	0.759	0.531	1.150	0.267	0.777	1.287
Variance	0.577	0.282	1.323	0.071	0.604	1.657
Skewness	0.597	0.259	-0.677	3.206	-0.133	0.202
Kurtosis	0.522	0.098	-0.118	8.356	-0.371	-1.670
Range	4	3	5	1	3	3
Minimum	1	1	1	1	1	1
Maximum	5	4	6	2	4	4
Sum	585	346	811	239	558	521

Source: author's computation

Figure 4 below shows the distribution of participants by age. Nearly 43% of the participants were aged between 25-35 while 9% of the participants were aged between 46-55. An equivalent share of 43 participants were aged between 36-45 years. Only 3% of the participants were aged between 18-24 years.

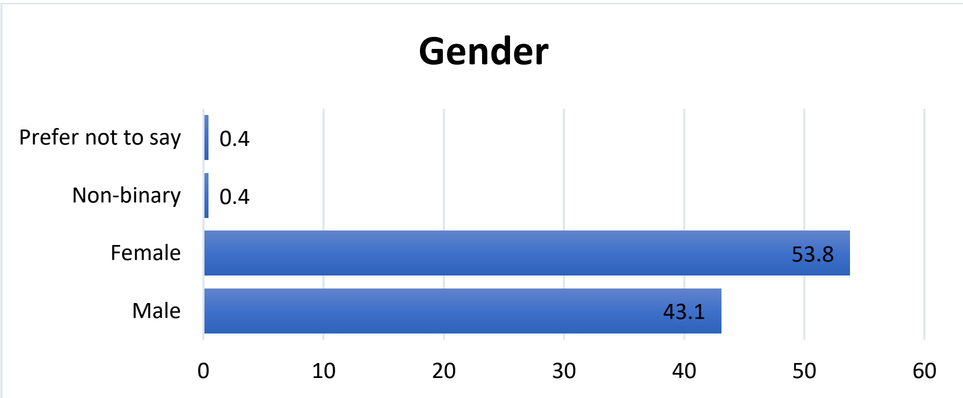
Figure 5 : Distribution of participation by age



Source: author's computation

Figure 5 illustrates the allocation of participants by gender. The majority of participants were Females making up nearly 54% of the total population. Males on the other hand, made up 43% of the total participants. The remaining 0.8% consisted equally of non-binary participants and those who preferred not to state their gender.

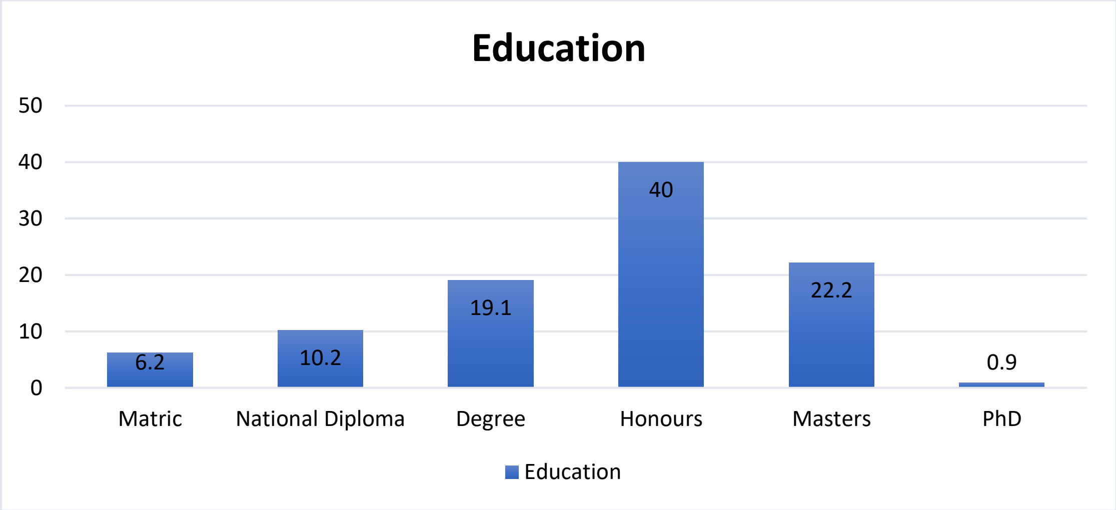
Figure 6 : Descriptive Statistics for gender



Source: author's computation

Figure 6 presents the distribution of participants by their level of education. Participants in positions with a master's degree made up 22% of the total population, while individuals in positions with an honours degree made up 40% of the total participants. Only 6% of the participants had obtained only matric and a mere 0.9% were in position of a doctorate degree. The distribution aligns with broader demographic research that suggest a substantial presence of women in the workforce, particularly in sector that necessitate high education. According to most recent data from Stats SA, women constitute significant proportion of the educated workforce in South Africa. Therefore, the gender distribution in our sample can be regarded as representative of the target population. This gender representation is essential for extending the generality of our findings to the broader population, as it reflects the diversity and dynamics of the middle-class South African demographic.

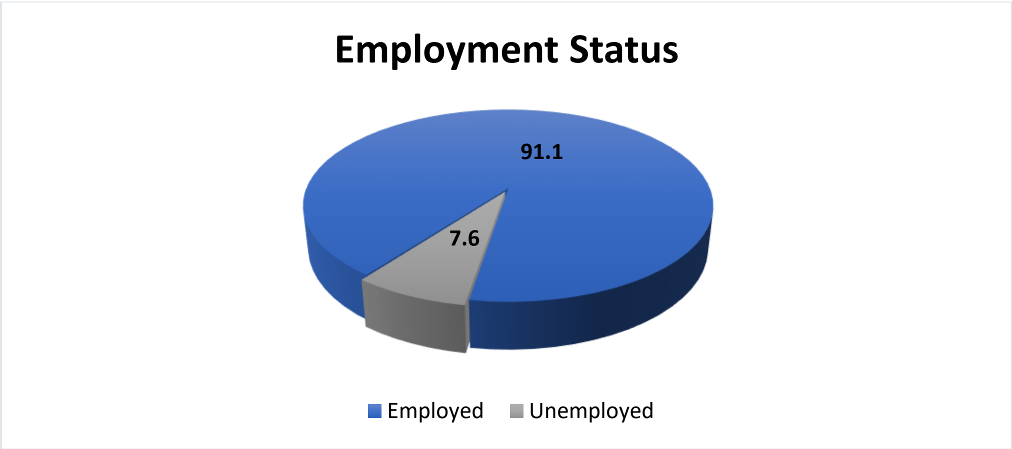
Figure 7: Descriptive statistics for education



Source: author's computation

Figure 7 below illustrates the distribution of participants by employment status. The majority of participants (91%) flagged that they were employed, while 7.6% of the participants indicated that they were unemployed.

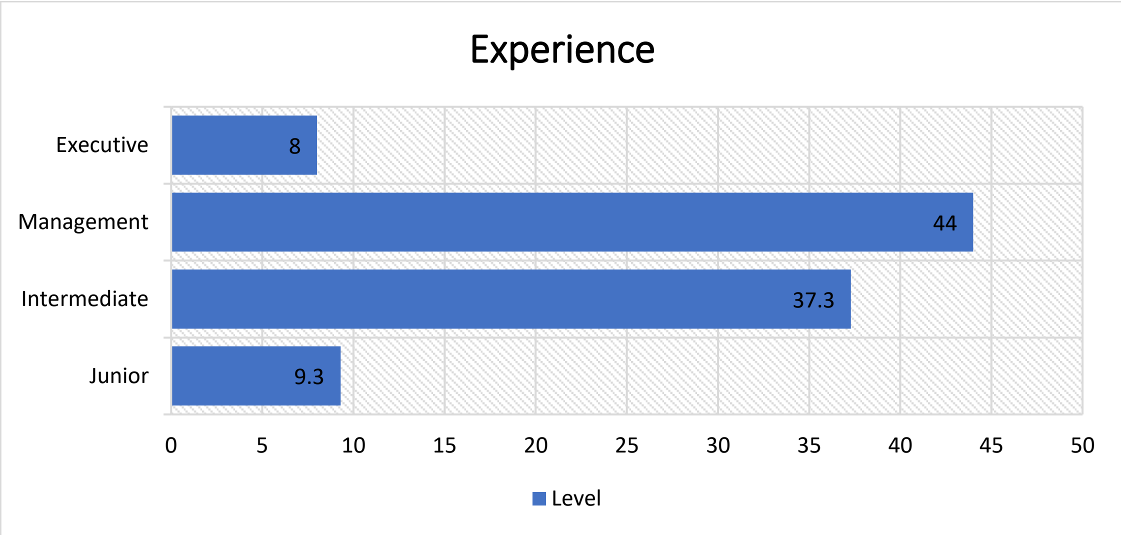
Figure 8: Decretive statistics for employment status



Source: author's computation

Figure 8 Indicates the distribution of participants by their level of experience. Nearly 44% of the participants occupied management positions, while 37% of the participants occupied positions at the intermediate level. Participants who occupied junior positions made up 9% of the total population.

Figure 9 : Descriptive statistics for experience level



Source: author's computation

The participants were likewise required to indicate which local bank they belonged to. Observations from Table indicate that 40% of the participants bank with the First National Bank (FNB) while 14.7% of the participants bank with Capitec. Another 31% of the participants banked with ABSA. Those who banked with other banks other than those listed in Table 2 made up 30% of the total population.

Table 9 Descriptive statistics for Banks

Bank					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FNB	90	40.0	40.5	40.5
	CAPITEC	33	14.7	14.9	55.4
	ABSA	31	13.8	14.0	69.4
	OTHER	68	30.2	30.6	100.0
	Total	222	98.7	100.0	
Missing	System	3	1.3		
Total		225	100.0		

Source: author's computation

Some of the variables that measure autonomous and controlled motivation are summarised in Table 10 below. Variables that measure autonomous and controlled motivation had a minimum value of 1 and a maximum value of 5. The mean value ranged between 1.50 and 4.23 while the standard deviation ranged between 0.7 and 1.5.

Table 10 : Descriptive statistics for autonomous motivation

Statistics											
	Autonomy	Goals	Experience	Wellness	Incentives	Social	Amotivation	Engagement	Consequences	Management	Outcomes
Mean	1.54	1.65	1.50	1.53	2.78	3.37	4.23	3.93	2.98	4.09	2.51
Median	1.0	1.0	1.0	1.0	3.0	4.0	5.0	4.0	3.0	4.0	2.0
Mode	1	1	1	1	2	5	5	5	5	4	1
Std. Deviation	0.9	0.9	0.8	0.7	1.4	1.5	1.1	1.2	1.5	0.9	1.3
Variance	0.8	0.8	0.6	0.5	1.8	2.2	1.2	1.4	2.3	0.8	1.7
Skewness	1.9	1.5	2.1	1.4	0.3	-0.3	-1.4	-0.8	0.1	-1.1	0.5
Kurtosis	4.0	2.4	5.1	2.7	-1.2	-1.4	1.2	-0.3	-1.4	0.6	-0.7
Range	4	4	4	4	4	4	4	4	4	4	4
Minimum	1	1	1	1	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5	5	5	5	5

Source: author's computation

Table 11 below summarises responses from participants regarding their views on autonomy. Nearly 62% of the participants indicated that they strongly agree that they feel in control of their finances when using digital banking services. Nearly 26.5% of participants indicated that they somewhat agree with the statement, while 1.8% of the participants indicated that they strongly disagreed with the statement. This indicates that the majority of respondents feel confident enough to effectively manage their finances through digital banking platforms.

Table 11 : Descriptive statistics for autonomy

Autonomy					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	140	62.2	62.8	62.8
	Somewhat agree	59	26.2	26.5	89.2
	Neither agree nor disagree	14	6.2	6.3	95.5
	Somewhat disagree	6	2.7	2.7	98.2
	Strongly Disagree	4	1.8	1.8	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 4.10 below summarises responses from participants regarding their personal goals. The majority of participants strongly agreed that they use digital banking services because they align with their values and personal financial goals. A mere 1.8% of participants indicated that they strongly disagreed with the statement. About 11% of participants were indifferent towards the statement.

Table 12 : Descriptive statistics for financial goals

Goals					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	123	54.7	55.2	55.2
	Somewhat agree	66	29.3	29.6	84.8
	Neither agree nor disagree	26	11.6	11.7	96.4
	Somewhat disagree	4	1.8	1.8	98.2
	Strongly Disagree	4	1.8	1.8	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

In Table 13 below, participants were asked whether their experience with digital banking has increased their confidence in their ability to independently handle various aspects of their personal finances, 61.8% of participants strongly agreed, whereas 1.3% strongly disagreed. Aspects of their personal finances include budgeting, bill payments, and financial decision-making.

Table 13 : Descriptive statistics on experience

Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	139	61.8	62.3	62.3
	Somewhat agree	66	29.3	29.6	91.9
	Neither agree nor disagree	11	4.9	4.9	96.9
	Somewhat disagree	4	1.8	1.8	98.7
	Strongly Disagree	3	1.3	1.3	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 14 The majority of 56% respondents indicated that their experience with digital banking services had amplified their confidence in managing many aspects of their personal finances, including budgeting and finance decision-making. In contrast, 0.4% of the respondents indicated that digital banking services have an extremely negative impact on their financial wellness, while 6.7% of the respondents were indifferent.

Table 14 : Descriptive statistics to wellness

Wellness					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely positive impact	127	56.4	57.0	57.0
	Somewhat positive impact	78	34.7	35.0	91.9
	Neither positive not negative	15	6.7	6.7	98.7
	Somewhat negative impact	2	0.9	0.9	99.6
	Extremely negative impact	1	0.4	0.4	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 15 Approximately 20% of the respondents strongly agreed that they use digital banking to acquire credit primarily when there is a reward or incentive associated with the offer, while 28% of the respondents indicated that they somewhat agree with the statement. Some 16% of respondents indicated that they strongly disagreed with the statement. While incentives play a significant role in influencing certain individuals' decisions to acquire credit, they are not the sole determining factor. Other motivations and considerations also impact credit acquisition on digital banking platforms.

Table 15 : Descriptive statistics for incentives

Incentives					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	46	20.4	20.6	20.6
	Somewhat agree	65	28.9	29.1	49.8
	Neither agree nor disagree	41	18.2	18.4	68.2
	Somewhat disagree	35	15.6	15.7	83.9
	Strongly Disagree	36	16.0	16.1	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 16 Summarises the respondents' views on social influence in relation to digital banking. Approximately 14% of the respondents indicated that they feel strongly compelled to use digital banking services, such as credit offers, because it's a common practice among people in their social circle, and 21% somewhat agree with the statement. 34% of the respondents strongly disagreed with the statement, while 17% slightly disagreed. The findings highlight the varying degrees of social influence on individuals' digital banking habits. Some are influenced by their social circles, while others do not consider social influence a major component in their digital banking choices.

Table 16 : Descriptive statistics for social

Social					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	32	14.2	14.3	14.3
	Somewhat agree	48	21.3	21.5	35.9
	Neither agree nor disagree	27	12.0	12.1	48.0
	Somewhat disagree	38	16.9	17.0	65.0
	Strongly Disagree	78	34.7	35.0	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 17 Respondents were asked whether they feel a lack of motivation when using digital banking services, 3.6% strongly agreed, while, on the contrary, 56.9% strongly disagreed. This implies that the majority of respondents feel strongly motivated when using digital banking services in South Africa.

Table 17 : Descriptive statistics on amotivation

Amotivation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	8	3.6	3.6	3.6
	Somewhat agree	9	4.0	4.0	7.6
	Neither agree nor disagree	34	15.1	15.2	22.9
	Somewhat disagree	44	19.6	19.7	42.6
	Strongly Disagree	128	56.9	57.4	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 18, Approximately 45% of the respondents are of the view that their lack of motivation does not influence their engagement in financial decisions while using digital banking platforms, while around 5% of the respondents indicated that their lack of motivation influences their engagement in financial decisions when using digital banking services. Nearly 23% of the respondents were indifferent towards the statement. The findings suggest that respondents feel uninfluenced by their amotivation while using digital banking platforms.

Table 18 : Descriptive statistics for engagement

Engagement					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	11	4.9	4.9	4.9
	Somewhat agree	16	7.1	7.2	12.1
	Neither agree nor disagree	51	22.7	22.9	35.0
	Somewhat disagree	44	19.6	19.7	54.7
	Strongly Disagree	101	44.9	45.3	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source*: author's computation using SPSS*

Table 19 presents the responses of respondents regarding whether they acquire credit offers from digital banking services to avoid potential negative consequences or penalties such as reduced negative scores, loss of cashback rewards, and discounts, 20% of the respondents indicated that they strongly agree, 24 indicated that they somewhat agree, 25% indicated that they strongly disagree, and 12% somewhat agree. The findings highlight the range of perspectives among respondents, suggesting varied considerations when one acquires credit offers through digital banking.

Table 19: Descriptive statistics for consequences

Consequences					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	46	20.4	20.6	20.6
	Somewhat agree	54	24.0	24.2	44.8
	Neither agree nor disagree	38	16.9	17.0	61.9
	Somewhat disagree	28	12.4	12.6	74.4
	Strongly Disagree	57	25.3	25.6	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 20 Indicates that approximately 45% of the respondents indicated that they use digital banking platforms multiple times a week (frequently) for their financial transactions and management of their finances; 36% indicated that they use them daily (very frequently) and 8.5% of the respondents said that they use them few times a month (occasionally).

Table 20 : Descriptive statistics on management

Management					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	1	0.4	0.4	0.4
	Occasionally	19	8.4	8.5	9.0
	Regularly	20	8.9	9.0	17.9
	Frequently	101	44.9	45.3	63.2
	Very Frequently	82	36.4	36.8	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 21 below illustrates that respondents were asked whether they were satisfied with the financial outcomes and financial decisions made through digital banking services, considering their lack of motivation. Approximately 27% of respondents strongly agreed, 25% somewhat agreed with the statement, 11% of the respondents indicated that they strongly agreed, and about 9% somewhat disagreed. The results indicate that a considerable number of respondents feel satisfied with the financial outcome and their decisions, but there were those who were not completely satisfied with the outcome.

Table 21 : Descriptive statistics on outcomes

Outcomes					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	62	27.6	27.8	27.8
	Somewhat agree	57	25.3	25.6	53.4
	Neither agree nor disagree	58	25.8	26.0	79.4
	Somewhat disagree	21	9.3	9.4	88.8
	Strongly Disagree	25	11.1	11.2	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 22 below provides summary statistics in relation to variables that measure access to credit. The variables have mean values ranging between 1.57 and 2.87 as well as standard deviations in the range of 0.4 and 1.8. Furthermore, Table observations from the table below further indicate that the majority of variables have a range of 4.

Table 22: Summary statistics for access to credit

Statistics								
	Access	Exceeded	Influenced	Available	Convenient	Preapproved	Adoption	Tailored
Mean	1.64	1.69	2.87	1.57	2.83	1.57	2.69	2.84
Median	1.00	2.00	3.00	2.00	3.00	1.00	2.00	3.00
Mode	1	2	1	2	2	1	1	1
Std. Deviation	0.962	0.463	1.853	0.496	1.474	0.902	1.479	1.474
Variance	0.926	0.215	3.435	0.246	2.172	0.814	2.188	2.172
Skewness	1.64	-0.83	0.62	-0.30	0.28	2.01	0.36	0.23
Kurtosis	2.31	-1.32	-1.00	-1.92	-1.28	4.49	-1.29	-1.33
Range	4	1	5	1	4	4	4	4
Minimum	1	1	1	1	1	1	1	1
Maximum	5	2	6	2	5	5	5	5
Sum	365	377	641	351	630	349	600	633

Source: author's computation

Table 23 Below presents responses in relation to the ease of accessing financial services through digital platforms. The majority proportion of respondents (60%) indicated that they find it extremely easy to access credit through digital banking platforms. A mere 2.2% of the respondents indicated that they find it extremely difficult to access financial services through digital banking.

Table 23 : Descriptive statistics for access

Access					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely easy	135	60.0	60.5	60.5
	Somewhat easy	52	23.1	23.3	83.9
	Neither easy nor difficult	23	10.2	10.3	94.2
	Somewhat difficult	8	3.6	3.6	97.8
	Extremely difficult	5	2.2	2.2	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

The majority proportion of respondents (68%) indicated that they have never accepted a credit offer on the digital banking platform that exceeded their actual financial needs, while 30.7% of the participants indicated that they have accepted a credit offer that exceeded their financial needs. The findings are summarised in Table 24 below. This implies that the majority of respondents exercise prudence when acquiring credit through digital banking, ensuring that the credit they take aligns closely with their actual financial needs. However, it also highlights that a notable proportion of respondents have accepted credit offers that exceed their financial needs, suggesting an inclination to borrow more than what is necessary needed.

Table 24 : Descriptive statistics for exceeded.

Exceeded					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	69	30.7	30.9	30.9
	No	154	68.4	69.1	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 25 displays responses when questioned about the variables that affected their choice to use credit offers through digital banking platforms. 34% of the respondents flagged ease of access or availability, 27% indicated urgent financial need, about 12% highlighted competitive interest rates and 18% selected other reasons not mentioned. The findings highlight the multifaceted nature of factors influencing credit offer uptake in digital banking. Significant respondents (34%) highlighting ease of access as a substantial determinant suggest that ease of access to credit plays a crucial role in the adoption of credit offers on digital banking platforms.

Table 25 : Descriptive statistics for influenced.

Influenced					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ease access	77	34.2	34.5	34.5
	Competitive interest rate	28	12.4	12.6	47.1
	Urgent financial need	61	27.1	27.4	74.4
	Social pressure	1	0.4	0.4	74.9
	Rewards or incentives	15	6.7	6.7	81.6
	Other reasons	41	18.2	18.4	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Approximately 42% of respondents agreed with the assertion that they had previously accepted a credit provided to them on the digital platform, mainly because it was readily available, while the majority of 57% respondents disagreed, as depicted in Table 26.

Table 26 : Descriptive statistics on available

Available					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	95	42.2	42.6	42.6
	No	128	56.9	57.4	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 27 summarises responses to the question of whether convenient credit offers the primary impetus for adopting digital banking. Approximately 23.6% of the respondents strongly agreed with the convenient access to credit offered by digital banking platforms, and 24 % somewhat agreed with the statement. While 20% of the respondents were somewhat indifferent to the statement, nearly 23% strongly disagreed and 8.4 somewhat disagreed with the statement. The responses were mixed, with no single viewpoint dominating, suggesting that factors beyond convenient access to credit are more likely to influence individuals' decisions to adopt digital banking. However, the relatively high percentages of respondents who expressed agreement underscore the importance of offering streamlined credit offers through digital banking. Overall, the findings emphasise the intricacy of the motivations behind the adoption of digital banking.

Table 27 : Descriptive statistics for convenient

Convenient					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	53	23.6	23.8	23.8
	Somewhat agree	54	24.0	24.2	48.0
	Neither agree nor disagree	46	20.4	20.6	68.6
	Somewhat disagree	19	8.4	8.5	77.1
	Strongly Disagree	51	22.7	22.9	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

The majority of respondents (61%) felt strongly that they were aware of the credit offers or pre-approved offers that were available for them through digital banking platforms. In contrast, 3.1% of the respondents indicated that they strongly disagreed that they are aware of credit offers or pre-approved offers that are available for them through digital banking platforms, as presented in Table 28 below.

Table 28 : Descriptive statistics for preapproved

Preapproved					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	139	61.8	62.3	62.3
	Somewhat agree	56	24.9	25.1	87.4
	Neither agree nor disagree	21	9.3	9.4	96.9
	Strongly disagree	7	3.1	3.1	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Findings from Table 29 reveal that 28% of the respondents strongly agreed that their adoption of digital banking services has led them to utilize credit offers available through digital banking platforms; nearly 25.3% somewhat agreed. While 13.8% of respondents were indifferent,13.3% of the respondents said they somewhat disagreed, and 18.7% of the respondents strongly disagreed with the statement. Based on responses of those who strongly agreed and somewhat agreed with the statement, this might indicate that the majority of respondents believe there is a correlation between the adoption of digital banking and credit utilisation.

Table 29 : Descriptive statistics for adoption

Adoption					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	63	28.0	28.3	28.3
	Somewhat agree	57	25.3	25.6	53.8
	Neither agree nor disagree	31	13.8	13.9	67.7
	Somewhat disagree	30	13.3	13.5	81.2
	Strongly Disagree	42	18.7	18.8	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

According to Table 30, approximately 24% of the respondents felt strongly that the availability of credit offers tailored for them had a significant influence on their decision to acquire credit for digital banking services, and 23% somewhat agreed with the statement. In contrast, 21% of the respondents indicated that they don't feel strongly that the availability of credit offers tailored for them has a significant influence on their decision to acquire credit for digital banking services, and nearly 28% were indifferent about this.

Table 30 : Descriptive statistics for tailored

Tailored					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	54	24.0	24.2	24.2
	Somewhat agree	52	23.1	23.3	47.5
	Neither agree nor disagree	41	18.2	18.4	65.9
	Somewhat disagree	28	12.4	12.6	78.5
	Strongly Disagree	48	21.3	21.5	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 31 below provides summary statistics with respect to variables that capture financial wellness. The variables have mean values ranging from 1.40 to 2.52. The standard deviations range between 0.4 and 1.4. The low standard deviation values indicate that the data points are closer to the mean. Additionally, we find that the variables have a minimum value of 1 and a maximum value of 5 with the exception of "compare".

Table 31 : Summary statistics for financial wellness

Statistics						
		Flexibility	Information	Compare	Frequency	Barriers
N	Valid	223	223	223	223	225
	Missing	2	2	2	2	0
Mean		2.52	2.44	1.40	1.61	
Median		2.00	2.00	1.00	1.00	
Mode		2	2	1	1	
Std. Deviation		1.355	1.268	0.491	1.109	
Variance		1.836	1.608	0.241	1.229	
Skewness		0.582	0.668	0.415	1.990	
Kurtosis		-0.863	-0.569	-1.845	3.080	
Range		4	4	1	4	
Minimum		1	1	1	1	
Maximum		5	5	2	5	
Sum		562	545	312	360	

Source: author's computation

Approximately 27% of the respondents strongly agree that access to credit offers on digital banking platforms has positively impacted their financial flexibility and opportunities, about 31% said they somewhat agree. In contrast, 11% stated they somewhat agree and about 13% strongly disagree that access to credit offers on digital banking platforms has positively impacted their financial flexibility and opportunities, as depicted in Table 32

Table 32 : Descriptive statistics to flexibility

Flexibility					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	61	27.1	27.4	27.4
	Somewhat agree	70	31.1	31.4	58.7
	Neither agree nor disagree	37	16.4	16.6	75.3
	Somewhat disagree	25	11.1	11.2	86.5
	Strongly Disagree	30	13.3	13.5	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author’s computation

Table 33 About 25% of the respondents strongly feel that digital banking platforms provide educational resources and information to help users make informed decisions about utilizing credit offers; approximately 34.7% somewhat agree. On the contrary, about 10% of the respondents somewhat disagreed and strongly agreed with the statement, while 17% were indifferent.

Table 33 : Descriptive statistics on information

Information					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	58	25.8	26.0	26.0
	Somewhat agree	78	34.7	35.0	61.0
	Neither agree nor disagree	40	17.8	17.9	78.9
	Somewhat disagree	24	10.7	10.8	89.7
	Strongly Disagree	23	10.2	10.3	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author’s computation

Figure 34 indicates that the majority of respondents (60%) often compare credit offers from digital banking platforms with traditional banking offers offered by other financial providers before making a choice, while 40% disagreed with this statement.

Table 34 Descriptive statistics of compare

Compare					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	134	59.6	60.1	60.1
	No	89	39.6	39.9	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

In Table 35 majority of respondents (66%) stated that they seldom acquire credit offers such as instant loans, personal loans, credit cards or credit cards increases, overdrafts etc. provided through digital banking platforms in a year. Meanwhile, 5.8% of the respondents indicated that they very frequently acquire credit offers provided through digital banking platforms.

Table 35 : Descriptive statistics for frequency

Frequency					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	150	66.7	67.3	67.3
	Occasionally	42	18.7	18.8	86.1
	Moderately	11	4.9	4.9	91.0
	Frequently	7	3.1	3.1	94.2
	Very frequently	13	5.8	5.8	100.0
	Total	223	99.1	100.0	
Missing	System	2	0.9		
Total		225	100.0		

Source: author's computation

Table 36 Almost all the participants indicated that they have encountered several barriers that have deterred them from utilizing credit offers through digital banking platforms. Fear of accumulating debt was a predominant concern among participants. This suggests that many individuals hesitate to utilise credit due to apprehension about accumulating debt, which underscores a cautious approach.

Table 36 : Descriptive statistics for barriers

Barriers					
		Frequency	Percent	Valid Percent	Cumulative Percent
1.Concerns about security and privacy 2. Lack of trust in digital banking 3. Complexity or credit terms and conditions 4. High interest rates 5. Fear of accumulating debt 6. Other		2	0.9	0.9	0.9
	1	17	7.6	7.6	8.4
	1,2	1	0.4	0.4	8.9
	1,2,3	1	0.4	0.4	9.3
	1,2,3,4,5	2	0.9	0.9	10.2
	1,2,3,5	2	0.9	0.9	11.1
	1,2,4,5	2	0.9	0.9	12.0
	1,2,5	4	1.8	1.8	13.8
	1,2,6	1	0.4	0.4	14.2
	1,3,4	2	0.9	0.9	15.1
	1,3,4,5	5	2.2	2.2	17.3
	1,3,5	1	0.4	0.4	17.8
	1,4,5	3	1.3	1.3	19.1
	1,5	5	2.2	2.2	21.3
	1,6	1	0.4	0.4	21.8
	2	6	2.7	2.7	24.4
	2,3,5	1	0.4	0.4	24.9
	2,4,5	4	1.8	1.8	26.7
	3	6	2.7	2.7	29.3
	3,4	4	1.8	1.8	31.1
	3,4,5	8	3.6	3.6	34.7
	4	27	12.0	12.0	46.7
	4,5	26	11.6	11.6	58.2
	4,5,6	1	0.4	0.4	58.7
	4,6	1	0.4	0.4	59.1
	5	66	29.3	29.3	88.4
	5,6	1	0.4	0.4	88.9
	6	25	11.1	11.1	100.0
	Total	225	100.0	100.0	

Source: author's computation

4.2 Correlation Analysis

The correlation test was estimated to determine the direction of association between the dependent variable and independent variables. Table 37 Summarises findings on the association between *financial wellness* and variables measuring *autonomous* and *controlled motivation*. The results indicate that all variables that measure autonomous and controlled motivation, including autonomy, goals, experience, incentives, social factors, and consequences, are positively correlated with financial wellness, and this association was found to be statistically significant. This finding suggests that motivation or autonomy plays a key role in financial wellness.

Table 37: Correlation (Autonomous and Controlled Motivation)

	FW index	Autonomy	Goals	Experience	Incentives	Social	Consequences
FW index	1	0.237**	0.320**	0.208**	0.271**	0.227**	0.336**
		0.000	0.000	0.002	0.000	0.001	0.000
Autonomy	0.237**	1	0.520**	0.416**	0.186**	0.075	0.077
	0.000		0.000	0.000	0.005	0.267	0.251
Goals	0.320**	0.520**	1	0.475**	0.199**	0.151*	0.091
	0.000	0.000		0.000	0.003	0.024	0.177
Experience	0.208**	0.416**	0.475**	1	0.134*	0.129	0.119
	0.002	0.000	0.000		0.046	0.054	0.076
Incentives	0.271**	0.186**	0.199**	0.134*	1	0.518**	0.496**
	0.000	0.005	0.003	0.046		0.000	0.000
Social	0.227**	0.075	0.151*	0.129	0.518**	1	0.553**
	0.001	0.267	0.024	0.054	0.000		0.000
Consequences	0.336**	0.077	0.091	0.119	0.496**	0.553**	1
	0.000	0.251	0.177	0.076	0.000	0.000	

Source: author's computation

Table 38 summarises the association between financial wellness and amotivation. Amongst the variables that measure amotivation, only variable outcomes had a positive association with financial wellness. In contrast, management, amotivation and engagement are negatively correlated with financial wellness. The results were likewise found to be statistically significant. This suggests that people with a high level of amotivation are likely to have a low level of financial wellness.

Table 38: Correlation (Amotivation)

	FW index	Management	Amotivation	Engagement	Outcomes
FW index	1	-0.027	-0.177**	-0.086	0.212**
		0.694	0.008	0.203	0.001
	223	223	223	223	223
Management	-0.027	1	0.344**	0.213**	-0.128
	0.694		0.000	0.001	0.056
	223	223	223	223	223
Amotivation	-0.177**	0.344**	1	0.645**	0.028
	0.008	0.000		0.000	0.678
	223	223	223	223	223
Engagement	-0.086	0.213**	0.645**	1	0.151*
	0.203	0.001	0.000		0.024
	223	223	223	223	223
Outcomes	0.212**	-0.128	0.028	0.151*	1
	0.001	0.056	0.678	0.024	
	223	223	223	223	223

Source: author's computation

Table 39 below summarises the association between financial wellness and variables that measure access to credit. Overall, we find that variables that measure access to credit including exceeded, access, influences, available, convenient, tailored, preapproved, and adoption are positively associated with financial wellness, and this association was found to be statistically significant. This suggests that easy access to credit on the digital platform has a positive impact on the financial wellness of the respondents.

Table 39: Correlation (Access)

	index	Access	Exceeded	Influenced	Available	Convenient	Preapproved	Adoption	Tailored
index	1	0.245**	0.172**	0.132*	0.205**	0.359**	0.260**	0.349**	0.394**
		0.000	0.010	0.048	0.002	0.000	0.000	0.000	0.000
Access	0.245**	1	0.111	0.088	0.127	0.155*	0.388**	0.215**	0.162*
	0.000		0.100	0.191	0.057	0.020	0.000	0.001	0.016
Exceeded	0.172**	0.111	1	0.338**	0.463**	0.290**	0.205**	0.392**	0.375**
	0.010	0.100		0.000	0.000	0.000	0.002	0.000	0.000
Influenced	0.132*	0.088	0.338**	1	0.378**	0.379**	0.148*	0.428**	0.354**
	0.048	0.191	0.000		0.000	0.000	0.027	0.000	0.000
Available	0.205**	0.127	0.463**	0.378**	1	0.508**	0.168*	0.508**	0.534**
	0.002	0.057	0.000	0.000		0.000	0.012	0.000	0.000
Convenient	0.359**	0.155*	0.290**	0.379**	0.508**	1	0.261**	0.649**	0.661**
	0.000	0.020	0.000	0.000	0.000		0.000	0.000	0.000
Preapproved	0.260**	0.388**	0.205**	0.148*	0.168*	0.261**	1	0.277**	0.316**
	0.000	0.000	0.002	0.027	0.012	0.000		0.000	0.000
Adoption	0.349**	0.215**	0.392**	0.428**	0.508**	0.649**	0.277**	1	0.733**
	0.000	0.001	0.000	0.000	0.000	0.000	0.000		0.000
Tailored	0.394**	0.162*	0.375**	0.354**	0.534**	0.661**	0.316**	0.733**	1
	0.000	0.016	0.000	0.000	0.000	0.000	0.000	0.000	

Source: author's computation

4.3 Regression Analysis

The last phase of analysis involved estimating the impact of digital banking on the financial wellness of the middle-class. Various elements of digital banking include demographic factors, amotivation, autonomous motivation and access to credit. Table 38 below summarises findings on the impact of demographic factors on financial wellbeing. Various demographic factors were found to have a positive impact on financial wellness, such as age, educational background, employment status, level of experience, and bank. Meanwhile, gender was found to have a negative impact on financial wellness. It is sufficient to note that these findings were found to be statistically insignificant in explaining variations in financial wellness.

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Table 40: OLS (demographics)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.854	1.428		5.498	0.000
	Age	0.002	0.239	0.001	0.008	0.993
	Gender	-0.101	0.331	-0.021	-0.304	0.761
	Education	0.147	0.175	0.066	0.841	0.401
	Employment	0.326	0.688	0.034	0.474	0.636
	Level	0.220	0.257	0.067	0.857	0.393
	Bank	0.171	0.133	0.087	1.281	0.201
a. Dependent Variable: FW index						
R squared: 14%						

Source: author's computation

Table 41 summarises findings on the impact of autonomous motivation on financial wellbeing. Among all variables that measure autonomous and controlled motivation, only two were found to be statistically significant in explaining variation in financial wellness. The perception that individuals use digital banking services because they align with their personal financial goals and values was found to exhibit a positive and statistically significant impact on financial wellness. Additionally, the perception that individuals acquire credit offers on digital banking services to avoid potential negative consequences or penalties such as reduced negative scores, loss of cashback rewards, and discounts was likewise found to exhibit a positive and statistically significant impact on financial wellness.

Table 41: OLS (Autonomous and controlled Motivation)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.225	0.509		12.237	0.000*
	Autonomy	0.204	0.214	0.070	0.953	0.341
	Goals	0.666	0.217	0.233	3.065	0.002*
	Experience	0.085	0.229	0.026	0.373	0.710
	Incentives	0.142	0.140	0.077	1.019	0.309
	Social	-0.010	0.132	-0.006	-0.076	0.939
	Consequences	0.461	0.130	0.271	3.556	0.000*
a. Dependent Variable: FW index 46%						

Source: author's computation

Table 42 below presents a summary of findings on the impact of amotivation on financial wellness. We find that amotivation exhibits a negative impact on financial wellness. This implies that the perception that individuals feel a lack of motivation when using digital banking services does not have a positive impact on the financial wellness of middle-class South Africans. Instead, the use of digital banking services contributes positively to financial wellness. Also, "outcomes" which measure the extent to which individuals are satisfied with the financial outcomes and financial decisions made through digital banking services, were found to exhibit a positive and statistically significant impact on financial wellness. The rest of the variables were found to be statistically insignificant in explaining changes in financial wellbeing.

Table 42: OLS (Amotivation)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.624	0.952		10.106	0.000*
	Management	0.207	0.194	0.074	1.067	0.287
	Amotivation	-0.488	0.208	-0.207	-2.345	0.020*
	Engagement	-0.005	0.184	-0.002	-0.027	0.979
	Outcomes	0.447	0.131	0.228	3.422	0.001*
a. Dependent Variable: FW index 28%						

Source: author's computation

Table 43 Presents a summary of findings on the impact of ease of access to financial products and services on financial wellness. Although factors that measure access to credit through digital platforms were found to influence financial wellness differently, only “access”, “convenience” and “tailored” variables were found to be statistically significant in explaining variations in financial wellness. Perceptions of the ease of access to credit through digital banking platforms were found to have a positive impact on financial wellness. Also, the idea that digital banking services offer convenient access to credit was found to have a positive impact on financial wellness.
Additionally, financial wellness increases with the availability of tailored credit offers, which has a significant influence on consumers’ decisions to acquire credit through digital banking services. Suggesting that when financial institutions offer personalised credit options through digital banking platforms, it positively influences consumers’ financial wellness as it aligns with their financial needs.

Table 43: OLS (Access)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.737	0.673		10.017	0.000*
	Access	0.387	0.175	0.147	2.210	0.028*
	Exceeded	0.136	0.391	0.025	0.349	0.727
	Influenced	-0.067	0.095	-0.049	-0.697	0.487
	Available	-0.297	0.406	-0.058	-0.732	0.465
	Convenient	0.281	0.151	0.163	1.861	0.064*
	Preapproved	0.232	0.194	0.083	1.198	0.232
	Adoption	0.102	0.168	0.059	0.606	0.545
	Tailored	0.399	0.170	0.232	2.342	0.020*
a. Dependent Variable: FW index 46%						

Source: author’s computation

4.4 Summary of Chapter 4

This section provides insights into the relationship between financial wellbeing and the adoption of digital banking services in South Africa. Various statistical tests were performed in line with the objectives of the study. This included descriptive analysis, correlation analysis and regression analysis. Based on descriptive analysis, the majority of participants strongly agreed that the adoption of digital banking services has contributed positively their financial wellness through easy access to credit and tailored financial services.

Additionally, all variables with the exception of demographic factors were found to be positively associated with financial wellness, and this association was found to be statistically significant. Findings from the regression analysis revealed that autonomous and controlled motivation influence financial wellness positively, while the impact of amotivation on financial wellness was found to be ambiguous. Lastly, perceptions of the ease of access to credit through digital banking were found to exhibit a positive impact on the financial wellness of middle-class South Africans.

5. CHPATER 5 : CONCLUSIONS AND RECOMMEDATIONS

5.1 Introduction

Chapter 5 presents the culmination of comprehensive analysis to ascertain the relationship between the adoption of digital banking and the financial wellness of middle-class South Africans, as well as the impact of the perceived ease of access to credit offers via digital banking platforms on credit acquisition. The primary objective of the study was to clarify whether there is a correlation between the adoption of digital banking and the level of financial wellness among specific demographics, shedding light on the intricate dynamics influencing individual financial behavior and outcomes in the context of an evolving digital landscape.

Through rigorous data analysis and interpretation, this chapter provides valuable insights into the interconnectedness of digital banking adoption and financial wellness, revealing the nuanced relationships between these constructs. Furthermore, the research investigates the critical role of perceived ease of access to credit provided through digital banking. This chapter will present the findings of all the hypotheses tested.

5.2 Conclusion on the findings of the study

The study uncovered significant insights into the financial dynamics affecting middle-class South Africans, particularly in the realm of digital banking adoption, access to credit, and financial wellness. Understanding the connection between economic difficulties and altering consumer behaviours is critical for elucidating the financial landscape of the nation.

According to the literature, South African consumers have become more dependent on debt to navigate financial constraints. The pattern of borrowing has become significant, with credit utilization often surpassing disposable income from employment. Such reliance on debt raises questions about its impact on the financial wellness of individuals and households within this demographic.

Hypotheses Tested

- *H1: The relationship between the adoption of digital banking and financial wellness is mediated by autonomous motivation.*
- *H2: The relationship between the adoption of digital banking and financial wellness is mediated by controlled motivation.*

The findings of H1-H2

Notably, autonomous, and controlled motivations have been found to have a positive influence on financial wellness, indicating that individuals who demonstrate a feeling of autonomy and control over their financial choices are likely to experience greater financial wellness.

Our findings demonstrate that autonomous and controlled motivation positively impacted financial wellness. These findings coincide with the principle of SDT, which suggested that it is probable that individuals who exhibit a sense of autonomous and controlled motivation with regard to their financial decisions are likely to experience a higher degree of financial wellness. (Di Domenico et al., 2022). Similarly, Mielitz et al.,2021 used SDT to invistigate financial autonomy, relatedness, and competence, and discovered that these factors significantly contribute to students' financial well-being. Thus, the adoption of SDT established a strong theoretical framework for comprehending the impact of various motivations on financial behaviors and outcomes. Our research emphasizes the significance of cultivating autonomy and competence to enhance financial wellness by emphasizing the role of internal drives in financial decision-making.

Hypothesis Tested

- *H3: The relationship between the adoption of digital banking and financial wellness is mediated by amotivation.*

The findings of H3

In contrast, the influence of amotivation on financial wellness was found to be equivocal, suggesting a need for greater investigation into the relationship between motivational factors and financial wellness. The findings revealed that not all components of amotivation had the same impact on financial wellness. The correlation analysis demonstrated that the variable 'outcome' was positively correlated with financial wellness, indicating that individuals who lack motivation to act may still experience positive financial outcomes. This finding aligns existing research that suggested that individuals with low motivation may still achieve favourable outcome inspired by external factors. (Di Domenico et al., 2022).

However, the negative correlation between financial wellness and all other components of amotivation suggests that a lack of motivation or engagement in financial decision-making may impede overall financial wellness. These findings highlight the need for further study into the specific mechanisms by which amotivation influences financial behaviours and outcomes. The existing literature on amotivation has highlighted its detrimental effects on different fields, including academic achievement, health behaviours, and job performance (Di Domenico et al., 2022).

Hypothesis Tested

- *H4: The relationship between the adoption of digital banking and financial wellness is moderated by easy access to credit.*

The findings of H4

The perception of easy access to credit through digital banking emerged as a substantial determinant of financial wellness. This underscores the significance of easy access to credit through digital banking in improving the overall financial wellness of individuals.

In contrast, the findings revealed that although a significant proportion of respondents expressed strong agreement that digital banking has enhanced their financial wellness by providing convenient access to credit and personalised financial services, opinions differed concerning the convenience of credit access through digital banking platforms. This contradiction implies that although the perception of convenient credit accessibility may positively influence individuals' financial wellness, there are additional determinants that substantially influence their choices regarding the adoption of digital banking. The

Respondents additionally stated that easy access to credit enabled by digital banking influenced their choice to accept such offers, although it was not the main determining factor. Over and above the convenience or ease of access to these credit offers on the digital banking platform, there were other reasons that propelled the acceptance, such as urgent financial needs and a competitive interest rate.

These findings are contradictory to the literature review, which suggested that easy access to credit, particularly facilitated by digital banking, may lead to over-indebtedness among consumers. The empirical findings of this study present a nuanced perspective. Contrary to the prevailing assumption, this empirical evidence suggests that ease of access to credit through digital banking is a significant determinant of financial wellness among middle-class South Africans.

Furthermore, the study revealed that several factors influencing the choice to acquire credit offers in digital banking entailed urgent financial needs, competitive interest rates, and other reasons not included. Interestingly, although the majority of respondents demonstrated prudence when acquiring credit through digital banking, ensuring that it closely aligned with their actual financial needs, a significant proportion of respondents admitted having accepted credit offers that exceeded their financial needs. This discrepancy suggests a multifaceted relationship between financial decision-making and behavioral motivations in the digital banking landscape.

Hypothesis Tested

- *H5: Adoption of digital banking is positively associated with financial wellness among the middle-class population in South Africa.*

The findings of H4

A substantial number of respondents indicated that digital banking has improved their financial wellness. The correlation between the adoption of digital banking and financial wellness is positive, indicating that users of digital banking platforms perceive significant benefits in terms of financial management. A literature review highlighted a concern regarding digital banking, suggesting that it could be contributing to over-indebtedness or excessive credit among consumers, particularly among those who lack the self-discipline and financial literacy necessary to effectively manage their debt.

According to the literature review, the ability to monitor one account in real time, automatic bill payment, and access to financial management tools via digital banking played an important role in an individual's financial wellbeing, and the findings of this study supported this.

Overall, the study findings highlighted the significance of understanding how individual motivation and perception shape financial behavior in the digital banking landscape. The findings suggest that digital banking has positively influenced the financial wellness of middle-class South Africans. Despite the perceived benefits of digital banking and easy access to credit, the majority of participants indicated that fear of accumulating debt has deterred them from exploiting or accepting credit offers through digital banking, highlighting their cautious approach.

5.3 Contribution of the study

Although SDT has been extensively employed to investigate motivation in educational, healthcare, and workplace environments, its application to financial behaviour, particularly in the context of digital banking, remains relatively unexplored. The study has contributed to the existing literature by offering new insights into how individual motivations, perceptions of digital banking, ease of access to credit, and financial wellness are interconnected among middle-class South Africans. The research explored the complex financial behaviors in the digital era to get a better understanding of the elements that impact financial decision-making in this demographic.

The study significantly extended the application of SDT in the context of financial wellness and digital banking adoption. While SDT largely focuses on the notions of autonomous motivation, controlled motivation, and amotivation, this research introduces a new dimension by including digital banking as a significant independent variable. This integration extends SDT scope to the financial domain, particularly in the adoption of digital banking, which demonstrated its relevance and applicability in understanding financial behaviours and wellness .

Furthermore, the findings contribute to a better understanding of the limitations and opportunities that digital banking platforms facilitate financial inclusion and enhance financial wellness. The study highlights the positive association between ease of access to credit and financial wellness while also acknowledging the risks associated with excessive debt. The study underscores the importance of promoting responsible credit adoption practices, especially those offered on digital platforms.

The research extends beyond academics and provides practical insights for financial institutions, regulators, and individuals. Policymakers may utilize the results to develop legislation and recommendations for financial institutions to adopt suitable controls that encourage responsible lending practices and prevent risks that might lead to possible borrowing beyond their means. This proactive approach can promote financial stability and protect customers from the potential consequences of over indebtedness.

In contrast, the findings of this study will help financial institutions design their offerings to meet the diverse needs and preferences of their customers while ensuring responsible lending.

5.4 Recommendations on future study

The study focused on the impact of digital banking on the financial wellness of middle-class South Africans. South Africa’s debt is on the rise, with a debt ratio of 63%. It is believed that many South Africans are acquiring debt to fund other debt. Further research could explore financial vulnerability or debt levels, particularly among marginalized populations. Understanding the broader social implications of digital banking may help policymakers and industry professionals promote financial inclusion and well-being for everyone.

Another study could explore the impact of amotivation on financial wellness, as this remains ambiguous based on the analysis of this current study. A further study could delve deeper into understanding how and why individuals experience amotivation in digital banking and its implications for financial outcomes.

Finally, another research topic to be explored is the issue of over-indebtedness, which presents a threat to South Africa's financial stability and individuals personal well-being. The study could explore factors contributing to over-indebtedness among South African consumers. The study findings could potentially assist policymakers and regulators in designing regulations that protect consumers while also encouraging responsible lending practices in the financial sector.

5.5 Limitations

The limitations of the study primarily stem from the focus on personalized credit offers provided through digital banking platforms by only three South African banks; Absa, FNB, and Capitec. The research was limited to these particular banks, which may have excluded the possibility of comparable features being provided by other financial institutions in South Africa. During data collection, an option to select 'Other' was included in the option, and 67 respondents selected this option, and the analysis included those respondents.

The unavailability of statistical data representing the number of middle-class South Africans according to the Stats SA definition. Consequently, assumptions were made to estimate the population size, which was then used to calculate the sample.

Another limitation was that the researcher requested participants specify their living conditions to assess whether they meet the criteria for being categorized as middle class in South Africa, as per Stats SA's definition of middle class. The researcher did not include any instruments in the questionnaire design to deter individuals who did not meet all the conditions for being classified as middle-class. Consequently, 335 individuals took part in the study, however, those who did not meet the conditions were excluded from analysis, and only 225 entries were analysed as opposed to the stated sample of 245.

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APPENDIXES

APPENDIX 1 : RESEARCH INSTRUMENT

The perceived influence of digital banking on the financial wellness of the South African middle-class

Dear Participant, My name is Tiyiselani Mabasa, and I am a Master of Business Administration (MBA) student at Wits Business School. I would like to invite you to participate in my study.

I am conducting a research study titled "Perceived Influence of Digital Banking on the Financial Wellness of Middle-Class South African Consumers" under the supervision of Professor Thomas Anning Dorson. The aim of this study is to gain insights into the impact of digital banking on the financial well-being of middle-class consumers in South Africa. Your participation in this study will contribute valuable data to help us understand the relationships between digital banking adoption, financial motivations, and access to credit.

Your participation in this study will involve completing a questionnaire. The survey is estimated to take between 5 to 10 minutes of your time.

Your responses will be kept confidential and anonymous. We will not collect any personally identifiable information, and your data will be used for research purposes only.

Participation in this study is entirely voluntary. You have the right to withdraw at any time without providing a reason, and your decision to participate or not will not affect your relationship with Wits Business School or any affiliated organizations.

Thank you for considering participating in this study. Your input is highly valued and appreciated.

Sincerely,

Tiyiselani Mabasa

Do you consent to participating in this study and having your answers used for research purposes?

- Yes
- No

1. I use digital banking services because they align with my personal financial goals and values.
2. My experience with digital banking has increased my confidence in my ability to independently handle various aspects of my personal finances, including budgeting, bill payments, and financial decision-making.

3. *On the scale from 1 (Significantly Negative Impact) to 5 (Significantly Positive Impact);*Please rate your overall impact of using digital banking services on your financial wellness.

Section 3: Controlled Motivation

Controlled motivation includes motivation that is influenced by external factors, in which an individual action are motivated by rewards or the avoidance of punishment.

Please indicate the extent to which you agree with the following statements regarding your controlled motivation. when using of digital banking, 1-Strongly Disagree, 2- Disagree, 3- Neutral, 4 Agree and 5 – Strongly Agree

4. I use digital banking to acquire credit primarily when there is a reward or incentive associated with the offer.

5. I feel compelled to use digital banking services credit offers because it's a common practice among people in my social circle.

6. I acquire credit offers from digital banking services because I want to avoid potential negative consequences or penalties such as reduced negative score, loss of cashback rewards, discounts, and miss out on opportunities to access funds for various purposes i.e investment or emergency funds access).

Section 4: Amotivation

Amotivation refers to a state where an individual lacks intrinsic motivation, exhibits no personal drive, and faces challenges in fulfilling their needs

7. How often do you use digital banking services for your financial transactions and management?
    1. Rarely (Once a month or less)
    2. Occasionally (few times in a month)
    3. Regularly (about once a week)
    4. Frequently (multiple times a week)
    5. Very Frequently (daily)

Please indicate the extent to which you agree with the following statements regarding your amotivation when using of digital banking; 1-Strongly Disagree, 2- Disagree, 3- Neutral, 4 Agree and 5 – Strongly Agree

8. I feel a lack of motivation when using digital banking services.

9. My lack of motivation influences my engagement in financial decisions when I use digital banking services.

10. Considering your lack of motivation, please rate your satisfaction with the financial outcomes and financial decisions made through digital banking services.

11. Easy access to credit

    The study focuses on unsecured credit. Unsecured credit, also known as unsecured debt, encompasses various types of borrowing that do not require collateral or a specific asset to secure the loan. Some common examples of unsecured credit include personal loans, credit cards, revolving loans, overdrafts, and instant/emergency/temporary loans.

Section 4 Easy access to credit

12. How easy is it for you to access credit through digital banking platforms?
    1. Very Difficult
    2. Difficult
    3. Neutral
    4. Easy
    5. Very Easy
13. Have you utilized credit offers or services provided through digital banking platforms in the past year? **Yes or No**

14. Have you ever accepted a credit offer on the digital banking platform that exceeded your actual financial needs **Yes or No?**

15. What factors influenced your decision to utilize credit offers through digital banking platforms?

    1. Ease access/ easily available
    2. Competitive interest rates
    3. Urgent financial need
    4. social pressure
    5. Rewards or Incentives
    6. Other reasons
16. I have taken a credit offered to me on the digital platform primarily because it was readily available. **Yes or No**?

    Please indicate the extent to which you agree with the following statements regarding your credit utilization on digital banking. 1-Strongly Disagree, 2- Disagree, 3- Neutral, 4 Agree and 5 – Strongly Agree

17. I adopted digital banking services because they offer convenient access to credit.

18. I am aware of the credit offers or pre-approved offers that are available for me through digital banking platforms.

19. My adoption of digital banking services has led to my utilization of credit offers available through digital banking platforms.

20. The availability of credit offers tailored for me has a significant influence on my decision to acquire credit on digital banking services.

21. Access to credit offers on digital banking platforms has positively impacted my financial flexibility and opportunities.

22. Digital banking platforms provide educational resources and information to help users make informed decisions about utilizing credit offers.

23. I often do you compare credit offers from your digital banking platform with traditional banking offers offered by other financial providers before making a choice. **Yes or No?**

24. How frequently do you utilize credit offers such as instant loans, personal loan, credit card or credit card increase, overdraft etc. provided through digital banking platforms in a typical year?
    1. Rarely (once a year or less)
    2. Occasionally (2-3 times a year)
    3. Moderately (4-6 times a year)
    4. Frequently (7-11 times a year)
    5. Very Frequently (12 or more times a year)

25. What barriers, if any, have deterred you from utilizing credit offers through digital banking platforms? (Select all that apply)
    Concerns about security and privacy
    Lack of trust in digital banking services
    Complexity of credit terms and conditions
    High interest rates
    Fear of accumulating debt
    Other

Thank you for taking the time to complete this survey. Your participation is greatly appreciated, and if you are able to kindly support further by helping to distribute to a wider audience, you may use the link below to share the survey:

https://wits.eu.qualtrics.com/jfe/form/SV_9NRlJqrBD5tsdiS

APPENDIX 2: CONSENT FORM

CONSENT FORM FOR RESEARCH STUDY

Researcher:

Tiyiselani Mabasa

Wits Business School

Cell: 0823400975

Email: 1772790@students.wits.ac.za

Research topic : Perceived Influence of Digital Banking on the financial well-being of middle class South African

I, ……………………………………….., agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

1. I understand the purpose of the research study. Yes No
2. I am aware that the information I provide will be incorporated into the research report. Yes No
3. I agree that my participation will remain anonymous throughout the research study. Yes No
4. I acknowledge that my participation is entirely voluntary and that I may opt out at any time. Yes No
5. I understand that I will be required to answer all the questions in the questionnaire. Yes No
6. I have been provided with the contact information of the researcher or supervisor in case I need to raise any concerns. Yes No

Participant Signature: ____________________ Date: ____________________

Researcher/Supervisor Signature: _________________ Date: ________________

:

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF MANAGEMENT AND LAW

MBA

Dear Participant

My name is Tiyiselani Mabasa. I am a Master of Business Administration (MBA) student in the Wits Business School. I would like to invite you to participate in my study.

I am conducting a study on the Perceived Influence of Digital Banking on the financial wellness of middle class South African under supervision of Professor Thomas Anning Dorson. The study aims to investigate how the adoption and consumption of digital banking services affect individuals' financial situations, financial behaviours, and overall wellness.

By exploring the experiences and perceptions of the middle-class population in South Africa, this study seeks to gain insights into the advantages, challenges, and potential risks associated with digital banking. The findings will contribute to a better understanding of how digital banking services influence financial decision-making, savings behaviour, budget management, access to financial services, and overall financial well-being.

Your participation in this study will play a crucial role in advancing knowledge in this area and may contribute to the development of initiatives and policies that promote improved financial well-being for the middle class in South Africa.

Questionnaire: You will be asked to complete an online questionnaire that consists of a series of questions related to your experiences and perceptions of digital banking services. The questionnaire will include demographic questions to help us understand the characteristics of our participants. The time needed to complete the questionnaire is projected to be between 15 and 20 minutes.

Data Confidentiality: Your participation in this research will be kept confidential. All collected data will be stored securely and anonymous, which means that your responses will be aggregated with those of other participants to safeguard your privacy.

The risks associated with participation in this study are minimal. However, you may experience discomfort or inconvenience while responding to certain questions. Please reach out to the relevant support services if you are experiencing emotional distress.

Your participation in this study is entirely voluntary. By proceeding with the questionnaire, you are indicating that you have read and understood the information provided in this information sheet, and you consent to participate in the study.

If you have any questions during or afterwards about this research study, feel free to contact me or my supervisor Professor Thomas Anning Dorson on the below details listed. If you have any concerns or complaints about the ethical procedures of this listed. If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za

Yours sincerely,

Tiyiselani Mabasa

1772790@students.wits.ac.za

0823400975

Supervisor:

Professor Thomas Anning Dorson

thomas.dorson.anning@wits.ac.za

APPENDIX 4: SIGNED ETHICAL FORM	Adobe Acrobat Document
APPENDIX 5 : RESEARCH TITLE APPROVAL	Research Title Approval.pdf
APPENDIX 6: PERFORM TO CONDUCT RESEARCH	Permission to conduct research.pdf
APPENDIX 7: RESEARCH PROPOSAL PANEL EVALUATION	MBA Research Proposal Panel Evalu:
APPENDIX 8: TURNITIN REPORT	Turnitin Report TI Mabasa 2024-02-28.c