



FACULTY OF BUSINESS AND ACCOUNTING

GRADUATE STUDIES DEPARTMENT OF BUSINESS AND ACCOUNTING (FBA)

**EFFECTS OF TECHNOLOGY ACCEPTANCE MODEL ON INTERNET BANKING
ADOPTION, AT BARCLAYS BANK, TSABONG (BOTSWANA)**

By

OAKANTSE AOBAKWE MMUSI

ID NO. 821824017

A Dissertation Submitted in Partial Fulfillment of the Requirement for the Award of the
Degree of Master of Business Administration at Botho University

Supervisor: Prof Ushe Makambe

Date of Submission: 21 October 2019

Statement of originality

I, the undersigned, certify that this research is my work and was carried out while a student at Botho University as partial fulfillment of my Master's degree in Business Administration (MBA). I affirm that any ideas of other people have been fully acknowledged using the Harvard referencing style.

Signature: Oakantse Aobakwe Mmusi

Date: 16 October 2019

Dedication

I dedicate this work firstly to my family members who have spent sleepless nights with me while I was working on this study and secondly my supervisor and colleagues who have been very supportive and encouraging.

Acknowledgement

I would like to thank my supervisor Prof Ushe Makambe for the advice and guidance that he gave me throughout this journey. The constrictive feedback that he always gave me made it easier for me to work on this dissertation. His words of encourage, patience and tolerance contributed so much to the completion of my work.

I would also like to thank the students that took part in the study who were my sample population; they gave me their time to answer my questions. Their participation resulted in the achievement of this work.

Abbreviations and acronyms

AVE	Average Variance Extraction
BI	Behavioural intention
ICT	Information Communication Technology
IT	Information Technology
KMO	Kaiser-Meyer-Olkin
PEOU	Perceived Ease of Use
PU	Perceived Usefulness
PR	Perceived risk
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action

List of tables

Table 4.1: Cronbach's Alpha common reliability test results ranking	45
Table 4.2: Age frequency of the respondents	455
Table 4.3 Gender frequency of the respondents.	56
Table 4.4: Respondents' occupation	456
Table 4.5: Respondents' general knowledge of internet banking	456
Table 4.6: Years respondents spent using internet banking	45
Table 4.7: Respondents' degree of agreement on the necessity of new technology in their bank	45
Table 4.8: The willingness to adopt new technology if introduced in the bank	45
Table 4.9: Respondents' satisfaction with the banking hall service	45
Table 4.10: Respondents' satisfaction with the internet banking services available	45
Table 4.11: Respondents' preference for internet banking over the banking hall	45
Table 4.12: Reliability analysis – Effects of perceived usefulness on internet banking adoption	45
Table 4.13: KMO Results: Effects of perceived usefulness on internet banking adoption	45
Table 4.14: Factor loading: Effects of perceived usefulness on internet banking adoption ...	45
Table 4.15: Average Variance Extracted and Composite Reliability of hypothesis 1 test	45
Table 4.16: Correlation of adoption of internet banking and perceived usefulness	45
Table 4.17: Regression analysis – Effects of perceived usefulness on internet banking adoption	45
Table 4.18: Regression coefficients results – Effects of perceived usefulness on internet banking adoption	45
Table 4.19: Reliability analysis: Effects of perceived ease of use on internet banking adoption	45
Table 4.20: KMO results: Effects of perceived ease of use on internet banking adoption	45
Table 4.21: Factor loading: Effects of perceived ease of use on internet banking adoption ..	45
Table 4.22: Average variance extraction: Effects of perceived ease of use on internet banking adoption	45
Table 4.23: Correlation Analysis: Effects of perceived ease of use on internet banking adoption	45
Table 4.24: Model Summary – Effects of perceived ease of use on internet banking adoption	45
Table 4.25: Regression Coefficient: Effects of perceived ease of use on internet banking adoption	45
Table 4.26: Reliability analysis: Effects of perceived risk on internet banking adoption	45
Table 4.27: KMO results: Effects of perceived risk on internet banking adoption	45
Table 4.28: Factor loading: Effects of perceived risk on internet banking adoption	45
Table 4.29: Average variance extraction: Effects of perceived risk on internet banking adoption	45
Table 4.30 Correlation analysis: Effects of perceived risk on internet banking adoption	56
Table 4.31: Model summary – Effects of perceived risk on internet banking adoption	45
Table 4.32: Regression coefficients results – effects of perceived risk on internet banking adoption.....	45

Table of Contents

Statement of originality.....	2
Dedication	3
Acknowledgement	4
Abbreviations and acronyms.....	5
List of tables.....	6
Abstract.....	10
Chapter 1	11
Introduction and background to the study	11
1.2 Problem statement.....	12
1.3 Research objectives	13
1.4 Research Hypotheses.....	13
1.5 Significance of the study	13
1.6 Scope/delimitation of the study.....	14
1.7 Limitations of the study.....	14
1.8 Ethical considerations	15
1.9 Chapter layout	15
Chapter 2.....	16
Literature review	16
2.1 Introduction	16
2.2 Effects of the Technology Acceptance Model on internet banking adoption	16
2.2.1 Perceived usefulness (PU)	20
2.2.2 Perceived ease of use (PEOU).....	25
2.2.3 Perceived risk (PR).....	29
2.3 Chapter summary	33
Chapter 3.....	34
Research methodology.....	34
3.1 Introduction	34
3.2 Research design.....	34
3.3 Research methodology	35
3.4 Population and sample selection	37
3.5 Data collection.....	38
3.6 Data analysis	39
3.7 Ethical considerations	41
3.8 Validation of the study	42

3.9 Reliability of the study	42
3.10 Chapter summary	43
Chapter 4.....	44
Data analysis, discussion and interpretation	44
4.1 Introduction	44
4.2.1 Age of the respondents	46
4.2.2 Gender of the respondents	46
4.2.3 Occupations of the respondents	47
4.2.4 Respondents' knowledge of internet banking	47
4.2.5 Years of experience with internet banking	48
4.3 The effect of the Technology Acceptance Model on internet banking adoption (Primary research objective).....	48
4.3.1 The necessity of new banking technology.....	49
4.3.2 The willingness to adopt new technology if introduced in the bank	49
4.3.3 Respondents' satisfaction with the banking hall services provided	50
4.3.4 Level of satisfaction with the internet banking services available	51
4.3.5 Preference for using internet banking over visiting the banking hall.....	51
4.4 The effect of customer's perceived usefulness of internet banking on their adoption (Secondary research objective 1)	52
4.5 The effect of customers' perceived ease of use of internet banking on their adoption (Secondary research objective 2)	56
4.6 The effect of customers' perceived risk of internet banking on their adoption (Secondary research objective 3)	60
4.7 Chapter summary	64
Chapter 5.....	65
Final summary, recommendations and conclusion	65
5.1 Introduction	65
5.2 Purpose of the study	65
5.3 Final summary.....	65
5.3.1 Biographic data relevant to the study	65
5.3.2 The effect of the Technology Acceptance Model on internet banking adoption (Primary research objective).....	66
5.3.3 The effect of perceived usefulness on internet banking adoption (Secondary research objective 1).....	66
5.3.4 The effect of perceived ease of use on internet banking adoption (Secondary research objective 2).....	66

5.3.5 The effect of perceived risk on internet banking adoption (Secondary research objective 3)	67
5.4 Recommendations	67
5.4.1 The effect of perceived usefulness on internet banking adoption	67
5.4.2 The effect of perceived ease of use on internet banking adoption	68
5.4.3 The effect of perceived risk on internet banking adoption	68
5.5 Conclusion.....	69
REFERENCES	70
APPENDICES	77

Abstract

The purpose of this study was to reviews the effects of technology acceptance model on internet banking adoption at Barclays bank, Tsabong (Botswana). The primary objective of the study was to investigate the factors which influence the customer's behavioral intention to accept internet banking.

This research adopted a descriptive research design, following a survey design strategy. A positivism research philosophy was adopted, where the data collection was done following a quantitative research approach. The target population consisted of around 4000 Barclays bank customers, banking at Tsabong, south east of Gaborone. Using the probability sampling strategy, 120 sample units were randomly selected to act as a true representative of the target population. 120 questionnaires were distributed but only 74 questionnaires were collected and analysed using Statistical Package for the Social Sciences (SPSS) version 26.

The study applied the TAM on the adoption of internet banking services by Barclays Bank customers at Tsabong branch. The study's findings showed that customers strongly felt that their perceived usefulness, perceived ease of use and perceived risk of internet banking influence their adoption of the technology. The research findings showed that perceived usefulness and perceived ease of use have a positive impact on Barclays' bank customers' adoption of internet banking. They also showed that the customers' perceived risk negatively impacted on their adoption of internet banking.

The study recommends that Barclays Bank should emphasize more on the usefulness and ease of use of internet banking to influence its adoption. It also encourages the bank management to enforce security measures to guarantee customer safety.

CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

An assessment on the technology acceptance of internet banking in Botswana provides an important overview on the potential it may have in simplifying the banking experience of customers in the rapidly growing economy. In this chapter, the foundation of the research topic is established through the provision of basic information on internet banking which is inclusive of the factor influencing its acceptance, such as perceived usefulness, perceived ease of use and perceived risk. Moreover, the problem statement, objectives, hypotheses, significance, scope and limitations of the study are discussed.

Introducing the internet and sophisticated technologies has influenced a change in the banking sector's business model and the beginning of internet banking. Aboobucker and Bao (2018) explained internet banking as the exchange of information or administrations between a bank and its customers through sophisticated internet capable platforms. This technology has enabled banks to offer their services to their customers without the limitations of distance or time. This has influenced banks around the world, Botswana included, to adopt the use of internet banking for service delivery in this rapidly developing and competitive banking sector. Internet banking makes banking services available to customers daily, at any time, with ease of access. It reduces the need to travel to banking halls, long queues and the bank's office operation hours. Kesharwani and Bisht (2011) supported this claim. The author postulated that with internet banking, customers can access their banking services hassle free, at the comfort of their homes.

Even with the many benefits of internet banking usage to both the customer and the bank, Botswana has a low percentage of users of this technology. The banking customers choose visiting the banking hall over internet banking to access banking services. According to Al-Ajam and Md Nor (2013), in order to increase internet banking usage, customers need to have a sense of acceptance of the technology. This is only possible if customers are willing to

change their behavioral patterns, that is, migrating from visiting the banking hall they find convenient. Their will power will motivate them into using internet banking.

According to Venkatesh & Davis (2000), the commonly used model, Technology Acceptance Model (TAM), is an information systems model in research, used to predicts a person's willingness to adopt a new technology. This model was used as a theoretical base to predict banking customer's willingness to adopt internet banking. This involved an assessment of factors influencing this adoption, namely, perceived usefulness; perceived ease of use and perceived risk. Davis, Bagozzi and Warshaw (1989) defined perceived usefulness (PU) as the degree to which a person trusts that usage of a technology would enhance their job performance. PU predicted that an individual will adopt and use internet banking if they believed the technology would elevate the efficiency of their banking performance.

Davis et al., (1989) defined perceived ease of use (PEOU) as the degree to which person regards the use of a technology as free from effort. PEOU predicted that an individual's adoption and use of internet banking will be determined by their belief that it will be user friendly and free for mental struggle. Kesharwani and Bisht (2012) postulated that perceived risk (PR) factor was an extension of TAM, which was meant to predict the influence of security and safety on new technology adoption. In the context of internet banking, PR predicted that an individual will adopt and use the technology if it makes them feel safe and secure. This study is conducted to review the effects of technology acceptance model on internet banking adoption at Barclays bank, Tsabong (Botswana).

1.2 Problem statement

There are several advantages associated with internet banking. However, the percentage of adoption and usage in Botswana is low. Several reasons have been cited some of which are that internet banking is inconvenient, requires a certain level of education to operate and that it is not secure to use. As a result, there has been high resistance from banking customers which negatively influences the adoption of the technology. The convenience of a technology is measured by how helpful it would be to potential users in performing their desired task. These technologies also tend to be easy to operate.

Chiguvu (2016) argued that customers are frustrated by the quality of services offered by Botswana commercial banks. The author further postulated the frustrations are fueled by long queuing times spent at the banking hall or automated teller machines. Most banks are now experiencing problems with retaining their customers. Customers migrate from their banks to other banks trying to find better services. Internet banking was introduced as a mitigation strategy to the long waiting time experience by customers. However, it is still not used to its full potential. This study therefore sought to determine the effects of the Technology Acceptance Model (TAM) on internet banking adoption at Barclays Bank Botswana, Tsabong branch.

1.3 Research objectives

The aim of this study was to determine the effects of the TAM on internet banking adoption at Barclays Bank Botswana, Tsabong. The study's secondary objectives were to:

- Determine whether the customers' perceived usefulness of internet banking affected their attitude and behavioural intention to use the technology.
- Establish the influence of the customers' perceived ease of use of internet banking on their behavioural intention to use the technology.
- Determine the impact of the customers' perceived risks of internet banking on their behavioural intention to use the technology.

1.4 Research hypotheses

The hypotheses which were tested in this study are:

- **H₁:** Perceived usefulness has a positive impact on the customers' attitude and behavioural intention to use internet banking.
- **H₂:** Perceived ease of use has a positive impact on the customers' attitude towards internet banking usage.
- **H₃:** Perceived risk has a negative impact on the customers' attitude towards internet banking usage.

1.5 Significance of the study

This study will contribute towards the body of knowledge on internet banking through addressing the research objectives, testing the research hypotheses and provide findings

which would be beneficial for future research on the adoption of internet banking and related topics. The findings from this study will also benefit Barclays bank. The study provides the bank with feedback regarding the effects of their customers' perceived usefulness of internet banking on their adoption of the technology. It also gives Barclays bank information on the effects of their customer's perceived ease of use of internet banking on their adoption. The study's implications also educate the bank on the extent to which their customers' perceived risk negatively affect their adoption of internet banking. The information generated would enable the bank management to make sound decisions regarding how to improve their internet banking services and customer adoption of the technology. The findings will help policy makers in administering rules which will reduce the risks that prevent internet banking adoption.

1.6 Scope/delimitation of the study

The study was done on Barclays Bank customers. It covered customers using the Barclays bank branch at Tsabong, aimed at understanding their technology acceptance of internet banking. Tsabong is south east and approximately 518.3km from Gaborone. This study was conducted focusing on three factors of the TAM namely perceived usefulness, perceived ease of use and perceived risk which are believed to influence an individual's adoption of internet banking. 120 questionnaires were distributed to Barclays bank customers who were randomly selected.

Data collection was done using a questionnaire with closed ended questions and the Likert scale. Due to limitations experienced, the study excluded other Barclays Bank branches located in Gaborone, Francistown, Orapa, Palapye, Mahalapye and Jwaneng. The limitations also resulted in the exclusion of other factors of the TAM such as perceived compatibility, relative advantage, awareness knowledge, perceived complexity and perceived self-efficiency.

1.7 Limitations of the study

Time: The study is constrained by the school's allocated time frame which is inadequate for thoroughly conducting the research. The time constraint means that some areas in the research problem might have been overlooked since there was not enough time for a full investigation. Future researchers may need to conduct further research on this topic to cover those aspects that were excluded.

Sample size: Time constraint led to a small sample size which may not be a true representation of the population of interest (Barclays bank customers). Since the sample size is small, the data collected may not be effectively generalisable. This imposes a need for further research on this topic using a larger sample size.

Data collection method: Close ended questionnaires were used as the data collection instrument. The use of close ended questions may not be ideal as the data is not detailed but based on scales. Open ended questions give respondents an opportunity to express themselves in-depth, providing detailed information that is more beneficial to the researcher. Future researchers should explore different data collection methods to gather diverse data.

1.8 Ethical considerations

A letter was obtained from Botho University and issued to the organisation of interest by the researcher to seek permission to conduct the research. Attached to the questionnaire was an introduction letter which acted as a request to the customers of the bank to be participants in the study. The nature and purpose of the study were clearly outlined to the individuals for clarity when making the decision regarding participation. The identity of participants was kept anonymous for confidentiality purposes. The participants were also assured that the information they provided will only be used for academic purposes.

1.9 Chapter layout

This research paper is divided into five chapters. Chapter 1 provides an overview and background of the study. The problem statement, research objectives, research hypothesis and significance of the study, were discussed. It concluded with outlining the limitations, delimitations and the ethical consideration of the study. Chapter 2 provides an elaborate literature review on the TAM and its relationship to internet banking adoption. Chapter 3 outlines the research methodology that was adopted for this study, that is, discussing the research design, the research methodology, sample and sampling procedure, data collection and data analysis. Chapter 4 presents the analysis, discussion and interpretation of the research findings. Chapter 5 summarises the findings of the study and provide some recommendations as well as the conclusion of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The previous chapter provided an overview and background of the study, discussed the problem statement, research objectives, research hypothesis and significance of the study. In conclusion, the limitations, delimitations and the ethical consideration of the study were discussed. This chapter provides an elaborate literature review on the effects of technology acceptance model on internet banking adoption. Factors influencing this technology acceptance, that is, perceived usefulness, perceived ease of use and perceived risk are discussed in this chapter.

2.2 Effects of the Technology Acceptance Model on internet banking adoption

In this rapidly growing technology-based economy, the banking industry is experiencing an increase in competition and the need to offer services that will meet the demands of their customers. Most banks have therefore introduced internet banking to offers elite service to their current customers and attract new ones. Ling, Fern and Huat (2016) averred that internet banking is rapidly developed in the banking industry to make it a viable and efficient tool in customer satisfaction. This is stimulated by the advent of refined technology and the internet; (Aboobucker & Bao, 2018).

Internet banking is sometimes referred to as online banking or electronic banking. It has proven to be a phenomenal growth in the banking industry. According to Munoz-Leiza, Climent-Climent and Liebana-Cabanillas (2017), banks are known to be globally connected and dynamic businesses which provide improved services to customers who decide to use internet banking. The growth in the industry is such that banks must use internet banking instead of to the traditional style of banking.

Khan (2017) defines internet banking as a service offered by banks through the internet and using Information Communication Technology (ICT) that offers a platform for performing different types of banking operations. According to Vimala (2016), the revolution of internet

and the growth of technology-based products has been most beneficial to the banking industry.

Ege Oruc and Tatar (2017) postulated that internet banking is one of the emerging financial innovations presented to customers. This service has proved to be versatile in making transactions (Vimala, 2016). The internet accessed through mobile devices to access transaction and non-transaction-based banking services. It makes use of sophisticated mobile applications and the internet to service customers in the most efficient manner (Munoz-Leiza et al., 2017). This has influenced the migration to a new era of banking recognised as internet banking. According to Boonsiritomachai and Pitchayadejanant (2017), mobile technology is an essential platform which supports this financial innovation. The advent of information technology (IT) has been an enabling factor in the shift from traditional forms of banking to new and modern strategies of offering banking services (George, 2018; Vimala, 2016). These internet banking services include viewing account balances, making payments, obtaining statements and checking transaction history online.

Sanli and Hobikoglu (2015) aver that the effectiveness and efficiency of the banking sector, along with customer satisfaction, have increased as a results of internet banking. As opposed to conventional banking, with internet banking, banks can ensure a 24-hour service availability, elimination of queuing in the banking halls and reduced branch operational hours (Aboobucker & Bao, 2018). Banks are able to service their customers without confining to the constraints distance and time. The use of internet banking does not substitute the traditional banking style but rather offers an opportunity for a flexible and better service (Sankari, Ghazzawi, Danawi, Nemar & Arnaout, 2015). This also creates customer loyalty for the banks.

Sankari et al (2015) professed that customers who use internet banking benefit from inexpensive or free services that are provided online. It also provides convenience to customers and encourages easier and an efficient way of conducting transactions through online banking applications (Ling et al., 2016). Munoz-Leiza et.al (2017) claimed that these applications allow customers to perform transactions in their accounts at any given location and any time of the day. Vimala (2016) posits that customers save both effort and time by using this technology. Internet banking offers comfort, reliance and availability to bank customers, adding to the more effective customer care (Sankari et al., 2015). Internet banking

possesses numerous advantages to banks and their customers thus inspiring technology acceptance.

Despite the potential benefits associated with adopting this financial innovation, customer behaviour is a key component in influencing this technology acceptance. Jacoby and Morrin (2015) define customer behaviour as the procurement, utilization and disposal of time and offers (products, services and ideas) using decision making criteria. A larger number of customers are still adamant not to adopt the use of internet banking services (Rahi, Abd.Ghani & Hafaz Ngah., 2019). This is a result of concerns surrounding issues of security, uncertainty and usefulness of the technology. Customers prefer over-the-counter services which give them face-to-face interactions with staff members where they can enquire, raise complaints and get detailed information on their banking activities (Ling et al., 2015). In order to ensure maximum adoption of internet banking, Rahi et al (2019) further postulated that it is important to understand the criteria which influence the customer's behavioural intentions to accept internet banking.

Davis (1989) introduced the TAM to model user reception of information systems as introduced to them. According to Surrendram (2012); Weng, Yang, Ho and Su (2018), the TAM is based on the Theory of Reasoned Action (TRA) by Fishbein & Ajzen (1975) and the Theory of Planned Behaviour (TPB) by Ajzen (1985) which help in recognising people's behavioural patterns.

The TAM was created in light of predicting a person's actual usage of any introduced information technology system (Farahat, 2012). The model postulates that a user's actual usage of an information technology system is influenced by his/her behavioural intention (BI). Behavioural intention is observed as a system's success indicator. It is essential in a customer's decision and aspiration to maintain or switch to the information technology system (Rahi, Ghani & MI Alnaser, 2017). BI comes as a results of a user's attitude towards the technology. Fishbein and Ajzen (1975) defined attitude as the extent to which an individual has a good assessment or examination of the behaviour being referred to. According to Al-Ajam and Md Nor (2015); Kesharwani and Singh Bisht (2012), an individual's attitude towards a technology will have a significant influence on their behavioural intention.

The TAM theory came about as an expansion of the concept of TRA for better comprehension of a user's behaviour, attitude and intention to accept internet banking (Ahmad, 2018). The author further postulated that its parsimony has made it relevant and the most used model. Various new technologies such as e-learning (Hanif, Jamal & Imran, 2018; Ibrahim, Leng, Yusoff, Samy, Masrom & Rizman, 2017), e-commerce (Fedorko, Bacik & Gavurova, 2018; Fayad & Paper, 2015), e-government (Sebetci, 2015; Mayasari, Hendrowati, Sofia & Wiadi, 2017) e-health (Velsen, Evers, Bara, Akker, Boerema & Hermens, 2018; Emad, El-Bakry & Asem, 2016) and internet banking (Makanyeza, 2017; Fawzy & Esawai, 2017) have validated this TAM theory.

The acceptance or rejection of internet banking can be assessed using the TAM (Chitungo & Munongo, 2013; Sankari et al., 2015). This model offers a demonstration of the relationship between users' beliefs, intentions and actions towards the technology. The TAM is a highly respected model in determining the acceptance and intention to use information systems (IS) and information technology (IT) (Jaber, 2016).

The TAM has been the most influential theoretical model that explains the user's behavioural intentions towards new technology (Al-Ajam & Md Nor, 2015). It explains the relationships between the different variables and with the attitude, behavioural intention and actual usage of a technology (Medyawati, Christinyani & Yunanto, 2011). The TAM helps in understanding major factors influencing clients' approval and usage of the internet in the financial industry (Fawzy & Esawai, 2017; Maharoesman & Wiratmadja, 2016). This model is deemed influential due to its robustness, flexibility and explanatory strength (Agrebi & Jallais, 2015). Its ability to link a technology to the user's behavioural intentions make it useful in technology acceptance evaluation.

Davis, Bagozzi and Warshaw (1989) stipulated that the key focus of the TAM was "To provide a basis for tracing the impact of external factors on internal beliefs, attitudes, and intentions". Davis et al (1989) further posited that using the TRA as a theoretical background of TAM, the theoretical relationships between suggested fundamental variables was modeled. Throughout the years, the model has gone through numerous adjustments for better understanding of individuals' responses to new technology (Medyawati et al., 2011).

According to Ahmad (2018), when the TAM was introduced, the model proposed that the features of the information system and its capabilities influenced user motivation which resulted in its actual usage. The model was refined by Davis et al (1989), altering the conceptual model. This alteration defined the key fundamental factors as perceived usefulness (PU) and perceived ease of use (PEOU) (Jaber, 2016; Pishchenko, 2016; Rahi et al., 2017; Scherer, Siddiq & Tondeur, 2019). According to Scherer et al. (2019), these factors are regarded as the core variables of the model while the behavioural intention and actual use are the relevant outcome variables.

For a better understanding of the user's acceptance of internet banking, the TAM has been rapidly modified, adding new factors to the model. According to Chitungo and Munongo (2013), there exists other possible factors that can affect internet banking acceptance. As agreed by different authors, some of the common fundamental factors which influence customers' behavioural intention and acceptance of internet banking are perceived usefulness (PU), perceived ease of use (PEOU) and perceived risk (PR) (Makanyeza, 2017; Kesharwani & Bisht, 2012; Fawzy & Esawai, 2017; Davis & Bagozzi, 1989; Ahmad, 2018; Hussein & Saad, 2016; Fadare, 2016). Fawzy and Esawai (2017) further postulates that the TAM helps in comprehending the factors that affect an individual's acceptance of the use of internet in financial services. In this study, the relevant factors which influence the technology acceptance of internet banking are perceived usefulness, perceived ease of use and perceived risk. These are discussed below.

2.2.1 Perceived usefulness (PU)

Perceived usefulness is the magnitude at which an individual is confident that using a technology will improve his/her job performance (Davis, 1989). It deals with the user's expectations from adopting the technology and its future growth (Costea & Vaidyanthan, 2013; Chuah, Rauschnabel, Krey, Nguyen, Ramayah & Lade, 2016). A young adult who feels that using internet banking will not in any way improve his/her banking experience or is similar to his/her banking hall visits will most likely not adopt the technology. In contrast, a young adult who views internet banking as efficient for performing his/her banking activities will most likely adopt the technology.

Davis (1989) indicated that usefulness is an additional feature of the use of technology to aid users in carrying out their desired tasks easily. Mayasari et al., (2017) added that the usefulness of a system has the potential to stimulate a user's attitude towards his/her intention to use it. Chitungo and Munongo (2013) posit that another term for perceived usefulness is performance expectancy. If the technology meets the users' performance expectation, their intention to use it will be increased. Chitungo and Munongo (2013) further aver that potential users evaluate the consequences associated with adoption of a technology based on its usefulness.

Venkatesh and Davis (2000) defined the key determinants of perceived usefulness, outlining how these external variables influence this TAM factor. These key determinants are output quality, subjective norm, job relevance, image, result demonstrability and output quality (Venkatesh & Davis, 2000; Coeckelbergh, 2012; Gupta, Singh & Bhaslaar, 2016; Zaremohzzabieh, Abu Samah, Muhammad, Omar, Bolong, Hassan & Shaffril, 2016). According to Venkatesh and Davis (2000), these external variables change as the users gain more experience with the specific system. As outlined in the research by Venkatesh (2000), for an understanding of the TAM key factors, it is wise to under their determinants being the external variables. The external variables that determine perceived usefulness are discussed below.

2.2.1.1 Subjective norm

This is defined as a person's perspective that the vast majority of people important to him/her he ought to or ought not to perform the action in question (Venkatesh & Davis, 2000; Kirana, Ratnasari & Widiastuti, 2018). The rationale behind this external variable's effect is that an individual may choose to perform a task even if it does not favor them, but because a person or people who have a significance in their lives recommends it.

According to Venkatesh and Davis (2000), subjective norm influences behavioural intentions indirectly through PU. The author identified two aspects that are relevant to PU and subject norm namely internalization and identification. Internalisation is when an individual uses a technology because an important person in their life recommends it. The individual adopts the perception of that social character regarding the technology. In this context, users of

internet banking would be using it and believe in its usefulness only because someone important perceives it as useful.

2.2.1.2 Image

Subjective norm is said to influence image. Venkatesh and Davis (2000); Gupta et al. (2016) posit that if people which an individual feel are important believe that one should perform a behaviour, then the individual will believe that performing it will elevate him/her in that social group. Therefore, if banking users perceive that an important person advocates for the use of internet banking, they may use it with the intention of being elevated in the social group. This social influence is referred to as identification. Venkatesh and Davis (2000) advance that the power attained from elevated social status will influence greater productivity. A banking user may therefore perceive that internet banking will indirectly improve his or her job performance through their image elevation.

2.2.1.3 Job relevance

Individuals evaluate the job relevance of a system before using the system in question. Surowiec and Bansal (2016) suggest that the perception that using a specific system will contribute towards a good job performance is referred to as job relevance. Venkatesh and Davis (2000) state that this is an individual's view of the degree to which a specific system will contribute towards his or her job. A research by Venkatesh and Davis depicts that individuals have concrete information regarding their job and use this information to determine the tasks which they can do using the specific system. The same concept applies to bank customers. Their judgment of internet banking will be based on the usual services it provides at the banking hall. According to Surowiec and Bansal (2016), job relevance influences an individual's PU of a technology.

2.2.1.4 Output quality

The adjustments on the TAM consider that, besides the job goal achievement and tasks available in the system (job relevance), individuals will judge a system based on how well it gets the job done (Venkatesh and Davis, 2000). If the system has the task available but is unable to deliver the desired quality, then it is not useful. According to Ducey (2013), people will do a specific behaviour based on their belief that they will attain desired the desired

results. The author further notes that when comparing two systems which are both job relevant, an individual will always prefer a system which has a higher output quality.

In the context of internet banking, the two systems compared would be the banking hall system and the internet banking system. Venkatesh and Davis (2000) added that, given a choice between different relevant systems, an individual is most likely to select a technology which delivers the highest output quality as desired. This influences the individual's degree of PU of the system. If internet banking is seen to have a higher degree of output quality, banking customers will prefer it over going to the banking hall to transact over the counter.

2.2.1.5 Result demonstrability

Effective systems which are said to have great advantage to their users have the potential to fail to be accepted if the users struggle to identify the benefits to the job performance when using the specific system (Venkatesh & Davis, 2000). In the TAM, this is referred to as the result demonstrability of a system. Venkatesh and Davis (2000) retort that this is the rate at which the results and benefits of using a specific system are apparent to the potential user. The authors further contended that if the results and benefits are obscure, users will not be able to realise how useful the system truly is. If the benefits associated with internet banking are not clearly outlined or visible to users but rather realised only upon using it, banking customers will not understand the usefulness of the system to their job performance. Venkatesh and Davis (2000) added that knowledge about the actual results of a system is a key psychological factor that influence its usage.

Influencing user adoption of internet banking, the PU of this technology could be associated with the existence and access to electronic statements, online payments/transactions, request for cheques/drafts, (Kesharwani, 2012) all which are done to the convenience of the customer. Perceived usefulness of internet banking is therefore associated with its ability to improve the user's banking experience. It is one of the original TAM variables which remains a constant factor with significant contribution towards new technology acceptance (Liebana-Cabanillas, Milinkovic & Kalinic, 2017).

According to Amoroso and Hunsinger (2009); Venkatesh and Davis (2000), PU has emerged as a strong determinant of user acceptance of many new technologies. Several authors posit

that PU has a positive impact on user's behavioural intention to use internet banking, (Alan, Kabadayi, Bakis & Sekerin, 2017; Liebana-Cabanillas et al., 2017; Chuah et al., 2016). If internet banking users view its usage as useful to them, it will influence their migration to this technology. The usefulness of internet banking is measured by the availability of transaction functions such as online payments, online requests for cheques, mobile network recharging, account payments, monetary transactions, and non-transactions such as viewing of bank statements and account balances.

Yang and Wang (2019) added that PU has strong capabilities of predicting users' attitudes towards using a new technology. Usefulness in this context refers to the capability of something being used with added advantages (Valdehita, Medina-Merodio & Plata, 2019). Therefore, the advantages of using internet banking will contribute towards its acceptance and usage. If generation Y bank users perceives these advantages when comparing the technology to their banking hall visits, their attitudes towards it will be more positive thus increasing chances of its adoption.

Internet banking is meant to rectify the problem of long queuing time spent at the banking halls to access accounts or perform transactions such as making payments or sending money. Fawzy and Esawai (2017) argue that 24/7 availability of internet banking to customers allows them to perform banking activities whenever they wish, anywhere and at any time of the day. This is in response to the rapid growth in technology and its derivative the internet, which have made financial institutions more competitive. Faced with this predicament, banks are tasked with finding new and innovative ways of influencing their customers to adopt internet banking services to improve on their effectiveness and efficiency (Abdullah, Hilman, Ramanchandram, Gorondutse & Yunus, 2019). Customers' usage of this technology would not only benefit them, but will also be advantageous to the banks.

To influence the PU of a technology, it is imperative that banks assess what their customers want and how it will influence their usage (Abdullah et al., 2019). According to Kauer (2012), the blend between PU and behavioural intention to use the system can be useful in determining the actual usage of an information technology system. The research by Davis (1989) confirms that the rejection or acceptance of an information technology is dependent on a customer's strong belief that its use will better their performance.

2.2.2 Perceived ease of use (PEOU)

Perceived usefulness and PEOU are the original factors in the TAM which determine the decision made by customers to adopt a particular technology (Alan et al., 2017). In contrast to PU, PEOU is the degree to which person regards the use of a technology as free from mental effort (Valdehita et al., 2019). The “particular system” in this study is internet banking. It is determined by its user friendliness (easy navigation and well-defined menus/instructions), user manuals, technical support amongst others (Nunes, Portela & Santos, 2018).

Nunes et al (2018) further posit that PEOU happens when the user thinks that a technology is easy for them to use. In this context, ease of use refers to the freedom from difficulty, strain or struggle (Valdehita et al., 2019) in using internet banking. PEOU focuses on the process leading to the final banking transaction/non- transaction (Cho & Sagynor, 2015). This is what it takes for the user to perform their banking activities. It relates to an individual’s perspective on the free of effort usage of new technology (Yang & Wang, 2019).

Hamid, Razak, Bakar and Abdullah (2016) propound that PEOU is influenced by variables of two types namely anchors and adjustments (Venkatesh, 2000; Nunes et al., 2018). These are significant predictors of the TAM. The anchors surround the user’s general beliefs about computers and their usage, while adjustments are based on a user’s direct interaction with the specific technology introduced and are believed to influence the user’s attitude towards the technology (Venkatesh, 2000; Chen, 2018; Nunes et al., 2018). The anchors mentioned by Venkatesh are computer self-efficacy, anxiety, playfulness and perception of external controls. These anchors stimulate a user’s initial judgement of PEOU (Pishchenko, Myriounis & Hohenthal, 2016). According to Venkatesh (2000), as customers use the technology, they gain experience which shapes their belief regarding the technology. Their system specific PEOU will be adjusted (Venkatesh, 2000). If banking clients have less knowledge and experience of internet banking, their PEOU will be based on general and nonconcrete information. The adjustments are perceived enjoyment and objective usability (Venkatesh, 2000).

2.2.2.1 Self- efficacy

According to John (2013); Chen (2017), self-efficacy is a person’s trust on their ability to attain their goal and manage environments surrounding their lives. Therefore, computer self-efficacy as defined by Chen (2017) is a user’s belief in their ability to use computers

effectively in performing their work. Prior to interacting with the system, users must anchor their PEOU based on the knowledge they have about the specific system (Venkatesh, 2000). So, the PEOU of banking customers will be influenced by their trust in the knowledge they possess regarding internet banking. Self-efficacy focuses on an individual's confidence in themselves to do some form of work successfully (John, 2013). If banking users lack that confidence, their behavioural intention to use internet banking will be lowered. Venkatesh (2000) validated this allegation outlining that an individual's computer related ability and knowledge are contributors to their judgment on how easy or hard using the new system will be.

2.2.2.2 Perception of external control

Perception of external control is the degree to which a user believes that there exists a support staff or an authentic organisation which will help them in overcoming problems and hurdles while using the technology (Venkatesh, 2000; Jeffrey, 2015). This is an antecedent of PEOU. According to Jeffrey (2015), anchor perception also reflects an individual's ability to control the use of the technology, which in this case is internet banking. Users with these characteristic traits have a positive PEOU of internet banking.

2.2.2.3 Computer anxiety

Computer anxiety deals with the emotions of users in regard to using a technology (Venkatesh, 2000). Jeffrey (2015) defines this as the extent to which a person fears or is uneasy with using computers. People who fear the use of computers will not be willing to use internet banking and perceive the need for a lot of effort to use the computer. This computer phobia becomes a barrier in the acceptance and use of technology. Saxena, Bala and Upadhyay (2014) defined computer phobia as the fear to interact or talk about computers. Like computer playfulness and computer self-efficacy, computer anxiety is based on the general view of computers. Venkatesh (2000) avers that unlike the other anchors, it has a negative effect on attitude, intention, behaviour and performance. It extends a negative influence towards an individual's system specific PEOU.

As presumed by Abduljalil and Zainuddin (2015), motivation is vital in the acceptance of new technology. The author went on to explain that businesses need to provide motivation towards technology adoption by their users. Hence, banks need to motivate their customers towards adopting internet banking. Computer playfulness, as one of the anchors of PEOU,

relates to intrinsic motivation (Venkatesh, 2000). A research by Fagan, Neill and Wooldridge (2008) defined intrinsic motivation as the act of doing something because it is naturally pleasurable. This relates to the pleasure and fulfilment from doing something (Venkatesh, 2000).

2.2.2.4 Computer playfulness

Computer playfulness represents an individual's openness to using a system. Venkatesh (2000) stipulates that the individual uses the system for the fun of it rather than to attain a particular goal. Playful individuals positively influence PEOU because these users tend to underestimate the difficulty of a system. Venkatesh (2000) posits that these users have the zeal to explore and discover new things hence overlook the effort required to use the technology.

2.2.2.5 Perceived enjoyment

Like computer playfulness, the adjustment 'perceived enjoyment' is based on motivation. It too relates to intrinsic motivation. Perceived enjoyment also relates to the pleasure of doing something (Nguyen, 2015). As postulated by Mubuke, Ogenmungu, Mayoka. K, Masaba and Andrew (2017), perceived enjoyment is the extent to which using the technology is deemed to be enjoyable apart from the results attained from its performance. It results from the experience gained by users as they interact with the system. The more they interact with the system, the more their PEOU of the system is adjusted. Perceived enjoyment contributes towards continuous usage of a technology (Nguyen, 2015). A good and enjoyable experience of using internet banking will make the user to perceive it as easy to use and in turn accept and adopt it. A user who enjoys using a technology will have a positive attitude towards the intentions to use it (Mubuke et al., 2017).

2.2.2.6 Objective usability

On the other hand, objective usability focuses on the actual effort required to use the new technology as compared to the old way of getting the job done (Jeffrey, 2015). This is an evaluation between systems for performing the same task. If customers feel that going to the banking hall requires less effort than using the internet banking system, they will not accept the technology. This judgement is made as user experience is attained (Venkatesh, 2000). The

knowledge attained is used in comparing the two ways of getting the job done. In this context, the comparison is between visiting the banking hall (over the counter assistance) and internet banking. Venkatesh (2000) avers that over time, the experience and results attained from interacting with the system are essential in modelling the system-specific PEOU.

Although an initial judgement would be made before interacting with a technology, (Venkatesh, 2000) advocates that experience will gradually change a user's PEOU. Chen (2018) supports this claim explaining that once a user gains experience with new technology, momentum to accept it is built with the assistance of two characteristic-related adjustments namely perceived enjoyment and objective usability. This experience will also result in an increase in computer self-efficiency and perceptions of external controls (Pishchenko et al., 2016). The author further noted that, subsequently, computer playfulness and anxiety will decrease. The more experience customers gain in using internet banking services, the more familiar they become with the system and regard it as easy to use.

Perceived ease of use has a direct and indirect impact on users' attitudes towards using internet banking. The indirect effect on user's intentions happens through the factor of PU (Cho & Sagynor, 2015). The author explained that if a technology is easy to use, it becomes more useful to the user. Kesharwani (2012) supported this allegation, stating that if all things are equal, PEOU would have an impact on the user's PU of a technology. In the context of the study, if all things are equal, then generation Y PEOU of internet banking will positively affect their PU of the technology.

Josefsson (2017) asserted that PEOU is a key factor in influencing users because even if a technology is useful but not user friendly, users will have a negative attitude towards it. According to Davis et al., (1989); Venkatesh and Davis (2000), PEOU also influences a user's PU of an information technology system. The authors argued that the easier the system is deemed, the more useful it would become to the user.

Hamid et al., (2016) insinuate that if the technology is relatively easy, users will be encouraged to learn it and adopt it. This is how PEOU directly influences users' intentions to adopt a proposed technology. All things being equal, the less difficult/effort demanding a technology is to use, the more its usage rate will increase (Venkatesh & Davis, 2000). Direct effect states that a user's PEOU is anchored by their computer self-efficiency and gradually

adjusted as the user gains more experience in using the particular technology. Ease of use is influenced by the features associated with the technology. If they meet the initial expectations of the users, they will be more satisfied and willing to use it (Fawzy & Esawai, 2017).

Perceived ease of use has been said to have a great significance on users' satisfaction and their willingness to continue using the technology (Daneji, Ayub, Jaafar & Md. Khambari, 2017). If, from their first experience, the internet banking was free from effort, users would continue using it without fail. Ease of use influences users to be willing to learn features and finally continue to use the technology for their benefit (Hamid et al., 2016). The banking hall service received by users is simple and straight forward. The internet banking services need to also show simplicity and convenience in order to encourage the move.

According to Mayasari et al (2017), PEOU defines the user's belief that using a technology will make it easy to access or use something. With respect to internet banking utilization, the ease of using the internet banking applications or websites makes users feel confident in performing their transactions. More focus must be made on the system characteristics because according to Durodolu (2016) it can help improve the ease of use of the technology and system usage.

2.2.3 Perceived risk (PR)

The concept of perceived risk is defined as viewed dangers and uncertainties experienced during or after purchase of a product/service (Demirdogen, Yaprakli, Yilmaz & Hussain, 2010). Fadare (2016) defines PR as an individual's view of misery as a result of a loss in chase of preferred results. The term "risk" in this context is the situation where an individual has beforehand knowledge on consequences and their probability of occurrence in using internet banking (Marafon, Basso, Espartel, de Barcellos & Rech, 2018). Marafon et al (2018) posit that the relationship between PR and intention to use internet banking is moderated by self-confidence and risk acceptance. An individual with low self-confidence has higher perceived risk on internet banking usage than an individual with higher self-confidence. The willingness to accept the existence of risks associated with internet banking will also constitute an individual's level of PR. Marafon et al (2018) claim that users acceptance of risk and self-confidence will influence their PR.

2.2.3.1 Acceptance of risk

Kesharwani and Bisht (2012) posit that PR has a negative impact on a user's behavioural intention. The more risks associated with using internet banking, the lower the behavioural intention of usage. In order to increase the chances of usage, users must be willing to accept the risks associated with the technology. An investigation done on children and adults by McGhee et al (2012) support this allegation stating that high risk takers possess personality traits such as openness to experiences and high in extraversion and they have low consciousness. Risk takers accept risks associated with the action to be taken. Marafon et al (2018) added that, a user's willingness to accept a risk will decrease their PR of the system and in turn positively influence their intention to use internet banking.

2.2.3.2 Self-confidence

Bayat, Akbarisomar, Tori and Salehiniya (2019) define self-confidence as knowing your skills, self-regard and being aware of your emotions. According to Rebellow and Patra (2017), the presence or absence of self-confidence affects decision making. Marafon et al (2018) added that self-confidence helps users to efficiently make complex decisions which are associated with high risks. Rebellow and Patra (2017) define decision making as the process of making a choice from a list of provided options. Self-confidence has the potential to modify banking users' decisions to adopt or reject internet banking. Users with high self-confidence are able to alleviate the perceived risk of internet banking, while those with low self-confidence fail to alleviate it (Marafon et al., 2018).

Uncertainties associated with new technologies are a major concern. Online payment, being one of the services offered in internet banking, has a lot of uncertainties in transaction handling which make customers uneasy hence hinders its usage (Yang, Pang, Liu, Yen & Tarn, 2015; Maziriri & Chuchu, 2017). Perceived risk is introduced as an additional construct/factor of the TAM (Yadav, Chauhan & Pathak, 2014), addressing issues of uncertainty and possible unfavorable outcomes (Alan et al., 2017). This factor is included to explain user behaviour. It highlights risks and their impacts on technology acceptance as perceived by users. According to Aboobucker and Bao (2018), users say that the more money is involved, the higher the risks. These allegations increase a user's PR, consequently affecting internet banking usage and adoption. Aboobucker and Bao (2018) further explained that if a hacker manages to access transactions made through internet banking due to the

absence of robust security measures, such a loophole makes users prone to loss or misuse of funds acquired through false pretenses. Fawzy and Esawai (2017) suggest that banks, therefore, need to be cautious and attentive to their users' PR in order to attract and retain customers. Perceived risk is a catalyst in users' intention to adopt internet banking.

Despite the many advantages associated with internet banking, resistance is still present due to high PR. For as long as there exists an uncertainty or potential threat that will cause a loss to customers, they will perceive risk (Alan et al., 2017). Perceived risk reduces a user's willingness to use internet banking services (Lai & Zainal, 2015). Supporting this contention, Kansal (2016) expressed that internet banking's approachability, availability and affordability (3As) is overshadowed by PR.

The probability of failure makes users to have uncertainties surrounding their usage of something (Mayasari et al., 2017). Marafon et al (2018) aver that when a user believes that there are less uncertainties surrounding the technology, they gain more control and confidence which can influence their usage of that technology. Uncovering the six types of risks which make customers hesitant in adopting a technology can help banks in enhancing their internet banking services (Pathak & Pathak., 2017).

Perceived risk is multidimensional. According to Mayasari, et al. (2017), Pathak and Pathak (2017), Marafon, et al. (2018) and Abdullah, et al. (2019), the most common prevailing risk concerns faced by information systems and information technology possible adopters include functional risk, financial risks, time risk, psychological risk, physical risk and social risk. These risks are discussed below.

- **Psychological risk**

According to Pathak and Pathak (2017), psychological risk is sometimes combined with social risk. Maziriri and Chuchu (2017); Pathak and Pathak (2017) argued that psycho-social risk is a social embarrassment or a loss of self-regard as a result of poor purchasing or choice in system usage. Maziriri and Chuchu (2017) postulated that individuals' concern with their social group's views and opinions has led to this social risk. This social group may be workmates, family members or friends. Gerber, Ward and Goedhals-Gerber (2014) stated that social risk is focused on the ego of a user and the effect that purchasing or using a service

will have on their social group. Therefore, perceived social risk is a risk which a poor internet banking service offer will result in a user's social humiliation and low self-esteem.

- **Physical risk**

According to Mayasari et al (2017); Gerber, et al. (2014), physical risk is the potential harm or personal injury associated with making a purchase or using a system. This is a possible risk experienced while using a product/service. Gerber, et al. (2014) further contended that physical risk can be associated with the safety of a user while interacting with the product/service. In the context of internet banking, a customer may perceive a physical risk when they worry about issues of security. According to Demirdogen, Yaprakli, Yilmaz and Husain (2010), customers concerned about their private financial information being exposed to thieves online, or their online transactions being hijacked by hackers, perceive a physical risk. This is a major stumbling block in internet banking adoption.

- **Time risk**

Maziriri and Chuchu (2017); Mayasari, et al. (2017) defined time risk as time and effort lost from using a product or service. This is the inconvenience faced by a user while trying to use/purchase/acquire a product or service (Pathak & Pathak, 2017). Associated with internet banking, time risk relates to any technical problems like a slow website or unstable application (Gerber et al., 2014). If the user feels that using internet banking is time wasting, they will perceive a time risk in its usage and will therefore not use the service.

- **Financial risk**

This risk relates to the possibility of loss of money while using a product or service (Gerber, et al., 2014). If financially, the use of the product/service has uncertainties, the user will perceive a financial risk. This monetary loss may be due to fraud (Pathak and Pathak, 2017). Gerber, et al. (2014) further posited that this type of risk is also said to be the likelihood that the usage of the product would not be worth the financial trouble. In this context, users who feel the use of internet banking poses a potential monetary threat will perceive a high financial risk.

- **Functional risk**

This is sometimes called performance risk (Gerber, et al., 2014). This risk involves the performance expectations of a user. According to Mayasari, et al. (2017), functional risk is the risk of a product or service not performing as expected by its user. Portrayed poor performance of a product/service will increase/decrease a user's perceived functional risk (Pathak and Pathak, 2017). A user who feels that internet banking may not perform as designed or as advertised will have a high perceived functional risk. Functional risk is associated with poor service or product choice (Gerber, et al., 2014).

2.3 Chapter summary

In this chapter, the applicability of technology acceptance amongst generation Y acceptance of internet banking was discussed. This discussion was based on the TAM. Factors that influence technology acceptance such as PU, PEOU and PR were also discussed. These factors were found to be relevant and essential in understanding Barclays bank customer behavioural intention to adopt internet banking. Different authors suggested that in disseminating the use of internet banking, organisations must study and understand these factors and their determinants in order to better service their customers. The following chapter outlines the research methodology that was adopted for this study

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter reviewed existing literature on internet banking technology acceptance amongst banking consumers focusing on three factors namely perceived usefulness, perceived ease of use, and perceived risk. This chapter outlines the research methodology that was adopted for this study. It examines the research design, the research methodology, sample and sampling procedure, data collection and data analysis. The chapter also outlines the research ethics considered in this study, validation and reliability of the study.

3.2 Research design

This study followed a descriptive research design in an attempt to review the effects of technology acceptance model on internet banking adoption at Barclays bank, Tsabong (Botswana). A survey design strategy was adopted, making use of the questionnaires as the data collection instrument on a range of defined variables. The survey design strategy is most essential for researchers who wish to clearly and accurately describe the characteristics or to determine the frequency of occurrence, (Odoh & Chinedum, 2014). These choices were influenced by the need to collect a broad range of data on the role played by perceived usefulness, perceived ease of use and perceived risk on the adoption of internet banking by Barclays Bank customers.

According to Strydom (2013), choosing a research purpose is based on the nature of the research problem under investigation and the state of knowledge in the field. State of knowledge refers to the existence of knowledge surrounding a field. Exploratory, descriptive and explanatory research purposes have a defined state of knowledge which differentiates them from one another.

In an exploratory research design, the primary aim is to gain a new insight into a phenomenon (Akhtar, 2016). Strydom (2013) supports this view stating that a large component of unstructured data is usually collected with the aim of exploring a new topic.

Akhtar (2016) further posits that this design is most appropriate in areas of research where there exists little knowledge in the area under investigation. According to Strydom (2013), the exploratory research design is not only applicable in new situation but can be applied in the primary stages of the research process by creating more focused questions and hypotheses for further investigation of the phenomena under study. Akhtar (2016) suggests that in this instance, this research approach cannot be used alone as the basis for decision making.

The descriptive research design describes a phenomenon as it exists in the social world (Akhtar, 2016). In a descriptive research, the researcher knows about the research problem but is not fully aware of the situation. The body of knowledge here already exists (Strydom, 2013). The author describes it as a larger-scale numerical effort that aims at characterising data according to defined variables in order to have a detailed picture of behavioural patterns of the target population. Larger-scale numerical data can be represented in the form of graphs, tables frequency distribution patterns or scatter grams. Akhtar (2016) posits that the descriptive research design addresses questions such as who, what, where, when and how. The author further suggests that this research may be focused on the attitude and opinions of a particular group of people towards something. Like the exploratory research design, the descriptive research design is applicable in all research situations.

3.3 Research methodology

Khalidi (2017) states that the choice of a research methodology is determined by the research philosophy that has been adopted. According to Pham (2018), research philosophy, also referred to as research paradigm, has three theoretical perspectives which are said to be the foundation of a research. These three perspectives are positivism, interpretivism and realism.

According to Shah and Al-Bargi (2013), the interpretivism research philosophy aims at attaining a subjective meaning through recognizing the participants' interpretation and understanding of the social phenomena in question. The researcher uses the data collected from these participants to construct and interpret his own understanding of the phenomena under investigation (Cao Thanh & Thi Le Thanh, 2015). Shah and Al-Bargi (2013) state that this interpretation is essential since social research is directed by the researcher's wish to either discover or understand details behind a social reality.

According to Fletcher (2016), the realism philosophy follows the cause and effect relationship of social events and suggests mitigation strategies for addressing related social problems. It promotes change in societal and educational structures and imposes practicality (Shah & Al-Bargi, 2013). The author explains that the study is intended on exposing problems incurred by participants and voicing out their complaints with the aim of improving their lives.

This study adopted the positivism philosophy in which data collection is done following the quantitative research approach. Positivism philosophy allows the researcher to study the relationship between variables (perceived usefulness, perceived ease of use and perceived risk) and outcomes (adoption and use of internet banking). Following the positivism philosophy aided in addressing the objectives of the study. According to Shah and Al-Bargi (2013), positivism defines observation and reason as the way to understanding behaviour. Under this philosophy, accurate knowledge is established from sensory experience which can only be accomplished through observation or experiment. Pham (2018) avers that this research philosophy is rooted in natural sciences in discovering the study of social sciences. It is often linked with the observation of facts using quantifiable measurements.

Shah and Al-Bargi (2013) posit that researches founded on the positivism philosophy follow a quantitative approach, that is, they follow a cause and effect relationship. The author notes that questions and hypotheses are drawn which are subject to falsification for confirmation under controlled conditions to avoid biasness. Due to the constraints of time and resources, the researcher is able to minimize the required time and resources in carrying out the research when following this approach. This research approach is the best since the data collected is numeric hence quantifiable. The aim of a quantitative approach is to quantify the data collected and generalize the findings to the entire population of interest (Almeida, Faria & Queirós, 2017).

According to Almeida et al (2017), a quantitative research approach is used in areas whereby the target population is large hence instead of analysing it all, only a portion of it is selected and used as a representation of the entire population. Almeida et al (2017) further contend that this research approach uses statistics in deriving meaning from the collected data. Daniel (2016) adds that this helps in saving time and resources required in the research. The use of statistics requires less time and effort in collecting and analysing data on a sample as opposed

to investing in the entire target population (Almeida et al., 2017; Daniel, 2016). In addition, the quantitative research approach uses predetermined variables and hypotheses in investigating a phenomenon (Daniel, 2016).

Daniel (2016) avers that quantitative data collection and analysis methods make it possible for generalization of results. The data collection method is objective and follows a systematic format (Almeida et al., 2017). According to Rahman (2017), the quantitative research approach is built on a positivism philosophy and the results produced are reliable because the data can be validated.

3.4 Population and sample selection

According to Jaber (2016), sampling is the process of selecting a portion of a population that will be studied as a representative of a larger population. It is therefore important to select a relevant sample for a research that will efficiently represent the target population. The target population for this study consists of around 4000 Barclays bank customers in Tsabong, south east and approximately 518.3km from Gaborone. Because the researcher was not able to gather data from all units of the target population, sampling became essential in conducting this study (Taherdoost, 2016). According to Odoh and Chinedum (2014), a sampling plan assumes that repeating a study on a sample will attain results close to those gathered from the entire population. It can either be categorised as probability or non-probability sampling.

By far, probability sampling has been the most used sampling technique in a survey research design. In this sampling technique, the researcher makes conclusions from the sample to address the phenomenon in question about a population. The sample units in this technique are selected randomly and if done coherently, the sample is a true representative of the entire population. According to Showkat and Parveen (2017), in probability sampling, each unit of the population has an equal probability of being chosen to be a part of the sample. According to Taherdoost (2016), this method has the highest freedom from biasness.

Non-probability sampling, on the other hand, uses the researcher's subjective judgement to select the sampling units. Unlike probability sampling, the sample selected through non-probability sampling is not necessarily a true representative of the entire target population. The researcher selects the sampling units using a subjective method such as expert judgement

or personal experience. The probability of any element being selected for the sample becomes anonymous and uneven. According to Taherdoost (2016), the sample size is normally small. This uneven selection and small sample unit chosen makes the sample not to be a true representative of the population. Taherdoost (2016) stipulates that this sampling technique is normally associated with the case study research design and the qualitative research approach.

For this study, the probability sampling technique was the most suitable for the selection of the sample to be used. The target population (customers of Barclays bank Tsubong branch) constituted a large population which required sampling. The sample for this study comprised of 120 customers of different ages, gender and occupation to ensure that this was a true representative of the entire population. The sampling units were selected randomly following the probability sampling strategy. Probability sampling was chosen since it allows selecting a sample which acts as a true representation of the population and allow for generalisation of the attained results.

3.5 Data collection

This study made use of the questionnaire as the data collection instrument. The questionnaire is normally used in research involving different and widely scattered sample units (Showkat & Parveen, 2017). The questions were derived from the reviewed literature on the applicability of the technology acceptance model on generations Y adoption of internet banking. The questions were prepared bearing in mind that there would not be any hand holding during the data collection process. Odoh and Chinedum E (2014) posit that a questionnaire is created following set specifications and with the aim of addressing the research objectives/research problem as well as answering the research questions. In this study, these questions were created based on the factors influencing internet banking (perceived usefulness, perceived ease of use and perceived risk) in order to achieve the aim of the study.

The first distribution of the questionnaire was a pilot test. The pilot test was meant to test if respondents would be able to comprehend what was required of them without any interaction from the researcher. The pilot run also helped in checking if the questionnaire addressed the research objectives and was of an appropriate length. Fifteen questionnaires were used for the

pilot test. These questionnaires were given to the respondents at random who were requested to complete and return the same day. Once the questionnaire was finalised, 120 questionnaires were administered through hand distribution, maintaining the anonymity of the participants. Self-administering the questionnaire ensured that the researcher got back a significant number of the questionnaires from the participants. The researcher got back 74 answered questionnaires which amount to 61.7% response rate.

The questionnaire made use of closed-ended questions. It was divided into five sections. The first section was on the demographic data of the respondents. The second section was on the views regarding new technology, and preference between internet banking and visiting the banking hall. The third section was on the effects of perceived usefulness on internet banking adoption. The fourth section was on the effects of perceived ease of use on internet banking adoption. The fifth and last section was on the effects of perceived risk on internet banking adoption. A five-point Likert scale was used to measure the levels of agreement of the respondents in sections two to five, whereby a scale of 1 represented strongly disagree and 5 represented strongly agree.

An introduction letter was included as the cover page of the questionnaire which introduced the researcher to the respondents, outlining the reasons for the study, the purpose of the questionnaire and an assurance to the respondents on the safety and confidentiality of the information they provided. This helped the respondents to be comfortable completing the questionnaire thereby increasing their willingness to participate in the study.

3.6 Data analysis

Once the questionnaires were collected, the data was coded into the Statistical Package for the Social Sciences (SPSS) version 26 for analysis. Different statistical analysis techniques were employed to derive meaning from the collected data. The data analysis was done using frequency tables, correlation analysis, linear regression analysis and exploratory factor analysis among other techniques. The demographic data was represented through frequency tables in order to understand the kind of the respondents who took part in the study. The frequency tables gave the actual count and the percentages of the respondents according to their age range, gender, occupation, knowledge on internet banking and the years spent using the technology.

The frequency tables were also employed for the analysis of the general feelings of the respondents regarding acceptance of internet banking technology. This involved percentages on whether they saw a need for new technology in their bank, their willingness to adopt the technology if introduced, their level of satisfaction with banking hall services provided, their level of happiness regarding internet banking, and lastly their level of preference of internet banking over the banking halls. The frequencies were measured according to the respondents' feelings which were expressed through a five-point Likert scale.

In addressing the secondary research objectives, reliability analysis, factor loading and Average Variance Extraction (AVE) calculations, correlation analysis and multiple regression analysis were conducted. The reliability analysis was done using the Cronbach's Alpha which measured how consistent the data collection instrument was. The factor loadings were a result of a factor analysis conducted using the principal component extraction method. Once the factor loadings were identified, the AVE was calculated. A bivariate correlation analysis was done using the Pearson correlation coefficients to identify the relationship between the quantifiable variables. The multiple regression analysis was done with the confidence intervals set at 95% to measure the relationship between the independent variables and the dependent variables. These were done to determine whether the respondents' perceived usefulness, perceived ease of use and perceived risk would influence their adoption of internet banking.

Correlation analysis refers to identifying the relationship between quantifiable variables (Gogtay & Thatte., 2017). It was used to measure the correlation of variables found in the research instrument. The results attained from this analysis range from -1 to +1 and are referred to as correlation coefficients. Results of +1 suggest that the compared variables are related in a positive linear way while -1 suggests that they are related in a negative linear way, (Gogtay & Thatte., 2017). Regression analysis was used to measure the relationship between one independent variable and one dependent variable from the study. Sarstedt & Mooi (2014) depicts that the dependent variable is the desired outcome while the independent variable is the thing we need in order to attain the outcome. These analyses were conducted using SPSS on the answered questionnaires from 74 respondents to test the hypotheses outlined in this study. These analyses were meant to test the hypotheses of the study in order to address the secondary research objectives and as well as the primary research objective.

Hypothesis 1 (**H¹**) which reads “Perceived usefulness has a positive impact on the customers’ attitude and behavioural intention to use internet banking” was tested using correlation analysis and linear regression analysis. This was done to reveal whether perceived usefulness affected their adoption of internet banking. This addressed the first secondary research objective of the study. The data analysed was from section three of the questionnaire.

Hypothesis 2 (**H²**) which reads “Perceived ease of use has a positive impact on the customer’s attitude towards internet banking usage” was tested using correlation analysis and linear regression analysis. This was done to reveal whether there was a relationship between perceived ease of use and the adoption of internet banking. This addressed the second secondary objective of the study. The data analysed was from section four of the questionnaire.

Hypothesis 3 (**H³**) which reads “Perceived risk has a negative impact on the customers’ attitude towards internet banking usage” was tested using the correlation analysis and the linear regression analysis. This was done to establish whether perceived risk negatively impacted on the adoption of internet banking. This addressed the third secondary objective of the study. The data analysed was from section five of the questionnaire.

3.7 Ethical considerations

A letter was obtained from Botho University and issued to the organisation of interest by the researcher to seek permission to conduct the research. The permission was granted to the researcher allowing for data collection from Barclays bank customers. Attached to the questionnaire was an introduction letter which acted as a request to the customers of the bank to be participants in the study. All the customers who were approached were informed that their participation was strictly voluntary and that their identities would be kept anonymous throughout the study.

The individuals were given the freedom of choice to participate in the study or not. No respondent was forced or tricked into being a part of the study. The nature and purpose of the study were clearly outlined to the individuals for clarity when making the decision regarding participation. The participants were also guaranteed that from the information they would be

providing, none of it would be used to incriminate them before Barclays bank management. To assure them of confidentiality, the respondents were not required to provide their names or any identification information when completing the questionnaires. The respondents were also assured that the information they provided would be used strictly for academic purposes. The respondents were given a choice to withdraw from the study at any given point and that all the data that would have been collected from them up to that point would be discarded with immediate effect. The safety of the respondents was also guaranteed.

3.8 Validation of the study

Prous, Rodriguez-Salvanés and Carmona (2009) defined validation as the ability of an instrument to perform and achieve the purpose it was intended for. The research instrument was validated using a pilot test to determine if the questionnaire measured what it was meant to measure on a small number of the respondents. This helped to check if the questions and statements in the questionnaire were clear and easy to understand. Moreover, it helped the researcher in validating whether the questionnaire addressed the research purpose. Tsang, Royse & Terkawi (2017) posit that a pilot test creates an opportunity for the researcher to determine if there exists confusion about any item and make room for suggestions that could better the questionnaire. The respondents in the pilot run were allowed to make amendments to the questionnaire, correcting the errors they had identified.

Validation was also done in SPSS using the Exploratory Factor Analysis (EFA). This is a statistical tool which identifies and organises a large number of observed variables into a small number of specific variables and indicating whether there is a correlation between variables or not (Hadi, Abdullah & Sentosa, 2016). The EFA concluded that the results attained from the questionnaires were truthful, meaningful and useful in addressing the research objectives.

3.9 Reliability of the study

Reliability refers to the degree to which the research instrument measures a research construct as accurately as is desired (Prous et al., 2009). To test the reliability of the questionnaire in this study, the Cronbach's Alpha was used. The consistency of the instrument was measured and given an index valued between 0 and 1 represented as α (Chan & Idris, 2017). The author posits that an index alpha of, $\alpha = 0.8$ to $\alpha = 1$ shows that the

instrument is very reliable; $\alpha = 0.7$ is acceptable, while anything less than these index ranges is considered to be poor and questionable. The results attained for the reliability test on this questionnaire showed that the questionnaire is reliable. The questionnaire reliability test results recorded an alpha α of 9.5. This shows that the items on the questionnaire were good enough to bring out reliable data. The questionnaire was able to measure the construct under study, that is, the effects of technology acceptance model on internet banking adoption at Barclays bank, Tsabong (Botswana).

3.10 Chapter summary

In this chapter, the research design, research methodology, population and sample selection, data collection and data analysis were discussed. It also presented the ethical considerations and validation and reliability strategies adopted for this study. Each of these components of the research methodology were justified. In the following chapter, the research findings from the responses to the questionnaire are presented along with the statistical techniques employed.

CHAPTER 4

DATA ANALYSIS, DISCUSSION AND INTERPRETATION

4.1 Introduction

The previous chapter outlined the research methodology used in this study. This chapter presents the research findings from the responses to the questionnaire. This is done through statistical techniques and descriptive narrative. The primary objective of the study was to review the effects of technology acceptance model on internet banking adoption at Barclays bank, Tsabong (Botswana). The secondary objectives of the study are restated below:

- To determine whether the customer's perceived usefulness of internet banking impacts their attitude and behavioural intention to use the technology.
- To determine the influence of the customer's perceived ease of use of internet banking on their behavioural intention to use the technology.
- To establish the impact of the customer's perceived risks of internet banking on their behavioural intention to use the technology.

The outlined primary and secondary objectives of this study were achieved through a review of related literature, data collection and analysis. The research instrument that was used to gather data was evaluated to ensure that the data was correct and credible. Reliability and validity tests were conducted on the measurement instrument to enhance the quality of the study.

A five-point Likert scale was used in this study to allow participants to express their level of agreement or disagreement with the statements from the questionnaire. This allowed for different degrees of opinions, making data analysis relatively easy, as opposed to just inserting yes or no answers. According to Tavakol & Dennick, (2011), reliability analysis is concerned with checking the scale's internal consistency, that is, the correlation between items that make up the scale. To test the reliability of the data collected from Barclays bank Tsabong branch customers, the Cronbach's Alpha was used. According to Chan & Idris (2017), the Cronbach's Alpha tests the reliability index by measuring the consistency of the instrument that is used to collect data. Chan & Idris (2017); Wanjala, Iravo, Odhiambo &

Shalle (2017); Field (2000) posit that Cronbach's Alpha reliability index, α , ranges between 0 and 1. Wanjala et al., (2017) further explained that an instrument with reliability test results closest to 1.0 ($\alpha = 1.0$) has excellent internal consistency. Table 4.1 illustrates the commonly acceptable Cronbach's Alpha results.

Table 4.1: Cronbach's Alpha common reliability test results ranking (Source: Chan & Idris, 2017)

Index alpha results	Internal consistency reliability rating
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

The research instrument recorded an alpha index of $\alpha = .95$, showing that the questionnaire was excellent. Wanjala et al., (2017) postulates that, the size of the alpha index (α) is determined by the number of grouped items and their mean inter-item correlations. In this study, there were 24 grouped items that were used to determine the questionnaire's reliability.

Validity analysis is concerned with determining how truthful, meaningful and useful a research instrument is in testing the real concept under study (Chan & Idris., 2017). To measure the validity of this study's instrument, the Exploratory Factor Analysis (EFA) was used. According to Hadi, Abdullah & Sentosa (2016), EFA is a statistical method used to identify and organise a large number of observed variables to a small number of specific variables, reflecting that the variables correlate. Hadi et al., (2016) outline that the sample size and the strength of the relationship between variables are considered in EFA. In this study, Kaiser Meye Olkin (KMO) was used to test the adequacy of sampling. KMO statistics ranges between 0 and 1, whereby the acceptable cut value is 0.5. The extraction method used in EFA was the principal component analysis.

4.2 Biographic data analysis

This section presents information on the respondent's age, gender, occupation, knowledge on internet banking and their years spent using internet banking in order to understand the types

of the respondents who participated in the study. The biographic information from the 74 respondents is presented in the sections that follow.

4.2.1 Age of the respondents

The age frequency of the respondents is represented in Table 4.2 below.

Table 4.2: Age frequency of the respondents

		Age frequency			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 20 years	4	5.4	5.4	5.4
	20 - 25 years	12	16.2	16.2	21.6
	26 - 30 years	19	25.7	25.7	47.3
	31 - 35 years	10	13.5	13.5	60.8
	36 years and above	29	39.2	39.2	100.0
	Total	74	100.0	100.0	

The results shown in Table 4.2 show that 5.4% (n = 4) of the respondents were below 20 years, 16.2% (n = 12) of the respondents were 20 – 25 years, 25.7% (n = 19) of the respondents were 26 – 30 years, 13.5% (n = 10) of the respondents were 31 – 35 years and 39.2% (n = 29) of the respondents were 36 years and above. This suggests that most of the respondents who answered the questionnaire were aged 36 and above.

4.2.2 Gender of the respondents

The gender frequency of the respondents is represented in Table 4.3 below.

Table 4.3: Gender frequency of respondents

Gender frequency					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	34	45.9	45.9	45.9
	Female	40	54.1	54.1	100.0
	Total	74	100.0	100.0	

Table 4.3 above indicates that 45.9% (n = 34) of the respondents were male and 54.1% (n = 40) of the respondents were female. This suggests that more females participated in this study compared to males.

4.2.3 Occupations of the respondents

The respondents' occupation frequency is shown in Table 4.4 below.

Table 4.4: Respondents' occupation

Occupation frequency					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Private	18	24.3	24.3	24.3
	Public	34	45.9	45.9	70.3
	Self-Employed	22	29.7	29.7	100.0
	Total	74	100.0	100.0	

The data in Table 4.4 above shows that 24.3% (n = 18) of the respondents were working in the private sector, 45.9% (n = 34) of the respondents were working in the public sector while 29.7% of the respondents were self-employed. This suggests that the majority of the respondents who answered the questionnaire worked in the public sector.

4.2.4 Respondents' knowledge of internet banking

The study sought to determine the respondents' knowledge of internet banking. The results are shown in Table 4.5 below.

Table 4.5: Respondents' general knowledge of internet banking

I know about internet banking					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	55	74.3	74.3	74.3
	No	19	25.7	25.7	100.0
	Total	74	100.0	100.0	

The results in Table 4.5 reveal that 74.3% (n = 55) of the respondents knew about internet banking and 25.7% (n = 19) of the respondents did not know about internet banking. This

suggests that the majority of the respondents who answered the questionnaire knew of the existence of internet banking. However, in this era of advanced technology, that over one quarter of the respondents were not aware of the existence of internet banking is worrisome.

4.2.5 Years of experience with internet banking

The years that respondents spent using internet banking is depicted by Table 4.6 below.

Table 4.6: Years respondents spent using internet banking

Years using internet banking					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used it	24	32.4	32.4	32.4
	Below 1 year	22	29.7	29.7	62.2
	1 - 5 years	16	21.6	21.6	83.8
	6 - 10 years	9	12.2	12.2	95.9
	More than 10 years	3	4.1	4.1	100.0
	Total	74	100.0	100.0	

The results in outlined in Table 4.6 above show that 32.4% (n = 24) of the respondents had never used internet banking, 29.7% (n = 22) of the respondents had used internet banking for less than a year, 21.6% (n = 16) of the respondents had used internet banking for 1 – 5 years, 12.2% (n = 9) of the respondents had used internet banking for 6 – 10 years, while 4.1% (n = 3) of the respondents had used internet banking for over 10 years. This suggests that the majority of the respondents who answered the questionnaire had used the internet banking for less than a year.

4.3 The effect of the Technology Acceptance Model on internet banking adoption (Primary research objective)

This section presents information on the effect of the TAM on Barclays bank customers' internet banking usage. Information on the respondents' general opinion on internet banking, their perceived usefulness, perceived ease of use and perceived risk of internet banking was collected. This was meant for a better understanding on why customers used or did not use internet banking.

4.3.1 The necessity of new banking technology

Table 4.7 presents information on the respondent's level of agreement regarding the necessity of new technology in their bank.

Table 4.7: Respondents' degree of agreement on the necessity of new technology in their bank

New technology is essential in my bank's success					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	6	8.1	8.1	8.1
	Neutral	7	9.5	9.5	17.6
	Agree	47	63.5	63.5	81.1
	Strong Agree	14	18.9	18.9	100.0
	Total	74	100.0	100.0	

The findings outlined in Table 4.7 show that 8.1% (n = 6) of the respondents disagree that new technology was essential in their bank's success, 9.5% (n = 7) of the respondents neither agreed or disagreed, 63.5% (n = 47) of the respondents agreed that new technology was essential in their bank's success, while 18.9% (n = 14) of the respondents strongly agreed. This suggests that the majority of the respondents (over 80%) believed that new technology was essential in their bank's success.

4.3.2 The willingness to adopt new technology if introduced in the bank

The study sought to determine the extent to which the respondents were willing to adopt new technology if was to be introduced in their bank. The results are shown in Table 4.8 below.

Table 4.8: Respondents' willingness to adopt new technology

I am willing to adopt new technology if introduced in my bank					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	9.5	9.5	9.5
	Disagree	7	9.5	9.5	18.9
	Neutral	14	18.9	18.9	37.8
	Agree	27	36.5	36.5	74.3
	Strong Agree	19	25.7	25.7	100.0

	Total	74	100.0	100.0	
--	-------	----	-------	-------	--

Table 4.8 above shows that 9.5% (n = 7) of the respondents strongly disagreed that they would be willing to adopt new technology if introduced by their bank while another 9.5% (n = 7) of the respondents disagreed. Almost 20% (n = 14) of the respondents neither agreed or disagreed that they would be willing to adopt new technology if introduced by their bank, 36.5% (n = 27) of the respondents agreed that they would be willing to adopt new technology if introduced by their bank, while 25.7% (n = 19) of the respondents strongly agreed. This suggests that the majority of the respondents were willing to adopt new technology if the bank had introduced it.

4.3.3 Respondents' satisfaction with the banking hall services provided

Table 4.9 depicts information on the respondents' level of satisfaction with the banking hall services that were provided by their bank.

Table 4.9: Respondents' satisfaction with the banking hall services

I am happy with the banking hall services provided					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	12.2	12.2	12.2
	Disagree	14	18.9	18.9	31.1
	Neutral	15	20.3	20.3	51.4
	Agree	19	25.7	25.7	77.0
	Strong Agree	17	23.0	23.0	100.0
	Total	74	100.0	100.0	

The results in Table 4.9 show that 12.2% (n = 9) of the respondents strongly disagreed that they were happy with the banking hall services that were provided by their bank, 18.9% (n = 14) of the respondents disagreed, 20.3% (n = 15) of the respondents neither agreed nor disagreed that they are happy with the banking hall services provided; 25.7% (n = 19) of the respondents agree they were happy with the banking hall services provided, while 23% (n = 19) of the respondents strongly agreed that they were happy with the banking hall services provided. This suggests that the majority of the respondents who participated in the study were generally satisfied with the banking hall services provided by their bank.

4.3.4 Level of satisfaction with the internet banking services available

Table 4.10 provides information on the respondents' level of satisfaction regarding the available internet banking services.

Table 4.10: Respondents' satisfaction with the internet banking services available

I am happy with the internet banking services available					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	8.1	8.1	8.1
	Disagree	9	12.2	12.2	20.3
	Neutral	27	36.5	36.5	56.8
	Agree	26	35.1	35.1	91.9
	Strong Agree	6	8.1	8.1	100.0
	Total	74	100.0	100.0	

Table 4.10 above reveals that 20.3% (n = 15) of the respondents were generally not satisfied with the available internet banking services, while 43.2% (n = 53) were generally satisfied, with the rest being undecided. The fact that more than half of the respondents did not indicate satisfaction with the level of internet banking at their bank indicates that the level of internet banking at the branch was unsatisfactory.

4.3.5 Preference for using internet banking over visiting the banking hall

Table 4.11 presents the study findings on the respondents' preference for internet banking usage over visiting the banking hall.

Table 4.11: Respondents' preference for internet banking over the banking hall

I prefer using internet banking over going to the banking hall					
		Frequency	Percent	Valid percent	Cumulative percent
Valid	Strongly disagree	12	16.2	16.2	16.2
	Disagree	20	27.0	27.0	43.2
	Neutral	18	24.3	24.3	67.6
	Agree	12	16.2	16.2	83.8
	Strong agree	12	16.2	16.2	100.0
	Total	74	100.0	100.0	

The findings in Table 4.11 reveals that 16.2% (n = 12) of the respondents strongly disagreed that they preferred using internet banking over visiting the banking hall, 27% (n = 20) disagreed and 24.3% (n = 18) of the respondents were undecided, while 32.4% (n = 24) of the

respondents believed that they preferred using internet banking over visiting the banking hall. These results indicate that more respondents did not prefer using internet banking over visiting the banking hall which implied that internet banking acceptance among the customers who participated in this study was low.

4.4 The effect of customer's perceived usefulness of internet banking on their adoption (Secondary research objective 1)

This section sought to determine whether the respondents' perceived usefulness of internet banking impacted on their attitude and behavioural intention to use internet banking technology. It was meant to confirm or reject hypothesis 1 (H^1) and its null hypothesis (H^0). H^1 reads: Perceived usefulness has a positive impact on the customer's attitude and behavioural intention to use internet banking. The null hypothesis indicated that there was no relationship between the customers' perceived usefulness and their attitude and behavioural intentions to use internet banking.

Table 4.12: Reliability analysis: Effects of perceived usefulness on internet banking adoption

Reliability statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.861	.856	6

The results in Table 4.12 show that the scale's alpha index, $\alpha = .861$, is generally reliable. According to Cronbach's alpha rule of thumb, the scale's reliability is ranked as good (See Table 4.1). This shows that the scale used to gather data from the sampled Barclays bank customers to address H1 was concrete and the information is highly reliable. The effect of customer's perceived usefulness on their adoption of internet banking recorded a Kaiser-Meyer-Olkin (KMO) of 0.846. This is depicted in table 4.13 below. This exceeds the acceptable cut-off value of 0.5 and is in the range 0.8 – 1, showing sampling adequacy.

Table 4.13: KMO Results: Effects of perceived usefulness on internet banking adoption

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.846
Bartlett's Test of Sphericity	Approx. Chi-Square	269.165
	df	15
	Sig.	.000

An exploratory factor analysis was conducted on the scale using the principal component extraction method. The results are shown in Table 4.14 below.

Table 4.14: Factor loading: Effects of perceived usefulness on internet banking adoption

The effects of customer's perceived usefulness of internet banking on their adoption	
Items	Factor Loading
I use internet banking to perform my banking transactions.	.923
I am able to efficiently perform online payment through internet banking.	.846
Internet banking allows me to efficiently access services I normally get from the banking hall.	.853
I am able to recharge my mobile network account through internet banking.	.773
Internet banking saves my time and improves performance of banking services.	.987
I would be encouraged to use internet banking if someone of high social standard recommends it.	.978

The factor loadings listed in Table 4.13 above range from 0.773 – 0.987. This shows that all the items in the scale are statistically significant. This is verified through the Average Variance Extracted (AVE) which recorded a value of 0.80391 as indicated Table 4.15. This therefore means that the results attained from the exploratory factor analysis (EFA) are truthful, meaningful and useful in addressing H1. The results from the factor analysis show the validity of Barclays bank customer's perceived usefulness of internet banking on their adoption.

Table 4.15: Average Variance Extracted and Composite Reliability of hypothesis 1 test

λ	λ^2	ϵ					
0.923	0.85193	0.14807		Number of factor loading		6	
0.846	0.71572	0.28428		Average Variance Extracted		0.80391	
0.853	0.72761	0.27239		Composite Reliability		0.96066	
0.773	0.59753	0.40247					
0.987	0.97417	0.02583					
0.978	0.95648	0.04352					
SUM							
5.36	4.82344	1.17656					

To identify the relationship between quantifiable variables which are perceived usefulness (independent variable) and the adoption of internet banking (dependent variable), a correlation analysis was conducted using the Pearson correlation coefficient. For this test, perceived usefulness was represented by one variable and adoption of internet banking by another. This helps in determining whether there was connection between the variables in order to confirm or reject hypothesis 1. The results of a correlation analysis between the two variables are shown in Table 4.16 below.

Table 4.16: Correlation of adoption of internet banking and perceived usefulness

Correlations^b			
		I use internet banking to perform my banking transactions	Internet banking allows me to efficiently access services I normally get from the banking hall
I use internet banking to perform my banking transactions	Pearson Correlation	1	.701**
	Sig. (2-tailed)		.000
internet banking allows me to efficiently access services I normally get from the banking hall	Pearson Correlation	.701**	1
	Sig. (2-tailed)	.000	
**. Correlation is significant at the 0.01 level (2-tailed).			
b. Listwise N=74			

Table 4.16 shows that the two variables are related in a positive linear way. The correlations are statistically significant having recorded a p-value of 0.000 and an r-value of 0.701. This means that there is a correlation between the customers' perceived usefulness and their adoption of internet banking. Onyango (2016) supports this view arguing that perceived

usefulness has a significant effect on a customer's intention to adopt internet banking. The author further posits that a customer's perception that the use of internet banking will upgrade their banking experience will positively influence the actual use of the banking technology. This therefore confirms H¹ in this study.

A multiple regression analysis was conducted to test the relationship between the dependent variable – use of internet banking - and the independent variable – perceived usefulness. The stepwise method was employed in order to identify which best combination of independent variables would best predict the dependent variable. This is an assessment of which combination of variables would best predict Barclay's bank customers' use of internet banking. The results are outlined in Table 4.17 below in the form of a model summary.

Table 4.17: Regression analysis - Effects of perceived usefulness on internet banking adoption

Model summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701 ^a	.491	.484	.86801
a. Predictors: (Constant), internet banking allows me to efficiently access services I normally get from the banking hall				

Table 4.18 shows the strength of the relationship between independent variables and dependent variables. It shows what happens if one variable increases or decreases.

Table 4.18: Regression coefficients results - Effects of perceived usefulness on internet banking adoption

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.880	.258		3.406	.001
	internet banking allows me to efficiently access services i normally get from the banking hall	.723	.087	.701	8.340	.000
a. Dependent Variable: i use internet banking to perform my banking transactions						

According to results in Table 4.17, multiple correlation coefficient recorded is 70.1% indicating that about 49.1% of the variance of use of internet banking can be accounted for by

perceived usefulness. Unstandardized coefficient predicts what would happen if the independent variable was increased by 1 unit. Table 4.18 outlined that an increase in the perceived usefulness was expected to have a significant effect on the customers' adoption of internet banking.

4.5 The effect of customers' perceived ease of use of internet banking on their adoption (Secondary research objective 2)

The objective covered by this section was to determine the influence of the customers' perceived ease of use of internet banking on their behavioural intention to use the banking technology. It was meant to confirm or reject hypothesis 2 (H^2) and its null hypothesis (H^0). H^2 reads: Perceived ease of use has a positive impact on the customers' attitude towards internet banking usage. The null hypothesis in this section stated that there was no relationship between the customers' perceived ease of use and their attitude towards internet banking usage. The results are outlined in Table 4.19 below.

Table 4.19: Reliability analysis: Effects of perceived ease of use on internet banking adoption

Reliability statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.934	.937	7

Table 4.19 above indicates that the Cronbach's Alpha of the scale is very high which concludes that the reliability of the data collected from the sampled Barclays bank customer is excellent (See Table 4.1). The reliability of the data makes it appropriate for advanced statistical analysis in testing the hypothesis. Kaiser-Meyer-Olkin (KMO) was used to measure the sampling adequacy on the effect of customers' perceived usefulness on their adoption of internet banking. The test recorded a value of 0.876 as shown in table 4.20, which a good outcome, indicating that the number of data samples collected is enough for factor analysis.

Table 4.10 KMO results: Effects of perceived ease of use on internet banking adoption.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.876
Bartlett's Test of Sphericity	Approx. Chi-Square	463.054
	df	21

	Sig.	.000
--	------	------

An exploratory factor analysis was conducted on the scale using the principal component extraction method. The results are shown in Table 4.21 below.

Table 4.21: Factor loading: Effects of perceived ease of use on internet banking adoption

Item	Factor loading
I find it easy to navigate around the internet banking platforms.	.914
I am confident that I could master the use of internet banking services.	.907
I consider internet banking services to be easy to perform, free of mental struggle	.874
My bank's internet banking platforms are user friendly, making it easier to perform transactions.	.870
I am very comfortable with using the internet	.819
I believe that using internet banking would be enjoyable	.806
I believe that using internet banking will need less effort than visiting the banking hall	.776
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

The results in Table 4.21 above indicate that one factor was identified from the 7 variables in this section. The factor extracted is “I am very comfortable with using the internet.” Table 4.21 also shows the factor loadings of all the variables. According to Table 4.21, all the variables recorded a high factor loading. This shows that these variables are statistically significant. The average variance extraction (AVE) proves this claim with a record of 0.72877 as indicated in Table 4.22. It can therefore be concluded that the scales used to collect data on the perceived ease of use of internet banking were truthful, meaningful and useful.

Table 4.22: Average variance extraction: Effects of perceived ease of use on internet banking adoption

λ	λ^2	ϵ					
0.914	0.8354	0.1646		Number of factor loading	7		
0.907	0.82265	0.17735		Average Variance Extracted	0.72877		
0.874	0.76388	0.23612		Composite Reliability	0.94936		
0.87	0.7569	0.2431					
0.819	0.67076	0.32924					
0.806	0.64964	0.35036					
0.776	0.60218	0.39782					
SUM							
5.966	5.10139	1.89861					

A correlation analysis was conducted using the Pearson correlation coefficient to identify the relationship between quantifiable variables which are perceived ease of use (independent variable) and adoption of internet banking (dependent variable). For this test, perceived ease of use was represented by three variables and adoption of internet banking by four variables. This helps in determining whether there is connection between the variables in order to confirm or reject hypothesis 2. The results of a correlation analysis between the variables is shown in Table 4.23 below.

Table 4.23: Correlation analysis of effects of PEU on internet banking adoption

		I am very comfortable with using the internet	I am confident that I could master the use of internet banking services.
I find it easy to navigate around the internet banking platforms.	Pearson correlation	.742**	.768**
	Sig. (2-tailed)	.000	.000
	N	74	74
I consider internet banking services to be easy to perform, free of mental struggle	Pearson Correlation	.648**	.687**
	Sig. (2-tailed)	.000	.000
	N	74	74
My bank's internet banking platforms are user friendly, making it easier to perform transactions.	Pearson Correlation	.666**	.718**
	Sig. (2-tailed)	.000	.000
	N	74	74
I believe that using internet banking will need less effort than visiting the banking hall	Pearson Correlation	.553**	.705**
	Sig. (2-tailed)	.000	.000
	N	74	74

Table 4.23 shows that the two variables are related in a positive linear way. The correlations are statistically significant having recorded a p-value of 0.000. The values of r range from 0.553 – 0.718, showing that this is a strong relationship. This therefore suggests that customer's perceived ease of use is strongly related to their adoption of internet banking. Onyango (2016) supports this assertion suggesting that perceived ease of use has a significant effect on the customers' intention to adopt internet banking. This confirms hypothesis 2 (H^2) and rejects the null hypothesis (H^0)

A multiple regression analysis was conducted to test the relationship between the dependent variable – use of internet banking and the independent variable – perceived ease of use. In this section, an assessment of which combination of variables would best predict Barclay's bank customers' use of internet banking. The results are indicated in Table 4.24 below.

Table 4.24: Model Summary - Effects of perceived ease of use on internet banking adoption

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.718 ^a	.515	.509	.84871
2	.749 ^b	.561	.549	.81317
a. Predictors: (Constant), I am confident that I could master the use of internet banking services.				
b. Predictors: (Constant), I am confident that I could master the use of internet banking services., I am very comfortable with using the internet				

Table 4.25 shows the strength of the relationship between independent variables and dependent variables. It shows what happens if one variable increases or decreases.

Table 4.25: Regression coefficient: Effects of PEU on internet banking adoption

Coefficients ^a						
Unstandardized coefficients B				Standardized coefficients Beta	t	Sig.
			Std. Error			
.189	(Constant)		.335		.564	.574
	I am confident that I could master the use of internet banking services.	.758	.087	.718	8.748	.000
2	(Constant)	-.140	.343		-.409	.683
	I am confident that I could master the use of internet banking services.	.522	.120	.494	4.351	.000
	I am very comfortable with using the internet	.331	.122	.310	2.726	.008
a. Dependent variable: my bank's internet banking platforms are user friendly, making it easier to perform transactions.						

According to the results in Table 4.25, multiple regression coefficient recorded for predictor a is 71.8% indicating that about 51.5% of the variance of use of internet banking can be accounted for by perceived usefulness variable – “I am confident that I could master the use of internet banking services”. Predictor b recorded 74.9% indicating that 56.1% of the variance of use of internet banking can be accounted for by perceived ease of use variables – “I am confident that I could master the use of internet banking services” and “I am very comfortable with the internet”. Table 4.25 shows that an increase in the perceived ease of use is expected to have an effect on the increase in the customers’ adoption of internet banking.

4.6 The effect of customers’ perceived risk of internet banking on their adoption (Secondary research objective 3)

This sections of the questionnaire addressed the research objective: to establish the impact of the customers’ perceived risks of internet banking on their behavioural intention to use the internet banking technology. It was meant to confirm or reject hypothesis 3 (H^3) and its null hypothesis (H^0). H^3 reads: Perceived risk has a negative impact on the customers’ attitude towards internet banking usage. The null hypothesis in this section stated that there was no relationship between the customers’ perceived risk and their attitude towards internet banking usage. The results are indicated in Table 4.26 below.

Table 4.26: Reliability analysis: Effects of perceived risk on internet banking adoption

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardized items	N of items
.928	.929	6

The Cronbach’s Alpha as shown in Table 4.26 is significantly high. The 0.928 alpha is close to $\alpha = 1$ which is an excellent reliability statistic. This shows that the data that was collected on the perceived risk of Barclays bank customers is reliable and appropriate for advanced statistical analysis in testing H^3 . Thus Cronbach’s Alpha results were obtained from a test on 6 variables from the scale. The effect of customer’s perceived risk on their adoption of internet banking recorded a Kaiser-Meyer-Olkin (KMO) of 0.871 as outlined in Table 4.27. This exceeds the acceptable cut-off value of 0.5 and is in the range 0.8 – 1, showing sampling adequacy.

Table 4.27: KMO results - Effects of perceived risk on internet banking adoption

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.871
Bartlett's Test of Sphericity	Approx. Chi-Square	360.597
	df	15
	Sig.	.000

Using the principal component extraction method, an exploratory factor analysis was conducted on the scale. From the results, it is deduced that one factor is extracted from the 6 variables in the scale. The extracted factor is “I feel secure to share personal information through internet banking platforms”. Table 4.28 shows the factor loadings of all the measured variables.

Table 4.28: Factor loading - Effects of perceived risk on internet banking adoption

Item	Factor loading
I trust that my internet banking transactions are protected.	.909
i feel it is secure to share personal information through internet banking platforms.	.905
My bank's internet banking platform is secure for performing banking transactions.	.900
I am confident that I will not lose money when using internet banking	.855
I trust that internet banking services have good privacy/confidentiality laws enforced	.853
I believe using internet banking services does not waste time.	.732
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

According to Table 4.28, all the variables recorded a high factor loading. This shows that these variables are statistically significant. The average variance extraction (AVE) proves this claim with a record of 0.74163 as outlined in Table 4.29. This therefore means that the results obtained from the exploratory factor analysis (EFA) are truthful, meaningful and useful in addressing H³. The results from the factor analysis show the validity of Barclays bank customers’ perceived risk of internet banking on their adoption.

Table 4.29: Average variance extraction: Effects of perceived risk on internet banking adoption

λ	λ^2	ϵ						
0.909	0.82628	0.17372		Number of factor loading				6
0.905	0.81903	0.18098		Average Variance Extracted				0.74163
0.9	0.81	0.19		Composite Reliability				0.94486
0.855	0.73103	0.26898						
0.853	0.72761	0.27239						
0.732	0.53582	0.46418						
SUM								
5.154	4.44976	1.55024						

A correlation analysis was conducted using the Pearson correlation coefficient to identify the relationship between the quantifiable variables which are perceived risk (independent variable) and internet banking adoption (dependent variable). For this test, perceived risk was represented by one variable and adoption of internet banking by one variable. This helps in determining whether there is connection between the variables in order to confirm or reject hypothesis 3. The results of the correlation analysis between the variables is shown in table 4.30.

Table 4.30: Correlation analysis: Effects of perceived risk on internet banking adoption

		I believe using internet banking services does not waste time.	I am confident that I will not lose money when using internet banking	I prefer using internet banking over going to the banking hall
	Sig. (2-tailed)	.000	.000	.000
	N	74	74	74
I believe using internet banking services does not waste time. (Predictor)	Pearson Correlation	1	.584**	.665**
	Sig. (2-tailed)		.000	.000
	N	74	74	74
I am confident that I will not lose money when using internet banking (Predictor)	Pearson Correlation	.584**	1	.622**
	Sig. (2-tailed)	.000		.000
	N	74	74	74
I prefer using internet banking over going to the banking hall (Dependent variable)	Pearson Correlation	.665**	.622**	1
	Sig. (2-tailed)	.000	.000	
	N	74	74	74

Table 4.30 shows that the two variables are related in a positive linear way. The correlations are statistically significant having recorded a p-value of 0.000. The values of r range from 0.584 – 0.665, showing that this is a strong relationship. This therefore suggests that customers' perceived risk is strongly related to their adoption of internet banking. Onyango (2016) supports this suggestion stating that perceived risk negatively influences a customer's intention to adopt internet banking. This confirms hypothesis 3 (H^3) and rejects the null hypothesis (H^0).

A multiple regression analysis was conducted to test the relationship between the dependent variable – use of internet banking - and the independent variable – perceived risk. In this section, this is an assessment of which combination variables would best predict Barclay's bank customers' use of internet banking. The results are indicated in Table 4.31 below.

Table 4.31: Model summary - Effects of perceived risk on internet banking adoption

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.665 ^a	.442	.434	.99254
2	.725 ^b	.525	.512	.92213

a. Predictors: (Constant), I believe using internet banking services does not waste time.

b. Predictors: (Constant), I believe using internet banking services does not waste time., I am confident that I will not lose money when using internet banking

Table 4.32 shows the strength of the relationship between independent variables and dependent variables. It shows what happens if one variable increases or decreases.

Table 4.32: Regression coefficients results - effects of perceived risk on internet banking adoption

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.318	.360		.885	.379
	I believe using internet banking services does not	.727	.096	.665	7.553	.000

	waste time.					
2	(Constant)	.269	.334		.804	.424
	I believe using internet banking services does not waste time.	.500	.110	.457	4.538	.000
	I am confident that I will not lose money when using internet banking	.373	.106	.355	3.523	.001

a. Dependent Variable: I prefer using internet banking over going to the banking hall

According to the results in Table 4.31 the multiple regression coefficient recorded for predictor a is 66.5% indicating that about 44.2% of the variance of use of internet banking can be accounted for by the perceived risk variable – “I believe using internet banking services does not waste time.” Predictor b recorded 72.5% indicating that 52.5% of the variance of use of internet banking can be accounted for by perceived risk variables – “I believe using internet banking services does not waste time” and “I am confident that I will not lose money when using internet banking”. Table 4.32 indicates that an increase in the perceived risk is expected to have an effect on the decrease on customer’s adoption of internet banking.

4.7 Chapter summary

In this chapter, the findings of the study based on the responses from the questionnaire were presented and discussed. The statistical techniques for data analysis and the results obtained were discussed. The analyses of data were done to address the primary research objective of the study and the three secondary research objectives. The next chapter summarises the findings of the study and proffers some recommendations and finally, the conclusion.

CHAPTER 5

FINAL SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

The previous chapter focused on the analysis, discussion and interpretation of the research findings. This chapter summarises the findings of the study, provides some recommendations and the conclusion. In the chapter, the purpose of the study is also restated.

5.2 Purpose of the study

The purpose of the study was to review the effects of technology acceptance model on internet banking adoption at Barclays bank, Tsabong (Botswana). In conducting this study, the survey research design was adopted, using the questionnaires as the data collection instrument. These questionnaires were distributed to the selected Barclays bank customers at Tsabong branch.

5.3 Final summary

In this section, a summary of the research findings is presented. The section is divided into five parts. The first part is a summary of the biographic data. The second part is a summary of the findings on the primary research objective. The third, fourth and last parts summarise findings on the first, second and third secondary research objectives respectively.

5.3.1 Biographic data relevant to the study

The biographic findings of this study reveal that most of the respondents to the questionnaire were aged 36 years and above. The results also indicate that more respondents were female as opposed to males. Moreover, the majority of the respondents worked in the public sector. The biographic results also show that most respondents had knowledge of internet banking although most of them had used internet banking for less than a year at the time the study was conducted.

5.3.2 The effect of the Technology Acceptance Model on internet banking adoption (Primary research objective)

The research findings revealed that most of the respondents believed that there was need for a new technology like internet banking. However, their attitudes towards the adoption of the technology affected their decisions whether to adopt the technology or not. Most respondents revealed that although they acknowledged the new technology, they still preferred the traditional banking hall system over internet banking. The respondents' attitude is reflected by their perceived usefulness, perceived ease of use and perceived risk of internet banking. The research findings revealed that perceived usefulness influenced the adoption of internet banking. From the research findings, most respondents indicated that their perceived ease of use of internet banking could influence their adoption of the technology. Lastly, it was indicated that most respondents felt that their perceived risk of internet banking could affect their adoption of the technology.

5.3.3 The effect of perceived usefulness on internet banking adoption (Secondary research objective 1)

The study intended to determine whether perceived usefulness of internet banking influenced internet banking adoption. The research findings established that the overall usefulness of internet banking to the customer was a critical determinant of the adoption of the banking technology. The respondents validated this perspective believing that, generally, expected usefulness of internet banking positively influenced the adoption of internet banking. The research findings indicated that the majority of the respondents felt that internet banking was generally useful to them. Moreover, it was discovered that there existed a correlation between customers' perceived usefulness and their adoption of internet banking.

5.3.4 The effect of perceived ease of use on internet banking adoption (Secondary research objective 2)

The findings of this study revealed that perceived ease of use of internet banking influenced its adoption. These research findings indicated that the easier or user-friendly internet banking was, the higher the perceived ease of use and ultimately the adoption of the technology. It was indicated that if internet banking usage was free of mental struggle, customers would be confident and would not only use internet banking but would master it. Furthermore, the study's findings established that there existed a correlation between customers' perceived ease of use and their adoption of internet banking.

5.3.5 The effect of perceived risk on internet banking adoption (Secondary research objective 3)

The study intended to establish the extent to which perceived risk of internet banking impacted on the behavioural intentions to use the technology. The perceived risk was based on the possibility of loss of time and money and its impact on the customers' preference for internet banking. The respondents indicated that their overall perceived risk of the technology negatively affected their adoption of internet banking. The majority of the respondents felt that internet banking was generally risky to them in terms of loss of money which may have affected their preference for internet banking over visiting the banking hall. The research findings established a correlation between perceived risk and the adoption of internet banking.

5.4 Recommendations

The usage of internet banking remained low despite the benefits associated with it such as making online transactions and the 24-hour availability. The study revealed some loopholes in internet banking which affected its adoption. It was discovered that these loopholes can be categorised by three technology acceptance model factors namely perceived usefulness, perceived ease of use and perceived risk. The following recommendations are proposed to improve the adoption of internet banking.

5.4.1 The effect of perceived usefulness on internet banking adoption

- Barclays Bank should make the banking services available at the banking hall also available through internet banking. This will enhance the adoption of internet banking hence reduce the need to visit the banking hall.
- Barclays Bank should conduct a survey to acquire information on the kind of services useful to their customers which they could include as part of the bank's internet banking services.
- Barclays bank should conduct an evaluation of the internet banking services that they offer in order to ensure that the services are useful to their customers. This would enhance the adoption of internet banking.

5.4.2 The effect of perceived ease of use on internet banking adoption

- Barclays Bank should make customers complete feedback forms for customers to evaluate the usability of the internet banking service the bank provided in order to understand whether the customers were satisfied with the services or not. This would help the bank in improving the usability of internet banking and eventually internet banking adoption.
- There should be clear instructions on how to use internet banking services to make it easy for customers to navigate around the internet banking platform and ultimately master its use.
- Barclays bank should make sure that internet banking services are user friendly to enhance their use in conducting banking transactions. This would improve the customers' perceived usefulness and boost their confidence and adoption of internet banking.
- Barclays Bank should ensure that the use of internet banking does not require much mental efforts compared to going to the banking hall in order to stimulate its usage and adoption.

5.4.3 The effect of perceived risk on internet banking adoption

- Barclays Bank should ensure that safety precautions are outlined on the internet banking platform to enhance customers' safety. A safe service is more likely to be used and adopted than the one which is deemed to be unsafe. This would reduce perceived risk of customers.
- The bank should educate their customers on the safety precautions they must follow in order to avoid loss of money when using internet banking. This would help customers avoid losing money and improve on their internet banking usage.
- Barclays Bank should make sure that the use of internet banking does not waste customers' time but rather find ways of reducing latency when performing transactions using internet banking. Reduced waiting periods would reduce customers' perceived risk and increase their preference for internet banking over visiting the banking hall.

5.5 Conclusion

The study applied the TAM on the adoption of internet banking services by Barclays Bank customers at Tsabong branch. This involved the assessment of the impact of the three factors that constitute the model namely perceived usefulness, perceived ease of use and perceived risk. The findings indicated that these three factors had a significant effect on customers' adoption of internet banking. Perceived usefulness and perceived ease of use were found to have a positive impact on the adoption of internet banking while perceived risk was found to have a negative impact on the same.

This study contributes to the body of knowledge through addressing the research objectives and testing the research hypotheses and provide findings which would be beneficial for future researches on the adoption of internet banking and related topics. The findings from this study are also beneficial to Barclays bank. The study provides the bank with feedback regarding the effects of their customers' perceived usefulness of internet banking on their adoption of the technology. It also gives Barclays bank information on the effects of their customer's perceived ease of use of internet banking on their adoption. The study's implications also educate the bank on the extent to which their customers' perceived risk negatively affect their adoption of internet banking. The information generated would enable the bank management to make sound decisions regarding how to improve their internet banking services and customer adoption of the technology.

The findings of the study provide a foundation for further study. The study was based solely on customers from Barclays bank, Tsabong branch. Future researchers may, therefore, want to conduct the same study but extend it to other parts of Botswana and generalise the findings to the whole country. The study also involved data collection using only close ended questions and one research instrument being the questionnaire. Future researchers may want to consider exploring other research paradigms hence different ways of collecting data for a better understanding of the concept. The statistical analysis tools employed in this study were frequency tables, correlation analysis, linear regressions analysis and exploratory factor analysis. These are not the only efficient ways of performing data analysis. Future researchers may want to consider using other statistical methods such as mean and standard deviation to conduct data analysis.

REFERENCES

- Abduljalil, K. and Zainuddin, Y. (2015). Intrinsic and extrinsic motivation as attitude factors towards adoption of Accounting Information System (AIS) In Libyan SMEs, *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 5, No. 1, pp. 161-170
- Abdullah, S.S., Hilman, H., Ramanchandram, R., Gorondutse, A.H. and Yunus, N.K.Y. (2019). The moderating effect of electronic strategy (E-Strategy) on the relationship between perceived usefulness and the intention to adopt online banking in Malaysia”, *Journal of Business and Retail Management Research (JBRMR)*, Vol. 13, No. 3, pp. 123-135
- Aboobucker, I. and Bao, Y. (2018). What obstruct customer acceptance of internet banking? security and privacy, risk, trust and website usability and the role of moderators, *Journal of High Technology Management Research*, Available at: <https://doi.org/10.1016/j.hitech.2018.04.010>
- Agrebi, S. and Jallais, J. (2015). Explain the intention to use smartphones for mobile shopping”, *Journal of Retailing and Consumer Services*, Vol. 22, pp.16-23.
- Ahmad, M. (2018). Review of the Technology Acceptance Model (TAM) in internet banking and mobile banking, *International Journal of Information Communication Technology and Digital Convergence*, Vol. 3, No. 1, pp. 23-41.
- Akhtar, I. (2016). “Research Design”, *Research in Social Science: Interdisciplinary Perspectives*, Ed. 1, pp.68 – 84.
- Al-Ajam, A.S. and Md Nor K. (2015). Challenges of adoption of internet banking service in Yemen, *International Journal of Bank Marketing*, Vol. 33, No. 2, pp. 178 – 194.
- Al-Ajam, A.S. and Md Nor, K. (2013). Internet Banking Adoption: Integrating Technology Acceptance Model and Trust, *European Journal of Business and Management*, Vol. 5, No.3, pp. 207-215
- Almeida, F., Faria, D. and Queirós, A. (2017). “Strengths and Limitations of Qualitative and Quantitative Research Methods”, *European Journal of Education Studies*, Vol. 3, No. 9, pp. 369 – 387. Available at: <https://doi.org/10.5281/zenodo.887089>
- Amoroso, D.L. and Hunsinger, S. (2009). Measuring the acceptance of internet technology by consumers, *International Journal of E-Adoption*, Vol. 1, No. 3, pp. 48-81.
- Boonsiritomachai, W. and Pitchayadejanant, K. (2017). Determinants affecting mobile banking adoption by Generation Y based on the Unified Theory of Acceptance and Use of Technology Model Modified by the Technology Acceptance Model Concept, *Kasetsart Journal of Social Sciences*, pp. 1-10, Available at: <https://doi.org/10.1016/j.kjss.2017.10.005>
- Cao Thanh, N. and Thi Le Thanh T. (2015). “The interconnection between interpretivist paradigm and qualitative methods in education”, *American Journal of Educational Science*, Vol. 1, No. 2, pp. 24-27

Chan, L.L. & Idris, N. (2017). "Validity and Reliability of the Instrument Using Exploratory Factor Analysis and Cronbach's Alpha", *International Journal of Academic Research in Business and Social Sciences*, Vol. 7, No. 10, Pp. 400 – 410.

Chen, I. (2017). Computer self-efficacy, learning performance and the mediating role of learning engagement, *Journal of Computers in Human Behavior*, Vol. 72, pp. 362-370.

Chen, J.K. (2018). The influence of behavioural intention on third-party e-commerce payment', *South African Journal of Economic and Management Sciences*, Vol. 21, No. 1, pp. 1-9.

Cho, Y.C. and Sagynor, E. (2015). Exploring factors that affect usefulness, ease of use, trust and purchase intention in the online environment, *International Journal of Management & Information Systems – First Quarter*, Vol. 19, No. 1, pp. 21-36.

Chuah, S.H., Rauschnabel, P.A., Krey N., Nguyen B., Ramayah T. and Lade S. (2016). Wearable technologies: The role of usefulness and visibility in smartwatch adoption, *Journal of Computers in Human Behavior*, Vol.65, pp.276-284.

Costea, D. and Vaidyanthan, G. (2013). A measure of perceived usefulness in the pre-implementation stages of healthcare projects, *Journal of Knowledge Management, Economics and Information Technology*, Vol. 1, pp. 1-15.

Daneji, A.A., Ayub, A.F.M., Jaafar, W.M.W. and Md. Khambari M.N. (2017). Influence of students' perceived ease of use, perceived usefulness and time spent towards students' continuance intention using MOOC among public university students, *3rd International Conferences on Education in Muslim Society (ICEMS 2017), Advances in Social Science, Education and Humanities Research*, Atlantis Press, Vol.115, pp. 264-268.

Daniel, E. (2016). "The usefulness of qualitative and quantitative approaches and methods in researching problem-solving ability in science education curriculum", *Journal of Education and Practice*, Vol.7, No.15, pp. 91 – 100.

Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1989). User acceptance of computer technology: A comparison of two theoretical models", *Management Science*, Vol. 33, No. 8, pp. 982-1003.

Demirdogen, O., Yaprakli, S., Yilmaz, M.K. and Hussain, J. (2010). Customer risk perceptions of internet banking – A study in Turkey", *The Journal of Applied Business Research*, Vol. 26, No. 6.

Ducey, A.J. (2013). Predicting tablet computer use: An Extended Technology Acceptance Model, *Graduate Theses and Dissertations*, Available at: <http://scholarcommons.usf.edu/etd/4471>.

Ege Oruc, O. and Tatar, C. (2017). An investigation of factors that affect internet banking usage based on structural equation modeling", *Journal of Computers in Human Behaviour*, Vol. 66, pp.232-235.

Emad, H., El-Bakry, H.M. and Asem, A. (2016). A Modified Technology Acceptance Model, *International Journal of Artificial Intelligence and Mechatronics*, Vol. 4, No. 4, pp.153 – 161.

Fadare, O.A. (2016). A survey on perceived risk and intention of adopting internet banking, *Journal of Internet Banking and Commerce*, Available at: <http://www.icommercecentral.com>, Vol. 21, No. 1, pp. 1-21.

Farahat, T. (2012). Applying the Technology Acceptance Model to online learning in the Egyptian universities, *International Educational Technology Conference (IETC2012)*, *Procedia - Social and Behavioral Sciences*, 64, Elsevier Ltd, pp. 95 – 104.

Fawzy, S.F. and Esawai, N. (2017). Internet banking adoption in Egypt: Extending Technology Acceptance Model, *Journal of Business and Retail Management Research (JBRMR)*, Vol. 12, No. 1, pp. 109-118.

Fayad, R. and Paper, D. (2015). The Technology Acceptance Model E-commerce extension: A conceptual framework, *4th World Conference on Business, Economics and Management (WCBEM)*, *Procedia Economics and Finance* 26, Elsevier Ltd, pp. 1000 – 1006.

Field, A. (2000). *Discovering Statistics using SPSS for Windows*. London – Thousand Oaks – New Delhi: Sage publications. Vol. 50, No. 4, pp. 551 – 552, Available at: <https://doi.org/10.2307/2681235>

Fedorko, I., Bacik, R., and Gavurova, B. (2018). Technology Acceptance Model in e-commerce segment, *Management & Marketing. Challenges for the Knowledge Society*, Vol. 13, No. 4, pp. 1242-1256, <https://doi.org/10.2478/mmcks-2018-0034>.

Fletcher, A. (2016). “Applying critical realism in qualitative research: Methodology meets method”, *International Journal of Social Research Methodology*, Vol. 19, pp. 1 – 14, Available at: <http://www.tandfonline.com/doi/full/10.1080/13645579.2016.1144401>

George, A. (2018). Perceptions of internet banking users – A Structural Equation Modeling (SEM) Approach, *The End-to-end Journal*, Available at: <https://doi.org/10.1016/j.iimb.2018.05.007>.

Gogtay, N.J. & Thatte, U.M. (2017). “Principles of Correlation Analysis”, *Journal of the Association of Physicians in India*, Vol. 65, Pp. 76 – 81

Hadi, N., Abdullah, N. & Sentosa, I. (2016). “An Easy Approach to Exploratory Factor Analysis: Marketing Perspective” *Journal of Educational and Social Research*, Vol. 6, No. 1, Pp. 215, ISSN 2240-0524. Available at: <https://www.mcser.org/journal/index.php/jesr/article/view/8799>

Hamid, A.A., Razak, F.Z.A., Bakar, A.A. and Abdullah, W.S.W. (2016). The effects of perceived usefulness and perceived ease of use on continuance intention to use E-Government”, *7th International Economics & Business Management Conference, 5th & 6th October 2015, Procedia Economics and Finance*, Elsevier Ltd, Vol. 35, pp. 644-649.

Hanif, A., Jamal F.Q. and Imran, M. (2018). Extending the Technology Acceptance Model for use of e-learning systems by digital learners, *Special Section On New Trends in Brain Signal Processing and Analysis*, Vol. 8, pp. 73395 – 73404.

Hussein, A. and Saad, M. (2016). Perceived risk and behavioural determinants of using internet banking in Egypt, *Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport*, Vol. 4, No. 3, pp. 40-48.

Ibrahim, R., Leng, N.S., Yusoff, R.C.M., Samy, G.N., Masrom, S. and Rizman, Z.I. (2017). E-learning acceptance based on Technology Acceptance Model”, *Journal of Fundamental and Applied Sciences*, Vol. 9, No. 4S, pp. 871 – 889 Available at: <http://dx.doi.org/10.4314/jfas.v9i4s.50>.

Jaber, O.A. (2016). An examination of variables influencing the acceptance and usage of e-learning systems in Jordanian higher education institutions”, *London School of Commerce, Cardiff Metropolitan University*.

John, S.P. (2013). Influence of computer self-efficacy on information technology adoption, *International Journal of Information Technology*, Vol. 19, No. 1, pp. 1-13.

Kansal, P. (2016). Perceived risk and Technology Acceptance Model in self-service banking: A study on the nature of mediation, *South Asian Journal of Management*, Vol. 23, pp. 51-71.

Khalidi K., (2017), “Quantitative, Qualitative or Mixed Research: Which Research Paradigm to Use?”, *Journal of Educational and Social Research*, Vol. 7, No. 2, pp. 15-24

Khan, H.F. (2017). E-banking: Benefits and issues, *American Research Journal of Business and Management*, Vol. 3, No. 1, pp. 1-7.

Kesharwani, A. and Bisht, S.S. (2011). The Impact of Trust and Perceived Risk on Internet Banking Adoption in India: An Extension of Technology Acceptance Model, *International Journal of Bank Marketing*, Vol. 30, No. 4, pp. 303-322,

Liebana-Cabanillas, F., Milinkovic, V. and Kalinic, Z. (2017). A SEM-Neural network approach for predicting antecedents of m-commerce acceptance, *International Journal of Information Management*, Vol 37, pp.14-24.

Ling, G.M., Fern, Y.S., Boon, L.K. and Haut, T.S. (2015). Understanding customer satisfaction of internet banking: A case study in Malacca, *Fifth International Conference on Marketing and Retailing (5th INCOMAR)*, *Procedia Economics and Finance*, Vol. 37, pp. 80 – 85.

Maharoesman, Z.R., Wiratmadja, I.I. (2016). Technology Acceptance Model of internet banking service for student’s tuition fee payment (Case Study: Public Government University)”, *Proceedings of the 2016 IEEE IEE*.

Marafon, D.L, Basso, K, Espartel, L.B., de Barcellos, M.D. and Rech, E. (2018). Perceived risk and intention to use internet banking: The effects of self-confidence and risk acceptance", *International Journal of Bank Marketing*, Vol. 36 Issue: 2, pp.277-289.

- Mayasari, I., Hendrowati, R., Sofia, A.I. and Wiadi, I. (2017). Implementation of e-government through implementation of Technology Acceptance Model, *Journal of Applied Management (JAM)*, Vol 15, No. 4, Available at: <http://dx.doi.org/10.21776/ub.jam.2017.015.04.13>.
- McGhee, R.L., Ehrler, D.J., Buckhalt, J.A. and Phillips, C. (2012). The relation between five-factor personality traits and risk taking behaviour in preadolescents, *Psychology*, Vol. 3, 558-561. <https://doi.org/10.4236/psych.2012.38083>.
- Mubuke, F., Ogenmungu, C., Mayoka, K.G., Masaba, A.K. and Andrew, W. (2017). The predicability of perceived enjoyment and its impact on the intention to use mobile learning systems, *Asian Journal of Computer Science and Information Technology*, Vol. 7, No. 1, pp. 1-6.
- Nguyen, D. (2015). Understanding perceived enjoyment and continuance intention in mobile games”, *Information Systems Science, Aalto University School of Business*, pp. 1-84.
- Nunes, A., Portela, F., and Santos, M.F. (2018). Improving pervasive decision support system in critical care by using Technology Acceptance Model, *The 2nd International Workshop on Healthcare Interoperability and Pervasive Intelligent Systems (HiPIS 2018)*, *Procedia Computer Science* 141, Elsevier Ltd, pp. 513–518.
- Odoh, M. & Chinedum, E.I. (2014). "Research Designs, Survey and Case Study", *IOSR Journal of VLSI and Signal Processing (IOSR-JVSR)*, Vol.4, No. 6, Pp. 16 – 22
- Onyango E.O (2016), “Investigating Factors That Influence the Intention to Adopt Internet Banking: A Case Study of USIU Africa Students”, Available at: <https://pdfs.semanticscholar.org/6431/73e486d542eabfb4553df3fa10a7f17eaf6f.pdf>, Accessed on: 07/10/2019
- Pham, L. (2018). “A review of Advantages and Disadvantages of three paradigms: positivism, interpretivism, critical inquiry”, *Qualitative Approach to Research*, Available at: <https://doi.org/10.13140/RG.2.2.13995.54569>
- Pishchenko, V. and Myriounis, A. (2016). Consumer’s acceptance of new technology: A netnographic study on self-driving automobiles, *Department of Business Studies, Uppsala University*.
- Prous, M., Rodriguez-Salvanés P. & Carmona, L. (2009). "Validation of Questionnaires", *Reumatología Clínica*, Vol. 5, No. 4, Pp. 171-177. 10.1016/S2173-5743(09)70115-7.
- Rahman, M.S. (2017). “The advantages and disadvantages of using qualitative and quantitative approaches and methods in language “Testing and Assessment” Research: A literature review”, *Journal of Education and Learning, Canadian Center of Science and Education*, Vol. 6, No. 1; pp. 102-112, Available at; <http://dx.doi.org/10.5539/jel.v6n1p102>
- Rahi, S., Abd. Ghani, M. and MI Alnaser, F. (2017). Predicting customer’s intentions to use internet banking: The role of Technology Acceptance Model (TAM) in e-banking, *Management Science Letters*, Vol. 7, pp. 513 – 524.

Rahi, S., Abd.Ghani, M. and Hafaz Ngah. (2019). Integration of unified theory of acceptance and use of technology in internet banking adoption setting: Evidence from Pakistan, *Technology in Society*, Available at: <https://doi.org/10.1016/j.techsoc.2019.03.003>.

Salvador, J.T. (2016). “Exploring quantitative and qualitative methodologies: A guide to novice nursing researchers”, *European Scientific Journal*, Vol. 12, No. 18, pp. 107 – 122, Available at: <https://doi.org/10.19044/esj.2016.v12n18p107>

Sarstedt M & Mooi E., (2014), “A Concise Guide to Market Research”, *Springer Texts in Business and Economics*, Available at: https://doi.org/10.1007/978-3-642-53965-7_7, Pp. 193 - 233

Shah, S.R. and Al-Bargi, A. (2013). “Research Paradigms: Researchers’ Worldviews; Theoretical Frameworks and Study Designs”, *Arab World English Journal (AWEJ)*, Vol. 4, No. 4, pp. 252 – 264

Strydom, H. (2014). “An evaluation of the purposes of research in social work”, *Social Work/Maatskaplike Werk*. Vol. 49, Available at: doi.10.15270/49-2-58.

Sankari, A., Ghazzawi, K., El Danawi, S., El Nemar, S. and Arnaout, B. (2015). Factors Affecting the Adoption of Internet Banking in Lebanon. *International Journal of Management (IJM)*, Vol. 6, No. 3, ISSN 0976 – 6502(Print), ISSN 0976 – 6510 (Online).

Sanli, B. and Hobikoglu, E. (2015). Development of internet banking as the innovative distribution channel and Turkey example”, *World Conference on Technology, Innovation and Entrepreneurship, Procedia - Social and Behavioral Sciences* 195, Elsevier Ltd, pp. 343 – 352.

Saxena, M.K., Bala R. and Upadhyay, M. (2014). A study of computer phobia among prospective teacher, *Learning Community*, Vol. 5, No 2 and 3, New Delhi Publishers, pp.129-136, Available at: <https://doi.org/10.5958/2231-458X.2014.00019.0>.

Sebetci, O. (2015). A TAM-based Model for E-government: A case for Turkey, *Int. J. Electronic Governance*, Vol. 7, No. 2, pp.113–135.

Scherer, R., Siddiq, F. and Tondeur, J. (2019). The Technology Acceptance Model (TAM): A meta-analytic structural equation modelling approach to explaining teachers’ adoption of digital technology in education, *Computers & Education*, Available at: <https://doi.org/10.1016/j.compedu.2018.09.009>.

Surowiec, S. and Bansal, G. (2016). Job relevance and IT usage by child welfare professionals in Wisconsin Counties”, *Eleventh Midwest Association for Information Systems Conference (MWAIS) 2016 Proceedings*, AIS Electronic Library (AISeL), pp.1-8.

Tavakol, M., & Dennick, R. (2011), “Making sense of Cronbach's alpha”, *International journal of medical education*, Vol. 2, Pp. 53–55, <https://doi.org/10.5116/ijme.4dfb.8dfd>

Valdehita, R.E., Medina-Merodio, J.A. and Plata, R.B. (2019). Student acceptance of virtual laboratory and practical work: An extension of the Technology Acceptance Model, *Computers and Education*, Available at: <https://doi.org/10.1016/j.compedu.2019.02.010>.

Van Velsen, L., Evers, M., Bara, C.D., Op den Akker, H., Boerema, S. and Hermens, H. (2018). Understanding the acceptance of an e-health technology in the early stages of development: An end-user walkthrough approach and two case studies, *JMIR Form Res*, Vol. 2, No.1, Available at: <https://doi.org/10.2196/10474>.

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the Technology Acceptance Model”, *Information Systems Research*, Vol. 11, No. 4, pp. 342–365.

Venkatesh. V. and Davis F.D. (2000). “A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies”, *Management Science*, Vol. 46, No. 2, PP. 186-204, <http://dx.doi.org/10.1287/mnsc.46.2.186.11926>

Wanjala M.Y., Iravo, M.A., Odhiambo, R. & Shalle, N.I. (2017), “Influence of Monitoring Tools on Project Performance in Kenyan State Corporations”, *European Scientific Journal*, Vol. 13, No. 19, pp.354 - 370 , Available at: [URL:http://dx.doi.org/10.19044/esj.2017.v13n19p354](http://dx.doi.org/10.19044/esj.2017.v13n19p354)

Yang, Y. and Wang, X. (2019). Modelling the intention to use machine translation for student translators: An extension of Technology Acceptance Model”, *Computers & Education*, Available at: <https://doi.org/10.1016/j.compedu.2019.01.015>.

Zaremohzzabieh, Z., Abu Samah, B., Muhammad, M., Omar, S.Z., Bolong, J., Hassan, HJ S.B., Shaffril, H.A.M. (2016). Information and communications technology acceptance by youth entrepreneurs in rural Malaysian communities: The mediating effects of attitude and entrepreneurial intention, *Journal of Information Technology for Development*, Available at: <http://dx.doi.org/10.1080/02681102.2015.1128384>.

Appendix 1: Research questionnaire

Introduction letter

Dear Participant

My name is Oakantse Aobakwe Mmusi and I am doing my Masters in Business Administration at Botho University. I am currently investigating the factors that influence the acceptance of internet banking under the heading “Testing the applicability of the Technology Acceptance Model on generation Y acceptance of internet banking at Barclays Bank Botswana”. I would like to thank you for taking your time to assist me in my educational endeavours by completing this questionnaire. The data collected through this questionnaire will be used to gain insights into the factors influencing the acceptance of internet banking.

This questionnaire is to be completed by an individual with a bank account at Barclays bank. Participants who will take part in this research will be chosen following a random sampling method as they walk out of the banking hall. The findings of this study will bring an understanding on factors that influence the adoption of internet banking focusing on the Technology Acceptance Model (TAM). The TAM factors include perceived usefulness, perceived ease of use and perceived risk. Participation is strictly voluntary, and participants’ identities will be kept anonymous throughout the study. If you choose to participate in this study, kindly answer all the questions as honestly as possible. Completing and returning this questionnaire will indicate your willingness to partake in this study. All data collected will be used strictly by the researcher for academic purposes.

Names of student:	Oakantse Aobakwe Mmusi
Study programme:	Master’s in Business Administration (MBA)
Name of supervisor:	Prof Ushe Makambe

Yours sincerely,

O. A. Mmusi

Cell: +267 75 440 322

Email: oakantse.mmusi@botho.ac.bw

Section A - Biographic information

You are kindly required to answer all questions as listed below, tick (✓) on the appropriate box indicating your choice of response.

1. Age

Below 20 years	20 – 25 years	26 – 30 years	31 – 35 years	36 years and above
----------------	---------------	---------------	---------------	--------------------

2. Gender

Male	Female	Other
------	--------	-------

3. Occupation

Private	Public	Self-Employed
---------	--------	---------------

4. I know about internet banking.

Yes	No
-----	----

5. Years spent using internet banking

Never used it	Below 1 year	1 – 5 years	6 – 10 years	More than 10 years
---------------	--------------	-------------	--------------	--------------------

Section B – Technology acceptance of internet banking

For each statement, tick (✓) on the appropriate box indicating the degree to which you agree or disagree as shown below:

Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA) to respond to general views on technology acceptance of internet banking.

	Statement	SDA	D	N	A	SA
6.	New technology is essential in my banks' success.					
7.	I am willing to adopt new technology if introduced in my bank					
8.	I am happy with the banking hall services provided.					
9.	I am happy with the internet banking services available.					
10.	I prefer using internet banking over going to the banking hall.					

Section C – The effect of customer's perceived usefulness of internet banking on their adoption.

For each statement, tick (✓) on the appropriate box indicating the degree to which you agree or disagree as shown below:

Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA) to respond to the effect of perceived usefulness on your adoption of internet banking.

	Statement	SDA	D	N	A	SA
11.	I use internet banking to perform my banking transactions.					
12.	I am able to efficiently perform online payment through internet banking.					
13.	Internet banking allows me to efficiently access services I normally get from the banking hall.					
14.	I am able to recharge my mobile network account through internet banking.					
15.	Internet banking saves my time and improves performance of banking services.					
16.	I would be encouraged to use internet banking if someone of high social standard recommends it.					

Section D – The effect of customer’s perceived ease of use of internet banking on their adoption.

For each statement, tick (✓) on the appropriate box indicating the degree to which you agree or disagree as shown below:

Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA) to respond to the effect of perceived ease of use on your adoption of internet banking.

	Statement	SDA	D	N	A	SA
17.	I am very comfortable with using the internet					
18.	I find it easy to navigate around the internet banking platforms.					
19.	I consider internet banking services to be easy to perform, free of mental struggle.					
20.	My bank’s internet banking platforms are user friendly, making it easier to perform transactions.					
21.	I am confident that I could master the use of internet banking services.					
22.	I believe that using internet banking would be enjoyable.					
23.	I believe that using internet banking will need less effort than visiting to the banking hall.					

Section E – The effect of customer’s perceived risk of internet banking on their adoption.

For each statement, tick (✓) on the appropriate box indicating the degree to which you agree or disagree as shown below:

Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA) to respond to the effect of perceived risk on your adoption of internet banking.

	Statement	SDA	D	N	A	SA
--	-----------	-----	---	---	---	----

24.	I feel it is secure to share personal information through internet banking platforms.					
25.	My bank's internet banking platform is secure for performing banking transactions.					
26.	I trust that internet banking services have good privacy/confidentiality laws enforced.					
27.	I trust that my internet banking transactions are protected.					
28.	I believe using internet banking services does not waste time.					
29.	I am confident that I will not lose money when using internet banking.					

THANK YOU!

-----**END OF QUESNTIONNAIRE**-----