The factors influencing the adoption of mobile banking in South Africa

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DECLARATION

I, Thobeng Choeu, state that the Masters research submission is my own original work and has not been submitted before for any other degree in any institution.

I further declare that all sources are appropriately cited or quoted as indicated by means of a comprehensive list of references.

T.L. Choeu

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Glory is to God the Almighty for the life that I cherish. I am truly grateful for the blessings, strength, and courage He provides.

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ABSTRACT

The research study investigated the factors that influence mobile banking adoption in relation to the Extended Living Standards Measure in South Africa. The research was focused on the five big banks in South Africa, constituting around 80% of bank account penetration. Despite South Africa having the highest penetration of mobile connections and highest number of users with bank accounts, the level of mobile banking adoption is still not satisfactory.

A structured questionnaire was distributed to 300 respondents with a bank account, and only 203 responses were found suitable for this study. The study adopted the UTAUT model to determine whether Social Influence, Effort Expectancy, Utilitarian Performance Expectancy, Hedonic Performance Expectancy, Self-Efficacy, Facilitating Conditions, Attitude, Risk, Security and Trust influence mobile banking adoption.

The findings of the study suggest that only four variables, namely, Hedonic Performance, Self-Efficacy, Attitude and Risk, are significant and influence the adoption of mobile banking in South Africa. The demographic profiling of respondents falls within ELSM 8 and higher groups in the South African context. Age, Income and Education also significantly influences the adoption of mobile banking.

Self-Efficacy is the most important factor that influences the adoption of mobile banking. The research findings suggest that more theories or variables must be considered to fully understand the influence of mobile banking in this country.

The findings from the study are not entirely consistent with the UTAUT model and suggested an updated model be used to further assess the adoption of mobile banking.

Keywords: Mobile banking, adoption, UTAUT model, ELSM, South Africa.

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LIST OF ACRONYMS

App	Applications
ATM	Automated Teller Machine
ELSM	Extended Living Standards Measure
FNB	First National Bank
FSCA	Financial Sector Conduct Authority
ICASA	Independent Communications Authority of South Africa
ICT	Information Communication Technology
LSM	Living Standards Measure
MNO	Mobile Network Operator
SPSS	Statistical Package for the Social Science
SSA	Sub-Saharan Africa
TAM	Technology Acceptance Model
UTAUT	Unified Theory of Acceptance & User of Technology

CHAPTER 1. INTRODUCTION

1.1 Statement of Purpose

The growth of information technology in financial institutions has provided banking facilities with another new feature in the 21st century (Hiwarkar, 2022). Due to technological advancement, banks have evolved to offer innovative services and channels to reach out to more customers. The banking industry has inevitably changed itself to provide a high-speed and excellent customer experience with the way of innovative technology-centred banking platforms such as online banking and mobile banking (Hiwarkar, 2022). In comparison to other banking channels, mobile banking is a highly accessible, cost-effective and innovative platform to provide banking offerings on a larger omnipresence channel (Shankar et al., 2020).

Despite the availability of mobile banking and higher smartphone penetration in South Africa, technology is still not embraced in some developing countries. Chigada and Hirschfelder (2017) reveal that South Africa has been confronted with challenges in comparison to other developing nations, such as individual (income inequality & discrimination), environmental (urbanization, pollution and poverty) and organisational factors such as crime, culture and technology. The Living Standard Measure (LSM) is a broadly used tool to segment the South African market into groups according to their living standards, such as level of urbanisation, access to services and ownership of assets. The study, assess the factors that influence the usage of mobile banking in South Africa in relation to the Living Standards Measure.

1.2 Background of the Study

Millions of South African citizens face challenges in accessing financial facilities due to reasons such as geographic location and the cost associated with it. Banks have expanded ATMs (Automated Teller Machine) closer to the vicinity

of their clients; however, it does not cater for all customers. Some customers still need to travel far to get to their nearest ATM. This has resulted in individuals that cannot transfer funds conveniently and securely or can be able to access more banking services such as access credit.

Due to this challenges, mobile banking is achieving recognition as an advanced channel for banking, especially in emerging nations with low accessibility to banking facilities (Thusi & Maduku, 2020). Mobile banking via the app is a new high-tech invention with the huge possibility of advancing the banking practice of retail banks (Thusi & Maduku, 2020). Mobile banking applications and wallets are typically included in service suites afforded to bank customers. These are usually linked to a customer's bank account and are typically accessed using smartphones.

Shaikh and Karjaluoto (2015) describe mobile banking as a ground-breaking offering by the banks and microfinance organisations to consumers for steering numerous mobile phone or smartphone transactions. Despite the convenience offered by mobile banking apps, users often distrust the security of the applications due to an increasing trend of cyber security compromises, cyberattacks, and data breaches (Apaua & Lallie, 2022).

The banking sector in South Africa is controlled by the five big retail banks, namely First National Bank, Capitec, ABSA, Nedbank and Standard Bank which have all adopted mobile banking facilities (Burger, 2022). As shown in Figure 1.1, the penetration rate of bank accounts in South Africa in 2020 has increased to 79 percent (Statista Research Department, 2021). South African banks enjoy high global rankings, and client preference and customer experience differ from bank to bank (Burger, 2022). A bank account must be opened for an individual to enjoy using mobile applications from the bank (Burger, 2022).

The five big retail banks offer mobile banking are concerned with encouraging the rapid acceptance of this invention amongst their clients (Thusi & Maduku,

2020). The mobile banking service not only offers clients benefits but also affords various profits to the banks. Banks choose mobile banking services for their efficiency in cost and improved engagement among their clients. In contrast, clients choose mobile banking over other banking channels due to the convenience of using the service anytime from anywhere (Jebarajakirthya & Shankar, 2021). Despite the invention by the retail banks, only 44.2% of the banking population performs some mobile banking activity on their mobile devices (Statista Research Department, 2023).

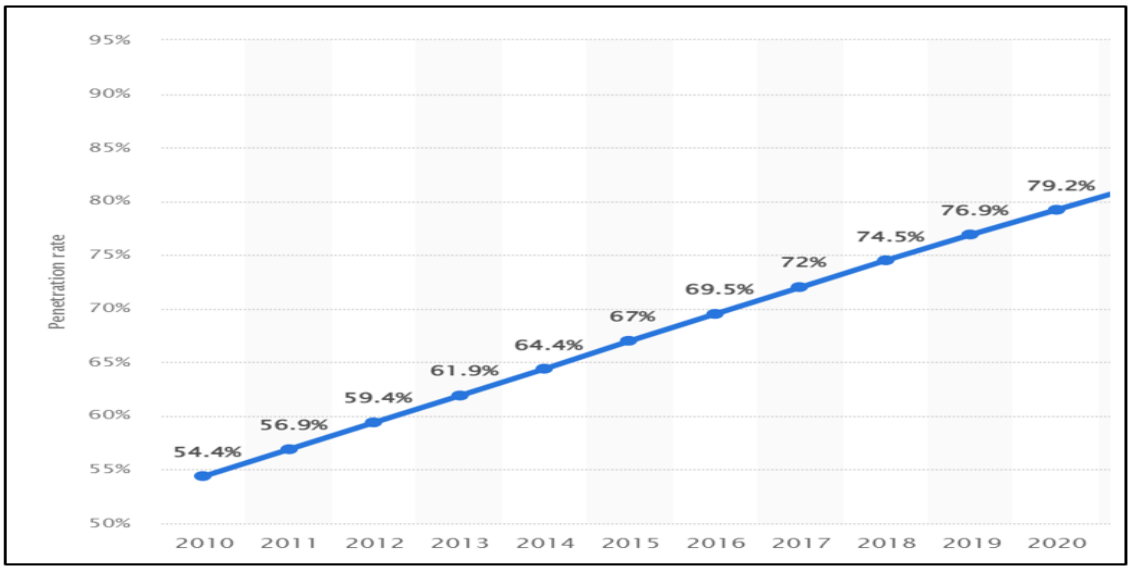


Figure 1.1: Bank account penetration in South Africa

Source: Statista Research Department (2021).

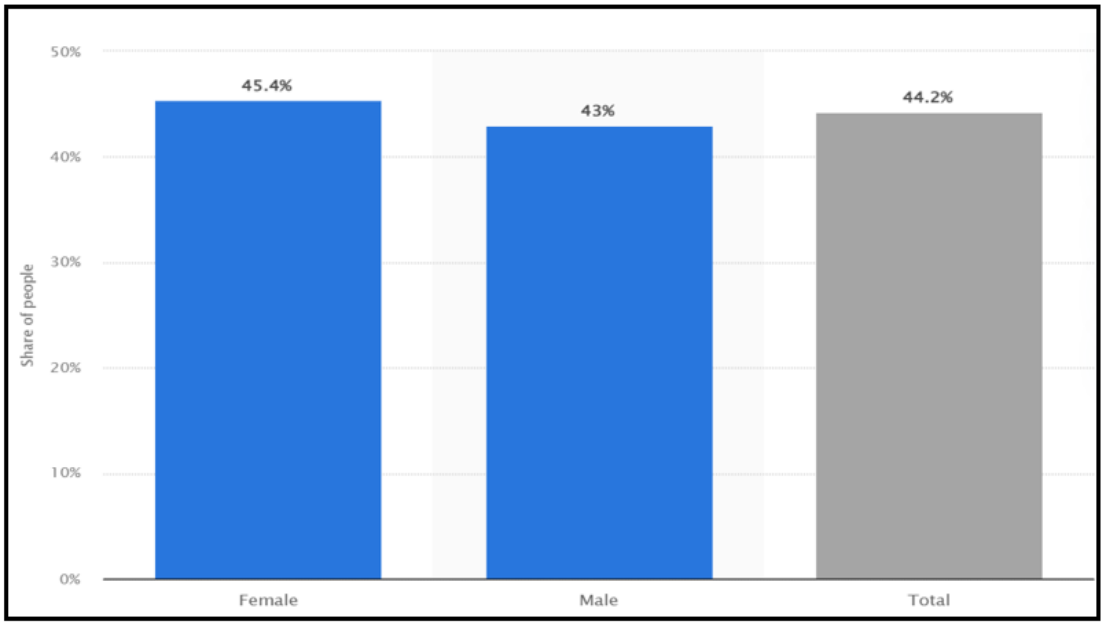


Figure 1.2: Mobile banking users in South Africa

Source: Statista Research Department (2022).

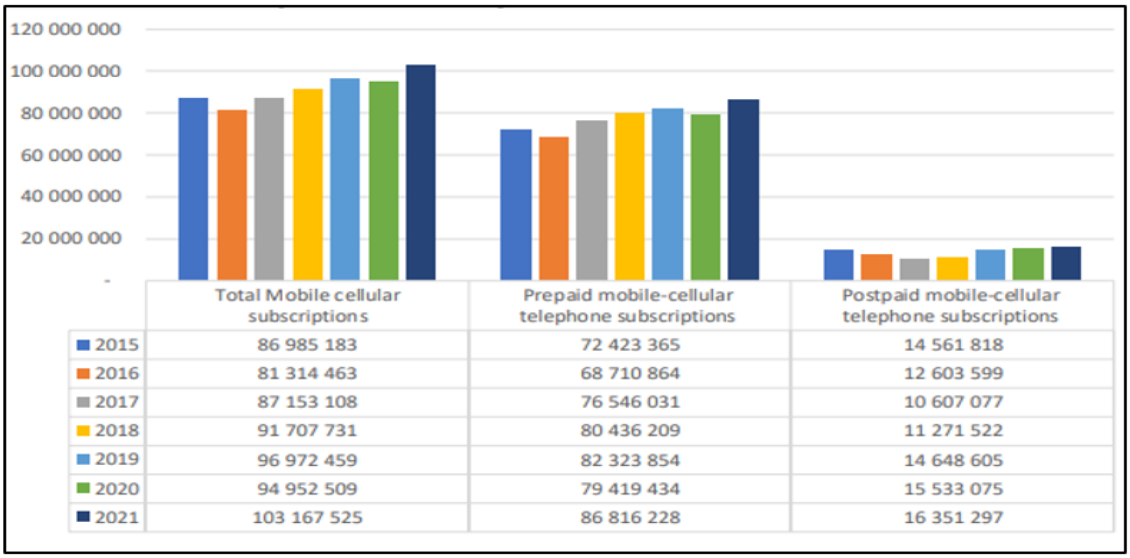
1.3 Research Problem

The acceptance of mobile banking has achieved greater attention in current years because there are more mobile phone users than computer users (Bharti, 2016). Mobile phones have created a platform to expand commercial transactions effortlessly and have created a wide array of business opportunities through the expansion of wireless communication (Adesina et al., 2015). Mobile communications currently are not considered a luxury as it has reached the grassroots of society where everybody owns a mobile phone.

There are 6.64 billion smartphone users worldwide, which translates to 83.72% of the world's population owning a smartphone in 2022 (O'Dea, 2021). The number of people owning a smart and feature phone is 7.26 billion globally, making up 91.54% of the world's population (O'Dea, 2021). There has recently been substantial development in mobile banking acceptance worldwide (Jebarajakirthya & Shankar, 2021).

Alalwan et al. (2017) state that despite the rapid rollout of mobile services over the past decade, mobile transactions, including mobile banking and payment, are contentious among professional bodies because of the threat involved in money transactions. The level of acceptance has not gotten to the satisfactory level, particularly in developing nations, and customers are less concerned in such banking services (Alalwan et al., 2017).

In South Africa, as shown in Figure 1.3, there are 103 million mobile connections, equivalent to 158% of the total population, and 66 million are smartphones shown in Figure 1.4 (Independent Communications Authority of South Africa [ICASA], 2022). This indicates that there is high adoption of mobile connection technology and usage. The high penetration of smartphone usage and growth in digital transactions will result in a lively digital banking sector (Burger, 2022).



	Total Mobile cellular subscriptions	Prepaid mobile-cellular telephone subscriptions	Postpaid mobile-cellular telephone subscriptions
2015	86 985 183	72 423 365	14 561 818
2016	81 314 463	68 710 864	12 603 599
2017	87 153 108	76 546 031	10 607 077
2018	91 707 731	80 436 209	11 271 522
2019	96 972 459	82 323 854	14 648 605
2020	94 952 509	79 419 434	15 533 075
2021	103 167 525	86 816 228	16 351 297

Figure 1.3: Total mobile cellular subscriptions in South Africa

Source: ICASA (2022).

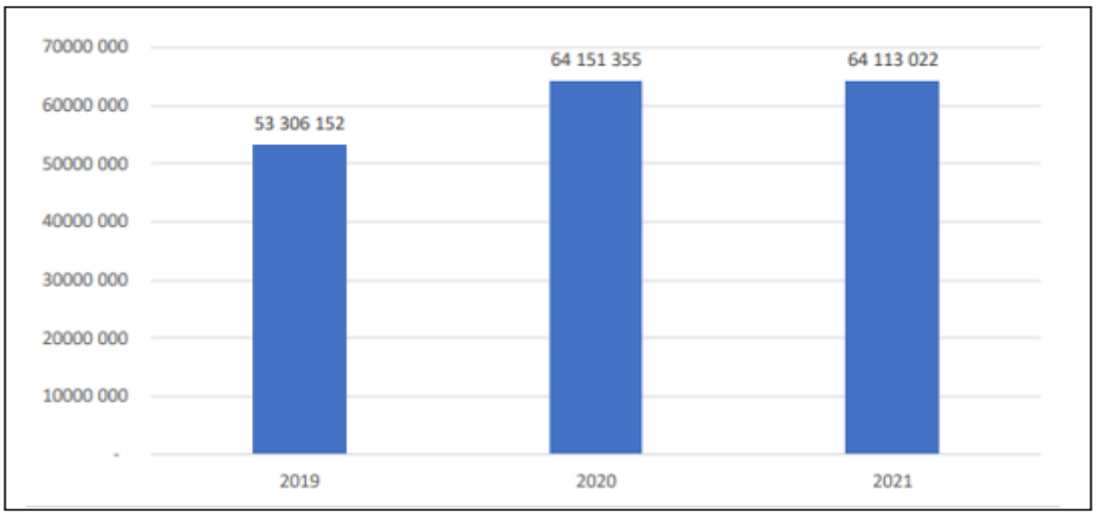


Figure 1.4: Total smartphone active subscriptions in South Africa

Source: ICASA (2022).

The study by Chigada and Hirschfelder (2017) reveals that in Sub Sahara Africa (SSA), countries such as Kenya and Zimbabwe have documented achievements in parts of mobile banking. In contrast, mobile banking in South Africa's is still lacking even though it has the highest smartphone penetration. This indicates that it is necessary to create awareness of the significance of the adoption of Information Communication Technology (ICT) in South Africa.

The factors that influence the adoption of mobile banking in emerging countries are arguably still under-investigated and not fully understood, hence limiting insights into addressing the problem of low adoption (Chigada & Hirschfelder, 2017). Therefore, this study seeks to understand the factors that influence the usage and acceptance of mobile banking in this country.

1.4 The objectives of the Research

The rate of adoption of ICT is unsatisfactory particularly in this country, even with a higher number of mobile phone users. A study by Chigada and

Hirschfelder (2017) reveals that this country has been confronted with challenges in comparison with other emerging nations, such as individual, environmental and organisational factors.

The following factors will be assessed to determine whether they influence mobile banking adoption in relation to LSMs in the South African context.

1. To determine whether assessment of self and others (Attitude and Social Influence) have an influence on mobile banking adoption.
2. To determine whether intention to use (Hedonic Performance, Self-Efficacy, Effort Expectancy and Trust) has an influence on mobile banking adoption.
3. To determine whether confidence level to use technology (Utilitarian Performance Expectancy and Facilitating Conditions) has an influence on mobile banking adoption.
4. To determine whether factors such as Risk and Security has an influence on mobile banking adoption.

1.5 Rationale

Despite South Africa having the highest penetration of mobile connections and a highest number of users with bank accounts, the level of acceptance still lacks behind Kenya and Zimbabwe (Chigada & Hirschfelder, 2017). Kenya and Ghana have the second and third-highest mobile payment usage in the world after China (Collins, 2021).

A study by Killian and Kabanda (2017) revealed that Risk, Trust and habitual use influenced and significantly impacted the use and acceptance of mobile payments by middle class in this country. The study further states the big difference between young and older respondents is their perception of Social

Influence, with younger respondents ranking it as uppermost importance whilst older respondents regarded Risk as an important influence of the adoption.

Another study by Thusi and Maduku (2020) on millennials in South Africa reveals that Facilitating Conditions, perceived Risk, habit, Performance Expectancy and Trust are significant in related to mobile banking adoption. Moreover, the results state that variables mentioned above directly influence the behaviour of the mobile app adoption. Another study by van Deventer et al. (2018) done on university students in this country on Youth reveals that relative advantage and perceived ease of use significantly impact their attitudes and usage behaviour on the adoption of mobile banking.

There are limited studies to comprehend and explore the factors that influence the mobile banking acceptance in relation to the Extended Living Standards Measure (ELSM) in South Africa. The LSM tool divides the population into LSM groups according to people's standard of living. Wealth measures not only income but using the degree of urbanisation, ownership of cars, major assets and basic services (Ntloedibe & Ngqinani, 2020). The LSM groups range from one to ten, where ten (10) is the highest level with the most wealth, and one is the poorest population with no measurable wealth – see Table 1.1 (Ntloedibe & Ngqinani, 2020).

One of the limitations of the original LSM is that the suggested income brackets are not all-inclusive. This study expands the original LSM by making the model all-inclusive by accommodating people who earn more than the upper limit (LSM 10) as presented by the original LSM. The Extended LSM group will be catered for individuals in LSM 10 and higher that earn more and are grouped as Upper middle class, Emerging Affluent and Affluent group of individuals (Mpeta et al., 2018).

Like any developing technology, there are challenges experienced with adopting and accepting mobile banking. There are numerous explanations for

why technology has not enjoyed high reception and endorsement in the banking sector (Bharti, 2016). The study will pursue to explore reasons that influence the usage of mobile banking in the South Africa context in relation to ELSM.

Table 1.1: Extended Living Standards Measure Groups

LSM 1 – 4	• The population that mostly live in Rural or Urban with matchbox house or a shack. • Their salary ranges from R1 363 – R3 138 per month. • Have minimal access to services and ownership. • Have a low-income transactional bank account and minimum involvement in economic activities.
LSM 5 – 7	• The population that mostly lives in Rural or Urban. • Their salary ranges from R4 165 – R11 263 per month. • Have access to the internet, cinemas, all prints, ownership of vehicles and full access to services. • Have a low-income transactional bank account and involvement in all economic activities.
LSM 8 – 10	• The population that mostly lives in Urban and Suburban. • Their salary ranges from R13 210 – R32 521 per month. • Have full access to the internet, and bank accounts with full ownership of assets. • Have access to all economic activities and leisure activities.
LSM 10+	• The population that mostly lives in Urban and Suburban. • Their salary is greater than R32 521 per month. • Have full access to the internet, and bank accounts with full ownership of assets. • Have access to all economic activities and leisure activities.

Source: Adapted from Ntloedibe and Ngqinani (2020).

The study will add to the academic pool of literature and body of knowledge on the usage of mobile banking based on LSM in the South African context. There are gaps in the literature that explore and explain the factors that influence the mobile adoption of ELSM in this country. The researcher expects the study to give richer insights into the factors influencing the adoption of mobile banking by different ELSM segments in the South Africa context.

1.6 Delimitations

I. Firstly, this research pays attention to ten variables; however, other factors might influence the adoption.
II. Secondly, this study only focuses on customer banking with the big five retail banks in South Africa.
III. Thirdly, this study has excluded fintech or digital banks operating in South Africa.
IV. Lastly, with the growth of clients that use the service daily, a prolonged study might be required to determine the trends in adoption among customers.

1.7 Definition of Terms

Mobile banking is defined as a service that allows consumers access to their bank accounts instantaneously online or via short message on the phone using a mobile electronic system (Alemayehu, 2017).

Risk is defined as a negative outcome that occurs from the purchase of a new product or service, such as mobile banking (Thusi & Maduku, 2020).

Security is defined as consumers' worry about the safety and Security of transactions and personal information shared around the platform (Zhang et al., 2019).

Trust is defined as the confidence that one has in their favourable expectations of what others will do based on previous interactions (Gefen, 2000).

Performance Expectancy is defined as the level to which technology or information system will offer advantages to consumers in performing activities (Alalwan et al., 2017).

Effort Expectancy is defined as the level of comfort associated with the usage of technology (Venkatesh et al., 2012).

Social Influence is defined as the extent the consumer understands the importance of other people, such as family members and peers believing they influence their usage of a specific technology (Venkatesh et al., 2012).

Attitude is the extent in which consumers have a positive or negative assessment of their behaviour (Davis, 1989).

Facilitating Conditions refer to consumers' confidence in the resources and assistance offered to perform a certain performance (Venkatesh et al., 2012).

Extended Living Standards Measure is a tool that is used to divide the population into groups according to people's standard of living wealth measures not only income but using the degree of urbanisation, ownership of cars, major assets and basic services (Ntloedibe & Ngqinani, 2020).

1.8 Assumptions

It is expected that the respondents would share correct perceptions on their living standards, such as income brackets.

It is further assumed that respondents share appropriate information on their adoption of mobile banking. Nevertheless, the researcher expected that they would be preconception created on the retail bank that users have been using for a while.

1.9 Chapter Outline

Chapter 1 summaries the purpose of the study, the research problem, the research objectives.

Chapter 2 provides a background of the available literature on prior studies, theories, models applicable and research hypotheses.

Chapter 3 summaries the design and method of research, sampling method, data collection method, validity and reliability and ethical considerations.

Chapter 4 represents and analyses the findings of this study.

Chapter 5 provides the interpretation of the results and discusses key findings.

Chapter 6 summarises the key findings, strategy implications and recommendations, as well as proposes future studies.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter aims to unpack the existing literature on the adoption of mobile banking and the factors that influence the adoption thereof. This chapter also explores the theories and frameworks applicable to the adoption of mobile banking.

2.2 Mobile Banking

Nowadays, banks are determined to adopt new skills because of increased rivalry in the banking sector (Alalwan et al., 2017). Most banks have enhanced electronic banking systems by introducing mobile banking. Mobile banking has grown over time from an unknown form of banking to one of the modern-day ways of banking services available to consumers (Nysveen et al., 2005). Banks can now cost-effectively expand to more consumers via mobile banking channels.

There are various terminologies used to describe mobile banking, but a noticeable difference between mobile and internet banking has not been thoroughly made (Shaikh et al., 2015). This paper adopts the definition of mobile banking as specified by the banking sector or mobile network operators (MNO) using mobile devices for banking transactions (Shaikh & Karjaluoto, 2015). Customers can perform banking activities such as checking account balances, performing payment transactions, getting statements, and paying utility charges.

2.3 Mobile Banking in other developing countries

Mobile banking closes the gap and eliminates obstacles restricting financial inclusion in developing countries (Priya et al., 2018). It allows banks to offer services to customers proficiently and has the benefit of gaining and distributing data in comparison to conventional banking. Therefore, customers are permitted to use the service at any location without restrictions in processing their banking activities (Zhu et al., 2021).

Lately, the growth in mobile banking adoption has been somewhat significant worldwide (Jebarajakirthya, 2021). Mobile banking saves time, reduce transaction fees and largely has become a critical means of advancing economic and financial inclusion (Zhu, 2020).

Sulaiman and Jauhari's (2021) study indicate that mobile banking in Malaysia is growing among its citizens as an emerging country. There is a great opportunity for banking institutes in that countryside to present better banking services to their clients. However, certain enablers of mobile banking services warrant emphasis in relation to reliability and ease of use.

The study by Ai et al. (2020) in Vietnam shows numerous motives for customers not to embrace mobile banking services. Several clients are still concerned about security and technical faults when making transactions as well as difficult registration processes. A plausible explanation of why clients are uncertain about mobile banking is that the bank does not launch the service correctly (Ai et al.,2020).

Apart from the increased exposure, the adoption is still limited to certain individuals in a particular geographical location (Alkhawaldeh et al., 2022). With the increase of internet users globally and the high phone penetration, the anticipation is that mobile banking adoption would have significant coverage because of numerous benefits (Amangala & Akani, 2020). Mobile banking

services are advantageous to banks and clients alike; hence attempts were made in the prior studies to assess the intent to adopt mobile banking (see Alemayehu, 2017; Jebarajakirthya & Shankar, 2021; Shankar et al., 2020).

2.3.1 *Mobile Banking has Potential Benefits*

Mobile banking Benefits to Customers who use mobile banking:

I. Banking services are available 24x7 via a mobile device, just a click away. Customer can be able to access their banking and performs activity at any time.
II. Customers can operate accounts remotely from anywhere. Therefore, the need to visit the bank in person is eliminated. Visiting banks saved customer money in terms of commuting to the nearest branch.
III. Mobile banking aid in the payment of bills, therefore it is an added benefit. More features have been added on mobile payment as a payment point for communication services, utility bills, betting, licence renewal.
IV. A client can do transactions without carrying money or any paper currency. Mobile banking has enabled banking to be convenient and hustle free.
V. There are no additional bank fees charge for mobile banking, which is a saving compared to visiting the bank to do transactions in person.

2.4 Mobile Banking in the South African context

ABSA was the first to officially announce mobile banking, FNB was the second, followed by Standard Bank and Nedbank followed suite in its early stage (Nyoka, 2018). South Africans over the age of 16 years can open a bank account to access mobile banking. However, the 2021 FinScope South Africa Consumer Survey found that individuals from low-income households held 40% of dormant accounts. Another 19% of this segment withdrew all the funds

immediately after funds were deposited (Financial Sector Conduct Authority [FSCA], 2021). Despite the increased competition from the new digital banks, the banking sector is still controlled by the traditional big five banks.

In South Africa, there is high adoption of mobile connection technology and usage with mobile connections by 158% of the population (ICASA, 2022). The high penetration of smartphone usage and the growing desire for digital transactions will result in a dynamic mobile digital banking sector (Burger, 2022). All main banks have mobile banking services as a complementary channel to access all other existing banking services.

Even though mobile banking shows encouraging indications of financial inclusion, South African banks still take advantage of the mobile market benefits. Capitec and FNB have been rated the best mobile banking offering in this country. Moreover, the two banks are rated the best digital banks and were praised for their security measures (Business Tech, 2021). Capitec platforms are considered straightforward and easy to use, whereas FNB platforms are seen as more leading-edge (Business Tech, 2021). Both banks have the highest number of bank customers, moreover, have the highest number of digitally active customers.

A study by Killian and Kabanda (2017) states that South Africa, as one of the developing countries with the most improved telecommunication infrastructures, the expectation would be South Africa would be one of the leaders in mobile banking. The study further states that South Africa has also experienced a rise in middle-class citizens and better smartphone penetration which would have made the adoption more favourable.

Nyoka's (2018) study in South Africa indicates an improvement in mobile banking services. It recommends that retail banks motivate their clients to accept new banking innovations and the benefits linked to reliability, convenience, and ease of service use. Retail banks need to consistently

improve mobile banking services by addressing concerns and risks that could impact daily mobile device transactions.

In the recommendations by Nyoka's (2018) factors such as reliability, convenience, and ease of service use, concerns and risks should be addressed to motivate customers to accept new banking innovations. This study seeks to investigate the factors that impact the adoption of mobile banking with theories and framework that will give an understanding of factors that could encourage customers to use or not the new technology.

2.5 Analytical Framework

Various theories and frameworks have been used to explain the phenomena of the adoption of mobile technologies.

2.5.1 *Theoretical Framework*

The Unified Theory of Acceptance & User of Technology (UTAUT) model was developed to further understand user acceptance of information technology by studying how well Social Influence, Effort Expectancy, Performance Expectancy, and Facilitating Conditions explained the adoption of technology (Venkatesh et al., 2003). Venkatesh et al. (2012) further developed the model UTAUT 2 by acknowledging that hedonic performance, habit and price value could answer questions about consumers use and acceptance of technology.

The above theory mentioned culminated in what Khalilzadeh et al. (2017) termed the Unified Theory of Acceptance & User of Technology (UTAUT), which uses Social Influence, Effort Expectancy, Utilitarian Performance Expectancy, Hedonic Performance Expectancy, Self-Efficacy, Facilitating Conditions, Attitude, Perceived Risk, Perceived Security and Trust to test consumer acceptance and the use of technology.

2.5.2 *Shortcomings and Acceptance of the Framework*

The Unified Theory of Acceptance & User of Technology (UTAUT) had shortcomings. It was criticised for not considering technology cost implications and mainly focusing on the organisational context where Attitude, self-efficacy, and anxiety are indirect factors of behavioural intent.

However, the Unified Theory of Acceptance & User of Technology 2 (UTAUT 2) is slightly supported because there is a strong linkage between the three variables (price value, hedonic motivation, and habit) with those behavioural intentions and acceptance of the technology (Alalwan et al., 2017).

Another model that has been supported is the Unified Theory of Acceptance & User of Technology (UTAUT) & Technology Adoption Model (TAM) because the results indicated that the model was capable of 20% greater explanatory power and predictive accuracy than the original UTAUT. For this study, the UTAUT is used and best suited because the model tests the behavioural factors that influence the adoption which is critical due to environmental challenges faced by South African. The ATUAT 2 model focuses on (price value, hedonic motivation, and habit) which might have skewed the adoption level since price or cost implications might be a hindrance which will not give a broader view of the reasons South Africa still lack behind on the adoption of mobile banking. Moreover, banks charge the same monthly fees to access banking regardless of whether customers have mobile banking. Therefore, UTAUT is the best model to determine factors that influence mobile banking adoption in relation to ELSM in the South African context.

2.6 Empirical Review

The empirical literature is reviewed on the selected variables below.

2.6.1 *Social Influence*

Venkatesh et al. (2003) refers to Social Influence as the level at which an individual recognises the social environment and the importance of others influences them to use the new technology. A study by Khater (2022) on bank users in Sudan reveals that Social Influence has no significant effect on the behavioural intention to adopt and use mobile banking. Another study by Iskandar et al. (2020) on bank users in Indonesia supports the findings that Social Influence and Effort Expectancy have no significance and does not influence the behavioural intent to use mobile banking. There are millennials that severely relies on technology and are most likely to adopt mobile banking because of their peers or influence in their social status.

2.6.2 *Effort Expectancy*

Effort Expectancy describes perceived easiness related with an individual's use of new technology to reduce the effort required and time associated with that activity (Venkatesh et al., 2012). The findings of the study by Khater (2022) on bank users in Sudan reveal that Effort Expectancy and Performance Expectancy have a positive and significant impact on the behavioural intention of the user to adopt mobile banking services. A study done by Iskandar et al. (2020) on bank users in Indonesia differs and found that Effort Expectancy has no significance and does not impact the behavioural intention to adopt mobile banking. Effort Expectancy can be applied across worldwide because individual perceived easiness and effort required can impact the adoption of the technology, inclusive of South Africa.

2.6.3 *Hedonic and Utilitarian Performance Expectancy*

Performance Expectancy describes the level at which a person believes the use of mobile banking will improve their activities or performance (Venkatesh et al., 2012). A study by Boonsiritomachai and Pitchayadejanant (2017) done on generation Y users (aged between 18–35) in Thailand revealed that

Performance Expectancy, Hedonic motivation and Facilitating Conditions have a positive and significant impact on behavioural intentions to adopt mobile banking. Another study by Iskandar et al. (2020) concurred with prior research and discovered that Performance Expectancy, Hedonic motivation, and Facilitating Conditions positively and significantly impact behavioural intentions to adopt. The study further identified that Performance Expectancy and Hedonic motivation are the critical influence that encourages users to adopt mobile banking. Performance Expectancy and Hedonic motivation on individual that mobile banking will improve their activities or performance can be applied in the South African context.

2.6.4 *Self-Efficacy*

Self-Efficacy is a concept taken from the extended TAM model. Self-Efficacy is the measurement of the individual's assessment of the ability to use new technology. Venkatesh et al. (2003) define Self-Efficacy as a construct to measure the capability to consume technology to achieve a specific task or a job. Boonsiritomachai and Pitchayadejanant (2017) reveal that Self-Efficacy positively affects mobile banking adoption. Moreover, their study states that even though Self-Efficacy directly affects behavioural intention, its indirect effect has more influence on the value because the direct effect value is higher. Consequently, Hedonic motivation moderates self-efficacy in behavioural intention and the adoption of mobile banking services. Self-Efficacy is important because individuals need to be able to use the new technology, more so that South African lacks behind other developing countries in the adoption of new technologies.

2.6.5 *Facilitation Conditions*

Facilitating Conditions refer to the structure or technology infrastructure that supports the usage of the technology (Venkatesh et al., 2012). It relates to the application that precisely and is core in supporting mobile banking usage.

Boonsiritomachai and Pitchayadejanant (2017) reveal that Facilitation conditions positively affect the behavioural intention to adopt. Iskandar et al. (2020) support the notion with the study done in Indonesia that facilitation conditions positively influence the intention to adopt mobile banking. Facilitating Conditions will be essential in South Africa to understand the level of usage and support available immediately, if the service is not operating optimally.

2.6.6 *Attitude*

Davis (1989) refers to Attitude as an individual good or bad feelings about the satisfaction obtained from using technology such as mobile banking. A study by Alalwan et al. (2017) reveal that Attitude directly affects the behavioural intent to use and accept mobile banking. The study further states that Attitude partially mediated the effects of Performance Expectancy, Effort Expectancy, and Facilitating Conditions. Attitude also applied a direct influence on the usage behaviour of users. Attitude can be applied across worldwide because individual good feeling can influence positively to the adoption. In South African context good attitude to adopt will be significant due to the current tough economic climate.

2.6.7 *Risk*

Hanafizadeh et al. (2014) recognise that the risk element is important to the apps that utilise mobile services partially because mobility intensifies the danger to Security. Hanafizadeh et al. (2014) further state that there is a fundamental likelihood of hacking mobile apps due to the security exposure linked with mobile app technology. The inherent technological risks lessen the user's Trust and reduces the intent to adopt mobile banking. The Risk may therefore be negatively associated individual's behavioural intention to adopt mobile banking.

As Hanafizadeh et al. (2014) pointed out, the higher the Risk of using new technology, the lower the willingness to adopt that technology. Verkijika (2018)

agree that if users see the risk of adopting mobile banking to be high, they are unlikely to adopt mobile banking.

2.6.8 *Security*

Security refers to the extent to which clients consider the transaction done on a mobile payment app secure (Zhang et al., 2019). Furthermore, Zhang et al. (2019) suggested that Security plays a crucial part in users' decisions regarding the continuous use of mobile payment platforms. Consumers prefer safe channels for doing banking transactions and require that information that has been shared be protected (Jebarajakirthya & Shankar, 2021).

Ai et al. (2020) suggest that Security is the most decisive reason impacting the intention to use mobile banking. The impact is more substantial compared to other key aspects in the initial model. Though, some studies demonstrate that security and privacy concerns have somewhat minimal influence on the use of online technology involving mobile banking (Shaikh et al., 2021). Consumers with a high level of Security fear interactive apps are unsafe when using mobile banking services (Jebarajakirthya & Shankar, 2021). Security can be applied across worldwide, however will be high impact in South Africa due to high crime, online or cybercrime.

2.6.9 *Trust*

Trust has been broadly analysed and demonstrated to be important in predicting customers' experience and the intent to adopt mobile banking (Hanafizadeh et al., 2014). Trust has been confirmed by Hanafizadeh et al. (2014) as a major desire for the mobile banking adoption by bank customers in Iran.

Ai et al. (2020) in Vietnam states that users' Trust is one of the reasons why consumers do not recognise, embrace, and use mobile banking regardless of various advantages. Alalwan et al. (2017) concur that Trust has been greatly

accepted as an important element in determining users' experience and the intent to adopt mobile banking. Trust can be applied across worldwide, however high impact in South Africa due to lack of faith and speed in resolving banking fraud or issues.

2.7 Conceptual Framework

The rate of ICT adoption in South Africa is unsatisfactory, even with a higher number of mobile phone users. A study by Chigada and Hirschfelder (2017) reveals that there are challenges confronting South Africa in comparison to other emerging nations, such as individual, environmental, and organisational factors. Another study by Killian and Kabanda (2017) reveals that in South Africa, Risk, Trust and habitual use has an influence and significantly impact the adoption of mobile banking by middle class citizens. Because of this reason, UTAUT is the best suited model for this study.

This study used the proposed research model, the Unified Theory of Acceptance and User of Technology (UTAUT). The model includes factors such as Social Influence, Effort Expectancy, Utilitarian Performance Expectancy, Hedonic Performance Expectancy, Self-Efficacy, Facilitating Conditions, Attitude, Risk, Security and Trust.

Figure 2.1 indicates the variables assumed to have a correlation or relationship on the adoption of mobile banking. The variables are Social Influence, Effort Expectancy, Utilitarian Performance Expectancy, Hedonic Performance Expectancy, Self-Efficacy, Facilitating Conditions, Attitude, Risk, Security and Trust.

The model is used to test the following hypotheses:

H1: To determine whether Social Influence has an influence on the adoption of mobile banking.

H2: To determine whether Effort Expectancy has an influence on the adoption of mobile banking.

H3: To determine whether Utilitarian Performance Expectancy has an influence on the adoption of mobile banking.

H4: To determine whether Hedonic Performance Expectancy has an influence on the adoption of mobile banking.

H5: To determine whether Self Efficacy has an influence on the adoption of mobile banking.

H6: To determine whether Facilitating Conditions have an influence on the adoption of mobile banking.

H7: To determine whether Attitude has an influence on the adoption of mobile banking.

H8: To determine whether Risk has an influence on the adoption of mobile banking.

H9: To determine whether Security has an influence on the adoption of mobile banking.

H10: To determine whether Trust has an influence on the adoption of mobile banking.

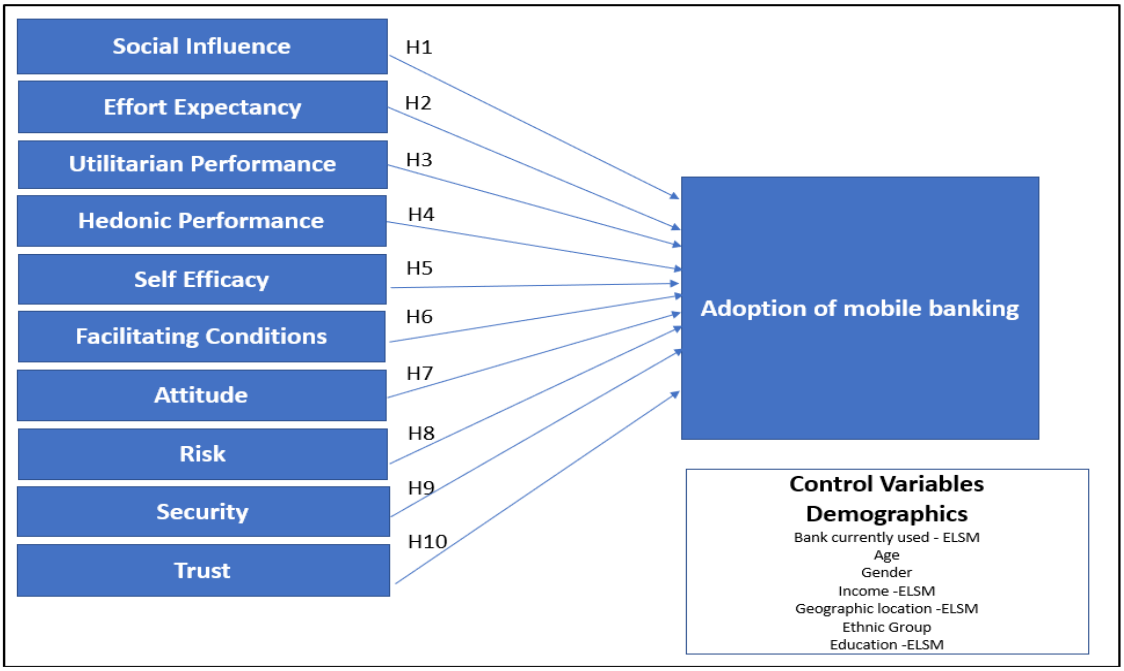


Figure 2.1: Proposed Conceptual Framework of the study.

Source: Adapted from Venkatesh et al. (2003).

2.8 Conclusion of Literature Review

Chapter 2 provided a mobile banking overview in the South African context and other developing countries. The information indicated that mobile phone connection technology had a key influence on the daily lives of citizen in South African and other countries. This has the potential to further improve accessibility and better usage through mobile banking innovations.

Nevertheless, what is noteworthy is that even though the usage of mobile phones is phenomenal globally, individuals in developing countries have not embraced the advantages of mobile banking that banks offer on a mobile phone. There are limited studies to explore aspects influencing mobile banking adoption in relation to LSM in the South African context. It appears that this section is ideal to be investigated, especially in South Africa, with an increased number of middle-class citizens.

This chapter also presented the theoretical frameworks that form the basis of the study, from which variables are assessed to determine if these factors influence usage of mobile banking in this country.

CHAPTER 3. RESEARCH METHODOLOGY

Chapter 3 illustrates the methods used to collect, analyse, and interpret data. It mirrors the actions undertaken to resolve a pure research problem. Pure research includes creating and analysing theories and hypotheses that are academically difficult for the researcher but may not have a current or future feasible purpose. The body of knowledge created through pure research is required to expand on current research methods (Goundar, 2019).

This chapter will detail the methods from varying research tools used to satisfactorily collect data. Moreover, it involves how the objectives and hypotheses created will be solved in the data collection method. The chapter will cover the importance of design, sampling methods and sample size. Finally, it stipulates the method to collect and analyse the data.

3.1 Research Approach

This study uses a quantitative research method because it is centred around distinct measurement scales with the intention of examining the factors that influence the usage of mobile banking in this country. A quantitative method was selected because of the strength of the numbers-based research field. Quantitative research is relevant to statistically measuring attitudes, behaviour, and user performance, thus offering results in formats that are simpler to understand.

Goundar (2019) states that quantitative research is truly embedded in numbers, statistics, and mathematics; therefore, it has the capability to successfully interpret information into clear, measurable graphs and charts to report on the research findings.

3.2 Research Design

The research design chosen for the study is the survey to test the relationship implied by the conceptual research model. Goundar (2019) describes a survey/ questionnaire as a study utilising the research technique to collect information or data through a questionnaire which can be web or paper based. In this study, a self-administered questionnaire is more suitable to obtain the required data, as it is the best ideal form of information collection tool and can produce a significant volume of data economically. The survey was distributed conveniently to the respondents who have bank accounts, banking with the big five banks in South Africa.

The initial stage after developing the questionnaire was to run the pilot to check its effectiveness and discover what appropriate and inappropriate items were in the questions. The purpose of the pilot was to refine the questionnaire so that respondents had no problems answering the questions and there was no problem collecting the data.

3.3 Data Collection Methods

Data collection method is used to collect and prepare information gathered to test the hypothesis outlined in this study. Quantitative data collection methods rely on random sampling and structured data collection instruments that fit diverse experiences into predetermined response categories (How, 2019). They produce results that are easy to summarise, compare, and generalise. For this study, a questionnaire instrument was managed electronically through social media platforms (WhatsApp and LinkedIn) and by email. The benefit of using an electronic questionnaire is that it was sent to a broader crowd compared to examining the actual conduct at a specific moment. The questionnaire enables to reach large sample from the population that can be contacted at relatively low cost.

3.4 Population and Sample

3.4.1 *Population*

Pelz (2021) defines a population as all people or items (unit of analysis) with the characteristics that one wishes to study. The unit of analysis may be a person, group, organisation, country, object, or any other entity from which the researcher wishes to draw scientific inferences. For this study, the population selected is individuals with bank accounts in South Africa.

3.4.2 *Sample*

Pelz (2021) refers to sampling as the statistical process of selecting a subset (called a "sample") of a population of interest to make observations and statistical inferences about that population. The author further states that it is very crucial to choose a sample that is a true demonstration of the population so that the interpretations resulting from the sample can be generalised.

The sampling techniques can be grouped into two distinctive categories: random and non-random. Random sampling is best suited when the generalisability of findings is imperative, but there may be exceptional considerations where a non-random sampling technique can also be acceptable (Pelz, 2021). Random sampling includes techniques such as Simple random, Systematic, Clustering, Matched-pairs, Multi-stage and Stratified sampling. On the other hand, Non-random sampling includes Convenience, Quota, Expert and Snowballing sampling techniques.

For this study, the random sampling technique was used to select the population of South African with bank accounts. This is appropriate to guarantee that a different bank user population is included in the study. Moreover, the questionnaire was distributed conveniently to the chosen sample. This population are individuals who partake in banking actions could be among the current users of mobile banking services.

A broad selection of suggestions regarding sample size in factor assessment has been made. Hair et al. (1998) suggested that a sample size between 100 to 200 is highly suitable where there is a population larger than 10000. Cattell (1978) also suggested that a sample size of 500 would be great to target and further stated that in the context of most problems, a sample size of 200 or 250 may be satisfactory. For this reason, this study was distributed to 300 potential respondents having bank accounts with the big five banks in South Africa. The distribution was not location-specific, meaning a user could have a bank account in Gauteng, Limpopo, KwaZulu Natal, Mpumalanga or anywhere within South Africa.

3.5 The Research Instrument

The questionnaire comprises of 35 closed-ended questions. The questions were constructed in English, an official business language in this country. The respondents were required to complete the survey online. The survey was designed to take a maximum of eight (8) minutes to complete. The questionnaire used a four (4) point Likert scale consisting of "Strongly Disagree", "Disagree", "Agree", or "Strongly Agree" options with statements referring to the customers' opinions or perceptions on banking or mobile banking.

3.5.1 *The Questionnaire Structure*

Section 1

The first section of the questionnaire was used for screening purposes - to verify whether the user has a bank account with the big five banks. This is a criterion to select the valid responses where the respondent selected the relevant bank. This part also asks demographic questions such as age, gender, ethnic group, location (province) and income bracket.

Section 2

This section captures all variables, namely adoption of mobile banking, Social Influence, Effort Expectancy, Utilitarian Performance Expectancy, Hedonic Performance Expectancy, Self-Efficacy, Facilitating Conditions, Attitude, Risk, Security and Trust, which are tailored to this study on mobile banking adoption in South Africa.

3.6 Data Collection

The research instrument (questionnaire) was distributed conveniently via social media platforms (WhatsApp and LinkedIn) and by email. Social media platforms selected in terms of convenience and popularity, WhatsApp is the most popular communication channel and LinkedIn is popular in the workspace environment. The study did not predefine demographics such as gender, location (provinces in South Africa), ethnic group, income, or lifestyle. Any individual with a bank account with the five big banks in South Africa could complete the questionnaire. Electronically and webmail is the most cost-effective to carry out the survey. Responses were acquired to achieve a convenience sample of varying incomes and lifestyles.

3.7 Interpretation of Data Analysis

Data was analysed using different forms of Quantitative Research methods such as Descriptive statistics, Pearson's correlation, and Multiple linear regression. Descriptive research seeks to systematically explain a situation, problems, experiences, or agenda, offers data about a community's living, or explains attitudes towards a problem (Goundar, 2019). Descriptive research entails gathering information to test hypotheses or solve problems regarding the recent significance of the areas of the study. Therefore, it defines and describes the direction where matters are.

Goundar (2019) states that Correlation makes an attempt to ascertain or demonstrate a relationship between two or more characteristics of a situation. Pearson's correlational research establish to what extent a relationship exists between dependent and independent variables. It also expresses the relationship variable and is tested to determine whether the relationship is significant.

Multiple regression was done to provide a significant analysis of the relative ranking of the variables. Moreover, it provides the equation of the fitted line of regression, the regression coefficient, and its p-value. This analysis of the hypotheses required applying the confidence levels and statistical importance to accept or reject the hypotheses. Each hypothesis was assessed to evaluate whether the model conceptualised can justify meaningful variation in the results.

SPSS was used to analyse data for missing values and outliers to confirm that only meaningful data is contained in the hypothesis testing since the hypotheses looked at the relationships of the variables.

The Cronbach alpha was statistically assessed to measure the degree to which identical answers could be achieved if the same questions were to be asked to the similar respondent’s numerous times in the same circumstances (Peters, 2014). The Cronbach's alpha will be used for the study to evaluate the consistency of the variables. Cronbach's alpha suggests that greater than 70% variability is true with a 30% degree of error. If this questionnaire's findings' consistency and reliability measures surpass the lowest Cronbach's alpha of 0.70, it will be deemed dependable.

3.8 Limitations and Challenges of the Study

I. The study was conducted on a specific sample of individuals that have bank accounts with the big five banks in South Africa.

II. Other retail banks or digital banks in South Africa were excluded from the study.
III. The respondents might not answer truthfully on questions deemed as sensitive, such as income bracket.
IV. There might be a possibility of non-responsiveness due to the sensitivity regarding banking information, which tends to be extremely restricted, and bank users might be reluctant to answer questions.

3.9 Quality Assurance

3.9.1 *External Validity*

The validity measures whether the results are about what they seem like and checks the association among variables. For this study, pilot testing was done to ensure validity. Five respondents were sent the pilot questionnaire to check whether something might be difficult to understand. The objective of the pilot test is to ensure all statements are phrased clearly, easy to understand and not ambiguous in any manner. The generalisability of the study was met when 100 – 120 responses or completed questionnaires were received from the respondents.

3.9.2 *Internal Validity*

This study used convenience sampling based on a sample of selected individuals with bank accounts. Figure 1.1 illustrates the penetration rate of bank accounts in South Africa reached 79% in 2020, this sample of the bank account holder or owner is alleged to be a demonstration of the population of the five big banks in South Africa. The Kaiser-Mayer-Olkin (KMO) measure of sampling criteria will be used to test the suitability of the sampling research instruments. The minimum KMO value of (0.600) score will be deemed acceptable.

Hair et al. (1998) suggested that validity should be checked by using Confirmatory Factor Analysis to assess how factors are meant to load against a given construct.

3.9.3 *Reliability*

Reliability indicates the level to which measurements can produce appropriate findings because they are free from mistakes. The Cronbach's alpha will be used for the study to evaluate the consistency of the variables. Cronbach's alpha suggests that greater than 70% variability is true with a 30% degree of error. If this questionnaire's findings' consistency and reliability measures surpass the lowest Cronbach's alpha of 0.70, it will be deemed dependable. Moreover, the survey was structured in a Likert scale format, which is compatible with the use of Cronbach's alpha.

3.10 Ethical Considerations

I. Confidentiality was upheld by not asking respondents to complete personal details such as name or identity number. No questions that might be able to identify the respondents were asked in the questionnaire. The respondents' anonymity was always upheld.

II. Ethical considerations were considered, and respondents were informed to prevent violating the respondents' privacy. Respondents were notified that their involvement was voluntary.

III. The results of the study were presented at an aggregated level and not on an individual basis. The information collected and the outcome interpreted have not been made public with any bank. The results stated in this study were only for academic journals.

CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

The purpose of this chapter is to present the results obtained from the survey questionnaire. Furthermore, this chapter presents the statistical methods used to analyse the data collected for the study on the factors that influence mobile banking adoption in South Africa in relation to ELSM. The ELSM consider degree of urbanisation of respondents in terms of the province they reside in, salary/income of respondents, access to the internet and bank account as well as the level of qualification. This view gives an indication of which ELSM group respondents fall within in the South African context.

This chapter discusses two parts, as evidenced in the questionnaire. The first part looks at the profiling and descriptive analysis of the demographics based on the answers obtained from the questionnaire. The other part is the presentation of the survey questionnaire. Data was verified for reliability, factor analysis and validity to ensure that correlations and multiple regression analysis outcomes can be relied upon. The summary of hypothesis testing is presented last.

4.2 Sample size

The survey questionnaire was conducted over a period of three weeks. It was distributed to 300 potential respondents that have bank account with the big five banks in South Africa. From the questionnaire distributed, 226 responses were received during the period the survey was taken. From the overall responses, six respondents did not consent to complete the survey and were excluded from the analysis, see Figure 4.1.

A total of 220 responses consented to continue and participate in the survey. Since the study was only focused on the five big banks in South Africa, respondents were requested to select the bank they are currently banking with for this study. The option for “Other” was available to respondents who did not bank with the five big banks. After the respondents selected “Other” option, the questionnaire closed because the respondents did not meet the criteria to participate in this study.

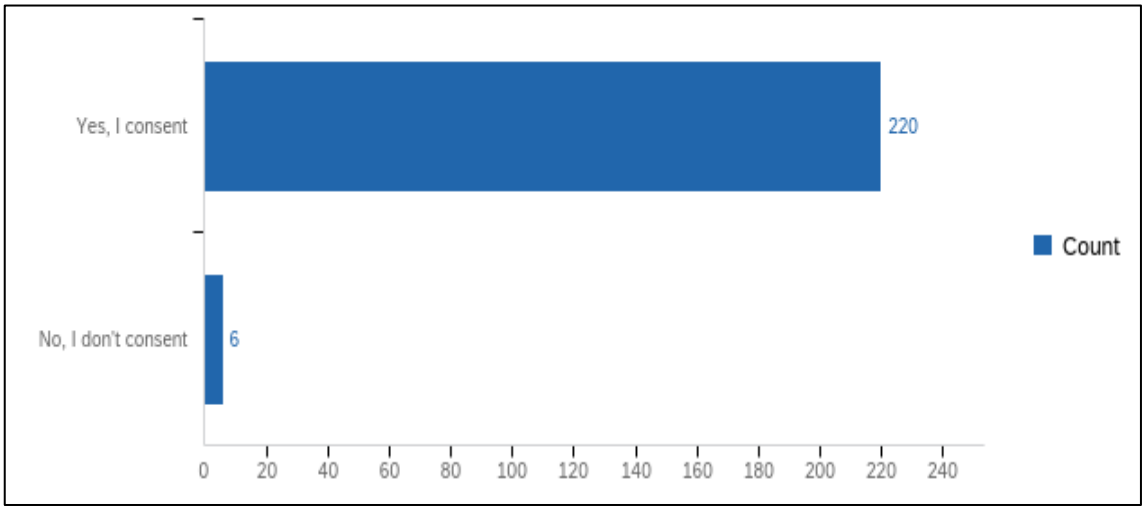


Figure 4.1: Distribution of the total number of responses

Source: Research Results (Qualtrics 2023).

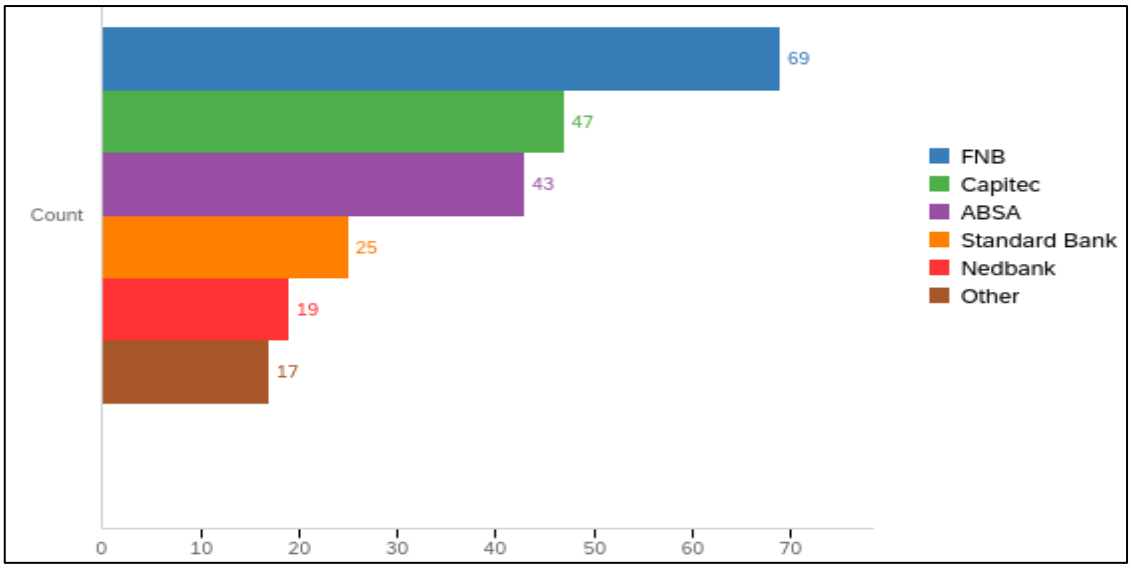


Figure 4.2: Number of Consent Respondents

Source: Research Results (Qualtrics 2023).

From a total of 220 responses, 17 respondents selected “Other”, which was excluded from this study. Figure 4.2 indicates which banks the respondents are currently using for their banking needs. A total of 203 (68%) responses are analysed in this study since the study only focuses on the respondents who bank with the big five banks in South Africa. Hair et al. (1998) suggested that a sample size between 100 to 200 is highly suitable where there is a population larger than 10000; therefore, a total of 203 respondents is adequate for this research.

4.3 Demographic profiling

The data from the demographic is presented and investigated in this chapter. Demographic data comprises of bank currently used, gender, age, ethnic groups, level of education, income level, and location (province in South Africa) as control variables. Demographic characteristics help to illuminate our

understanding of how their variations influence mobile banking adoption in the South African context.

4.3.1 *Proportion of respondents by Bank*

The respondents who use the big five banks in South Africa were analysed for this study, see Table 4.1. The results illustration that FNB has the highest number of respondents, which accounts for 34% of total respondents. Capitec was the second highest with 23.2% of total respondents, followed by ABSA with 21.2% of respondents, then Standard with 12.3% of total respondents and fewer respondents came from Nedbank, with 9.4% of total respondents.

The results of the study show that all 203 respondents have bank accounts, access to banking services, and have access to an internet connection. Therefore, this probably implies that respondents in this study are in ELSM 8 and higher.

Table 4.1: Banks used by Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FNB	69	34.0	34.0	34.0
	Capitec	47	23.2	23.2	57.1
	ABSA	43	21.2	21.2	78.3
	Standard Bank	25	12.3	12.3	90.6
	Nedbank	19	9.4	9.4	100.0
	Total	203	100.0	100.0	

Source: Research Results (SPSS 2023).

4.3.2 *Gender*

The gender profile in Table 4.2 indicates that most respondents were females, accounting for 66% of the total respondents. In comparison, males accounted for only 32% of the total respondents, and 2% of total respondents preferred not to disclose their gender.

Table 4.2: Gender of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	134	66.0	66.0	98.0
	Male	65	32.0	32.0	32.0
	Prefer not to say	4	2.0	2.0	100.0
	Total	203	100.0	100.0	

Source: Research Results (SPSS 2023).

4.3.3 Age

The percentage with the high score of respondents was between the ages of 36 and 46 years old, which accounts for 42.4% of total respondents, see Table 4.3. The second highest percentage was respondents between the ages 16 and 25 years, which accounts for 24.6% of respondents, followed by respondents between the ages of 26 and 35 years, which accounts for 21.2% of respondents which was followed by respondents between the ages of 47 and 59 years, accounting for 10.8% of respondents. Lastly, respondents who are 60 years and older only accounted for 1% of the respondents.

Table 4.3: Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16 – 25	50	24.6	24.6	24.6
	26 – 35	43	21.2	21.2	45.8
	36 – 46	86	42.4	42.4	88.2
	47 – 59	22	10.8	10.8	99.0
	60 +	2	1.0	1.0	100.0
	Total	203	100.0	100.0	

Source: Research Results (SPSS 2023).

4.3.4 *Ethnic Groups*

The highest percentage of respondents were Blacks, who accounted for 74.4% of the total respondents, followed by Whites, 9.9%, and then Indians, which accounted for 8.4%, see Table 4.4. Coloureds accounted for 5.4% of total respondents, and lastly, 2% of the respondents selected “Other” ethnic group. Since the ethnic group is a control variable, the respondents that selected “Other” ethnic group forms part of the data analysis.

Table 4.4: Representation of Respondents by Ethnic Groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Black	151	74.4	74.4	74.4
	White	20	9.9	9.9	84.2
	Indian	17	8.4	8.4	92.6
	Coloured	11	5.4	5.4	98.0
	Other	4	2.0	2.0	100.0
	Total	203	100.0	100.0	

Source: Research Results (SPSS 2023).

4.3.5 *Salary/Income*

As per Table 4.5, highest percentage of respondents (33.5%) earn less than R100 000 per annum, the second highest percentage (27.1%) of respondents earn greater than R600 000, followed by 16.7% of total respondents who earn between R250 001 and R400 000, followed by 12.8% of total respondents earning between R400 001 and R600 000 and lastly, 9.9% of respondents earn between R100 001 and R250 000 per annum.

The result of this study indicates that 56.6% of respondents earn more than R250 001 per annum. Therefore, 56.6% of respondents earn more than R20 8333 per month. The results probably suggests that respondents in this study are in ELSM 8 and higher.

Table 4.5: Salary/Income of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R0 – R100 000	68	33.5	33.5	33.5
	Greater than R600 000	55	27.1	27.1	60.6
	R250 001 – R400 000	34	16.7	16.7	77.3
	R 400 001 – R600 000	26	12.8	12.8	90.1
	R100 001 – R250 000	20	9.9	9.9	100.00
	Total	203	100.0	100.0	

Source: Research Results (SPSS 2023).

4.3.6 *Education*

From the 203 respondents who participated in the questionnaire survey, 32% of total respondents have a degree, followed by 21.2% of total respondents with a Diploma, followed by 17.7% of total respondents who obtained Matric certificate, followed by 13.3% of total respondents who obtained a Masters Degree, then 11.8% of total respondents have lower than matric certificate, see Table 4.6. At the same time, 3% of the total respondents have Doctorate Degrees, and 1% of the total respondents are Professors. The result of the study indicates that 70.5% of respondents have a Diploma and higher level of education.

Table 4.6: Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Degree	65	32.0	32.0	32.0
	Diploma	43	21.2	21.2	53.2
	Matric	36	17.7	17.7	70.9
	Masters	27	13.3	13.3	84.2
	Less than Matric	24	11.8	11.8	96.0
	Doctorate	6	3.0	3.0	99.0
	Professor	2	1.0	1.0	100.0
	Total	203	100.0	100.0	

Source: Research Results (SPSS 2023).

4.3.7 *Location (Province in South Africa)*

The majority of respondents who participated in the survey reside in Gauteng province, which accounts for 74.4%, as shown in Table 4.7 below. The second highest percentage of respondents reside in Limpopo with 12.3%, followed by KZN with 4.9% of respondents, followed by Mpumalanga with 3% of respondents, then 2.5% of respondents reside in Western Cape, 1.5% of respondents reside in Northern Cape, followed by Free State with 1% and the lowest percentage of respondents reside in Northwest with only 0.5% from the survey. The result of the study shows that 74.4% of respondents reside in Gauteng. Gauteng is also boastful as one of the most heavily urbanised provinces in the country. Therefore 74.4% of respondents fall within the urban and suburban areas in South Africa. This view implies that 74.4% of respondents are in the ELMS 8 or more group in terms of location.

Table 4.7: Participants per Province

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gauteng	151	74.4	74.4	74.4
	Limpopo	25	12.3	12.3	86.7
	KZN	10	4.9	4.9	91.6
	Mpumalanga	6	3.0	3.0	94.6
	Western Cape	5	2.5	2.5	97.1
	Northern Cape	3	1.5	1.5	98.6
	Free State	2	1.0	1.0	99.6
	Northwest	1	.5	.5	100.0
	Total	203	100.0	100.0	

Source: Research Results (SPSS 2023).

4.4 Reliability Testing

The internal consistency of the research instrument's items was assessed based on the criteria adopted from Cronbach alpha (Peters, 2014). The Cronbach alpha was statistically assessed to measure the degree to which identical answers could be achieved if the same questions were to be asked to the similar respondent's numerous times in the same circumstances (Peters, 2014).

The total measure of the dimensions of research instrument, namely Social Influence, Effort Expectancy, Utilitarian Performance, Hedonic Performance, Self-Efficacy, Facilitating Conditions, Attitude, Risk, Security, Trust was computed to test for reliability.

The Cronbach alpha value of (α = 0.870) for the 11 variables exceeded the acceptable (α = 0.7) scale of reliability score, Table 4.8. Therefore, the results of the overall Cronbach alpha coefficient are deemed dependable.

The Cronbach alpha value of each individual variable ranges from 0.848 to 0.902 (see Table 4.9), which still exceeded the acceptable (α = 0.7) scale of reliability score. Therefore, the result of the Cronbach alpha coefficient of each variable is deemed dependable.

Table 4.8: Overall Reliability Scale

Reliability Statistics	
Cronbach's Alpha	N of Items
.870	11

Source: Research Results (SPSS 2023).

Table 4.9: Scale Reliability of variables

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Social Influence	31.45	17.135	.105	.902
Effort Expectancy	30.61	15.733	.636	.856
Utilitarian Performance	30.63	16.008	.574	.860
Hedonic Performance	30.53	15.468	.694	.852
Self-Efficacy	30.71	14.916	.742	.848
Facilitating Conditions	31.01	15.001	.738	.848
Attitude	30.88	14.885	.724	.848
Risk	31.27	15.152	.547	.862
Security	30.93	15.717	.620	.857
Trust	31.07	15.247	.619	.856
Adoption of mobile banking	30.74	14.821	.610	.857

Source: Research Results (SPSS 2023).

4.5 Validity Testing

The suitability of the sampling research instrument was constructed on the Kaiser-Mayer-Olkin (KMO) measure of sampling criteria. The total results of statistical variables including mobile banking adoption by respondents who completed the survey, are presented in Table 4.10.

Table 4.10: Overall KMO scale

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.888
Bartlett's Test of Sphericity	Approx. Chi-Square	1218.564
	df	55
	Sig.	<.001

Source: Research Results (SPSS 2023).

The overall KOM score of (0.888) for the 11 variables exceeds the acceptable minimum KMO value of (0.600) score. Thus, indicating that KMO and Bartlett's test was statistically significant.

Table 4.11: Principal Component Analysis

Communalities		
	Initial	Extraction
Social Influence	1.000	.936
Effort Expectancy	1.000	.763
Utilitarian Performance	1.000	.699
Hedonic Performance	1.000	.717
Self-Efficacy	1.000	.757
Facilitating Conditions	1.000	.655
Attitude	1.000	.638
Risk	1.000	.736
Security	1.000	.766
Trust	1.000	.768
Adoption of mobile banking	1.000	.542
Extraction Method: Principal Component Analysis.		

Source: Research Results (SPSS 2023).

Communalities were also obtained using Principal Component Analysis. The desired factor for all variables ranges from 0.936 to 0.542, which is above the (0.300) expected factor. Therefore, this means that all the items measured were factorable, and Principal Component Factor was justified, as presented in Table 4.11 above.

4.6 Correlations for Control variables

The demographic profiling of the control variables was used to test the strength of the relationship between the dependent variable (mobile banking adoption) and control variables, namely the bank currently used by respondents, gender, age, ethnicity, salary, level of education and the province respondents reside. The summary of results is presented in Table 4.12.

Table 4.12: Correlations for control variables

Control Variables	Pearson Correlation Coefficient (r)	P-value
Bank currently used	-.108	.105
Gender	.054	.442
Age	.182**	.009
Ethnic group	-.021	.776
Salary/Income	.241**	<.001
Level of education	.222**	.001
Province	-.010	.887

* Significant at 95% confidence level

** Not significant at a 95% confidence level

Source: Research Results (SPSS 2023).

4.6.1 Bank currently used

Table 4.13 illustrates Pearson correlation coefficients (r) of (-0.108) which indicate a negative relationship between the bank currently used by the respondents and mobile banking adoption. The p-value of (0.125) shows the relationship was insignificant at the 95% confidence level.

Table 4.13: Correlation Test – Adoption of mobile banking and banks used

		Adoption of mobile banking	Bank currently used
Adoption of mobile banking	Pearson Correlation	1	-.108
	Sig. (2-tailed)		.125
	N	203	203
Bank currently used	Pearson Correlation	-.108	1
	Sig. (2-tailed)	.125	
	N	203	203

Source: Research Results (SPSS 2023).

4.6.2 Gender

Table 4.14 illustrates correlation coefficients (r) of (0.54) which indicate the relationship was positive between Gender and mobile banking adoption. The p-value of (0.442) shows the relationship was insignificant at the 95% confidence level.

Table 4.14: Correlation Test – Gender and Adoption of mobile banking

		Adoption of mobile banking	Gender
Adoption of mobile banking	Pearson Correlation	1	.054
	Sig. (2-tailed)		.442
	N	203	203
Gender	Pearson Correlation	.054	1
	Sig. (2-tailed)	.442	
	N	203	203

Source: Research Results (SPSS 2023).

4.6.3 Age

Table 4.15 illustrates Pearson correlation coefficients (0.182) indicating that Age was correlated positively to mobile banking adoption. The p-value is (0.009), indicating the relationship with the adoption of mobile banking was significant at a 95% confidence level.

Table 4.15: Correlation Test – Adoption of mobile banking and Age

		Adoption of mobile banking	Age
Adoption of mobile banking	Pearson Correlation	1	.182**
	Sig. (2-tailed)		.009
	N	203	203
Age	Pearson Correlation	.182**	1
	Sig. (2-tailed)	.009	
	N	203	203
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Research Results (SPSS 2023).

4.6.4 Ethnicity

Table 4.16 illustrates Pearson correlation coefficients (r) of (-0.021) which indicate the negative relationship between Ethnicity and mobile banking adoption. The p-value of (0.776) shows the relationship was insignificant at the 95% confidence level.

Table 4.16: Correlation Test –Adoption of mobile banking and Ethnicity

		Adoption of mobile banking	Ethnic group
Adoption of mobile banking	Pearson Correlation	1	-.021
	Sig. (2-tailed)		.766
	N	203	203
Ethnic group	Pearson Correlation	-.021	1
	Sig. (2-tailed)	.766	
	N	203	203

Source: Research Results (SPSS 2023).

4.6.5 Salary/Income

Table 4.17 illustrates Pearson correlation coefficients of (0.241) indicating that Salary/Income was correlated positively to mobile banking adoption, while the p-value (<0.001) indicates the relationship with adoption of mobile banking was significant at a 99% confidence level.

Table 4.17: Correlation Test – Adoption of mobile banking and Salary/Income

		Adoption of mobile banking	Salary per Annum
Adoption of mobile banking	Pearson Correlation	1	.241**
	Sig. (2-tailed)		<.001
	N	203	203
Salary per Annum (Before Tax)	Pearson Correlation	.241**	1
	Sig. (2-tailed)	<.001	
	N	203	203
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Research Results (SPSS 2023).

4.6.6 Level of Education

Table 4.18 illustrates Pearson correlation coefficients (0.222) indicating that the level of education was correlated positively to the adoption of mobile banking. The p-value (0.001) indicates the relationship of mobile banking adoption was significant at a 99% confidence level.

Table 4.18: Correlation Test – Adoption of mobile banking and Education

		Adoption of mobile banking	Level of education
Adoption of mobile banking	Pearson Correlation	1	.222**
	Sig. (2-tailed)		.001
	N	203	203
Level of education	Pearson Correlation	.222**	1
	Sig. (2-tailed)	.001	
	N	203	203
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Research Results (SPSS 2023).

4.6.7 Province

Table 4.19 illustrates correlation coefficients (r) of (-0.010) indicating a negative relationship between the Province respondents reside in and mobile banking adoption. The p-value of (0.887) indicates the relationship was insignificant at the 95% confidence level.

Table 4.19: Correlation Test – Adoption of mobile banking and Province

		Adoption of mobile banking	Province you stay in
Adoption of mobile banking	Pearson Correlation	1	-.010
	Sig. (2-tailed)		.887
	N	203	203
Province you stay in	Pearson Correlation	-.010	1
	Sig. (2-tailed)	.887	
	N	203	203

Source: Research Results (SPSS 2023).

4.7 Correlations for independent variables

Correlation coefficients were computed and achieved to acquire knowledge of the relationship between all variables in this study. The value (r) shows the strength of the relationship. The p-value of the correlation indicates the statistical significance between the independent and dependent variables (adoption of mobile banking), see Table 4.20 for a summary of the Pearson Correlation Analysis value.

Table 4.20: Summary of Pearson Correlation Analysis Value

Independent Variables	Pearson Correlation Coefficient (r)	P-value
Social Influence	.078	0.268
Effort Expectancy	.454**	<.001
Utilitarian Performance	.449**	<.001
Hedonic Performance	.565**	<.001
Self-Efficacy	.631**	<.001
Facilitating Conditions	.539**	<.001
Attitude	.521**	<.001
Risk	.356**	<.001
Security	.317**	<.001
Trust	.337**	<.001

* Significant at 95% confidence level

** Not significant at a 95% confidence level

Source: Research Results (SPSS 2023).

4.7.1 Social Influence

The positive Pearson correlation coefficient (0.078) indicates that Social Influence was correlated positively to mobile banking adoption. The positive correlation means as the value of social influence rises, the adoption of mobile

banking will go up. However, the p-value of (0.028) shows the relationship was insignificant at the 95% confidence level.

4.7.2 Effort Expectancy

The positive Pearson correlation coefficient (0.454) indicates that Effort Expectancy was correlated positively, despite the fact the p-value of (0.001), indicating the relationship to mobile banking adoption was significant at the 99% confidence level. The positive correlation means that when the adoption of mobile banking increases, Effort Expectancy will increase.

4.7.3 Utilitarian Performance

The positive Pearson correlation coefficient (0.449) indicates that Utilitarian Performance was correlated to mobile banking adoption, although the p-value (0.001) indicates the relationship between the adoption of mobile banking has significance at the 99% confidence level. The positive correlation means that when the adoption of mobile banking increases, Utilitarian Performance will increase.

4.7.4 Hedonic Performance

The positive Pearson correlation coefficient (0.565) indicates that Hedonic Performance was correlated positively to mobile banking adoption, although the p-value (0.001) indicates the relationship of the adoption of mobile banking was significant at the 99% confidence level. The positive correlation means that when the adoption of mobile banking increases, Hedonic Performance will increase.

4.7.5 Self-Efficacy

The positive Pearson correlation coefficient (0.631) indicate that Self-Efficacy was positively correlated to mobile banking adoption, although the p-value (0.001) indicates that the relationship was significant at the 99% confidence

level. The positive correlation means that when the adoption of mobile banking increases, Self-efficacy will increase.

4.7.6 Facilitating Conditions

The positive Pearson correlation coefficient (0.539) indicate that Facilitating Conditions was correlated positively to mobile banking adoption, although the p-value (0.001) indicates that the relationship of the adoption of mobile banking was significant at a 99% confidence level. The positive correlation means that when the adoption of mobile banking increases, Facilitating Conditions will increase.

4.7.7 Attitude

The positive Pearson correlation coefficient (0.521) indicate that Attitude was correlated positively to mobile banking adoption, although the p-value (0.001) indicates that the relationship of the adoption of mobile banking was significant at a 99% confidence level. The positive correlation means that when the adoption of mobile banking increases the Attitude of consumers to use the service will increase.

4.7.8 Risk

The positive Pearson correlation coefficient (0.356) indicate that Risk was correlated positively to mobile banking adoption, although the p-value (0.001) indicates the relationship between the adoption of mobile banking was significant at a 99% confidence level. The positive correlation means that when mobile banking adoption increases, Risk of using the service will increase.

4.7.9 Security

The positive Pearson correlation coefficient (0.317) indicate that Security was correlated positively to mobile banking adoption, even though the p-value (0.001) indicates the relationship between the adoption of mobile banking has

significance at a 99% confidence level. The positive correlation means that when mobile banking adoption increases, Security of using the service will increase.

4.7.10 Trust

The positive Pearson correlation coefficient (0.337) indicate that Trust was correlated positively to mobile banking adoption, whereas the p-value (0.001) indicates that the relationship between the adoption of mobile banking was significant at the 99% confidence level. The positive correlation means that when the adoption of mobile baking increases, Trust in using the service will increase.

4.8 Multiple Regression

Although Pearson correlation is suitable for examining a particular hypothesis, it lacks the method of examining the linked influence of all independent variables and its ranking. In this study, multiple regression was used to study the extent to which independent variables, namely Social Influence, Effort Expectancy, Utilitarian Performance, Hedonic Performance, Self-Efficacy, Facilitating Conditions, Attitude, Risk, Security and Trust, influence the mobile banking adoption in the South African framework.

Multiple regression was also used to test whether the independent variables accumulatively and significantly influence the mobile banking adoption to provide a significant interpretation of the ranking of the variables.

The results in Table 4.21 shows the ten (10) independent variables regressed on the adoption of mobile banking as the dependent variable using SPSS. The conventionally accepted level of statistical significance of $p<0.05$ is a measure that confirms if the level of significance supports the hypothesis. If not significant, the hypothesis will not be supported and therefore rejected.

Table 4.21: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.704[a]	.495	.469	.495	.495	18.854	10	192	<.001

a. Predictors: (Constant), Trust, Social Influence, Utilitarian Performance, Risk, Attitude, Facilitating Conditions, Hedonic Performance Security, Effort Expectancy, Self-Efficacy

b. Dependent Variable: Adoption of mobile banking

Source: Research Results (SPSS 2023).

Table 4.21 indicates correlation coefficient (R) using all the variables concurrently of 0.704. The (R square) is the percentage of the total distinction in the mobile banking adoption model which explains 0.495, indicating that this equation explains approximately 50% of the total variation.

All ten variables were considerable since they reported 50% of the adoption of mobile banking, meaning that all variables are considered necessary. The adjusted R square of 0.469 indicates that incorporating other independent variables in this equation would better predict the adoption of mobile banking.

Table 4.22 shows the F-statistical value of 18.854, indicating the equation is statistically significant (sig <.001) in clarifying the adoption of mobile banking. The regression using all ten predictor variables was thus highly significant at a 99% confidence level. Therefore, the regression model is fit for the overall prediction of the adoption of mobile banking well.

Table 4.22: ANOVA Analysis

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.163	10	4.616	18.854	<.001[b]
	Residual	47.010	192	.245		
	Total	93.172	202			

a. Dependent Variable: Adoption of mobile banking

b. Predictors: (Constant) Trust, Social Influence, Utilitarian Performance, Risk, Attitude, Facilitating Conditions, Hedonic Performance, Security, Effort Expectancy, Self-Efficacy

Source: Research Results (SPSS 2023).

Per Table 4.23, Self-Efficacy is the utmost central influencer variable in the adoption of mobile banking. Self-Efficacy is followed by Hedonic performance (0.209), Risk (0.160), Attitude (0.153), Facilitating conditions (0.146), Utilitarian Performance (0.092), Effort Expectancy (-0.169), Trust (-0.115), Security (-0.102) and Social Influence (-0.014).

Table 4.23: Multiple Regression Analysis

Coefficients[a]

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.239	.312		.767	.444	-.376	.853
	Social Influence	-.012	.045	-.014	-.260	.796	-.101	.078
	Effort Expectancy	-.232	.121	-.169	-1.914	.057	-.471	.007
	Utilitarian Performance	.128	.110	.092	1.169	.244	-.088	.345
	Hedonic Performance	.282	.109	.209	2.587	.010	.067	.496
	Self-Efficacy	.515	.108	.428	4.779	<.001	.302	.727
	Facilitating Conditions	.180	.094	.146	1.903	.059	-.007	.366
	Attitude	.178	.087	.153	2.058	.041	.007	.349
	Risk	.162	.073	.160	2.214	.028	.018	.306
	Security	-.136	.107	-.102	-1.271	.205	-.348	.075
	Trust	-.132	.093	-.115	-1.415	.159	-.316	.052

a. Dependent Variable: Adoption of mobile banking

Source: Research Results (SPSS 2023).

4.8.1 Social Influence

The negative Beta (β) value (-0.014) indicates that Social Influence was negatively correlated to mobile banking adoption. The negative strength means as the value of Social Influence increases, mobile banking adoption will decrease. The p-value of (0.796) shows the relationship was insignificant at the 95% confidence level.

4.8.2 Effort Expectancy

The negative Beta (β) value (-0.169) indicates that Effort Expectancy was correlated negatively to mobile banking adoption. The negative strength means that as Effort Expectancy's value increases, mobile banking adoption will decrease. The p-value of (0.057) shows the relationship was insignificant at the 95% confidence level.

4.8.3 Utilitarian Performance

The positive Beta (β) value (0.092) indicates that Utilitarian Performance was correlated positively to mobile banking adoption. The positive strength means as the value of Utilitarian Performance rises, mobile banking adoption also rises. However, the p-value of (0.244) shows the relationship was insignificant at the 95% confidence level.

4.8.4 Hedonic Performance

The positive Beta (β) value (0.209) indicates that Hedonic Performance was positively correlated. The positive strength means that as the value of Hedonic Performance rises, mobile banking adoption also rises, while the p-value (0.010) shows the relationship of the mobile banking adoption was significant at a 95% confidence level.

4.8.5 Self-Efficacy

The positive Beta (β) value (0.428) indicates that Self-Efficacy was correlated positively to mobile banking adoption. The positive strength means as the value of one variable rises, the mobile banking adoption also rises, while the p-value (<0.001) indicates that the relationship mobile banking adoption was significant at a 95% confidence level.

4.8.6 Facilitating Conditions

The positive Beta (β) value (0.146) indicates that Facilitating Conditions were correlated positively to mobile banking adoption. The positive strength means as the value of Facilitating Conditions rise, the mobile banking adoption also rise. However, the p-value of (0.059) shows the relationship was insignificant at the 95% confidence level.

4.8.7 Attitude

The positive Beta (β) value (0.153) indicates that Attitude was positively correlated to mobile banking adoption. The positive strength means as the value of Attitude rises, mobile banking adoption also rise. Although the p-value (0.041) indicates that the relationship of mobile banking adoption was significant at the 95% confidence level.

4.8.8 Risk

The positive Beta (β) value (0.160) indicates that Risk was positively correlated to mobile banking adoption. The positive strength means as the value increases, mobile banking adoption also increases. Although the p-value (0.028) shows that the relationship between mobile banking adoption was significant at the 95% confidence level.

4.8.9 Security

The negative Beta (β) value (-0.102) indicates that Security was negatively correlated to mobile banking adoption. The negative strength means as the value of Security increases, the adoption of mobile banking will decrease. The p-value of (0.205) shows the relationship was insignificant at the 95% confidence level.

4.8.10 Trust

The negative Beta (β) value (-0.115) indicates that Trust was correlated negatively to mobile banking adoption. The negative strength means that as Trust's value increases, mobile banking adoption will decrease. The p-value of (0.159) shows the relationship was insignificant at the 95% confidence level.

4.9 Summary of the hypothesis analysis

The conclusion on the hypotheses testing was based on the regression analysis as presented in Table 4.24

Table 4.24: Summary of Hypothesis Results

Hypotheses	Relationship	Influence	Results
H1	Influence of Social Influence on the adoption of mobile banking	Negative	Not supported
H2	Influence of Effort Expectancy on the adoption of mobile banking	Negative	Not supported
H3	Influence of Utilitarian Performance on the adoption of mobile banking	Positive	Not supported
H4	Influence of Hedonic Performance on the adoption of mobile banking	Positive	**Supported**

H5	Influence of Social Self-Efficacy on the adoption of mobile banking	Positive	**Supported**
H6	Influence of Facilitating conditions on the adoption of mobile banking	Positive	Not supported
H7	Influence of Attitude on the adoption of mobile banking	Positive	**Supported**
H8	Influence of Risk on the adoption of mobile banking	Positive	**Supported**
H9	Influence of Security on the adoption of mobile banking	Negative	Not supported
H10	Influence of Trust on the adoption of mobile banking	Negative	Not supported

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

The purpose of Chapter 5 is to provide the interpretation of the results that were presented in Chapter 4. This chapter outlines the study's objectives and discusses whether the findings are associated with mobile banking adoption.

There are two parts to these discussions; the first part looks at the demographic characteristics based on the results of the study. The second part is the discussion based on the objectives of the study, which looks at the hypothesis testing.

Chapter 2 literature indicates there are 103 million mobile connections in South Africa, equivalent to 158% of the total population, and 66 million of those mobile connections are smartphones (ICASA, 2022). This indicates that there is high adoption of mobile connection technology and usage. Phones especially mobile phones have transformed the way individuals connect and conduct business daily. Mobile devices and technologies are expected to remain ways in which individuals and businesses connect globally.

Despite South Africa having the highest penetration of mobile connections and a high number of bank account users, the adoption of mobile banking still lacks behind Kenya and Zimbabwe (Chigada & Hirschfelder, 2017). A study by Killian and Kabanda (2017) states that South Africa has also experienced a rise in middle-class citizens and better smartphone penetration which would have made the adoption more favourable.

5.2 Demographic Profiling

The critical factor of the survey was to guarantee that the sample was a good demonstrative of the citizens of South Africa. The data presented in Chapter 4 analysed the respondent's demographic profiling on banks respondents currently used, Gender, Age, Ethic group, Level of education, Income level, and Location (Province in South Africa). Demographic aspects are broadly proven to have a significant influence in consumer attitudes in mobile banking. The correlation test was done to examine if there is any relationship between the demographic profile of respondents and mobile banking adoption.

5.2.1 Bank currently used

The result of the study indicates that all 203 respondents have bank accounts, access to banking services, and have access to internet connection. Therefore, this probably implies that respondents in this study are in ELSM 8 and higher. Moreover, the results of this study revealed that the banks currently used by respondents have no influence on the mobile banking adoption. These findings suggest that mobile banking adoption is not reliant on the bank respondents' use. Therefore, it can be concluded that the bank currently used has no influence in the adoption of mobile banking. Another plausible explanation could be that all the big five banks in South Africa have adopted and offered their customers mobile banking service as a free basic service once the customer has a bank account. There was a study done (Thusi & Maduku, 2020) on the use of mobile banking in South Africa; however, the correlation test on the relationship of mobile banking adoption on the big five banks, namely FNB, ABSA, Standard Bank, Nedbank and Capitec was not done. There is no evidence that suggests that using a specific bank influences the mobile banking adoption in the South African context.

5.2.2 Gender

A study by Zhu et al. (2021) indicates there is a higher probability of women 9.2% to use mobile banking because women also manage income for their families, involving the use of bank accounts. Moreover, the result of the findings by Zhu et al. (2021) indicates the relationship between Gender and mobile banking adoption is significant. In this study, 66% of respondents were females, which is more than the female population representation in South Africa of more than 51%. Even though female respondents were very dominant in the survey, the findings of this study indicate that the relationship between Gender and mobile banking adoption is insignificant. This finding is supported by a study by Thusi and Maduku (2020), indicating that gender has no relationship to influence mobile banking adoption; therefore, the relationship is insignificant. Moreover, Gender has no impact in the context of ELMS in South Africa.

5.2.3 Age

A study by Zhu et al. (2021) indicates that age has an association with mobile banking adoption and significantly influence mobile banking adoption. The results of this study concur with prior research that age has a significant association with the adoption of mobile banking. A study by Thusi and Maduku (2020) shows that millenniums are more motivated to consume mobile banking if the benefits can be trusted and are known for their kinship with technology. Another plausible explanation is that because mobile banking is generally quick, convenient, and useful, millennials would consider the adoption of such technologies. Another study by Sulaiman and Jauhari (2021) reaffirms that age influences the attitudes and intentions towards the adoption of mobile banking. The result of this finding concurs with prior research mentioned above that age has a positive relationship and influences the adoption of mobile banking; therefore, the relationship is significant. However, Age has no impact in the context of ELMS in South Africa.

5.2.4 Ethnic group

South Africa is a diverse country with eleven official languages and different cultures. The population group in South Africa is generally categorised as Black African, Coloured, Indian, and White ethnic groups. Statistics South Africa (Stats SA) (2023) states that Black Africans contribute 81% of the South African population. In this study, the majority of respondents, 74.4%, were Black Africans, representing the South African population group. This study reveals that there is no relationship between ethnic or population groups and mobile banking adoption; therefore, the relationship is not significant. Moreover, Ethnic groups have no impact in the context of ELMS in South Africa.

5.2.5 Salary/Income

According to Stats SA (2023), 64% of youth between the age of 14 to 25 years are unemployed. Stats SA (2023) further states that 42.9% of youth between the age of 24–35 is unemployed. However, millennium between that age group is keen adopters of mobile banking even though the unemployment rate is rife in that age group. The result of this study shows that 33.5% of respondents earn between R0–R100 000 income per annum. Nevertheless, 57% of respondents' salary starts from R250 000 per annum, which falls within ELSM of 8–10 living in urban areas. The findings of this study state that Income has a significant influence on the adoption of mobile banking. Contrary to this finding, a study by Zhu et al. (2021) states that Income is insignificant on the adoption. Another study by Thusi and Maduku (2020) reaffirms the findings that income has no influence on the adoption of mobile banking.

5.2.6 Level of education

A study by Zhu et al. (2021) indicates that education level significantly impacts mobile banking adoption. It is frequently suggested that informed people are more accepting of new technology. This study's findings indicate that education level has a positive association and influences mobile banking adoption. This

study concurs with findings by Zhu et al. (2021) that the relationship between the level of education and the adoption of mobile banking is significant and influences the adoption of mobile banking. The finding could support the possible explanation that the majority of respondents, 71%, have a Diploma and a higher level of education. Another possible explanation could be that educated respondents can adopt mobile banking easily and the usefulness of education somewhat impacts ELMS groups mainly because some high level of education is required to access economic activities.

5.2.7 Province

Most respondents who participated in the survey reside in Gauteng province, which accounts for 74.4% of respondents. According to Stats SA (2023), Gauteng has the largest share of the South African population, with approximately 15,81 million people (26,3%) living in this province. Gauteng is also boastful as one of the most heavily urbanised provinces in the country. This study's result reveals a negative relationship between the province where the respondents reside and mobile banking adoption. The findings also reveals that the relationship between the province and mobile banking adoption is insignificant. Respondents residing in Gauteng, which is the deeply urbanised and with the largest share of the population is a good representation of the South African population that reside in urban areas. This view implies that most of the respondents fall within ELSM 8 and higher on this grouping in relation to the area or province they reside in.

5.3 Hypothesis Testing

Table 4.24 illustrates that from 10 hypotheses, there are six hypotheses that are rejected although some had a positive relationship with the adoption of mobile banking, nonetheless the p-value was insignificant.

5.3.1 Social Influence

Hypothesis 1: Social Influence has an influence on the adoption of mobile banking.

The negative coefficient (-0.014) show that social Influence is negatively correlated to mobile banking adoption. The p-value (0.796) indicates that the relationship was insignificant at the 95% confidence level. Consequently, this study suggests that Social Influence has no significant influence on the adoption of mobile banking. This finding is inconsistent with the propositions under the UTAUT model. Nonetheless, this finding also concurs with the study done by (Iskandar et al., 2020), indicating that Social Influence has no significance in the adoption of mobile banking. Other studies done by Boonsiritomachai and Pitchayadejanant (2017) and Khater (2022) reaffirm that Social Influence has no significance in the adoption of mobile banking. The study done by Thusi and Maduku (2020) on millennials also supports that Social Influence has no influence on the adoption generally because millennials are viewed as independent people thinkers, probably clarifying why views of others about mobile banking adoption may be inappropriate. This view could be supported since around 60% of respondents in this study are millennials between the ages of 23–39 years.

This study found Social Influence to have a negative relationship and insignificant in mobile banking adoption. Therefore, this hypothesis is rejected.

5.3.2 Effort Expectancy

Hypothesis 2: Effort Expectancy has an influence on the adoption of mobile banking.

The negative coefficient (-0.169) indicate that effort expectancy is negatively correlated to mobile banking adoption. The p-value (0.057) indicates that the relationship was insignificant at the 95% confidence level. Consequently, this

study suggests that Effort Expectancy has no significant on the adoption of mobile banking. This finding is inconsistent with the propositions under the UTAUT model. Subsequently, this study suggests that Effort Expectancy has a negative relationship to mobile banking adoption in this country. This finding is also aligned with studies done by other researchers (Boonsiritomachai & Pitchayadejanant, 2017; Iskandar et al., 2020; Thusi & Maduku, 2020), indicating that Effort Expectancy is insignificant and has no influence on the adoption of mobile banking. However, studies by Puspitosari and Hidayat (2020) and Khater (2022) differ from this finding and state that Effort Expectancy has significant influence in the adoption of mobile banking.

In this study, Effort Expectancy was found to have a negative relationship and was not significant in influencing the adoption of mobile banking. Therefore, this hypothesis is rejected.

5.3.3 Utilitarian Performance

Hypothesis 3: Utilitarian Performance has an influence on the adoption of mobile banking.

The positive coefficient (0.092) indicate that utilitarian Performance positively correlated with mobile banking adoption. The p-value (0.244) indicates the relationship between utilitarian Performance and mobile banking adoption was insignificant at the 95% confidence level. Therefore, this study suggests that Utilitarian Performance has a positive relationship and is insignificant to the adoption of mobile banking. This finding is not consistent with the propositions under UTAUT model. This finding differs from the study by Kamdjoug et al. (2021), indicating that Utilitarian Performance has significance in adopting mobile banking. A possible explanation for the positive correlation is that respondents understand the benefits of using mobile banking apps in terms of usefulness and practicality but believe it does not improve their job performance.

This study found Utilitarian Performance to have a positive relationship, however insignificant to influence the adoption of mobile banking. Therefore, this hypothesis is rejected.

5.3.4 Hedonic Performance

Hypothesis 4: Hedonic Performance has an influence on the adoption of mobile banking.

The positive coefficient (0.209) indicate that hedonic Performance was correlated positively to mobile banking adoption, while the p-value (0.010) indicates that the relationship of the adoption of mobile banking was significant at the 99% confidence level. Therefore, this study suggests that Hedonic Performance has a positive relationship and influences mobile banking adoption in the South African context. This finding is consistent with the propositions under the UTAUT model. This finding also concurs with the study by Iskandar et al. (2020), indicating that Hedonic Performance has significance in the adoption of mobile banking. A probable justification for the Influence is that mobile banking is used for convenience and would assess mobile banking for the enjoyment they gain from accessing mobile banking daily on a 24/7 basis. However, the study done by Thusi and Maduku (2020) differs from this finding and states that Hedonic Performance is not significant and has no influence on the adoption.

This study discovered Hedonic Performance to have a positive relationship and is has significance in influencing mobile banking the adoption. Therefore, this hypothesis is supported.

5.3.5 Self-Efficacy

Hypothesis 5: Self-Efficacy has an influence on the adoption of mobile banking.

The positive coefficient (0.428) indicate that self-efficacy was correlated positively to mobile banking adoption, while the p-value (<0.001) indicates that the relationship with mobile banking adoption was significant at the 95% confidence level. Therefore, this study suggests that Self-Efficacy has a relationship and influences the adoption of mobile banking. This finding is consistent with the propositions under the UTAUT model. This finding also concurs with the study by Boonsiritomachai and Pitchayadejanant (201,7), indicating that Self-Efficacy has significance mobile banking adoption. A possible explanation could be that most respondents fall within the Youth group and is of the view that mobile banking is easy to learn.

This study found Self-Efficacy to have a positive relationship and is significant in influencing the adoption of mobile banking. Therefore, this hypothesis is supported.

5.3.6 Facilitating Conditions

Hypothesis 6: Facilitating Conditions have an influence on the adoption of mobile banking.

The positive coefficient (0.146) indicates that facilitating conditions were correlated positively. The p-value (0.059) indicates the association with mobile banking adoption was insignificant at the 95% confidence level. Consequently, this study suggests that Facilitating Conditions have a relationship and have no influence on the adoption of mobile banking. This finding is not consistent with the propositions under UTAUT model. This finding concurs with the study by Thusi and Maduku (2020), indicating that Facilitating Conditions have no influence and insignificant in influencing mobile banking adoption. A plausible reason can be that customers believe the level of support is somewhat lacking in terms of Call Centre support being always available to assist in mobile banking queries, and further encouragement and support are required. This study's findings differ from other researchers (Alalwan et al., 2017;

Boonsiritomachai & Pitchayadejanant, 2017; Iskandar et al., 2020; Puspitosari & Hidayat, 2020), which indicated that Facilitating Condition has significance in mobile banking adoption.

The study found Facilitating conditions to have a positive relationship but not insignificant in influencing mobile banking adoption. Therefore, this hypothesis is rejected.

5.3.7 Attitude

Hypothesis 7: Attitude has an influence on the adoption of mobile banking.

The positive coefficient (0.153) indicate that Attitude was correlated positively to mobile banking adoption, although the p-value (0.041) indicates the relationship with mobile banking adoption was significant at the 95% confidence level. Thus, the study suggests that Attitude has a relationship and significantly influence mobile banking adoption. The finding of this study is consistent with the propositions under the UTAUT model. This finding also aligns with the study done by Hosseini et al. (2015), indicating that Attitude has significance in the mobile banking adoption. Another study done by Alzaidi (2022) reaffirms that Attitude significantly influences the use of mobile banking. Alzaidi (2022) further states that Attitude moderately facilitates the link between the research variables and the intention to adopt mobile banking.

This study found Attitude to have a positive relationship and significantly influence the adoption of mobile banking. Therefore, this hypothesis is supported.

5.3.8 Risk

Hypothesis 8: Risk has an influence on the adoption of mobile banking.

The positive coefficient (0.160) indicate that Risk was correlated positively although the p-value (0.028) indicates the relationship with mobile banking

adoption was significant at a 95% confidence level. Consequently, this study suggests that Risk has a relationship and significantly influence mobile banking adoption. The finding of this study is consistent with the propositions under UTAUT model. This finding also concurs with the prior studies by Nyoka (2018) and Thusi and Maduku (2020), indicating that Risk has significance to mobile banking adoption. Additionally, the findings by Iskandar et al. (2020) suggest Risk to be significant but has a negative relationship to mobile banking adoption. The negative correlation also means that as the value of one variable increases, those of the other will decrease.

This study found Risk to have a positive relationship and significantly influence the adoption of mobile banking. Therefore, this hypothesis is supported.

5.3.9 Security

Hypothesis 9: Security has an influence on the adoption of mobile banking.

The negative coefficient (-0.102) indicate that Security was correlated negatively to mobile banking adoption. The p-value (0.205) indicates the relationship between mobile banking adoption was insignificant at the 95% confidence level. Therefore, this study suggests that Security has no relationship and insignificantly influence mobile banking adoption. The finding of this study is inconsistent with the propositions under the UTAUT model. The result of this finding differs from the study by Jahan and Shahria (2022), which indicates that Security has an influence on the adoption of mobile banking.

This study found Security have a negative relationship and insignificant in influencing mobile banking adoption. Therefore, this hypothesis is rejected.

5.3.10 Trust

Hypothesis 10: Trust has an influence on the adoption of mobile banking.

The negative coefficient (-0.115) indicate that Trust was correlated negatively to mobile banking adoption. The p-value (0.159) indicates the relationship between mobile banking adoption is insignificant at the 95% confidence level. Therefore, this study indicates that Trust has no relationship and insignificantly influence mobile banking adoption. The result of this study is inconsistent with the propositions under the UTAUT model. The findings of this study differ from the study by Puspitosari and Hidayat (2020), which indicates Trust influences mobile banking adoption.

This study found Trust have a negative relationship and insignificant in influencing mobile banking adoption. Therefore, this hypothesis is rejected.

5.4 Conclusion

The demographic profiling of respondents in this study falls within ELSM 8 and higher groups in the South African context. Furthermore, Age, Income and Education have been found to be significant and influences the adoption of mobile banking.

The study assessed variables adopted from UTAUT model namely Social Influence, Effort Expectancy, Utilitarian Performance, Hedonic Performance, Self-Efficacy, Facilitating Conditions, Attitude, Risk, Security and Trust to determine whether these variables influence mobile banking adoption in relation to the LSM in the South African context. The study's findings suggest that only four variables Hedonic Performance, Self-Efficacy, Attitude and Risk are significant and influence mobile banking adoption in this country. Therefore, only four hypotheses are supported to have an influence in the mobile banking adoption.

The research findings suggest additional variables must be adapted to UTAUT model to fully understand the influence within the South African context.

CHAPTER 6. CONCLUSION

6.1 Introduction

The purpose of Chapter 6 is to conclude and give recommendations to the findings outlined in Chapter 5. The recommendations provide insights into the factors that influence mobile banking adoption in the South African context. The recommendations also indicate whether ELSM has any impact on the adoption of mobile banking. This section concludes by outlining the limitations presented by this study and proposals for future studies that further researchers can focus on within the field of study.

6.2 Empirical Implications

The objective was to provide a knowledge of the factors that influence mobile banking adoption in relation to the ELSM in South Africa. The study adopted the UTAUT model to determine whether the ten variables, namely Social Influence, Effort Expectancy, Utilitarian Performance Expectancy, Hedonic Performance Expectancy, Self-Efficacy, Facilitating Conditions, Attitude, Risk, Security and Trust, influence mobile banking adoption.

6.2.1 Social Influence

In the South African context, Social Influence has no significant influence on the adoption of mobile banking. Previous studies were done by Boonsiritomachai and Pitchayadejanant (2017), Iskandar et al. (2020), Thusi and Maduku (2020), and Khater (2022) support this view that Social Influence has no impact. Therefore, it can be concluded that more theories or variables must be considered to fully understand the influence of mobile banking within South Africa.

6.2.2 Effort Expectancy

Effort Expectancy has no influence and insignificantly impacts the adoption of mobile banking. The findings from other studies vary on this factor, however, a study by (Philile Thusi, 2020) done in South Africa supports the view that Effort Expectancy is not significant in influencing the adoption. Since both studies focussed on the South African context, its assumed that Effort Expectancy has no impact in the mobile banking adoption, especially in the South African context.

6.2.3 Utilitarian Performance

Utilitarian Performance has a positive relationship, however insignificant in influencing mobile banking adoption. Therefore, it can be concluded that some of the findings from this study are not consistent with the propositions of the UTAUT model. Additional theories or variables must be considered to fully understand the factors that influence mobile banking within the South African framework.

6.2.4 Hedonic Performance

Hedonic Performance has a positive relationship and significantly influences mobile banking adoption. A study done by (Philile Thusi, 2020) differs from this finding, however, it is accepted in the South African context that the finding is significant. This finding is consistent with the UTAUT model; therefore, it can be concluded that Hedonic Performance influences the adoption of mobile banking.

6.2.5 Self-Efficacy

Self-Efficacy has a positive relationship and significantly influences the adoption of mobile banking. This finding is consistent with the propositions under the UTAUT model. In the South African context, the finding of this study is accepted that Self-Efficacy significantly influences the adoption of mobile banking.

6.2.6 Facilitating Conditions

Facilitating Conditions have no influence and insignificantly impact mobile banking adoption. These results are inconsistent with the propositions under the UTAUT model. The South African context accepts the finding of this study that Facilitating Conditions insignificantly influence the adoption of mobile banking.

6.2.7 Attitude

Attitude has a positive relationship and significantly influences mobile banking adoption. The results also concur with prior studies by Hosseini (2015) and Alzaidi (2022), therefore, in the South African context the findings are accepted and significant. The finding is consistent with the UTAUT model; therefore, it can be concluded that Attitude influences the adoption of mobile banking.

6.2.8 Risk

Risk has a positive relationship and significantly influences mobile banking adoption. The results also concur with the prior studies by Nyoka (2018) and Thusi and Maduku (2020), therefore, in the South African framework the findings are accepted and significant. The finding is consistent with the UTAUT model; therefore, it can be concluded that Risk influences the adoption of mobile banking.

6.2.9 Security

Security has no influence and insignificantly impacts the adoption of mobile banking. The results are inconsistent with the propositions under the UTAUT model. The South African context accept the study finding that Security insignificantly influences the adoption of mobile banking.

6.2.10 Trust

Trust has no influence and insignificantly impacts the mobile banking adoption. The results are inconsistent with the propositions under the UTAUT model. The South African context accepts the study's finding that Trust insignificantly influences mobile banking adoption.

6.3 Summary of Key Findings

The findings of the study suggest that only four variables, namely Hedonic Performance, Self-Efficacy, Attitude and Risk, are significant and influence mobile banking adoption in the South African context. The other six variables were not significant to influence the adoption of mobile banking in the South Africa context. The findings from the study are not entirely consistent with the UTAUT model and suggest an updated model is required to further test mobile banking adoption.

The results showed that all respondents have a bank account in one of the big five banks in South Africa and have internet connection. The findings also show that 66.5% earn greater than R13 000 a month, which falls with ELMS 8 and higher and implies that they have access to better economic means of living. The majority of respondents (71%) have a Diploma and a higher level of education, which implies educated people can adopt mobile banking easily. Mobile banking users are known to be from the upper and lower middle class (Sulaiman & Jauhari, 2021). For this study, the upper-middle-class fall within the LSM 8 and higher categories who live in urban areas and have access to the internet and bank accounts.

The results suggest that Age, level of education and Salary/Income have a positive relationship and significantly influence the adoption of mobile banking.

The demographic profiling of respondents suggests that they fall within the ELSM 8 and higher grouping in the South African context.

6.4 Managerial and Policy Implications

6.4.1 Managerial Implications

The results can be embraced by the big five banks or other banks to influence the adoption and use of mobile banking. Banks should consider the effects of Hedonic Performance, Self- Efficacy, Attitude and Risk when designing their mobile banking products, which should help enhance the adoption in the South African context.

Self-Efficacy was found to be the most important factor that influences the adoption of mobile banking. Banks and designers of mobile banking products need to guarantee that mobile banking is simple to learn. Customer's confident in consuming mobile banking adapt easily to any changes in mobile banking platforms. Banks should consider ways to improve mobile banking adoption by educating users on how to use and be comfortable.

Banks must consider improving the advertising approach that should include training videos to show exactly how customer access and use mobile banking. FNB has been awarded two prestigious accolades: the best digital bank in South Africa and the best Mobile banking App in Africa (Tech Central, 2023). Other banks can do better by improving the mobile banking application user experience, and customers can find it easy to bank using their mobile banking platforms.

Banks should be mindful to mobile banking functionality as well as offer a 24-hour online support. Call centres that operate 24 hours will assist and support users since mobile banking can be done anytime, from anywhere. Furthermore,

banking institutions can also provide voice assistance prompts when customers open mobile banking applications to assist customers in transacting better on mobile banking platforms.

Banking institutions need to step up when it comes to risks associated with fraud. Banks need to improve on the timelines it takes to resolve fraud cases and reimburse the customers quickly if they want to alleviate customers' fears regarding banking fraud. Customers will be encouraged to consume mobile banking if Risk is minimal or can be evaded.

In this study, 88.2% of respondents are between the age of 16 years to 46 years. Banks must also be mindful that this generation is more engaged in technology than the older generation. Therefore, mobile banking needs to be designed in a way that appeals to the younger generation. A study by Thusi and Maduku (2020) suggest that millennials use mobile banking if they have the essential aids. Therefore, it is necessary for banks to offer support required to use banking apps efficiently.

6.4.2 Policy Implications

The government's plans to give free internet data to low-income South African as part of its efforts to drive telecommunication infrastructure have been going at a slow pace. This initiative needs to be fast-tracked to foster and encourage the use of new mobile technologies which will aid the use of technology.

The regulator should fast-track the non-expiry of data to ensure users do not lose data that potentially impact internet and the cost to connect to the internet. The impact in cost will render mobile connectivity to be costly and would exacerbate challenges in using and accessing mobile banking applications.

The government needs to consider facilitating digital and short money management courses at the high school level to encourage money-related activities and access to the digital world of possibilities. These learnings will encourage quick adaptability of new technologies in future. The more users are confident about the digital world and money-related activities, the fear of technology and the risk of fraud will be reduced significantly.

6.5 Areas for Future Research

Future research might explore if mobile banking adoption is significantly different in new digital banks in South Africa. The study can compare if the findings will share similar outcomes.

An additional future study might consider ELSM 7 and lower to explore the influence of mobile banking in those ELSM groups within the South African context. Related to the above proposal, future studies might extend the research and compare whether population groups in South Africa have any association or relationship to mobile banking adoption.

Alternative future research might compare whether provinces in South Africa share similar findings in terms of the adoption of mobile banking.

The results in this research will guide researchers to explore theoretical modifications to UTAUT model to improve its relevance in predicting the mobile banking adoption in developing countries.

6.6 Limitations of the study

The study used convenience sampling technique in the data collection method. The convenience sampling resulted in 74.4% of respondents residing in

Gauteng province. Although the research was focused in South Africa, the generalisation of these results should be taken in the context of the distribution of the respondents. Since Gauteng is the largest province in South Africa by population, however, does not render the results inconclusive.

Another limitation is that this study only focused on customers who are banking with the big five banks in South Africa, namely FNB, Standard Bank, ABSA, Nedbank and Capitec, and excluded other digital or fintech banks that operate in South Africa. In 2020, 79.2% of bank accounts were constituted by the big five banks in South Africa (Business Tech, 2021); therefore, does not render the results inconclusive.

Another limitation of this finding is inclined to ELSM 8 and higher. It does not represent ELSM 7 and lower because 74.4% of respondents reside in Gauteng, which is a widely urbanised area in South Africa. Additionally, 66.5% earn greater than R13 000 per month, which falls within ELMS 8 and higher. The generalisation of this study in terms of ELMS should be treated with the above context in mind.

Lastly, this research paid attention to ten variables using the UTAUT model; however, other external factors to the model might influence mobile banking adoption.

6.7 Conclusion

The results of the study contribute to the academic pool and adds to body of knowledge on mobile banking adoption based on ELSM in the South African context. There is a gap in literature that explores and explains the factors influencing mobile banking in relation to ELSM in the South Africa context. The researcher has contributed to literature by providing richer insights on the

understanding of the main factors that influence mobile banking adoption by ELSM segments in South African context.

The UTAUT theory was used in this study as a predictor of the adoption of mobile banking. The results provide evidence that the adapted model will be required in future studies. The results indicate that only four variables are significant in influencing the adoption of mobile banking. These results provide evidence that the findings can differ even in the same environment. In the South African context, Hedonic Performance, Self-Efficacy, Attitude and Trust should be considered as main factors that influence mobile banking adoption.

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List of Appendices

Appendix A: The participant information sheet

University of the Witwatersrand

Faculty of Commerce, Law and Management

Wits Business School

Participant Information Sheet

26 February 2023

Dear Potential Research Respondent

My name is Thobeng Choeu, and I am currently enrolled as a Master's student at the Wits Business School. As part of the requirements for my degree, I am required to submit a research report on a particular topic.

I am conducting a research project which assesses the factors that influence mobile banking adoption in this country. The study aims to better understand what factors influence individuals with bank accounts to adopt or not adopt mobile banking.

I am requesting that you participate in my research. Kindly complete all questions in the questionnaire at the link below. Completing this questionnaire will be considered consent to participate in this study. The duration to complete the questionnaire is 8 minutes. Please note that there are no wrong or right answers.

Please note that your participation is voluntary, and you have the right to

refuse to participate or withdraw. Your responses will be for this research purpose only and will be completely confidential and anonymous.

Your participation will be greatly appreciated.

Researcher: Thobeng Choeu

2507614@students.wits.ac.za

Supervisor: Dr Chiedza Ndlovu

Tjedza.mathiya@gmail.com

Appendix B: Participant agreement form

Participants Consent Form

The factors influencing the adoption of mobile banking in South Africa

Researcher: Thobeng Choeu

Dear Potential Research Respondent

Please note your participation is voluntary, as you have the right to refuse to participate or withdraw. Your responses will be for this research purpose only and will be completely confidential and anonymous.

The consent is included in the participation information sheet. The respondent had to confirm whether to proceed or not proceed with the survey.

Appendix C: Research instrument

SURVEY QUESTIONNAIRE

Section 1: Mark with an X for each question

Q1 Which bank are you currently banking with?

FNB	
Capitec	
ABSA	
Standard Bank	
Nedbank	
Other	

Q2 What is your gender?

Male	
Female	
I cannot say	

Q3 What is your age?

16 – 25	
26 – 35	
36 – 46	
47 – 59	
60 +	

Q4 What is your ethnic group?

Black	
White	
Indian	
Coloured	
Other	

Q5 What is your Salary per Annum (Before Tax)?

R0 – R100 000	
R100 001 – R250 000	
R250 001 – R400 000	
R400 001 – R600 000	
Greater than R600 000	

Q6 What is your highest level of education?

Less than Matric	
Matric	
Diploma	
Degree	
Masters	
Doctorate	
Professor	

Q7 What Province do you stay in?

Gauteng	
Limpopo	
Mpumalanga	
KZN	
Northwest	
Free State	
Eastern Cape	
Northern Cape	
Western Cape	

Section 2:

QUESTIONS		1 Strongly Disagree	2 Disagree	3 Agree	4 Strongly Agree
Social Influence					
Q8	My peers influenced my behaviour to use mobile banking.				
Q9	People whose opinions I value prefer I use mobile banking.				
Effort Expectancy					
Q10	Learning to use a mobile banking application was easy.				
Q11	Using mobile banking makes it easier to do transactions.				
Q12	I find mobile banking useful in conducting my banking transactions.				
Utilitarian Performance Expectancy					
Q13	Using mobile banking improves my productivity.				
Q14	Using mobile banking enables me to perform transactions more quickly.				
Q15	Mobile banking helps me to do banking anytime.				
Hedonic Performance					
Q16	I am comfortable to use mobile banking				
Q17	I enjoy using mobile banking more than going to the bank.				
Q18	I enjoy using mobile banking because it is convenient.				
Self-Efficacy					
Q19	I believe mobile banking is easy to learn.				
Q20	I am confident in using mobile banking services.				
Q21	I can adapt to changes in mobile banking.				

Facilitating Conditions					
Q22	I have the necessary knowledge to use online banking services.				
Q23	The call centre is available to assist me with mobile banking difficulties.				
Q24	The mobile banking Application is always working.				
Use or adoption of mobile banking					
Q25	I always use mobile banking when it comes to my banking needs.				
Attitude					
Q26	I have a positive feeling towards mobile banking.				
Q27	Mobile banking is always reliable.				
Risk					
Q28	I found using mobile banking applications not risky.				
Q29	I believe that mobile application providers manage all risks associated with the Apps.				
Security					
Q30	I find mobile banking secure when banking.				
Q31	My mobile banking login details are protected.				
Q32	My mobile banking transactions are secured.				
Trust					
Q33	I trust bank mobile application providers.				
Q34	I believe the information that is stored on mobile banking applications is safe.				
Q35	I trust my money is safe when using mobile banking.				

Appendix D: Ethics Approval

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

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

Ethics Clearance Certificate

Ethics protocol number:	WBS/DB2507614/837

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

Project title	The factors impacting the adoption of mobile banking in South Africa
Investigator / Researcher	Mrs Thobeng Choeu
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.
Issue Date of Certificate	2023-01-25
Expiry date	Date of submission of the project / research report
Chairperson	Dr Pius Oba ☎ +27 11 717 3976 +27 82 733 6587 ✉ pius.oba@wits.ac.za

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Declaration by Researcher

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

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

Signature

28 March 2023
Date:

Appendix E: Study Consistency Matrix

RQ #	Research Objective	HYP	Hypothesis	Data collection detail	Authors
1	To determine whether Social Influence has an influence on the mobile banking adoption.	1	Social Influence has an influence on the adoption of mobile banking.	Questions 8 & 9	Adapted from UTAUT framework (Venkatesh et al., 2003; Venkatesh et al., 2012)
2	To determine whether Effort Expectancy has an influence on the mobile banking adoption.	2	Effort Expectancy has a positive influence on the adoption of mobile banking.	Questions 10, 11 & 12	
3	To determine whether Utilitarian Performance Expectancy has an influence on the mobile banking adoption.	3	Utilitarian Performance Expectancy has a positive influence on the adoption of mobile banking.	Questions 13, 14 & 15	
4	To determine whether Hedonic Performance Expectancy has an influence on the mobile banking adoption	4	Hedonic Performance Expectancy has a positive influence on the adoption of mobile banking	Questions 16, 17 & 18	
5	To determine whether Self Efficacy has an influence on the mobile banking adoption.	5	Self-Efficacy has a positive influence on the adoption of mobile banking.	Questions 19, 20 & 21	

6	To determine whether Facilitating Conditions have an influence on the mobile banking adoption.	6	Facilitating Conditions have a positive influence on the adoption of mobile banking.	Questions 22, 23 & 24	Adapted from UTAUT framework (Venkatesh et al., 2003; Venkatesh et al., 2012)
7	To determine whether Attitude has an influence on the mobile banking adoption.	7	Attitude has a positive influence on the adoption of mobile banking.	Questions 25, 26 & 27	
8	To determine whether Risk has an influence on the mobile banking adoption.	8	Perceived Risk has a negative impact on the adoption of mobile banking	Questions 23 & 24	
9	To determine whether Security has an influence on the mobile banking adoption	9	Security has a positive impact on the adoption of mobile banking	Questions 26 & 27	
10	To determine whether Trust has an influence on the mobile banking adoption.	10	Perceived Trust has a positive impact on the adoption of mobile banking	Questions 28 & 30	

Appendix F: Frequencies

Bank currently used

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FNB	69	34.0	34.0	34.0
	Capitec	47	23.2	23.2	57.1
	ABSA	43	21.2	21.2	78.3
	Standard Bank	25	12.3	12.3	90.6
	Nedbank	19	9.4	9.4	100.0
	Total	203	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	65	32.0	32.0	32.0
	Female	134	66.0	66.0	98.0
	Prefer not to say	4	2.0	2.0	100.0
	Total	203	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16 – 25	50	24.6	24.6	24.6
	26 – 35	43	21.2	21.2	45.8
	36 – 46	86	42.4	42.4	88.2

	47 – 59	22	10.8	10.8	99.0
	60 +	2	1.0	1.0	100.0
	Total	203	100.0	100.0	

Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Black	151	74.4	74.4	74.4
	White	20	9.9	9.9	84.2
	Indian	17	8.4	8.4	92.6
	Coloured	11	5.4	5.4	98.0
	Other	4	2.0	2.0	100.0
	Total	203	100.0	100.0	

Salary per Annum (Before Tax)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R0 – R100 000	68	33.5	33.5	33.5
	R100 001 – R250 000	20	9.9	9.9	43.3
	R250 001 – R400 000	34	16.7	16.7	60.1
	R 400 001 – R600 000	26	12.8	12.8	72.9
	Greater than R600 000	55	27.1	27.1	100.0
	Total	203	100.0	100.0	

Level of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than Matric	24	11.8	11.8	11.8
	Matric	36	17.7	17.7	29.6
	Diploma	43	21.2	21.2	50.7
	Degree	65	32.0	32.0	82.8
	Masters	27	13.3	13.3	96.1
	Doctorate	6	3.0	3.0	99.0
	Professor	2	1.0	1.0	100.0
	Total	203	100.0	100.0	

Province

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gauteng	151	74.4	74.4	74.4
	Limpopo	25	12.3	12.3	86.7
	Mpumalanga	6	3.0	3.0	89.7
	KZN	10	4.9	4.9	94.6
	Northwest	1	.5	.5	95.1
	Western Cape	5	2.5	2.5	97.5
	Northern Cape	3	1.5	1.5	99.0
	Free State	2	1.0	1.0	100.0
	Total	203	100.0	100.0	

Appendix G: Reliability Statistics

Case Processing Summary

		N	%
Cases	Valid	203	100.0
	Excluded[a]	0	.0
	Total	203	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.870	11

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Social Influence	31.45	17.135	.105	.902
Effort Expectancy	30.61	15.733	.636	.856
Utilitarian Performance	30.63	16.008	.574	.860
Hedonic Performance	30.53	15.468	.694	.852
Self-Efficacy	30.71	14.916	.742	.848
Facilitating Conditions	31.01	15.001	.738	.848
Attitude	30.88	14.885	.724	.848

Risk	31.27	15.152	.547	.862
Security	30.93	15.717	.620	.857
Trust	31.07	15.247	.619	.856
Adoption of mobile banking	30.74	14.821	.610	.857

Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.888
Bartlett's Test of Sphericity	Approx. Chi-Square	1218.564
	df	55
	Sig.	<.001

Communalities

	Initial	Extraction
Social Influence	1.000	.936
Effort Expectancy	1.000	.763
Utilitarian Performance	1.000	.699
Hedonic Performance	1.000	.717
Self-Efficacy	1.000	.757
Facilitating Conditions	1.000	.655
Attitude	1.000	.638
Risk	1.000	.736

Security	1.000	.766
Trust	1.000	.768
Adoption of mobile banking	1.000	.542

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.474	49.761	49.761	5.474	49.761	49.761
2	1.470	13.366	63.127	1.470	13.366	63.127
3	1.034	9.398	72.525	1.034	9.398	72.525
4	.643	5.846	78.371			
5	.459	4.175	82.546			
6	.434	3.943	86.489			
7	.406	3.692	90.181			
8	.329	2.991	93.172			
9	.316	2.871	96.043			
10	.247	2.244	98.288			
11	.188	1.712	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component		
	1	2	3
Social Influence	.122	.213	.936
Effort Expectancy	.749	-.449	.014
Utilitarian Performance	.700	-.447	-.090
Hedonic Performance	.793	-.295	-.022
Self-Efficacy	.832	-.253	.036
Facilitating Conditions	.794	.086	.129
Attitude	.786	.115	.084
Risk	.606	.607	-.018
Security	.690	.496	-.211
Trust	.706	.455	-.250
Adoption of mobile banking	.704	-.173	.129

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Appendix H: Correlations

Correlations

		Adoption of mobile banking	Bank currently used
Adoption of mobile banking	Pearson Correlation	1	-.108
	Sig. (2-tailed)		.125
	N	203	203
Bank currently used	Pearson Correlation	-.108	1
	Sig. (2-tailed)	.125	
	N	203	203

Confidence Intervals

	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed)[a]	
			Lower	Upper
Adoption of mobile banking - Bank currently used	-.108	.125	-.242	.030

a. Estimation is based on Fisher's r-to-z transformation.

Correlations

		Adoption of mobile banking	Gender
Adoption of mobile banking	Pearson Correlation	1	.054
	Sig. (2-tailed)		.442
	N	203	203

Gender	Pearson Correlation	.054	1
	Sig. (2-tailed)	.442	
	N	203	203

Confidence Intervals

	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed)[a]	
			Lower	Upper
Adoption of mobile banking - Gender	.054	.442	-.084	.190

a. Estimation is based on Fisher's r-to-z transformation.

Correlations

		Adoption of mobile banking	Age
Adoption of mobile banking	Pearson Correlation	1	.182**
	Sig. (2-tailed)		.009
	N	203	203
Age	Pearson Correlation	.182**	1
	Sig. (2-tailed)	.009	
	N	203	203

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

Confidence Intervals

	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed)[a]	
			Lower	Upper
Adoption of mobile banking - Age	.182	.009	.046	.312

a. Estimation is based on Fisher's r-to-z transformation.

Correlations

		Adoption of mobile banking	Ethnic
Adoption of mobile banking	Pearson Correlation	1	-.021
	Sig. (2-tailed)		.766
	N	203	203
Ethnic group	Pearson Correlation	-.021	1
	Sig. (2-tailed)	.766	
	N	203	203

Confidence Intervals

	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed)[a]	
			Lower	Upper
Adoption of mobile banking - Ethnic group	-.021	.766	-.158	.117

a. Estimation is based on Fisher's r-to-z transformation.

Correlations

		Adoption of mobile banking	Salary per Annum (Before Tax)?
Adoption of mobile banking	Pearson Correlation	1	.241**
	Sig. (2-tailed)		<.001
	N	203	203
Salary per Annum (Before Tax)	Pearson Correlation	.241**	1
	Sig. (2-tailed)	<.001	
	N	203	203

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

Confidence Intervals

	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed)[a]	
			Lower	Upper
Adoption of mobile banking - Salary per Annum (Before Tax)	.241	<.001	.107	.366

a. Estimation is based on Fisher's r-to-z transformation.

Correlations

		Adoption of mobile banking	Level of education
Adoption of mobile banking	Pearson Correlation	1	.222**
	Sig. (2-tailed)		.001
	N	203	203

Level of education	Pearson Correlation	.222**	1
	Sig. (2-tailed)	.001	
	N	203	203

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

Confidence Intervals

	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed)[a]	
			Lower	Upper
Adoption of mobile banking - Level of education	.222	.001	.086	.349

a. Estimation is based on Fisher's r-to-z transformation.

Correlations

		Adoption of mobile banking	Province
Adoption of mobile banking	Pearson Correlation	1	-.010
	Sig. (2-tailed)		.887
	N	203	203
Province	Pearson Correlation	-.010	1
	Sig. (2-tailed)	.887	
	N	203	203

Confidence Intervals

	Pearson Correlation	Sig. (2-tailed)	95% Confidence Intervals (2-tailed)[a]	
			Lower	Upper
Adoption of mobile banking - Province	-.010	.887	-.148	.128

a. Estimation is based on Fisher's r-to-z transformation.

Correlations

		Adoption of mobile banking	Social Influence
Adoption of mobile banking	Pearson Correlation	1	.078
	Sig. (2-tailed)		.268
	N	203	203
Social Influence	Pearson Correlation	.078	1
	Sig. (2-tailed)	.268	
	N	203	203

Correlations

		Adoption of mobile banking	Utilitarian Performance
Adoption of mobile banking	Pearson Correlation	1	.449**
	Sig. (2-tailed)		<.001
	N	203	203

Utilitarian Performance	Pearson Correlation	.449**	1
	Sig. (2-tailed)	<.001	
	N	203	203

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

Correlations

		Adoption of mobile banking	Hedonic Performance
Adoption of mobile banking	Pearson Correlation	1	.565**
	Sig. (2-tailed)		<.001
	N	203	203
Hedonic Performance	Pearson Correlation	.565**	1
	Sig. (2-tailed)	<.001	
	N	203	203

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

Correlations

		Adoption of mobile banking	Self-Efficacy
Adoption of mobile banking	Pearson Correlation	1	.631**
	Sig. (2-tailed)		<.001
	N	203	203
Self-Efficacy	Pearson Correlation	.631**	1
	Sig. (2-tailed)	<.001	
	N	203	203

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

Correlations

		Adoption of mobile banking	Facilitating Conditions
Adoption of mobile banking	Pearson Correlation	1	.539**
	Sig. (2-tailed)		<.001
	N	203	203
Facilitating Conditions	Pearson Correlation	.539**	1
	Sig. (2-tailed)	<.001	
	N	203	203

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

Correlations

		Adoption of mobile banking	Attitude
Adoption of mobile banking	Pearson Correlation	1	.521**
	Sig. (2-tailed)		<.001
	N	203	203
Attitude	Pearson Correlation	.521**	1
	Sig. (2-tailed)	<.001	
	N	203	203

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

Correlations

		Adoption of mobile banking	Risk
Adoption of mobile banking	Pearson Correlation	1	.356**
	Sig. (2-tailed)		<.001
	N	203	203
Risk	Pearson Correlation	.356**	1
	Sig. (2-tailed)	<.001	
	N	203	203

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

Correlations

		Adoption of mobile banking	Security
Adoption of mobile banking	Pearson Correlation	1	.317**
	Sig. (2-tailed)		<.001
	N	203	203
Security	Pearson Correlation	.317**	1
	Sig. (2-tailed)	<.001	
	N	203	203

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

Appendix I: Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Trust, Social Influence, Utilitarian Performance, Risk, Attitude, Facilitating Conditions, Hedonic Performance, Security, Effort Expectancy Self-Efficacy[b]	.	Enter

a. Dependent Variable: Use or have adopted mobile banking when it comes to banking needs

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.704[a]	.495	.469	.495	.495	18.854	10	192	<.001

a. Predictors: (Constant), Trust, Social Influence, Utilitarian Performance, Risk, Attitude, Facilitating Conditions Hedonic Performance, Security, Effort Expectancy, Self-Efficacy

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.163	10	4.616	18.854	<.001[b]
	Residual	47.010	192	.245		
	Total	93.172	202			

a. Dependent Variable: Adoption of mobile banking

b. Predictors: (Constant), Trust, Social Influence, Utilitarian Performance, Risk, Attitude, Facilitating Conditions, Hedonic Performance, Security, Effort Expectancy, Self-Efficacy

Coefficients[a]

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.239	.312		.767	.444	-.376	.853
	Social Influence	-.012	.045	-.014	-.260	.796	-.101	.078
	Effort Expectancy	-.232	.121	-.169	-1.914	.057	-.471	.007
	Utilitarian Performance	.128	.110	.092	1.169	.244	-.088	.345
	Hedonic Performance	.282	.109	.209	2.587	.010	.067	.496
	Self-Efficacy	.515	.108	.428	4.779	<.001	.302	.727
	Facilitating Conditions	.180	.094	.146	1.903	.059	-.007	.366
	Attitude	.178	.087	.153	2.058	.041	.007	.349
	Risk	.162	.073	.160	2.214	.028	.018	.306
	Security	-.136	.107	-.102	-1.271	.205	-.348	.075
	Trust	-.132	.093	-.115	-1.415	.159	-.316	.052

a. Dependent Variable: Use or have adopted mobile banking when it comes to banking needs