Employees' Perceptions and Attitudes on technological adoption in the banking sector

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business

Johannesburg, 2023

ABSTRACT

The prediction of technology adoption within the financial services, specifically at Absa Bank Retail and Business Banking, will help the research study understand the adoption level and aims to make recommendations to the executive c-suite level as to what to do to improve adoption. The study sought to further understand employees' perceptions and attitudes toward technological adoption and the underlying external factors influencing their behaviour.

Examines employees' perceptions and attitudes toward technological adoption and the underlying external factors influencing it. An online quantitative survey was used to collect data among the retail and Business Banking business unit population. A convenience sampling method was used. The data was analysed using the SPSS statistical tool and the Chi-Square test to evaluate the independent and dependent variables as well as the Kendall Tau C coefficient to measure the ordinal and dependent variables.

Based on the three predictors Behavioural Expectancy (BE), Facilitating Conditions (FC) and Behavioural Intention (BI), the hypotheses were tested using a total of n=120 respondents which represent 10% of the population of people working in the Retail and Business Banking business unit. The approach taken was using the Unified Theory of Acceptance and Use of Technology (UTAUT) to conceptualise the predictions.

The overall Cronbach reliability test suggests a very strong consistency for Behavioural Expectancy (BE) with an overall alpha of 87%, whilst the results for Facilitating Conditions (FC) were 46% and Behavioural Intention (BI) 49%, indicating a very low consistency.

The study indicates that employees are constantly looking for ways to further advance their knowledge and skills. The sense of belonging to something bigger and being part of a learning organisation is evident, and the more intensive technology is used, the easier the adoption.

DECLARATION

I, Ashley Carolissen hereby declare that the research study on employees' perceptions and attitudes on technological adoption and adoption in the banking sector is my work.

The research study has not been submitted to any other university or higher education institution for any diploma or degree.

The research study is submitted in fulfilment of the requirements for the award of the Degree of master's in management at the Wits Business School, University of Witwatersrand, Johannesburg, South Africa.

I further hereby declare all references made to all sources and resources used as part of the research study have been properly acknowledged.

Ashley Carolissen

Signed at ……

On the ……... day of …… 2023

ACKNOWLEDGEMENT

I would like to extend my heartfelt gratitude to Ms Ayanda Madiga for constantly believing in me and her guidance has been instrumental as part of my research and learnings.

She is a remarkable person and leader who inspired me to be the best version of myself and her positive criticism helped me to produce this research study.

I thank Professor Brian Armstrong for the motivation intellectual knowledge and wisdom across various sectors and you have been an anchor helping to shape my future.

My gratitude goes to Ms Senteni Nsibande and Mrs Jennifer Mgolodela for all your support and assistance with the academic guidelines. You have gone beyond her duties to ensure I get the necessary help.

To my family for keeping up with me throughout my studies and missing family events, you are my pillar of support when I needed it most.

To the Absa ambassadors who made it possible for me to venture on this journey and helped me with the financial aid and support to achieve my dream and goal.

Lastly, I would like to thank the Almighty for constantly showing me the light and guiding me when I felt most lost.

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Table 1-0-1: List of acronyms

AI	Artificial Intelligence
FoW	Future of Work
HelloMoney	Digital platform solution used to transact using smart devices
ML	Machine Learning
RBB	Retail and Business Bank
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UTAUT	Unified Theory of Acceptance and Use of Technology

CHAPTER 1. INTRODUCTION

The chapter outlines the purpose of the study and its importance related to the research objectives, creating the research's foundation. It includes the background of the research problem, its objective, and the rationale related to the study. It is followed by the study's delimitations and some key terminology and assumptions ending with the chapter outline.

1.1 Statement of purpose

This quantitative study aims to understand employees' perceptions and attitudes on technological adoption within South African banking in the case of Absa Bank Retail and Business Banking within Gauteng.

1.2 Background of the study

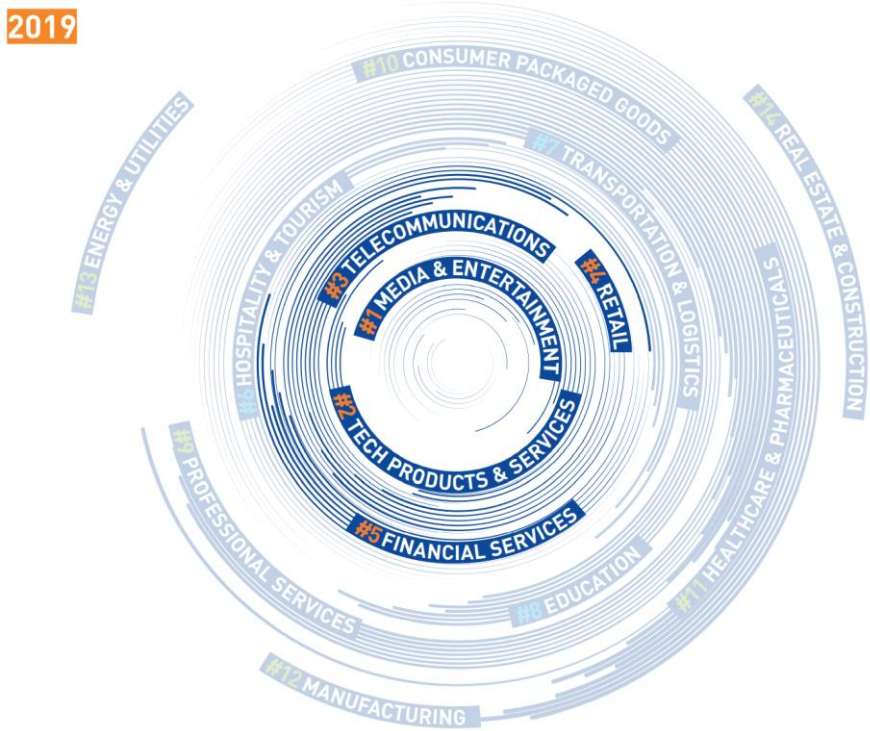
South African financial services have seen a shift in greater uptake in technological adoption through demands set on consumer behaviour and how they are constantly evolving. The banking industry had to adopt a faster adoption of newer technologies and how they service the demands of customers to provide banking services that are available 24 x 7. The South African banking sector has seen a major shift in more clients making use of digital banking platforms to perform day-to-day banking transactions and a major shift to online e-commerce purchases (Dauda & Lee, 2015). The dependency on online banking resulted in many retail branches optimising office space and in doing so, the closure of physical branches resulted in many of the business processes being automated(Aversa et al., 2022).

The future of work (FoW) remains a constant uncertainty and the industries that will be most impacted in this digital economy of the financial sector (Rainnie & Dean, 2020), and this has been noticeable since the start of the Fourth Industrial Revolution. The emergence of Artificial Intelligence (AI) and Machine Learning (ML) will see even more jobs being digitalised (Torkelson, 2020) and the reduction of cash transfer through new market entrants such as "HelloMoney" enables consumers to seemingly transfer funds using smartphones will see even more jobs have been displaced.

Although their products and services have been digitised to an extent, financial services are constantly facing tension due to new technological adoptions and new entrants (Wade & Macaulay, 2022). The future of banking and how we transact are also evolving and certain

job roles will be replaced with new job roles through the adoption of technology. The concept of technology adoption within the banking industry has changed how consumers do banking, the migration to mobile and digital banking platforms, and the increased use of artificial intelligence and machine learning. Financial services are constantly impacted by technological adoption, and the ability to adapt to macro-environment changes puts financial services at risk (Wade & Macaulay, 2022). The adoption of new approaches and technologies to stay ahead of emerging technologies such as blockchain technologies and bitcoin currencies is putting financial services closer to the center of the Digital Vortex (Yokoi et al., 2022). The financial sector's exposure to new technological adoptions is highlighted in Figure 1.1

Figure 1-1: A Sectoral view of changes at the center of the Digital Vortex, 2019



Source: Imagery courtesy of Global Center for Digital Business Transformation, 2019. Available from https://www.imd.org/globalassets/dbt/docs/digitalvortex2019

At the center of the Vortex is “Media and Entertainment” mostly impacted due to digital disruption. Financial services are currently rated number five (5) based on a study conducted by the Global Center for Digital Business Transformation (Wade & Macaulay, 2022). Since

the start of COVID-19, most of the banks in South Africa had to adapt the way they service clients, making most of the banking services available online (Ashraf, 2023). This was the spark for more technological adoption to service and cater for the needs of customers (Jeenah, 2022).

1.3 Research problem

South African Banking industry has seen close to 700 branches closing over the last decade due to digital adoption, creating a panic that employees will be displaced by these technologies (Tarrant, 2019). Digital lead banks such as TymeBank have seen an increase in customer onboarding using their platforms purely for their digital-enabled banking platform (Urban & Townsend, 2021). The research sought to understand employees' perceptions and attitudes on technological adoption in the Banking sector.

Employee perception and attitude to technological adoption to new system usage also impact the overall competency levels and can influence how employees are motivated to achieve their work-related goals and to remain productive (DeCenzo et al., 2016). The research further aims to achieve an understanding of how technological adoption can further enable financial institutions to leverage of adoption of AI/ML to further optimise job roles and, in doing so give them a competitive advantage (Agrawal et al., 2019).

The research, therefore, seeks to understand how employees' perceptions and attitudes toward technological adoption will impact their productivity and overall work morale (Sapta et al., 2021). One of the biggest challenges facing most organisations is to motivate employees under these uncertain times of technological adoption as employees constantly feel that they will be displaced (Yusuf & Maizar, 2023).

1.4 Research objectives

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The research following objectives were investigated:

- To determine if the attitudes towards technology adoption are driven by employee demographics (age and gender).

- To determine employee adoption of technological adoption is driven by facilitating conditions (training and support), behavioural intention, behavioural expectation, and adoption (frequency of use).

1.5 Rationale

The significance of the study is to understand the relationship between employee attitudes towards technological adoptions and how it's perceived to impact job roles. The challenges around FoW have been around since early 1589 when William Lee, through his invention of the first “hand-knitting” machine, wanted to patent his invention which was subsequently rejected by “Queen Elizabeth I” in her fear of unemployment in lower LSMs (Frey & Osborne, 2017) and the impact on social well-being. Since this era, several technological adoptions have evolved leading to the present-day challenges whereby the world as we know it, is changing exponentially and those who still resist change will be displaced by change. COVID-19 has brought many changes in how consumers transact and use digital platforms and the reduction of banking outlets has further contributed to the research study and helped to understand the attitudes of employees on technological adoption. The study aims to positively contribute to the study of technology adoption within the following sectors:

- To help understand if age and gender influence employees’ attitudes towards technological adoption.
- Provide insight into how facilitating conditions such as training and support can contribute towards technological adoption.

The study will also provide a deeper understanding of how organisations need to prepare themselves for the future of work (Santana & Cobo, 2020).

1.6 Delimitations of the study

The study mainly focuses on the financial sector, one of the largest industries employing many South Africans. As the Absa Group is a large organisation and due to the sensitivity of the data that can be collected, the scope of the data that can be collected will be limited to protect the brand and the participants of the study. The study is therefore limited to the Retail and Business Banking (RBB) business unit and ultimately limits reaching a wider population.

The research timelines are also limited and do not hold the viewpoints of all the employees within RBB and only touch 10% of the population.

1.7 Definition of terms

Throughout the research, study references will be made to terms such as the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2008).

The theory is commonly defined as the need for organisations to understand the level of technology adoption that exists and how employees will embrace adoption influenced by several external factors and social behaviour (Venkatesh et al., 2023).

Technological adoption in a wider scheme includes the use of robotics, and technological innovation creating horizons 3 and 4 for those who are early adopters.(Lichtenthaler, 2020)

Technological adoption is linked to individuals and organisations that adapt faster to technological change (Kane, 2019).

1.8 Assumptions

The assumption is that digital transformation and the adoption of technological innovation are inevitable, and the adoption of technological adoption will impact jobs. It is also assumed that the employees' perception and attitudes on technological adoption within the Banking sector, will create new jobs. The financial sector will need to prepare itself towards change and implement digital strategies to help achieve business objectives.

The following assumptions can therefore be made:

- The respondents forming part of the research study are from the Retail and Business (RBB) business unit and are currently in the process of a technological change and going through the transition of adopting a new system.
- The adoption of a new system will form part of their daily activities and job role making adoption key.
- The respondents are from different demographics and the study is limited to a specific age group or gender.

1.9 Chapter Outline

Chapter 1 is focused on outlining the research background, the problem statement, and the research objectives. It contains details for the rationale of the study followed by the delimitations of the study. The chapter included the key definitions used as part of the study and touched on the assumptions.

Chapter 2 outlines the literature review and includes key topics and background discussions as part of the research study. The research method and approach are discussed, and context is given to the why the chosen research theory. It includes the hypothesis related to the research theory and the theoretical and conceptual frameworks used as part of the study. It further provides insight into the literature used to support the study.

Chapter 3 provides a systematic approach to the research approached and research design and the data collection methods used. It includes the sample size of the population and the research instrument used as part of the study. The data analysis and strategies used to help with the interpretation of the research data. It provides insight into data quality assurance and touches on external and internal validity to support the study. The key ethical considerations are discussed as part of the research study to ensure no harm will come to any of the research participants.

Chapter 4 provides the key characteristics of the respondents and a statistical analysis of the data collected to support the hypothesis. It includes the demographics of the respondents and the predictors of behavioural change namely the facilitating conditions and behavioural intention. The conceptualise system use, and perceptions are further explained using behavioural expectation as a predictor focusing on duration, frequency and intensity of the system use that explains employees' perception and attitudes on technological adoption in the banking sector.

Chapter 5 includes a discussion of the results and the statistical analysis used to predict employees' perceptions and attitudes toward technological adoption. The research findings are used to compare the Literature used as part of chapter 2.

Chapter 6 provides an overview of the research findings that support the research objectives. A summary of the research findings is constructed, and a comparative view is given based on previous research and the relevance of the current research study. Recommendations are made to senior executives regarding the research study and how to close the gaps, and suggestions are made for further research studies in this field.

CHAPTER 2. LITERATURE REVIEW

The chapter outlines the literature review on the research topic, providing a holistic view of the discussion, objectives, and hypotheses that support the research problem.

2.1 Introduction

The future of jobs remains a sensitive topic for discussion. Post the COVID-19 pandemic, many organisations that did orchestrate using technological capabilities across various sectors found themselves displaced and out of business, impacting both upstream and downstream impact across many financial institutions servicing firms from a business and private banking lens (Sapta et al., 2021). The net effect is the direct reduction in the need for business and private bankers which ultimately leads to financial institutions forcing to reduce their staff complement.

2.2 Definition of topic or background discussion

The proposed study seeks to understand employees' perceptions and attitudes on technological adoption. Adoption is commonly defined as the process of changing a policy or behaviour to improve productivity within the workplace aimed at creating a more conducive work environment (Moreno, 2022). This adoption ratio within the Retail and Business Banking (RBB) division that exists will include data analysis using online questionnaires and regression testing through the application of Chi-square and Cronbach coefficient tests to determine and track the level of adoption. Changes in employee behaviour and how they utilise banking services 24 x 7 have helped reshape the banking industry and adopt new innovative solutions (*Emerging Technologies that can enhance banking services*, 2019). A study conducted by McKinsey revealed that half of the staff compliment who left their permanent roles voluntarily during the COVID-19 pandemic are not returning, leaving many enterprises competing for the same resources as cited (Smet et al., 2022).

Financial institutions especially banks were forced to allow employees to have access to business-critical systems from home, as most of the workforce were forced to work from home. This creates an even bigger concern as more and more jobs are treated by automation and technological change, increasing unemployment numbers (David, 2015). On the other hand, organisations that plan to embrace change can create new future job

roles affording skills development across a vast age group. Over the last decade, a reduction in job roles has been visible, especially within the financial sector and this has mainly contributed to the optimisation of the business operational process.

2.3 Technological adoption

The adoption of AI/ML should not be seen as a threat to future jobs, but rather as a business enabler (Hunter et al., 2018). The concept is not always fully understood and due to the level of confusion, the adoption ratio remains low. A study conducted by Gartner on the adoption of AI/ML remains an innovation trigger as not many organisations are seeing the full benefit (Groombridge, 2022). A 2015 global survey conducted by MIT Sloan Management and Deloitte revealed that almost 90% of respondents who participated in the research study agreed that the adoption of technology adoption within their organisations has helped them transform their business operations and in doing so build a high-performance culture (KANE et al., 2016).

The introduction of mobile banking services and the constant demand for more online banking services are transforming how financial services are providing e-banking to their customers and thus creating a digital transformation and change to technology adoption (Mahardika et al., 2019). The age of digital transformation is knocking on everyone's doorstep and with transformation comes change, the adoption of technology will bring about different dynamics and how employees adapt to change (Meske & Junglas, 2021). According to Kurt Lewin, to implement change, one needs to first unfreeze a business process, implement the change and once adopted, freeze the process so that everyone understands what is expected from them (Cummings et al., 2016). Providing access to information creates a positive adoption process when changes are being implemented especially when the sharing of information is from a central source (Goodarzi et al., 2021).

Cryptocurrencies have accelerated technological adoption and this is mainly influenced due to the change in consumer behaviour and the large uptake towards this new currency and how banks will play a pivotal role and transforming business processes to adapt and the intention to use (Al-Amri et al., 2019). The virtual markets have seen strong adoption of bitcoin and the technology adoption across several financial markets causing a positive

disruption of perceived ease of use and high adoption levels (Shahzad et al., 2018). According to a research study conducted to understand the intention to use involving Malaysian SMEs, the high technology adoption and uptake towards innovation, transformed how banks fund some solutions (Ikumoro & Jawad, 2019)

In the case of Absa Bank, the group has recently embarked on investing in tap-and-go automated teller machines (ATMs) changing the way its customers interface with ATMs and reducing the need for costly card reader maintenance, the technology behind the solution sets the scene towards product innovation driving technology adoption (Illidge, 2023). The adoption of cardless cash withdrawals from ATMs observed in Malaysia provided customers access to convenient ways to access funds (Ali et al., 2021). The study revealed that the perceived use of use (PEOU) contributed to accessibility to recent technology and the strong uptake on intention to use (IU). Artificial intelligence (AI) in banking services is on the rise as more banks are starting to use AI to optimise fraud prevention, especially through the use of eCommerce digital platforms, the relationship between PEOU and IU shows a positive attitude towards adoption (Rahman et al., 2021)

The adoption of Internet banking and e-services within banking is a study that involves users' attitudes towards adoption and over the last two years, the adoption has increased due to more consumers' preferences for online banking as opposed to physically visiting a branch (Rahi et al., 2019). The adoption of blockchain within the major banks for the storage of customer-sensitive data has seen a rather greater adoption based on its ability to scale and the sharing of data that cannot be easily manipulated, the adoption of blockchain as a new technology is transforming the financial services industry (Patel et al., 2022).

Technology adoption is a research study that has been around for a while and mainly concentrates on whether the adoption is widely accepted or rejected (Salahshour Rad et al., 2018). The level of technological adoption across European countries is growing daily and the adoption levels are exponentially increasing (Brodny & Tutak, 2022). The recent growth in online banking services of the major commercial banks in South Africa will see wider adoption of new technologies (Aversa et al., 2022). The research study aims to further understand how employees’ attitudes will influence the adoption of recent technologies and key considerations that should be given to address such challenges.

2.3.1 *Employees Attitudes*

The financial sector will require a high level of creativity aimed at promoting digital innovation and by doing so, will reduce the level of unemployment (Peetz, 2019). The adoption of AI/ML to help with business process automation will require less human intervention and free up resources to focus on tasks that require more. Attitude is commonly defined as the degree to which people's feelings, position or disposition towards a place, other people, things or an idea, can be positive or negative (Ajzen et al., 2018). The attitudes of employees toward technological adoption are important as it helps to understand how positive attitudes will increase productivity and overall well-being in the workplace (Meske & Junglas, 2021). The assumption commonly made is that an employee's attitude towards his/her work is informed based on performance, and the correlation made that theirs a close relationship between job satisfaction and job performance (Sapta et al., 2021). Understanding employees' attitudes within the workspace has been a challenge that has been around for a while and remains a key focus area (Lichtenthaler, 2020).

Over the years, several other factors have come into play which are covered in the research study and the influence of technology adoption on human behaviour outline and how it impacts the performance of employees (Heslina & Syahruni, 2021). The adoption of technology in organisations with a diverse cultural base tends to have different outcomes when considering elements such as culture, and demographics (age and gender) as part of the predictors towards technology adoption with a view of understanding human behaviour (Meske & Junglas, 2021). The approach would be to create a sustainable roadmap towards technology adoption through the transformation of attitudes into positive behaviour (Goodarzi et al., 2021).

2.3.2.1 Demographics: Age towards technological adoption

The concept of demographics within organisational behaviour is a research study in existence since early 1980 (Selimović et al., 2021). This contingency theory helps to understand how to drive organisational change, and normative beliefs to change human behaviour and fits well with the research study as it is still applicable today (Bicchieri, 2016). The construct of the research study includes questions related to the respondents' age

groups as an important variable to help understand if the perceptions toward technological adoption are influenced by the respondents' age group (Selimović et al., 2021). The age of the respondents is a key variable for the study as it relates to an ageing workforce that needs to constantly keep up with technology, innovation and growth of the organisation to ensure their performance to fulfil their work duties is not compromised (Brynjolfsson & McAfee, 2014).

Age as a barrier to technology adoption is a key factor as technology adoption amongst older employees is perceived to be a challenge and with an ageing workforce adoption can be a challenge (Paul & Spiru, 2021). The assumption is made that age can be seen as an obstacle to technology adoption and the research aims to understand if age should be regarded as a factor towards technology adoption. Perception of an age difference and the level of adoption that exists Several research studies have been undertaken aimed at determining if age differences do impact adoption, this research study aims to take into account different aspects of age as a deciding factor as some job roles require employees to constantly develop themselves adequately to ensure they remain relevant within their current job roles (Staddon, 2020). The challenges that most banks are facing, are succession planning and new employees joining, the workforce is generally seen as being young adults and the adoption level of new technology might be perceived as natural, yet it can also be seen as a barrier (Rana & Singh, 2022). The level of exposure to new technology might be too new to the younger generation and they might feel overwhelmed when learning new skills and concepts especially when the older generation is constantly making use of acronyms to discuss concepts, this might impact adoption (Jablonska et al., 2022).

With a younger population, the need for new technology is constantly on the rise and so does the need for technology adoption, the age of technology is upon us and so will the need for new technology and product innovation (Wang et al., 2021).

The following hypotheses can therefore be made:

H1o	• The age of employees influences technological adoption.
H1a	• The age of employees has **no** impact on technological adoption.

The perception of age and technology adoption is one of the underlying predictors that will be used as part of the study.

2.3.2.2 Demographics: Gender towards technological adoption

The demographics of gender is an important concept to research as it will help to understand user acceptance towards technology adoption as an independent variable (Venkatesh et al., 2023). Considering some of the basic underlying concepts that drive user acceptance the research study will further explore some of the behavioural beliefs that will help to understand what drives human behaviour to adapt to change. The external changes are impacting employee retention and some of the forces include demographic, technological, globalisation, and climate change all having a direct impact on job roles (Hasan et al., 2015). The outcome of the study will evaluate the employees' attitudes towards their work and the motivational factors to help them embrace acceptance or dissatisfaction with technological adoption.

In a recent study conducted to understand human behaviour towards technology adoption among Finnish teachers, the findings indicated a strong positive correlation exists most of the participants were female (Mäkiniemi et al., 2019). The current research, therefore, seeks to understand if gender impacts employees' perceptions and attitudes toward technological adoption. The future of work and the change in the workforce as far as gender equality is concerned remains a constant topic for discussion, the changes in employment laws are considered to be a deciding factor when it comes to technology adoption (Rogers, 2020). The study aims to understand if gender differences will supersede the actual behaviour towards technological adoption and how it impacts the attitudes of employees.

The gender of employees is a study included in many research studies, table 2-1 provides a summary of similar research studies conducted.

Table 2-1 Summary of previous research studies

No	Reference	Country/ methodology	Objective of the study	Results of the study
1	Jin et al. (2019)	Malaysia (TAM model)	• To examine the extent of Malaysians' awareness of the use of FinTech services, and factors that affect consumer acceptance of FinTech products. • To develop a conceptual framework that includes independent variables such as ease of use, perceived risk, perceived cost, comparative advantage, benefit, and mediating effect to educate consumers about the dependent variable of consumer acceptance of FinTech products and services.	The consumers' intention to adopt online product services is significantly influenced by their perceived usefulness. Relative advantage has a significant impact on attitude and intention to adopt mobile banking. The intent of consumer behavior is significantly influenced by the perceived risk. Perceived cost significantly affected behavioral intent to use mobile payment. Age has a significant impact on the individual when using a mobile phone for electronic payment.
2	Fernando et al. (2018)	Indonesia TAM model	• To investigate the influence of risk and trust in the use of FinTech in Indonesian society.	This study has developed a tool to find out the effect value of the elements of trust and risk. This study has validated a tool in adopting a FinTech service perspective on trust and risk in Indonesia.
3	Stewart and Jürjens (2018)	Germany TAM model 209 questionnaires (EFA)analysis	• To determine the factors that affect the expectations of both users and organizations in adopting FinTech, such as data security, value-added, user interface design, customer trust, and promotion of FinTech.	The results of this study confirm that data security, user interface design, and customer trust influence FinTech adoption.
4	Kim et al. (2015)	Korea TAM model Elaboration Likelihood Model	• To investigate the acceptance of customers in the use of FinTech services when paying electronically. • To analyse the causal relationship between CFIP (Concern for Information Privacy) and Self-efficacy by adopting them as moderating variables.	Mobility had no effect on the intention to use FinTech services. This means that the mobility is not particularly attractive to the user when executing the transaction. In this study, the most important factors for acceptance were utility and ease of use which means that swift registration, ease of use, and comfortable UI/UX environment may be the most important factors in the acceptance of potential users of payment type FinTech services.
5	Lim et al. (2019)	Apple Pay and Samsung Pay EPAM model 149 questionnaire	• To analyze the relationships between knowledge regarding services, perceived benefit, confirmation, and perceived safety and satisfaction. • To develop a research model using the Extended Post-Acceptance Model (EPAM) as a theoretical framework in the context of Fintech services.	Perceived security and thorough knowledge of the importance of mobile FinTech services have a significant impact on users' confirmation and their perceived usefulness. Perceived security does not directly affect users' satisfaction and continued intention to use significant relationships between perceived benefit, confirmation, satisfaction, and continued intent to use FinTech services.

Source: Adopted from (Alshari & Lokhande, 2022)

In all of these studies, the research objectives were different but included demographics (age and gender) as part of the research analysis as cited by (Alshari & Lokhande, 2022).

The results of the studies listed in Table 2-1 are listed as follows as cited by (Alshari & Lokhande, 2022)

The common aspect of the five studies conducted is that the adoption of new technologies is becoming more widely accepted across different sectors. The perception that employees are not willing to evolve towards technology adoption is also not true as they are constantly looking into ways to better themselves and exploring different ways to make repetitive tasks easier allowing them to free up time to learn or do more with time available.

The following hypothesis can therefore be made:

H2o	• The gender of employees influences technological adoption.
H2a	• The gender of employees does not influence technological the adoption

2.4 ANALYTICAL FRAMEWORK

The technological adoptions and changes brought post the COVID-19 pandemic transformed business operations and how safety in the workplace has been prioritised to a point that much thought has been given to process automation (Acemoglu & Restrepo, 2019) at the same reducing the need for labour demand. The research study aims to understand the impact of automation on a repetitive task in the relationship to jobs and employee well-being and the theories that support this study.

The level of technology adoption cited in most models includes the theory of reasoned action (TRA) and the theory of planned behaviour (Ajzen et al., 2018; Fishbein & Ajzen, 2011), they are both useful theories, but the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh and Davis is more robust. (Venkatesh & Zhang, 2010). The theory can be used in various aspects of technology adoption and seeks to understand the underlying contribution to will influence adoption (Venkatesh et al., 2008).

The same theory was used to predict the effect of customer satisfaction and overall satisfaction on behavioural intention in the use of mobile technology to determine the level of adoption that exists across a large number of different demographic areas (Bhatti et al., 2017).

The Technology Acceptance Model (TAM) was also considered to determine the employees' perceptions and attitudes toward technological adoption (Venkatesh et al., 2022). This model however does have some limitations to predict the technology adoption levels (Hanif et al., 2022; Venkatesh et al., 2023). The UTAUT model provided a more comprehensive inclusion of different predictors that helped to test the hypotheses (Aryono Putranto, 2020; Venkatesh et al., 2023). The model includes several additional factors that can also be used to access technological adoption and provide a more definitive analysis (Ali, 2023; Rahi & Mazuri Abd, 2018; Tella et al., 2020; Venkatesh et al., 2023).

2.4.1 *Employees Perceptions*

Perception is commonly defined as the ability to adapt and make use of new technology, you either choose to adapt or you don't (Kitsios et al., 2021). In a recent study to evaluate

the acceptance of e-Services in banking, the approach used was to understand user behaviour and the level of adoption that exists (Kitsios et al., 2021)

The approach that this research report used is the model developed by Venkatesh and Davis. The Unified Theory of Acceptance and Use of Technology (UTAUT) will be used to determine the use of technology and the underlying factors that drive adoption behaviour (Venkatesh & Zhang, 2010). The banking sector is constantly changing and developing new products and services, creating a perception that the adoption of new technologies is seen as a barrier (Kaur & Ali, 2021). According to a study to understand bank employees' perceptions towards technology adoption, the research found that employees working in privately owned banks are more likely to adapt to new technologies, whereas employees working in the public sector are less likely to adopt new technologies (Kaur & Ali, 2021). The research study will utilise the UTAUT model of Venkatesh and Davis to formulate its analysis around adoption. The model includes several predictors that will be used to measure employees' perceptions and attitudes towards technological adoption.

The following hypothesis can therefore be made:

H3o	• The attitudes of employees influence technological adoption.
H3a	• The attitudes of employees do not influence technological adoption

2.4.2 *UTAUT*

The study aims to understand employees' perceptions and attitudes on technological adoption within South African banking in the case of Absa Bank Retail and Business Banking within Gauteng and the determinants of its role in changing the nature of work in banking using the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2023; Zhang & Venkatesh, 2018).

The UTAUT model is widely used in many research studies to assess the level of technology adoption that exists (Alnemer, 2022; Malik et al., 2022). The study will use a statistical tool Technological adoption has transformed banking and given birth to digital banking platforms that transform how we equip employees with new systems to help them prepare for the future of banking (Peetz, 2019). The challenge most organisations face is the underutilisation of new information technology systems to give them a competitive

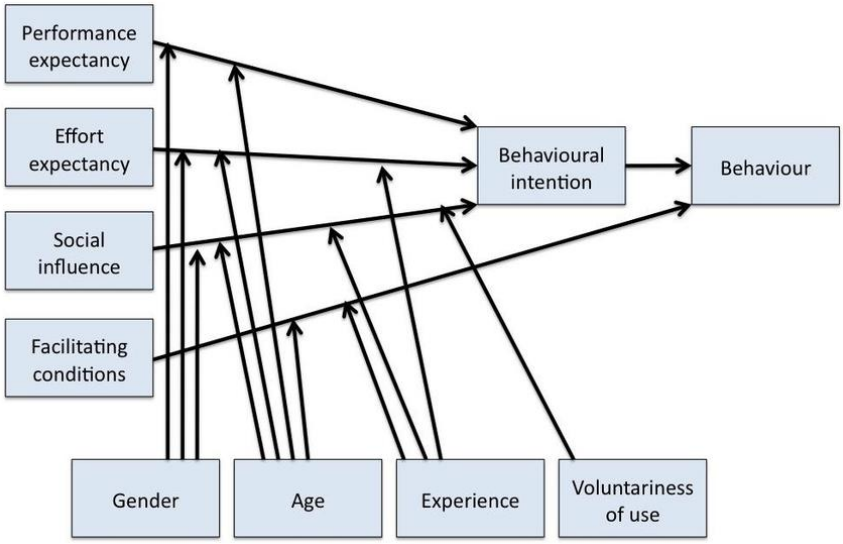
advantage (Heslina & Syahruni, 2021). The study focuses on the psychological mindset, employees' behavioural intention, and the facilitating conditions that will inform their adoption and acceptance of new banking systems (Wang et al., 2021).

According to the study conducted by (Venkatesh et al., 2023) predicting employee behaviour, the UTAUT model will provide a better understanding of the variance in duration, frequency, and intensity of system use and how employees are most likely to confirm using new systems. The framework developed by (Venkatesh et al., 2008; Venkatesh et al., 2023) has been around for a while and has proven to be the most widely used framework to understand the behaviour of employees within the workplace.

Facilitating conditions are constructed on individual perception and attitude toward the adoption of new technologies (Venkatesh et al., 2008; Venkatesh et al., 2023), whilst an overlap exists between facilitating conditions and perceived behaviour. The use of the framework will help create clarity on the uncertain variables that underpin this study to help understand whether facilitating conditions have a strong correlation to inform behaviour (Ajzen et al., 2018). The Unified Theory of Acceptance and Use of Technology (UTAUT) extended model combines most of the key predictors of human behaviour and this model will be used as the basis for the research study.(Venkatesh et al., 2023).

The UTAUT model incorporates most of the limitations of the TAM model as its predictions are higher in constraints to the TAM model to determine the level of technological adoption (Raffaghelli et al., 2022). Figure 2.1 provides a graphical overview of the theoretical frameworks, but as part of the research, the model was slightly adjusted to include specific focus areas of the research study and constructed to highlight the approach and the three predictors used.

Figure 2-1: Unified Theory of Acceptance and Use of Technology (UTAUT)



Source: (Venkatesh et al., 2003)

Several research studies have made use of this model to determine the perceptions, attitudes, and behaviours of recent technology adoption, a summary of similar research studies is presented in Table 2-2. The UTAUT model can be applied across several different organisations and the result of the study provides a far richer analysis and understanding of technological adoption (Venkatesh, 2022; Venkatesh et al., 2023).

Table *2-2*: Summary of research studies that used the UTAUT & TAM Model

Reference	Country/ methodology	Objective of the study	Results of the study
Humbani and Wiese (2018)	South Africa TRI model 416 questionnaire	• To contribute to the applicability of the TRI to new contexts. • To suggest various additional drivers and inhibitors that need to be considered in the adoption of mobile payment applications.	Compatibility and convenience drive consumers' adoption of mobile payment services whereas risk, cost, and insecurity are inhibitors. The adoption of mobile payment services leads to significant socio-economic benefits regardless of Gender.
Mulyana et al. (2020)	Indonesia UTAUT model	• To investigate how the adoption of customer behavior as a business media by using the UTAUT model developed by Venkatesh.	Intent behavior is positively influenced by social influence, facilitation conditions, expected average effort, and performance expectation, and has implications for user behavior based on the UTAUT model. Implementing customer behavior in the use of FinTech for business needs to take into account performance developments.
H.-S. Ryu (2018)	Korea 243 questionnaire (PLS-SEM)	• To understand why people may or may not want to use FinTech. • To identify how the effect of perceived benefits and risks of continuance intention differs depending on user types (i.e., early and late adopters).	The results show that convenience has the strongest positive effect on Fintech's viability intention, while the legal risk has the most negative effect. Differences in specific benefits and risk effects were found between early and late adopters.
Chuang et al. (2016)	Taiwan TAM model 440 questionnaire	• To understand the impact of different age groups and consumer behavioral intentions on the adoption of financial technology in Malaysia • To understand the intention of using FinTech services in the manufacturing industries.	Brand and service trust, Perceived usefulness, Perceived ease of use, and behavioural intention have significantly positive effects on attitudes toward using FinTech Services.
Hu et al. (2019)	China TAM model 387 questionnaire	• To investigate the factors that influence on the adoption of FinTech services through analyzing the behavioral intentions of users. • To provide a view of the determinants of users' attitudes by combining the trust of FinTech Services with TAM.	Users' trust in FinTech services has a very large impact on users' attitudes towards FinTech adoption. Perceived ease of use and perceived risk do not influence users' attitudes towards adopting FinTech services.

Source: Adopted from (Alshari & Lokhande, 2022)

The UTAUT model is becoming more widely used and combining key concepts of the TAM model makes it more accurate in predicting behaviour studies.

2.4.1.1 Facilitating Conditions (FC) towards technological adoption

The facilitating conditions (FC) are defined as the level of degree an individual believes exists to the adoption of a new system (Venkatesh et al., 2023). The facilitating conditions do have some limitations and are closely tied to the behavioural intention to close some of the limitations (Zhang & Venkatesh, 2018). The construct of facilitating conditions was mainly used to address external factors that influence behaviour (Kumar et al., 2020; Venkatesh et al., 2023). It takes into account the perceptions that exist that can influence the research study and these are the main factors associated with individual perceptions around technology adoption (Sheeran & Webb, 2016). The understanding that facilitating conditions on its own cannot make a full assessment of the behaviour towards technological adoption, the predictability of the study will need to take into account data collected for behavioural intention (Zhang & Venkatesh, 2018). In a recent study whereby an assessment was conducted for the adoption of blockchain as a new technology for the secure storage of customer data, the study indicated a significant relationship between facilitating conditions and behavioural intention (BI) (Jadil et al., 2021; Venkatesh et al., 2023)

The UTAUT model includes the underlying factors that influence the facilitating conditions that inform the usage intention (Haron et al., 2021; Venkatesh et al., 2023). In a separate study to measure the level of user behaviour that relies on the UTAUT model, the researchers indicated a strong relationship between facilitating conditions and usage behaviour. According to a study conducted by (Bankole & Bankole, 2017), the research study indicates a strong relationship between mobile banking adoption and usage behaviour influenced by facilitating conditions.

The following hypotheses can therefore be made:

H4o	• The facilitating conditions of employees influence technological adoption.
H4a	• The facilitating conditions of employees do not influence technological adoption.

2.4.1.2 Behavioural Intention (BI) towards technological adoption

Behavioural intention (BI) is the level of degree an individual makes a conscious decision to adopt or not to adopt the use of a new system (Selimović et al., 2021). Through the application of both predictors and the framework suggested by Ajzen and Fishbein, the research study aims to derive the level of adoption that exists (Kimiagari & Baei, 2022). Behavioural intention is determined by the attitudes of the respondents' behaviour which will inform their adoption levels of new technologies (Taherdoost, 2018). The research study aims to utilise behavioural intention as one of the predictors to predict system use and the level of adoption towards technological adoption. Based on the UTAUT model, BI is informed using four underlying predictors; effort expectancy, performance expectancy, social influence and facilitating conditions (Jena, 2022; Venkatesh et al., 2023).

- **Performance expectance**

  Using the UTAUT model, the level of performance expectancy will be analysed to understand the perceived usefulness of new technology adoption that exists (Venkatesh et al., 2023). This ties back to the TAM model that further is used to understand the impact the attitude toward use and the impact BU holds on adoption (Venkatesh et al., 2022). It is also one of the most frequently used predictors to understand the level of influence of the adoption of new technology (Hanif et al., 2022).

- **Effort expectancy**

  The concepts around perceived ease-of-use which is the construct of how the adoption levels will be based on employees planning to use the new system and the level of effort for them to adapt to the new system (Prastiawan et al., 2021; Venkatesh et al., 2023). It is also widely used to understand the effect technology adoption holds on BI and to test the hypotheses for H5 (Hanif et al., 2022; Yusuf & Maizar, 2023).

- **Social influence**

  The level of social influence that exists within the workplace plays a vital role in the adoption and the intention to use (Fedorko et al., 2021; Venkatesh et al., 2023). The employees' attitude towards technology adoption is influenced by several social

behaviours and attitudes, the study will assess how SI impacts BI and whether a positive relationship exists on intention to use (Hanif et al., 2022; Prastiawan et al., 2021; Yusuf & Maizar, 2023).

The combination of the three external factors in the study will inform the relationship they hold towards behavioural intention and the impact on technology adoption. The ability to adapt to new technological innovation and use behavioural intention as a variable will ensure the research study can draw conclusive analysis (Al-Emran & Shaalan, 2021). Figure 2-3 provides an overview of the UTAUT model used to construct the relationship between behavioural intention and adoption. The application of the UTAUT model will further determine if external factors will influence or impede the behaviour of the respondents towards technological adoption.

The following hypotheses can therefore be made:

H5o	• The behavioural intent of employees influences technological adoption.
H5a	• The behavioural intent of employees does not influence technological adoption.

2.4.1.3 Behavioural Expectation (BE) towards technological adoption

Behavioural Expectation is defined as the likelihood an individual plans to utilise the new system soon, using three factors namely duration, frequency and intensity (Venkatesh et al., 2023). Figure 2-2 is a graphical illustration of how the conceptual framework fits together to assist with the research study and the prediction. The behavioural expectation was constructed to address some of the limitations of facilitating conditions and behavioural intention and is extremely useful in predicting behaviour (Venkatesh et al., 2008; Venkatesh et al., 2023). This is also important why the research will base its final findings and recommendations on the results captured to draw its final interpretations of the online survey questionnaire (Mahardika et al., 2019)

The use of behavioural expectation and taking into account usage based on duration, frequency and intensity of use will make the predictions more accurate as it takes into

account external factors generally not covered by both facilitating conditions and behavioural intent (Venkatesh et al., 2023).

The intention to use modern technologies and the level of adoption of three additional measures used to formulate the research, the indicators listed as follows:

- Duration is the amount of actual time spent using the new system.
- Frequency touches on the actual job description required to use the new system.
- Intensity focuses on the actual use of the new system and the time spent using the system that constitutes the actual job role.

These indicators will be used to address the perceptions that exist towards technological adoption (Venkatesh et al., 2023)

The following hypothesis therefore formulated.

H6o	• The behavioural expectancy of employees influences technological adoption.
H6a	• The behavioural expectancy of employees does not influence technology adoption.

The use of technology plays an important predictor when it comes to adoption, the more technology is used will inform a positive correlation and adoption (Goodarzi et al., 2021).

2.4.3 *Conceptual Framework*

The literature review covered thus far includes some of the most used theories with specific emphasis placed on theories that will be included in this study. The conceptual framework will be based on some of the theoretical theories covered and how they will further benefit the research problem. The construct of the conceptual framework is derived from the theoretical framework of the UTAUT model (Venkatesh et al., 2023). The UTAUT model with its inclusion of diffusion of innovation (DOI) will help to further understand the perceived use of use (PEOU) and the level of technology adoption that exists within the Absa Group (Rahi et al., 2019).

It has been customised to fit the focus of the research study and selected elements of the study used to construct the model.

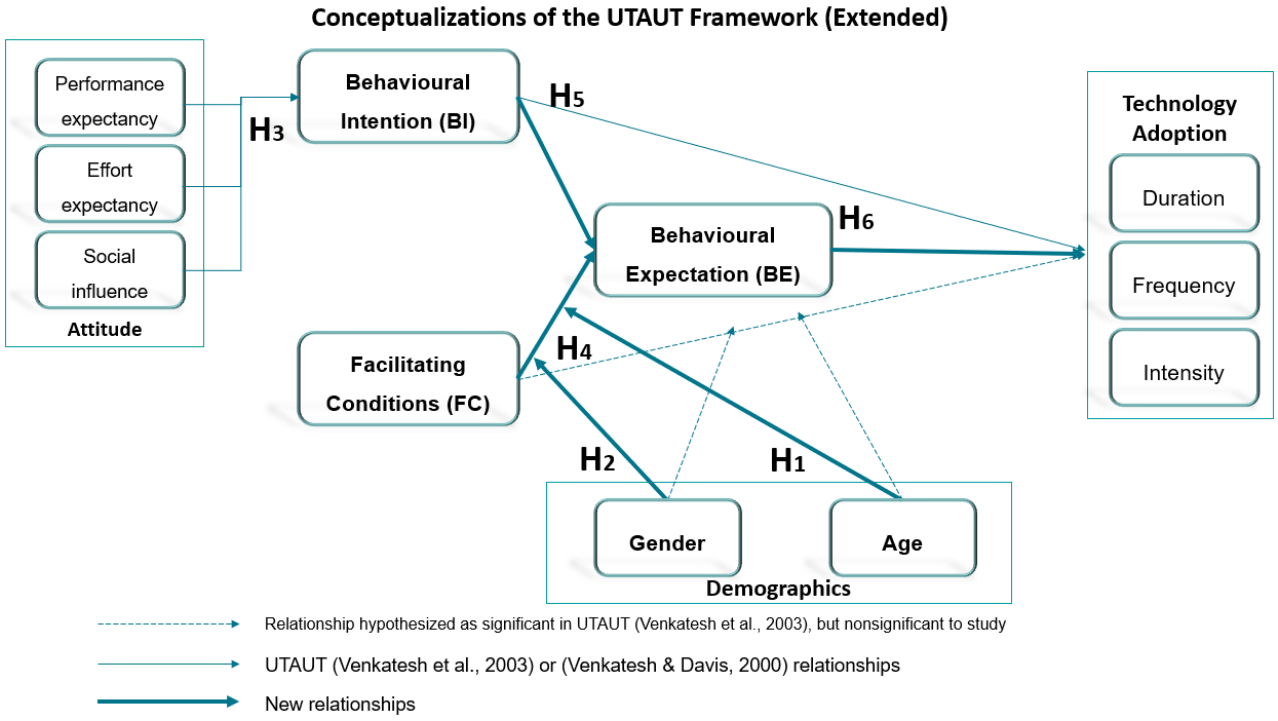
Figure 2-2 is a high-level conceptual framework that includes three contributing factors and system use that will inform behavioural expectation, name duration, frequency, and

intensity. Behavioural intention (BI) includes three factors namely performance expectancy, effort expectancy and social influence which are important factors to assess the level of technology adoption (Venkatesh et al., 2023).

Technology adoption in a broader sense is a concept that also seeks to understand the potential of disruption in the digital world, the UTAUT model takes into account a wider spectrum of external factors that can come into play that will impact adoption (Salahshour Rad et al., 2018).

The literature included as summarised in Table 2-2 provides a summary of the research studies conducted using the UTAUT model for various studies to determine the level of technology adoption across different sectors (Alshari & Lokhande, 2022)

Figure 2-2: Conceptual Framework UTAUT (Extended)



Source: (Venkatesh et al., 2008; Venkatesh et al., 2023)

The conceptual representation of the UTAUT framework enabled the study to first determine if demographics (age & gender) have an impact on adoption. The facilitating conditions related to knowledge and support for using the new system will be analysed. The facilitating conditions (FC) have some limitations and closing the gap will be achieved through some of the analyses constructed from behavioural expectation (BE) (Venkatesh et al., 2023). The hypothesis will be used to understand the relationship between FC and TA.

FC on its own is not sufficient to draw analyses around technology adoption, and consideration is also given to BI (Lim et al., 2019; Venkatesh et al., 2023). The Behavioural intention (BI) examines the perceived attitudes towards using the new system and how it influences behavioural expectation (BE). The analysis will be used to draw analysis around the relationship between BI and TA. (Venkatesh et al., 2008; Venkatesh et al., 2023) argue that behavioural expectation is most likely better to predict system use as it considers the level of intensity that exists as part of the adoption and considers duration, and frequency including intensity of use.

- Duration will be used to measure the extent of use and ultimately address the perception of the use.
- The frequency will be used to measure past behaviour and how the adoption of new technologies impacts adoption.
- Intensity will be used to measure how often the new technology consumption is used and aims to understand how the respondents evolve when they use the new technology (Venkatesh et al., 2023)

The conclusion will be made to determine the relationship that exists between BE and TA.

This will ultimately also help with the final analysis of the study and testing of the hypothesis. Table 2.3 is an overview of the different independent and dependent variables and how they relate to the study. The use of descriptive statistical data analysis will be used to test the hypothesis to understand the relationship that exists between the independent variable and dependent variable. The measurement of the correlation that exists, the Kendall Tau C correlation coefficient along with Spearman's' pvalue will be used to formulate the relationship that exists between the variables, the testing and the outcome of the hypothesis (Kendall, 2004).

Each of the predictors listed in Table 2-3 will be used to assess the level of technology adoption that exists within the RBB business unit and how it impacts adoption (Rahi et al., 2019; Venkatesh et al., 2023). The demographics (age & gender) form part of the independent variables and will each be analysed individually to determine the level of adoption from a gender and age point of view (Cai et al., 2017; van der Goot & Pilgrim, 2019). The facilitating conditions are mainly made up of human behaviour and the level of

technical support that exists to learn the new system, the study will also assess the relationship between FC and BI using the UTAUT model (Khechine et al., 2020; Venkatesh et al., 2023). The behavioural intention (BI) will include factors such as system usage and the behaviours to use. Behavioural expectancy will include the relationship between performance expectancy using the new system and the intention to use it.

Table 2-3: Research Predictors

Demographic Factors			**Predictor 1**
AG	=	**Age & Gender**	• Age & Gender =independent variable • Attitudes = independent variable
Facilitating Conditions (FC)			**Predictor 2**
FC1	=	• Access to knowledge base articles	• Independent variable
FC2	=	• User-friendliness of the system	
FC3	=	• Access to a dedicated support	
Behavioural Intention (BI)			**Predictor 3**
BI1	=	• Satisfaction with the knowledge base articles	• Independent variable
BI2	=	• The intention to use the new system	
BI3	=	• active user of the new system	
Behavioural Expectation (BE)			**Predictor 4**
BE1	=	• Satisfaction with the support group	• Independent variable
BE2	=	• System user interface	
BE3	=	• Satisfaction with the support group	
Technology Adoption (Use) (TA)			**Predictor 5**
Duration	=	• How often do you use the system?	• Adoption – dependent variable
Frequency	=	• Do you use the new system daily?	
Intensity	=	• How extensively do you use the system?	

Source: Constructed using Literature reviewed (Venkatesh et al., 2008)

The UTAUT theoretical framework of (Venkatesh et al., 2008) will inform the research study on whether a strong or negative relationship exists between attitudes and technological adoption. The two predictors, facilitating conditions and behavioural intention inform the

research study if any limitation exists, which are covered under behavioural expectancy to formulate the outcome of the study. The study further helps to understand if the hypothesis of behavioural intention will have a positive influence on behavioural expectation (Venkatesh et al., 2008; Venkatesh et al., 2023).

2.5 Chapter Summary

This chapter provides an overview of all the literature used as part of the research study and the theories that will be used to evaluate the hypothesis. The literature covered will be used to construct the research findings and the research forms the base to make recommendations and future research topics to be covered.

The following hypotheses have been constructed and summarised in Table 2-4.

Table 2-4: Summary of Hypotheses

Hypotheses	Description
H1o H1a	• The age of employees on technological adoption has an impact on adoption. • The age of employees on technological adoption has **no** impact on adoption.
H2o H2a	• The gender of employees in technological adoption has an impact on adoption. • The gender of employees in technological adoption has **no** impact on the adoption
H3o H3a	• The attitudes of employees in technological adoption have an impact on adoption. • The attitudes of employees in technological adoption have **no** impact on adoption
H4o H4a	• The facilitating conditions of employees have an impact on adoption. • The facilitating conditions of employees have **no** impact on adoption.
H5o H5a	• The behavioural intent of employees has an impact on adoption. • The behavioural intent of employees has **no** impact on adoption.
H6o H6a	• The behavioural expectancy of employees has an impact on adoption. • The behavioural expectancy of employees has **no** impact on adoption.

This study aims to understand the perceptions and attitudes that exist toward technology adoption and each of the hypotheses listed in Table 2-4 will be used to assess the adoption. The UTAUT model provides a more considerable explanation for the intention to use and adoption of usage behaviour (Hanif et al., 2022; Venkatesh et al., 2023). The study includes

analysis using the demographics of the respondents namely age and gender to assess the level of adoption between male and female respondents and how it differs towards technology adoption (Hanif et al., 2022). The theoretical implications involve understanding other studies that have been carried out using the same research model and how it relates to the current study to assess technology adoption. The study does have limitations as it was mainly conducted within the RBB business unit and did not include the entire Group, and this was mainly due to the timelines associated with the study.

CHAPTER 3. RESEARCH METHODOLOGY

The research methodology refers to the methods used to conduct the research study and the statistical analysis of the data collected. It includes the analysis of the hypothesis and viable solutions to the research objectives.

3.1 Research approach

The quantitative research approach was conducted to assess employees' perceptions and attitudes towards technological adoption and aims to be non-biased in providing an accurate assessment of the study. Data collected from primary sources, in this case, the RBB team, will enable the creation of a more conclusive analysis around the perceived adoption of new technology. This will provide a baseline around the adoption levels and should the findings of the research study be of such a nature that it creates a scare within the Group, a wider study can be initiated with the assistance of Human Capital.

The pros of using quantitative research are that it is less time-consuming and increases the reliability and validity of the data especially if it is primary data that is collected (Rahman, 2020). The results from the study provided a more comprehensive view of technological adoption and the perceived usefulness and perceived use of technology adoption (Aryono Putranto, 2020; Venkatesh et al., 2023)

The cons of quantitative research is that you run the risk of missing data especially if the participants do not understand the question and require a larger target population (Annette, 2023). The research questions are limited to a specific structure and the respondents are not in a position to give their interpretation of the question (Rahman, 2020)

It does not take into account that positivism might lead to a lack of interpretation due to the perception some of the participants might have (Rahman, 2020)

3.2 Research design

The research design is based on an online survey that will be employed in predictive behavioural research with human participants to understand the perceived impact of technology adoption on employees' livelihood as part of their jobs (Ritter et al., 2013). The survey aims to reach a wider audience within the Retail Business Banking division and is completed within the timelines of the research study. The data collected can be imported

into statistical software namely IBM SPSS and the output used to test the hypotheses theories (Rahman, 2020). Surveys also provide a quicker turnaround and can be shared electronically without having to conduct physical interviews which are generally time-consuming (Rahman, 2020). They provide a more cost-effective approach to reaching a wider range of respondents across the RBB business and not limiting the study to a specific team of departments.

Some considerations should be considered, and this relates to the respondents not understanding the actual survey questions and responses made based on interpretations that can have a negative outcome for the entire study. The key focus should be given to ethical considerations and the consent of the respondents should be obtained first before the actual survey can be conducted. The actual structure of the survey should be time-bond to ensure the survey is completed within a specific time that will not frustrate the respondents.

In summary, the researcher will ensure that ethical clearance is obtained, that sufficient training around ethical considerations is obtained and that no research is conducted without written authorisation and approval from the Ethics Committee. To support this objective, the ethics clearance certificate has been included as part of Appendix A4.

3.3 Data collection methods

The survey online data collection method will be used to collect data collection and analysis and can be used for comparative analysis should the need arise to compare data and reference it with future data sets should the need arise (Arslan, 2019)

The pros of using an online survey are that it reaches a wider audience and is not limited to a specific demographic area. The construct of the question is done using a Likert scale avoiding the need for respondents to provide their answers that might be based on feelings. The construct of the Likert scale further aids the data interpretation as the SPSS coding can be constructed in a manner that requires less effort for data cleanup (Roni & Djajadikerta, 2021). The cons to online surveys are that participants might find some of the questions intrusive and may not respond honestly as they might also feel their privacy is being invaded (*Online survey software reviews. Compare online survey tools.*, 2013). The use of surveys

provides a better understanding of the actual situation and how the participants few the current challenge at hand.

3.4 Population and sample

The population is commonly defined as the number of people who form part of a research study (Gilbert, 2020)

3.4.1 Population

The target population is participants within the Retail and Business Banking division located in Gauteng working for Absa Bank. A total number of 4 800 employees make up the RBB space with 1 200 in the Relationship banking business unit. The adoption level of technology within the banking sector is growing especially with new digital banks entering the same market, hence it will be important to understand employees' perceptions and attitudes on technological adoption. As a small target audience of 10% has been selected to form part of the research study, it does support the viewpoints of all the employees within RBB.

3.4.2 Sample and sampling method

The simple random sampling technique used and employees within the Retail Business unit will receive the questionnaire electronically and they all have equal probabilities of responding) pros and cons. The sample selection method will used and the use to collect data from the Retail Business Banking population to give a more accurate account of the research study.

- Rule of thumb 10% of the population
- Statistical methods provide a sample size with a 95% confidence interval.
- A total of 120 responses are targeted as they will represent 10% of the population of people working in Relationship Banking.

The sample size is made up of N=120 participants and access to secondary data sources was considered to ensure the research study is not biased and cater for errors denoted during the data collection process. This however was not required as the sample size provided sufficient data to draw conclusive test results on employees' perceptions and

attitudes toward technological adoption within the banking sector. Table 3-1 is a summary of the participants' demographic breakdown based on their age and gender.

Table 3-1: A Summary of the Respondents' Profile

		Number of respondents	Percentage %
Gender	Female	44	36,4
	Male	76	62,8
Age Group	Below 30	12	9,8
	30 – 39	40	32,8
	40 – 49	42	34,4
	Above 50	28	23

Source: Primary data, survey results

The majority of the respondents were male, and the age differences spread across provided a comparative analysis around the perceived perception that age plays a pivotal role in adoption (Paul & Spiru, 2021). The selected sample size enabled the research to focus on a specific business unit within the Absa Group, due to a massive transformation process to adopt a completely new system. The entire RBB portfolio could not be covered due to the timelines permitted and for the manageability of the study.

3.5 The research instrument.

The research instrument used was an online questionnaire using a web page interface to make it easy for the respondents to access and broken up into five (5) themes:

Table 3-2: Questionnaire structure

Section	Predictor	Questionnaire response
Section A	Demographics age, gender	
Section B	Facilitating Conditions (FC)	The level of knowledge and support for using the new system. using a Linkert scale where. (1 = Strongly Disagree), (2 = Disagree), (3 = Neutral),

		(4 = Agree) and (5 = Strongly Agree)
Section C	Behavioural Intention (BI)	Attitudes towards using the new system, using a Linkert scale where. (1 = Strongly Disagree), (2 = Disagree), (3 = Neutral), (4 = Agree) and (5 = Strongly Agree).
Section D	Behavioural Expectation (BE)	The level of satisfaction with using the new system, using a Linkert scale where (4 = Satisfied), (3 = Very Satisfied), (2 = Dissatisfied) and (1 = Very Dissatisfied).
Section E	Adoption	The perceptions associated with adoption can be easily assessed using a Linkert scale. (1 = Never), (2 = Rarely), (3 = Often), and (4 = Agree)

Source: Primary data

To ensure the validity of the participants is not compromised, a cover letter was included to inform the participants what the research is all about, and that their identity will not be revealed as the research was completely anonymous. To ensure informed consent was granted, the participants had to give consent before they could start with the questionnaire.

The structure of the questionnaire was important, and participants had to answer all questions before they could proceed to the next question. Before publishing the actual questionnaire, a pilot was conducted to evaluate the system and to get an idea of how long the questionnaire will take the respondents using an online survey tool namely Qualtrics.

3.6 Procedure for data collection

The data collection approach followed includes seeking permission from the Human Capital department and, once approved providing the structured survey questions to ensure no ethical discrimination against any of the participants and that no harm will be enforced to any of the respondents. Each business unit within the Retail Business Banking portfolio has a predefined email distribution list and the survey is distributed via blind carbon copy email communication so that the participants cannot see who else received the study. This will also ensure the confidentiality of the respondents is kept throughout the study. The construct of the survey made provision for data cleanup to remove any missing data related to the study (Haziza & Beaumont, 2017).

3.7 Data analysis strategies and Interpretation

Data will be analysed using SPSS Version 28 (Statistics, 2018). The demographic variables were analysed using frequencies, percentages, and graphs.

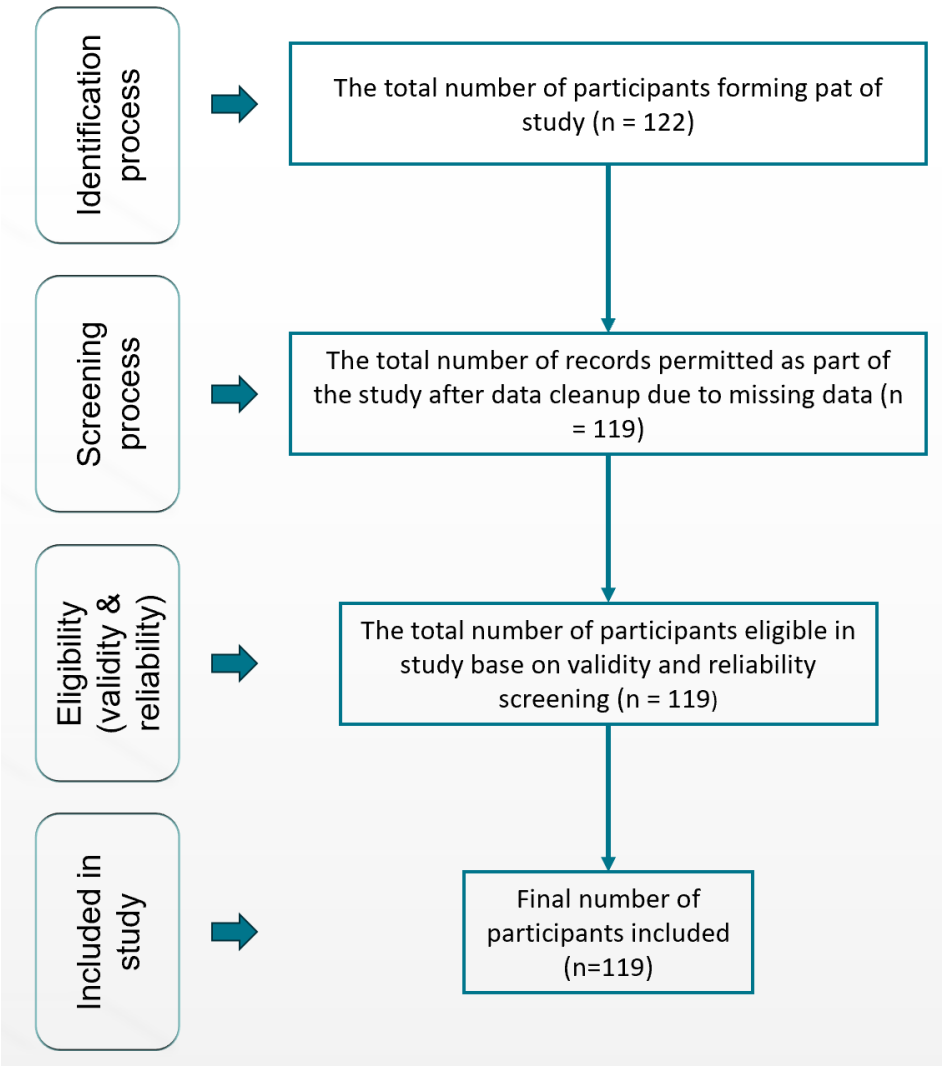
- Part 1 included the demographics (age and gender) of the participants, and this was important as it provided better insight into the research study to help understand what the perceptions are between male and female respondents and how their views on technology adoption might influence their adoption behaviour.
- Part 2 of the study included three predictors namely, facilitating conditions, behavioural intent and behavioural expectation and presented using both Chi-Square and Kendall Tau C test.
- Ordinal data derived from the Linkert scale were analysed to evaluate the reliability of the hypotheses.
- Data found to not be following any parametric distribution, a nonparametric Chi-Square test will used to evaluate the relationship between the variables, and Kendall Tau C for rectangular tables testing used to assess the degrees of correlation for ordinal variables.

The null hypothesis was evaluated at a 5% level of significance.

3.8 Quality Assurance

The research quality assurance is important as it will also be used to ensure the reliability of the data collection including a screening process matching the criteria of the study highlighted in Figure 3.1 (Anufriyeva et al., 2021).

Figure 3-1: Process flow of Data Extraction (Validity and Reliability)



Source: Adapted from (Anufriyeva et al., 2021)

The identification process included respondents from the RBB business unit as approval was obtained to conduct the research study within the business unit.

The screening process involved participants above the age group of 18 years and respondents had to give written consent before forming part of the study. As a pilot study was conducted the data cleanup removed any missing data from the study. The eligibility

of the respondents was further analysed, and the validity and reliability of the respondents were further ensured as part of the study.

3.8.1 External validity

External validity is commonly defined as a study that carries relevant attributes to its participants and the environment and settings beyond the study. (Findley et al., 2021) The research study is relevant to a wider audience as it covers most of the key concepts related to perceived attitudes and beliefs that exist in the application of technology adoption within any organisation. The external validity of the study will be addressed by taking into account that the participants' human behaviours are different and the results might vary, key considerations will be applied to ensure the results are collected from a diverse population and age groups (Findley et al., 2021)

3.8.2 Internal validity

Internal validity refers to the process whereby the researcher can draw and make a casual analysis of some of the data collected as part of the research results (Duesbery & Twyman, 2020). In the case of the study conducted for the Absa Group, a deeper inside of the research analysis can provided due to an understanding of the business process and the strategic objective of the Group. The study will include methods for testing discriminant validity using the Chi-square test as part of the research analysis to measure employees' perceptions and attitudes toward technology adoption and adoption.

3.8.3 Reliability

As part of the research study, Cronbach's alpha for reliability testing was used to measure the internal consistency of the test (Cronbach, 1951). According to Cronbach's alpha test, internal consistency defines the degree the data is measured and evaluated and should be determined beforehand to ensure the validity of the test result. This will further ensure the credibility of the research study and the data collected. The Chi-Square test was used to test the relationship between the variables (Statistics, 2018) and the Kendall Tau C for all rectangular tables. The construct is said to be reliable if the overall Cronbach alpha is between 0.7 and 0.9, above 0.9 indicates multicollinearity and those below 0.7 may indicate nonlinearity and thus be interpreted as weak consistency.

3.9 Ethical considerations

The research study was conducted to ensure no harm would come to any of the research participants and full written consent was obtained before any research was carried out. The identity of the research participants will remain anonymous to ensure all ethical considerations around the research integrity are not compromised.

As part of the research study, the focus was given to three critical ethical considerations:

- Anonymity focuses on ethical challenges such as privacy and accountability (Distler et al., 2021)
- The confidentiality of the participants will be ensured as part of the study to ensure no harm will come to any of the respondents (Toth et al., 2021)
- Informed consent will be obtained before performing the research study, according to the “Declaration of Helsinki” no research should be carried out using human participants for both medical and non-medical research without obtaining informed consent, and the research should be fully understood (Millum & Bromwich, 2021)

The participants were informed as to what the research encompassed, and that no personal data was stored as the research was completely anonymous.

The participants were required to give consent before being able to access the questionnaire and no incentives were given for participating in the research.

All the data was collected using the online Qualtrics systems provided by Wits Business School and no other third-party software was used to collect data.

CHAPTER 4. PRESENTATION OF RESULTS / FINDINGS

The objective of this chapter is to present results and key observations from the research study and to provide an analysis of the interpretation of the data collected. The chapter includes key sample characteristics collected from the respondents' demographics, the facilitating conditions, and the behavioural intention followed by the behavioural expectations. The results include the reliability testing used to measure the internal consistency and measures of scales. The exploratory analysis of the results was evaluated and interpreted to provide the validity of the research study.

4.1 Introduction

The results are presented in a structured method that enables easier interpretation and understanding of the data collected. The data collected will be divided into four (4) parts, the first is the demographics of the respondents, the second part is facilitating conditions that inform how the respondents feel towards the adoption of new technologies, and the third is the behavioural intention of the respondent's likelihood to use the system and lastly, the behavioural expectation to adopt the new technology as part of the day-to-day workload.

4.1.1 Key characteristics of the respondents

A total of 122 responses were received, and 4 of the respondents disregarded to evaluate the effectiveness and efficiency of the survey. Further screening of the data was conducted to ensure the data set was free of errors and missing data, which enabled the researcher to analyse the 120 responses.

4.1.2 Section A: Data Analysis - Demographics – Gender and Age

Descriptive Statistics: Gender

121 out of 122 respondents indicated their Gender. Many respondents are males with a percentage of 62% followed by females with a percentage of 36%. Table 4-1 provides a breakdown of the demographics gender, 63% of the participants are male and 37% female.

Table 4-1: Demographics - Gender

Demographic: Gender				
	Frequency	**Percent %**	**Valid Percent %**	**Cumulative Percent %**
Male	76	62,3	62,8	62,8
Female	44	36,1	36,4	99,2
Missing	1	0,8	0,8	100
Total	121	99,2	100	

Source: Primary data, survey results

Descriptive Statistics: Age

77% of the respondents are aged below 50 with the majority between 30 and 49 years. 23% of the respondents are aged above 50 and only 10% of the respondents are aged below 30.

Table 4-2 provides an overview of the age breakdown.

Table 4-2: Demographics - Age

Demographic: Age				
	Frequency	**Percent %**	**Valid Percent %**	**Cumulative Percent %**
Below 30	12	9,8	9,8	9,8
30 – 39	40	32,8	32,8	42,6
40 – 49	42	34,4	34,4	77
Above 50	28	23	23	100
Total	122	100	100	

Source: Primary data, survey results

4.1.3 Section B: Facilitating Conditions (FC1)

Three questions were asked to gather the respondent's responses regarding facilitating conditions which are also meant to indicate the participant's attitude towards digital adoptions. Table 4-3 provides an overview of the respondent's responses facilitating conditions towards technological adoption.

Table 4-3: Descriptive Statistics: Facilitating Conditions

Facilitating Conditions (FC)						
	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Missing**
I have access to knowledge base articles to use the system	4	3	25	54	34	2
The new onboarding system is user-friendly	2	24	36	42	14	4
A dedicated support group is available to assist me	2	5	18	60	34	3

Source: Primary data, survey results

The general sentiment of responses to digital adoption is positive with most respondents in agreement rather than strongly agreeing. 54 of the 122 respondents agreed that they have access to knowledge-based articles to use the system followed by 34 of the 122 who indicated that they strongly agree. Although the general sentiment related to access to knowledge base articles of the system is positive, it is also noted that 25 of the 122 respondents were neutral. Most of the respondents agreed that the new onboarding system is user-friendly, it is however also noted that 36 of the respondents were indecisive. A total of 94 participants agreed and strongly agreed that a dedicated support group is available to assist, and 18 respondents were neutral about it.

Table 4-4 indicates the descriptive statistics of ordinal variables were measured on a 5-Linkert scale with a minimum of 1 and a maximum of 5. There is an average of 2% of missing values per variable measured. The average response per variable is above 3 with the "A

dedicated support group is available to assist me" variable indicating an average of 4. The averages indicate that most of the responses were towards the higher ranks (4 and 5) and the median of 4 indicates that 50% of the responses were of 4 for all the variables. The skewness and kurtosis measure the normality of the results, Kurtosis of +-5 and skewness of +-1 indicate that the responses are within normal distribution. Responses for all variables are normally distributed with FCQ1 and FCQ3 indicating minor skewness towards the left. Although many of the variables indicate negative skewness, the score of skewness is still within the normal distribution. The standard deviations are well within the expected 1 average deviation for a 5-point Linkert scale outlined in Table 4-4

Table 4-4: Descriptive Statistics of Continuous Variables

Descriptive Stats of Ordinal Variables										
		I have access to knowledge base articles to use the system	The new onboarding the system is user-friendly	A dedicated support group is. availabl e to assist me	I don't use the new system	My intention is to use the new system in the next 3 months	I'm an active user of the new system	How satisfied are you with the knowledge base articles?	How satisfied are you with the system user interface ?	How satisfied are you with the support group?
Frequencies	Valid	120	118	119	120	120	119	119	118	119
	Missing	2	4	3	2	2	3	3	4	3
Mean		3.93	3.36	4.00	3.48	3.70	3.63	3.91	3.96	4.05
Median		4.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation		.945	.992	.873	1.069	.904	.999	.781	.821	.882
Skewness		-1.002	-.126	-1.009	-.565	-.825	-.444	-.379	-.959	-.703
Std. Error of Skewness		.221	.223	.222	.221	.221	.222	.222	.223	.222
Kurtosis		1.326	-.726	1.429	-.133	1.122	-.219	-.165	1.838	.198
Std. Error of Kurtosis		.438	.442	.440	.438	.438	.440	.440	.442	.440
Minimum		1	1	1	1	1	1	2	1	1
Maximum		5	5	5	5	5	5	5	5	5

Source: Primary data, survey results

4.1.4 Section C: Behavioural Intention (BI)

Three questions were asked to gather the respondent's sentiments regarding Behavioural Intention which is also meant to indicate the participant's attitude towards technological adoption. Table 4-5 provides an overview of the respondent's responses to behavioural intention towards technological adoption.

Table 4-5: Descriptive statistics Behavioural Intention (BI)

Behavioural Intention (BI)						
	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Missing**
I do not use the new system	7	13	34	47	19	2
I intend to use the new system in the next 3 months	4	5	33	59	19	2
I am an active user of the new system	3	12	35	45	24	3

Source: Primary data, survey results

The general sentiments of respondents towards attitude towards technological adoption is. positive but with most respondents in agreement than strongly agreeing.

4.1.5 Section D: Behavioural Expectation (BE)

Three questions were asked to gather the respondent's satisfaction. Table 4-6 provides an overview of the respondent's responses towards technological adoption.

Table 4-6: Descriptive statistics – Behavioural Expectation (BE)

Behavioural Expectation (BE)						
	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Missing**
How satisfied are you with the knowledge base articles?	0	5	27	61	26	3
How satisfied are you with the system user interface?	2	3	21	64	28	4
How satisfied are you with the support group?	1	4	25	47	42	3

Source: Primary data, survey results

4.1.6 Section E: Adoption

To measure adoption, the researcher asked the respondents about the usage of the system daily and the extension of usage. Table 4-7 indicates that 56% of the respondents use the system often 32% never use the system and 9% use it rarely. A total of 40 participants indicated that they do not use the system daily, while 63% use the system daily. 50% of the system users indicated that they use the system extensively and 18% of them indicated that they use it sometimes.

Table 4-7: Descriptive statistics – Adoption

Adoption			
	Frequency	**Percent %**	**Valid Percent %**
Duration (As part of your daily work, how often do you use the system?			
Often	68	55,7	57,6
Rarely	11	9,0	9,3
Never	39	32,0	33,1
Frequency (Do you use the new system daily?)			
Yes	77	63,1	65,8
No	21	17,2	17,9
Sometimes	19	15,6	16,2
Intensity (How extensively do you use the system?)			
Extensive	61	50,0	51,3
Not extensive	36	29,5	30,3
Sometimes	22	18,0	18,5

Source: Primary data, survey results

4.1.7 Reliability Testing

The reliability test, presented in Tables 4-8 to 4-10 is used to test if the research methods are consistent and can be replicated. Methods that are not reliable are likely to be influenced by other factors not considered in the study. The inter-term correlation matrix will indicate if the terms within the constructs agree and if they are representing the construct consistently, a strong correlation is assumed if the correlation coefficient is above 70%. Cronbach's alpha is used to test the ultimate reliability of the terms in the constructs (Cronbach, 1951).

The overall Cronbach Alpha is derived from the terms and each term is evaluated individually and tested if it has a positive impact or a negative impact. The construct is said to be reliable if the overall Cronbach alpha is between 70% and 90%. Those above 90% may indicate multicollinearity and those below 70% may indicate nonlinearity and thus be interpreted as weak consistency.

Tables 4-8 to 4-10 provide an overview of the reliability testing using Cronbach's Alpha reliability method.

Table 4-8: Reliability Testing of Constructs: Facilitating Conditions (FC)

Inter-term correlations and Cronbach's Alpha					
Facilitating Conditions (FC)					
	I have access to knowledge base articles to use the system	The new onboarding system is user-friendly	A dedicated support group is available to assist me	Cronbach's Alpha if Item Deleted	Overall Cronbach
I have access to knowledge base articles to use the system	1,000	0,200	0,155	0,470	0,460
The new onboarding system is user-friendly	0,200	1,000	0,310	0,268	
A dedicated support group is available to assist me	0,155	0,310	1,000	0,333	
Items within the Facilitating Conditions (FC) indicate very low consistency with an overall alpha of 46%. The two items "The new onboarding system is user friendly" and "A dedicated support group is available to assist me" harm the overall consistency of the construct and this is evident by the weaker Cronbach alpha if they are removed from the construct. The interterm correlation coefficients also indicate that the terms have weak correlations.					

Source: Primary data, survey results

Table 4-9: Reliability Testing of Constructs*:* Behavioural Intention

	Behavioural Intention (BI)				
	I don't use the new system	I intend to use the new system in the next 3 months	I'm an active user of the new system	Cronbach's Alpha if Item Deleted	Overall Cronbach
I don't use the new system	1,000	-0,013	0,516	0,315	0,485
I intend to use the new system in the next 3 months	-0,013	1,000	0,188	0,680	
I'm an active user of the new system	0,516	0,188	1,000	-.027	
Items within the Behavioural Intention (BI) indicate very low consistency with an overall alpha of 49%. The two items “I don't use the new system” and “I'm an active user of the new system” harm the overall consistency of the construct and this is evident by the weaker Cronbach alpha if they are removed from the construct. Moreover, a negative Cronbach alpha indicates conflicts between the terms. It is recommended that the two variables be investigated further. The inter-term correlation coefficients also indicate that the terms have weak correlations.					

Source: Primary data, survey results

Table 4-10: Reliability Testing of Constructs: Behavioural Expectation (BE)

	Behavioural Expectation (BE)				
	How satisfied are you with the knowledge base articles?	How satisfied are you with the system user interface?	How satisfied are you with the support group?	Cronbach's Alpha if Item Deleted	Overall Cronbach
How satisfied are you with the knowledge base articles?	1,000	0,671	0,664	0,840	0,867
How satisfied are you with the system user interface?	0,671	1,000	0,726	0,795	
How satisfied are you with the support group?	0,664	0,726	1,000	0,803	
Items within the Behavioural Expectations (BE) indicate very strong consistency with an overall alpha of 87%. There is a high correlation between “How satisfied are you with the system user interface? “And “How satisfied are you with the support group?” with an inter-term correlation e=coefficient of 73% and a moderate correlation between “How satisfied are you with the knowledge base articles?” and “How satisfied are you with the system user interface?” with a correlation coefficient of 66%.					

Source: Primary data, survey results

Table 4-11: Summary of Reliability

	Overall Cronbach
Facilitating Conditions (FC)	**0,460**
Behavioural Intention (BI)	**0,485**
Behavioural Expectation (BE)	**0,867**

Source: Primary data, survey results

Correlations

Table 4-12: Correlation metrics of Adoption Variables

Adoption Variables Correlations				
		Duration	**Frequency**	**Intensity**
Duration	Correlation Coefficient	1,000	.683**	.661**
	Sig. (2-tailed)		0,000	0,000
Frequency	Correlation Coefficient	.683**	1,000	.577**
	Sig. (2-tailed)	0,000		0,000
Intensity	Correlation Coefficient	.661**	.577**	1,000
	Sig. (2-tailed)	0,000	0,000	

Source: Primary data, survey results

There is a moderate relationship between variables of Adoption. All correlation coefficients are below the anticipated 70% which would demonstrate stronger relationships between the variables, however, it is noted that all relationships are positive in statistically significant with the p values of <0.001 at 0,01 level of significance.

Hypothesis Testing

Hypothesis 1

- H1o: The demographics (age & gender) of employees have an impact on the adoption.

- H1a: The demographics (age & gender) of employees have no impact on the adoption.

A nonparametric Chi-Square test was used to test the relationship between the two variables, and Kendall Tau C for rectangular tables testing was incorporated to assess the degrees of correlation for ordinal variables. The null hypothesis will be tested at a 5% level of significance.

Table 4-13 tests if the adoption of the system is dependent on whether the respondent was male or female. Adoption will be represented by the variables Duration, Frequency, and Intensity.

Table 4-13: Chi-Square Test – Gender Vs Adoption

Chi-Square Test for Gender and Adoption				
	Value	Df.	Asymptotic Significance (2-sided)	Kendal-Tau C Correlation Coefficient (*p-value*)
Duration	1.608	2	0,448	11,6% (0,21)
Frequency	7.589	2	0,022	-1,9% (0,81)
Intensity	.675	2	0,714	5% (0,58)

Source: Primary data, survey results

Results of the Chi-square test indicate that there is no statistically significant relationship between males and females and the duration (As part of your daily work, how often do you use the system?) with a p-value of 0,448 at a 0,05 level of significance, the Kendall Tau C test supported the Chi-square with a weaker and non-significant correlation coefficient of 11,6% with a p-value of 0,21 at 0,05 level of confidence. The same can be said with the relationship between Gender and Intensity (How extensively do you use the system?) with a p-value of 0,714 and a correlation coefficient of 5% both tested at a 0,05 level of significance. It is however noted that the relationship between gender and frequency (Do you use the new system daily?) is statistically significant with a p-value of 0,02 at a 0,05 level of significance.

The Kendall Tau C correlation coefficient between the two variables is weak at 1,9% insignificant but negative in direction. Graph 4-1 provides virtually the relationship between gender and frequency. Male respondents are the main users of the system as compared to female respondents. Female respondents also indicated that they use the system infrequently as compared to male respondents.

Graph 4-1: Frequency by Gender

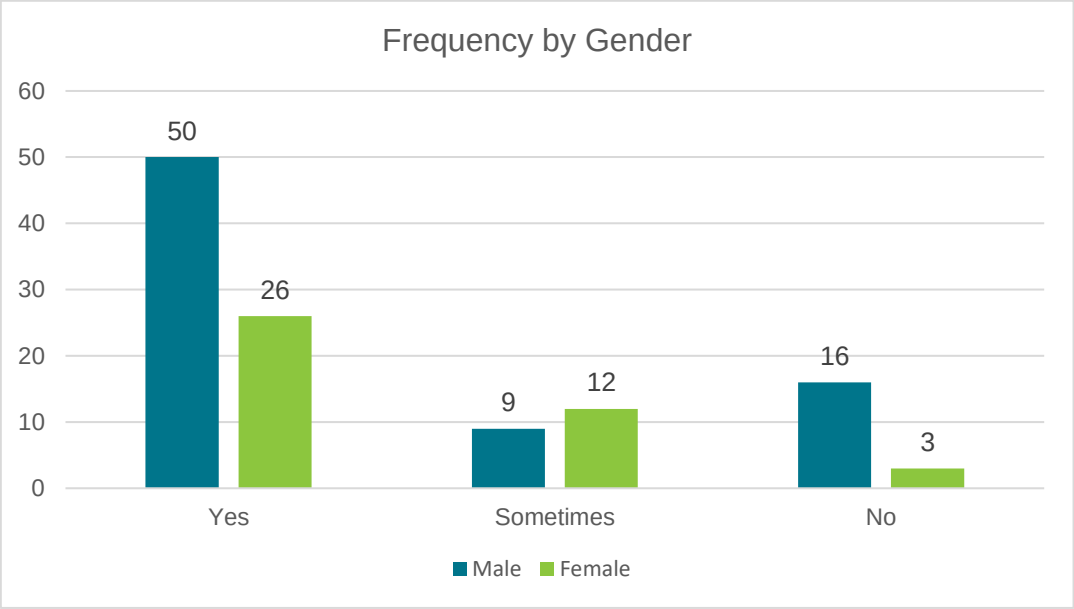


Table 4-14 tests if the adoption of the system is dependent on the age of the respondents.

Table 4-14: Chi-Square Test – Age Vs Adoption

Chi-Square Test for Age Vs Adoption				
	Value	**Df.**	**Asymptotic Significance (2sided)**	**Spearman Correlation**
Duration	5.292	6	0,507	12,1% (0,13)
Frequency	5.176	6	0,521	10,3% (0,16)
Intensity	9.221	6	0,162	17,4% (0,18)

Source: Primary data, survey results

According to the Chi-Square and Kendall Tau C results on Age and Adoption, there are no statistically significant relationships between the two variables (Spearman, 1961). The two tests above indicated that of the 6 combinations between participants' demographics and Adoption, the was only one combination of gender and frequency which indicated that there

is a statistically significant relationship, all other combinations (5/6) indicated that there were no statistically significant relationships. It is, therefore, appropriate to conclude that the null hypothesis that the demographics (age & gender) of employees have an impact on the adoption be rejected as the alternative hypothesis stating that the demographics (age & gender) of employees have no impact on the adoption is accepted at 5% level of significance.

Hypothesis

- $H3_o$: The attitudes of employees toward technology have an impact on the adoption.
- $H3_a$: The attitudes of employees toward technology have no impact on the adoption.

Table 4-15: Chi-Square Test - Technological Adoption

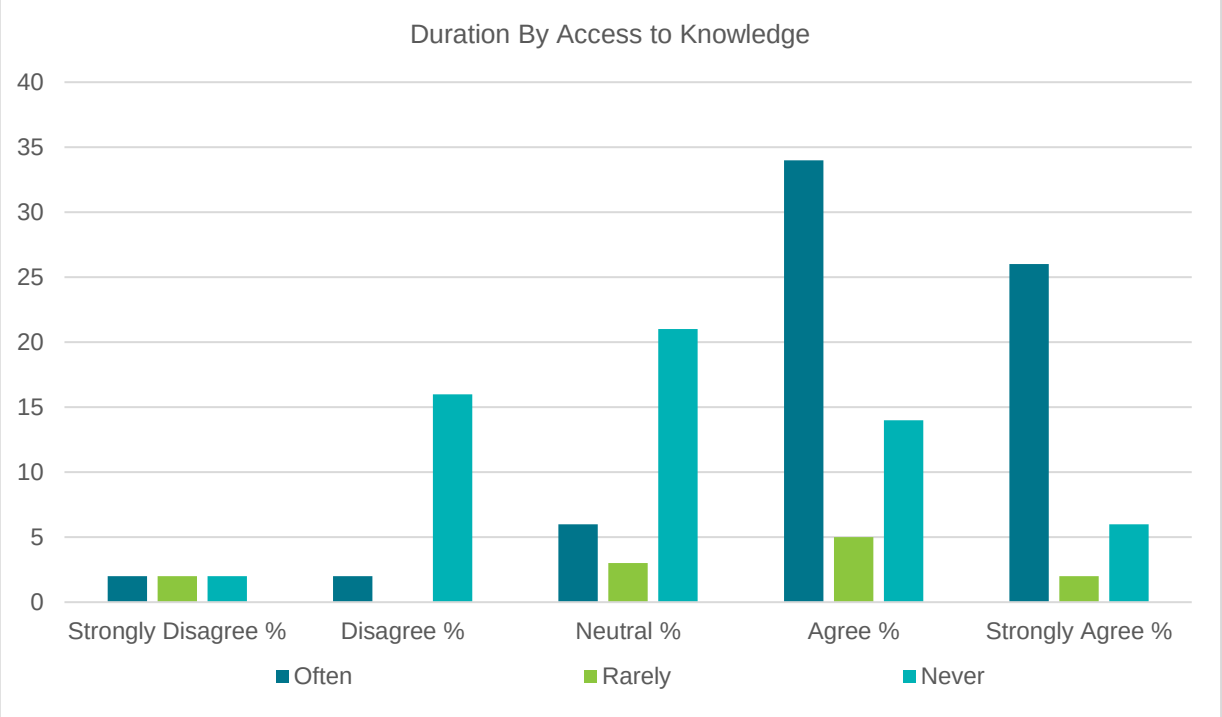
Chi-Square Test - Technological Adoption				
Adoption	Statistics	I have access to knowledge-based articles to use the system	The new onboarding system is user-friendly	A dedicated support group is available to assist me
Duration	Chi-Square	22.184	11.025	12.041
	Degrees of Freedom	8	8	8
	Asymptotic Significance (2sided)	**0,005**	0,200	0,149
	Kendall Tau C Correlation	-0,370	-0,211	-0,165
Frequency	Chi-Square	15.155	18.578	9.427
	Degrees of Freedom	8	8	8
	Asymptotic Significance (2sided)	**0,056**	**0,017**	0,308
	Kendall Tau C Correlation	-0,230	-0,263	-0,157
Intensity	Chi-Square	19.792	13.709	15.835
	Degrees of Freedom	8	8	8
	Asymptotic Significance (2sided)	**0,011**	0,090	**0,045**
	Kendall Tau C Correlation	-0,203	13.709	-0,227

Source: Primary data, survey results

Duration:

The Chi-Square test above suggests that there is a positive and strong relationship between Duration (As part of your daily work, how often do you use the system?) and access to knowledge base articles to use the system with a p-value of 0,005 at 0,05 level of significance. The Kendall Tau C correlation coefficient is negative indicating the two variables have opposite directions. Graph 4-2 shows that those who use the system often agreed and strongly agreed that they have access to knowledge base articles but those who never use the systems agreed but the majority were neutral about having access to knowledge base articles to use the system. Those who rarely used the system were very neutral.

Graph 4-2: Duration by Access to Knowledge



Source: Primary data, survey results

There was no statistical significance between Duration (As part of your daily work, how often do you use the system?) and the user-friendliness of the systems as well as the availability of dedicated support.

Frequency

The Chi-Square test above suggests that there is a positive and strong relationship between Frequency (Do you use the new system daily?) and access to knowledge base articles to use the system with a p-value of 0,056 at 0,05 level of significance. There is also statistical significance between frequency and the user-friendliness of the new onboarding system with a p-value of 0,017 at a 0,05 level of significance. The Kendall Tau C correlation coefficient is negative for both relationships indicating the two variables have opposite directions.

Table 4-16: Summary of Responses Frequency by Technological Adoption

I have access to knowledge base articles to use the system.					
Frequency	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %
Yes	2	1	10	38	26
No		2	8	7	4
Sometimes	1		6	8	4
The new onboarding system is user-friendly.					
Yes	1	14	17	30	13
No		7	6	8	
Sometimes	1	3	11	4	

Source: Primary data, survey results

Table 4-16 indicates that those who use the system daily and those who do not use the system daily agreed and strongly agreed that they have access to the knowledge base articles to use the system and it is also evident that those who do not use the system daily were neutral. Table 4-16 also suggests that some (14) who use the system daily are neutral about the new onboarding system being user-friendly while most respondents (30) indicated that they agree that the system is user-friendly. It is also noted that those who do not use the system and those who use the system sometimes disagreed and some were neutral about it being user-friendly.

Intensity:

There is a statistically significant relationship between intensity (How extensively do you use the system?) and having access to the knowledge base articles to use the system with a p-value of 0,011 at 0,05 level of significance and a statistically significant relationship between

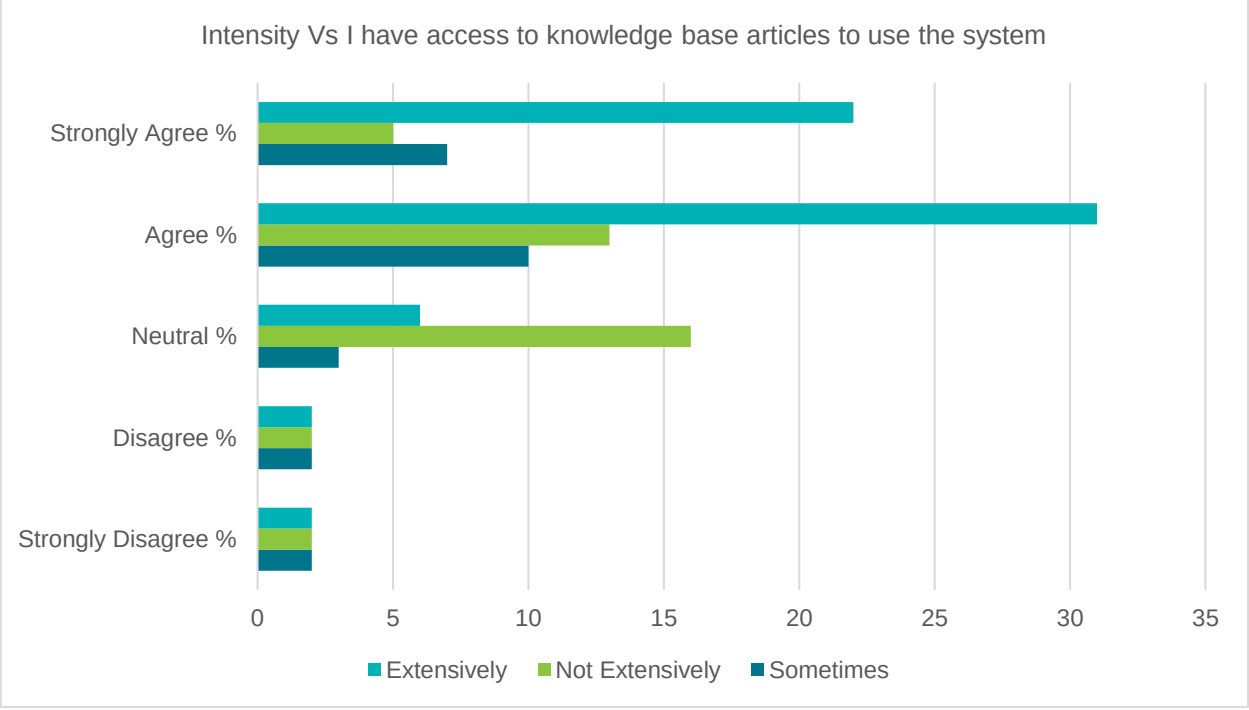
intensity and the support group being available to assist them with a p-value of 0,045 at 0,05 level of significance. The Kendall Tau C correlation coefficient is negative for both relationships indicating the two variables have opposite directions. Table 4-17 provides an overview of the correlation test results.

Table 4-17: Chi-Square and Kendall Tau C Correlation Intensity Summary

Chi-Square Test -Intensity Results				
Intensity	Chi-Square	19.792	13.709	15.835
	Degrees of Freedom	8	8	8
	Asymptotic Significance (2sided)	**0,011**	0,090	**0,045**
	Kendall Tau C Correlation	-0,203	13.709	-0,227

Source: Primary data, survey results

Graph 4-3: Intensity by Access to Knowledge

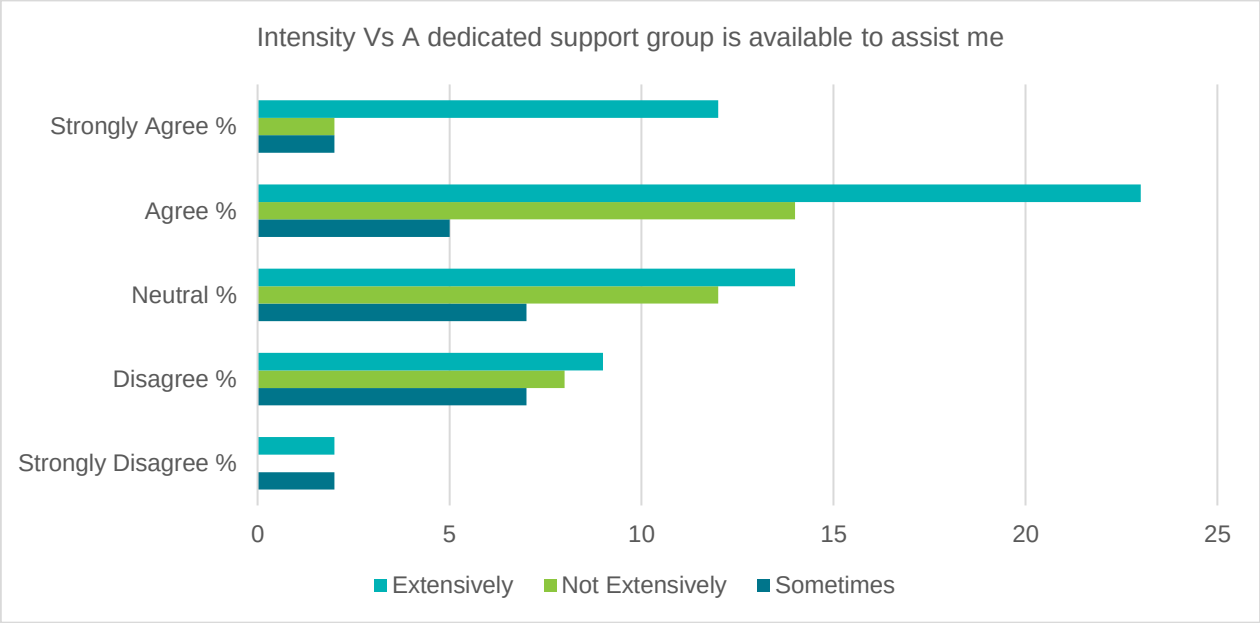


Source: Primary data, survey results

Graph 4-3 indicates that those who use the system extensively strongly agreed and agreed that they have access to the knowledge base articles to use the systems while those who do not use the system extensively are neutral about having access to the knowledge base articles to use the system. Graphs 4-4 indicate that those who use the system extensively

strongly agreed and some agreed that they have a dedicated support group available to assist them. it is also noted that some who use the system extensively indicated that they are neutral, some disagreed that they have a dedicated support group available to assist them and at least 1 of the extensive users of the systems indicated that they strongly disagree that there is a dedicated support group available to assist them.

Graph 4-4: Intensity by Dedicated Support



Source: Primary data, survey results

The analyses provide different views of the relationship between the attitudes of employees on technological adoption and the impact on the adoption. It is however evident with the pvalues of below 0,05 level of significance that those who use the system daily, more often and intensively have access to the knowledge base articles to use the systems. With 5 of the 9 tests done showing statistically significant relationships between Adoption variables and attitudes towards technological adoption with a p-value of below 0,05, it is fair to accept the null hypothesis that the attitudes of employees on technological adoption have an impact on the adoption.

Table 4-18 provides a summary of the hypothesis.

Table 4-18: Summary and Outcome of Hypothesis

Hypotheses	Outcome	Result
H1a	Age does not affect technological adoption (TA).	Supported
H2a	Gender does not affect technological adoption (TA)	Supported
H3a	Attitudes do not affect technological adoption (TA)	Supported
H4a	FC does not affect technological adoption (TA).	Supported
H5a	BI does not affect technological adoption (TA)	Supported
H6o	BE has a positive effect on technological adoption (TA).	Supported

4.1.8 Conclusion

The chapter consists of four underlying predictions, the demographics (age & gender) of the respondents, the facilitating conditions and behavioural intent of the respondents and lastly the behavioural expectations that include, duration, frequency, and intensity of use.

The results indicate even with a much older workforce, that the respondents' demographics (age and gender) do not have a negative impact on employees' attitudes toward technology adoption. 77% of the respondents were aged below 50 years and 63% of the respondents were male, whilst the remaining 37% were female. Although most of the respondents were male, gender does not impact employees' attitudes toward technology adoption.

The facilitation conditions of the respondents do not impact the employees' attitudes towards technological adoption. The behavioural intention also does not have an impact on employees' attitudes towards technological adoption. The research did however indicate that a strong correlation exists between employees' attitudes towards technological adoption. The research findings were limited to the sample size and results were confined to the RBB business unit.

CHAPTER 5. DISCUSSION OF RESULTS

5.1 Introduction

The research study aims to determine if the attitudes towards adoption are driven by employee demographics (age and gender) and determine whether employees' adoption of technology is driven by facilitating conditions (training and support). Continuing from the data analysis outlined in Chapter Four, covered in this chapter is a more granular look at the findings of this research study with emphasis specifically on the demographics of the research participants and the level of adoption of technology.

The quality of the data collected was refined by the researcher and data cleanup was applied to ensure the effectiveness of the study.

5.2 Discussion pertaining to Hypothesis 1

Demographics (age & gender) of employees on adoption There are no statistically significant relationships between the two variables. The opposite is true when considering usage as the Chi-Square test suggests that a positive and strong relationship exists between “duration” and access to knowledge base articles to use the system. In a similar study conducted to analyse the perceived usefulness of the system when considering the same demographics, the difference in age and gender also does not impact the level of use of the system (Selimović et al., 2021).

5.2.1 *Demographics: Age*

The research results indicate that age has no significant influence when it comes to the adoption of the new system. The results in Table 4-13 support this finding and the Chi-Square and Kendall Tau C test performed confirms that there are no statistically significant relationships between the two variables age and adoption (Spearman, 1961). In a separate study whereby the adoption of information technology in the banking system was mainly limited to the level of infrastructure available, and age also does not play a pivotal role when it comes to technology adoption (Paul & Spiru, 2021).

The literature also suggests that even with an ageing workforce, the level of adoption remains relatively high as employees constantly seek to better themselves and equip them with the knowledge to enable them to fulfil their current job responsibilities (Staddon, 2020).

Technology as a business enabler remains a driving force behind digital innovation and age barriers do not impact adoption (Bicchieri, 2016).

5.2.2 *Demographics: Gender*

The demographics as far as gender is concerned hold no significant impact on adoption. Most of the respondents were male participants but this did not influence the outcome of the survey results. Gender as an independent variable has no significant impact on adoption and the literature suggests that female respondents tend to be likely to adopt technology (Mäkiniemi et al., 2019). The research study suggests that male respondents are keener on adoption based on the survey results (Hanif et al., 2022; Yusuf & Maizar, 2023)

The external factors such as globalisation, changes related to job roles and the laws that promote females, we will see a workforce that is made up of more females which will support the literature reviewed (Rogers, 2020).

The hypothesis can therefore be confirmed:

H1a	The age of employees on technological adoption has **no** impact on adoption.
H2a	The gender of employees in technological adoption has **no** impact on the adoption

The hypothesis is also supported by the Chi-square and Kendall Tau C test.

5.3 Discussion pertaining to Hypothesis 2

The attitudes of employees toward technological adoption have been broken into three themes namely:

- Facilitating Conditions (FC) - the level of knowledge and support for using the new system.
- Behavioural Intention (BI) - attitudes towards using the new system.
- Behavioural Expectation (BE) - the use and level of satisfaction with using the new system.

5.3.1 *Facilitating Conditions (FC)*

The facilitating conditions using the research study data suggest that the interterm correlation coefficients indicate that the terms have weak correlations. The study also suggests that facilitating conditions on its own provides limited insight into the actual prediction towards behavioural intentions towards technological adoption(Aryono Putranto, 2020; Hanif et al., 2022). The prediction is further impaired due to the nature of the level of degree an individual beliefs exists to the adoption (Sheeran & Webb, 2016). The results are based on the participants' mental well-being and provide limited insight into the actual predictability of adoption. The UTAUT model and its application, the research suggests that facilitation conditions on their own, cannot fully predict the use of the new system and needs to be coupled with behavioural intention and behavioural expectation for the hypothesis to be more favourable (Venkatesh et al., 2023). The perceptions around adoption are mainly influenced by external factors and the literature supports this observation (Kumar et al., 2020)

The hypothesis can therefore be confirmed:

H4a	The facilitating conditions of employees have **no** impact on adoption.

5.3.2 *Behavioural Intention (BI)*

The result of the behavioural intention was impacted due to two of the questions used within the survey “I don't use the new system” and “I'm an active user of the new system” creating a weaker Cronbach alpha construct. The removal of the two constructs will change the correlation matrix to have a positive construct, as part of the prediction that the behavioural expectation will positively influence both facilitating conditions and behavioural intention is evident in Table 4-6. The results are also evident as not many of the participants are active users of the new system and this may mainly be attributed to a lack of understanding and use of the system (Mohd Thas Thaker et al., 2019; Venkatesh et al., 2023). The survey results as outlined in Table 4-5 indicate that the majority of the participants are not active users of the system which informs the weaker Cronbach alpha construct. The literature reviewed suggests that adoption is informed based on the use of technological innovation within the workplace and supports the findings of the research, access to knowledge will facilitate and improve adoption (Al-Emran & Shaalan, 2021).

The hypothesis can therefore be confirmed:

H5a	• The behavioural intent of employees has **no** impact on adoption.

5.3.3 *Behavioural Expectation (BE)*

The results of the behavioural expectation were significantly higher in comparison to the analysis for both the facilitating conditions and behavioural intention. As outlined in the Literature review in Chapter 2, this is understanding as behavioural expectations cover the limitations of the two predictors. Most of the participants indicated a more positive mindset as far as the adoption is concerned and this may mainly be attributed to the willingness to learn the new system and make it part of their daily work activities. The construct is also more favourable in comparison to the predictors of the behavioural intention results, as the study predicted (Venkatesh et al., 2023). The three concepts duration, frequency and intensity close the gaps and improve the variance observed in both the facilitation conditions and behavioural intention.

5.3.4 *Adoption / Use*

- Duration
- Frequency
- Intensity

Duration

The hypothesis suggests that there is a positive and strong relationship between “Duration” and access to knowledge-based articles to use the system.

Frequency

A positive and strong relationship between Frequency and access to knowledge-based articles to use the system exists.

Intensity

There is a statistically significant relationship between intensity and having access to the knowledge base articles to use the system.

The hypothesis can therefore be confirmed:

H6o	• The behavioural expectancy of employees has an impact on adoption.

5.4 Conclusion

The research study based on the predictors indicates that a positive relationship exists between behavioural expectation and the use (duration, frequency, and intensity) of the new system. The limitations were noticeable when the two predictors facilitation conditions and behavioural intensity were used as the two variables indicate that the wrong conclusions can be made when evaluating the adoption of a new system.

The results are not always consistent and do not take into account the human psychological beliefs and behaviours that exist (Venkatesh et al., 2023)

The construct of “use” becomes an important predictor as it allows for a deeper understanding of human behaviour and enables the research to draw a closer viewpoint for the level of adoption that exists.

CHAPTER 6. CONCLUSION & RECOMMENDATIONS

6.1 Introduction

In this chapter, the data analysis and research objectives highlighted as part of Chapter 1 will be discussed key recommendations will be presented, and suggestions made for further research studies.

As part of the Literature review the demographics such as age and gender of employees and the impact it holds on technological adoption will be further unpacked bearing in mind that change is inevitable.

6.2 Conclusion regarding research objectives 1

Employees are constantly seen as the most important assets of the organisation and with an ageing workforce, age and gender might not play an important aspect in the success of the Absa Group, but it is worth noting that succession planning and early adoption of a digital strategy will play an important aspect of the success and future lifespan of the Group.

6.2.1 *Demographics: Age*

With an ageing workforce, the intellectual property such as knowledge and experience lost when retirement factors come into play.

Several skilled individuals leave the employment of the bank, and the direct implications are people who used to understand the systems are no longer available to assist (Goodarzi et al., 2021). This tends to the adoption of new systems to replace the current ones and creates challenges related to adoption (Mahardika et al., 2019). In the recent study conducted by PricewaterhouseCoopers (PwC) to understand the level of digital adoption that exists in large organisations, the level of employee adoption of new systems becomes a key factor, the uptake is not always widely accepted and this is mainly due to the lack of training to use the system (Gouws et al., 2023).

Through the development of a proper digital transformation strategy, the Absa Group can ensure that when key resources reach retirement age, they will be able to log in the level of knowledge and experience that those resources hold not lost.

6.2.2 *Demographics: Gender*

The demographics related to gender were included as part of the research and no direct linkage to the adoption of new systems was found. The research did however suggest that male respondents are the main users of the system in comparison to female respondents. The recommendation would be to target a wider research population through the creation of focus groups to get a balanced view of respondents and the establishment of internal surveys to check for the level of adoption of new systems. The aspect of perceived usefulness and ease of use plays an important role throughout the research and the Technology Acceptance Model (TAM) becomes an important consideration for understanding the factors of the subjective norm (Venkatesh et al., 2008).

6.3 Conclusion regarding research objectives 2

The attitudes of employees toward technological adoption and the impact it holds on adoption will inform the level of success the Bank will undergo. The earlier employees adopt new technological adoptions, will also play a vital role in the competitive advantage the organisation will have over new entrants (Kane, 2019).

6.3.1 *Facilitating Conditions (FC) towards technological adoption (TA)*

As part of the prediction of facilitating conditions and the impact held towards technological adoption, the research study can make the following recommendations:

- Facilitating conditions as the Literature suggest should mainly be used as a predictor and should not influence the overall results of the study (Venkatesh et al., 2023).
- The facilitating conditions towards technological adoption need to be further explored through the establishment of a centre of excellence whereby employees can be first briefed as to what the study will entail creating a common level of understanding.

6.3.2 *Behavioural Intention (BI) towards technological adoption (TA)*

The discussion around the two questions raised as part of the research study “I don't use the new system” and “I'm an active user of the new system” created a weaker Cronbach alpha construct. The two variables were explored further to get a more accurate view of the level of attitude and adoption that exists. Further recommendations were given to conduct the actual research study a follow-up research survey permitted to track the changes in behaviour as the majority of the participants of the research study requested the same follow-up. The establishment of a unique research group will also help to understand the external factors that might influence the research and try and address them before the follow-up survey.

6.3.3 *Behavioural Expectation (BE) towards technological adoption (TA)*

The behavioural expectation used as the predictor towards technological adoption indicated a strong adoption of new system learning. The results were strongly positive in favour of technological adoption, and this might also have contributed to more of the participants agreeing to use the new system soon. Human behaviour and the level of constantly seeking to understand more might also be one of the driving forces that lead to positive research results (De Choudhury et al., 2013).(Venkatesh et al., 2023)

6.3.4 *Adoption towards technology*

The survey results indicate a strong relationship between technological adoption and adoption. The variables, duration, frequency and intensity display a positive relationship towards adoption and use (Venkatesh et al., 2023)

6.4 Possible limitations and challenges of the study

The limitation of study is limited to Absa Bank and targets a small population of the Group. The views and observations collected as part of the research study do not include all the viewpoints shared across the entire organisation. Based on the timelines of the research study, the research was confined to the Retail and Business Banking business unit and

therefore only reached 10% of the population. The results and viewpoints received from part of the research are limited and do not share the viewpoints of the entire Group.

6.5 Recommendations

The significance of the research study has prevailed that Banks that have adopted early technological adoption and embraced innovation tend to be more successful as opposed to financial institutions that have not embraced change. As part of a strategic roadmap, Banks need to constantly create new horizons to make themselves relevant in this constantly changing technological world we find ourselves.

Changes within the organisation will help shape a learning culture that embraces change.

The establishment of a Chief Digital Transformation Officer (CDTO) role to help position the Group to help drive digital transformation and establishment of a learning culture aim at embracing change. The early adoption of technology within the workplace and the application of the UTAUT model will help the CDTO to achieve the strategic objectives of the Group. The leadership across the entire Group needs to understand the importance of technology adoption as it will help shape the Bank create a solid roadmap towards technology adoption and position the Group as a competitive force.

6.6 Suggestions for further research

The research study has shown that financial institutions such as banks are getting closer to the digital vortex and are constantly under the firing line. Future research may suggest looking into various aspects of the adoption of technological adoption and how banks can remain relevant.

- The key focus areas that need to be further explored are the impact of digital innovation how the evolution of fintech companies embrace technological adoption and the impact it plays on adoption. Technologies that will transform the financial services industry are the adoption of Artificial Intelligence (AI), blockchain and big data analytics to track the behaviour and spending habits of consumers to enable banks to promote innovative product offerings to their clients.
- Another focus area is the use of mobile technologies specifically in banking whether a need for physical points of presence for retail banks is still required.
- The adoption of digital innovation at an early stage as part of academic learning will see an increase in technological adoption.
- The use of cryptocurrency and the level of adoption that will exist in the banking industry explored how banks will embrace the use of the new currency as far as adoption is concerned.

The world as we know it constantly changing and the level of technological adoption is increasing exponentially, the level of technological adoption across different sectors will transform the world as we know it today (Armstrong & Lee, 2021)

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Appendix A: Research Instrument

A1: Research Permission Letter to Conduct Research

University of the Witwatersrand,
Wits Business School,
2 St Davids Pl & St Andrew Rd
Parktown, Johannesburg

Lindelani Ramukumba
Absa Bank Limited
7th Floor, Absa Towers West
15 Troye Street, Johannesburg,

19 October 2022

Dear Lindelani,

Re: Permission to conduct research at Absa Bank Limited: Relationship Banking

My name is Ashley Carolissen,

I am a Lead Service Delivery Manager studying for a Master's degree in Management in the field of Digital Business in the Wits Business School at the University of the Witwatersrand. I am seeking permission to do research at Absa Bank within the Relationship Banking business unit.

I am conducting a research study to understand employees' attitudes on technological adoption and enhancement of its role in changing the nature of work in banking within a South African context.

The research further aims to achieve an understanding of how technological enhancement can further enable financial institutions to leverage of adoption of AI/ML to further optimize job roles and, in doing so give them a competitive advantage
The research will entail collecting data from staff members within Relationship Banking.

I will invite individuals from the Relationship Banking business unit to participate in this study.

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

If they agree, the survey online data collection method that will be used and structured interviews that consist of prespecified questions and responses.

Participants will be asked to give their written or verbal consent before the research begins. Their responses will be treated confidentially, and identities (their names and the name of the organisation) will be anonymous unless otherwise expressly indicated. Individual privacy will be maintained in all published and written data resulting from the study.

The results will be communicated as part of my dissertation.

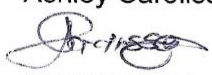
The research participants will not be advantaged or disadvantaged in any way. They will be reassured that they can withdraw their permission at any time during this project without any penalty. There are no foreseeable risks in participating in this study. The participants will not be paid for this study.

All research data will be preserved anonymously for reuse by other researchers, etc.

I therefore request permission in writing to conduct my research at your organisation. The permission letter should be on your organisation's headed paper, signed and dated, and specifically referring to myself by name and the title of my study.

Please let me know if you require any further information. I look forward to your response as soon as is convenient.

Yours sincerely,

Ashley Carolissen

082 320 0011
Ashley.Carolissen1@students.wits.ac.za

Ayanda Magida
(011) 717 3953
Ayanda.Magida@wits.ac.za

A2: Research Approval Letter to Conduct Research

Memo

To	Ashley Carolissen
Copy	Nyarai Mutuma: People Lead - RB • RB - People & Culture Function
From	Lindelani Ramukumba: Chief Information Officer
Date	19 October 2022
Subject	Re: Permission to conduct research at Absa Bank Limited: Relationship Banking

Good day, Ashley Carolissen, I hereby confirm I have received your letter requesting approval to conduct research within the Relationship Banking business unit.

As part of our continued support to assist our staff to develop themselves, I hereby request that you must ensure that no harm will come to any of the research participants, and the identity of the research participants must remain anonymous.

The finale results of your research should be shared with the Relationship Banking Executive committee to help us to better understand how to assist our people.

Approval Granted

Approval is hereby granted to conduct the research within Relationship Banking business unit.

Approved by:

Lindelani Ramukumba

Chief Information Officer

Date: 2022 / 10 / 19

A3: Research Questionnaire and Informed Consent

INFORMED CONSENT FOR THE RESEARCH PROJECT

Researcher: Ashley Carolissen
Study Title: Employees perceptions and attitudes on technological adoption and enhancement in the banking sector

My name is Ashley Carolissen, I'm a Masters student the field of Management in the field of Digital Business in the Wits Business School at the University of the Witwatersrand.

The following information is provided to inform you about the research project and your participation in it.

The research objectives are concise as follows:

- To determine the attitudes and perceptions toward technological enhancement in the workplace
- To assess the attitudes and perceptions on the role of technology enhancement in job roles

You are hereby invited to participate in this study by completing the survey which should take you no longer than 10 minutes.
Please take note of the following information regarding your participation in this research study.

1. There are no foreseeable risks in participating in this study.
2. The participants will not be compensated for participating in this study.
3. All research data will be preserved anonymously for reuse by other researchers, etc.
4. Participation is completely voluntary and only adults may participate.
5. Participants will be asked to give their **consent before** the research begins.
6. All responses will be treated confidentially, and identities will be anonymous.
7. Individual privacy will be maintained in all published and written data resulting from the study.
8. Data from the survey will only be used for research purposes, and no information will be disclosed to third parties.

Researcher: Ashley Carolissen, email Ashley.Carolissen1@students.wits.ac.za

Supervisor: Ms Ayanda Magida, email: Ayanda.Magida@wits.ac.za

Your valuable participation as part of the survey will be highly appreciated when accessing the survey link below:

https://wits.eu.qualtrics.com/jfe/form/SV_aaDKQtKDd1oqmDs

STATEMENT BY PERSON AGREEING TO PARTICIPATE IN THIS STUDY

I hereby confirm that I have read the informed consent and hereby understand the purpose of the study and that I'm freely willing to participate in this research study voluntarily.

- ◯ Yes I Consent
- ◯ No I do not Consent

A4: Ethics Clearance Certificate

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

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

Ethics Clearance Certificate

Ethics protocol number: WBS/DB2412219/302
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below)

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

Project title	Employees' perceptions of, and attitude towards, technological adoption in the South African banking sector
Investigator / Researcher	Mr Ashley Carolissen
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.
Issue Date of Certificate	08 08 2023
Expiry date	Date of submission of the project / research report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 anthony.stacey@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.

A4: Research Questionnaire

Section A: Demographics: Age and Gender						
Gender	**Question**	**Yes**			**No**	
Male Female	Are you male or female					
Age	**Question**	**Below 30**	**30 - 39**	**40 - 49**	**Above 50**	**I rather prefer not to disclose my age**
Age	What is your age group?					

Section B: Facilitating Conditions (FC)							
Variable	**Question**	**Strongly Disagree %**	**Disagree %**	**Neutral %**	**Agree %**	**Strongly Agree %**	**Sample Size (N)**
Facilitating Conditions (FC)		**1**	**2**	**3**	**4**	**5**	
FC1	I have access to knowledge base articles to use the system						
FC2	The new onboarding system is user friendly						
FC3	A dedicated support group is available to assist me						

Section C: Behavioural Intention (BI)							
Variable	**Question**	**Strongly Disagree %**	**Disagree %**	**Neutral %**	**Agree %**	**Strongly Agree %**	**Sample Size (N)**
Behavioural Intention (BI)		**1**	**2**	**3**	**4**	**5**	
BI1	I use the new system						
BI2	I intend to use the new system in the next 3 months						
BI3	I'm an active user of the new system						

Section D: Behavioural Expectation (BE)						
Variable	**Question**	**Satisfied**	**Very Satisfied**	**Dissatisfied**	**Very Dissatisfied**	**Sample Size (N)**
Behavioural Expectation (BE)		4	3	2	1	
BE1	How satisfied are you with the knowledge base articles?					
BE2	How satisfied are you with the system user interface?					
BE3	How satisfied are you with the support group?					
Adoption	**Question**	**Never =1**	**Rarely =2**	**Often =3**	**Agree % =4**	**Sample Size (N)**
Duration	As part of your daily work, how often do you use the system?					
Frequency	Do you use the new system daily?					
Intensity	How extensively do you use the system?					

Appendix B: Approved Research Topic

B1: Approved Research Topic

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Private Bag 3 Wits, 2050
Fax:
Tel:

Reference: Ms Jennifer Mgolodela
E-mail: jennifer.mgolodela@wits.ac.za

06 January 2023
Person No: 2412219
PAG

Mr A Carolissen
100 Cura Road
96 Witteberg, Equestria Estate
Equestria Estates
0184
South Africa

Dear Mr Ashley Carolissen

Master of Management: Approval of Title

We have pleasure in advising that your proposal entitled *Attitudes of employees to technological adoption and the nature of work in a South African bank* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Marike Bosman
Faculty Registrar
Faculty of Commerce, Law and Management