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UNIVERSITY OF THE WITSWATERSRAND, JOHANNESBURG

SCHOOL OF ECONOMIC AND BUSINESS SCIENCES

MASTER OF COMMERCE IN THE FIELD OF INFORMATION SYSTEMS

RESEARCH REPORT

MCOM by Research

Online banking usage amongst South African Consumers: An Empirical study of the impact of current usage on future usage intention.

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Date Submitted	26 May 2015

Declaration

I declare that this is my own unaided work, except as acknowledged in the text. It has not been submitted before for any other degree at this or any other university.

I have read and understood the Senate Policy on Plagiarism
I understand that plagiarism is the "failure to acknowledge the ideas or writing of another" or "presentation of the ideas or writing of another as one's own" - whether such failure to acknowledge the ideas or writings of others is intentional or unintentional.

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CV Muzofa

Signature: C.MUZOFA

Date: 27 May 2015

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Abstract

This research study investigated the key factors that contribute to both current usage and future usage intention of online banking by South African users. The research was focused on online banking from all banks and regions in South Africa, hence making the results generalisable to the South African context.

The variables (Performance Expectancy, Effort Expectancy, Facilitating Conditions and Social Influence) were derived from UTAUT model. Trust, Switching Costs and Availability of Alternatives were also added. The conceptual model was moderated by age, gender and experience. The variables used within the study were derived from literature review based on previous studies. From a survey of 300 online banking consumers, results were drawn from 105 responses. In South Africa, Trust, Effort expectancy and facilitating conditions, presented significant and positive impact on future usage intention of using online banking. Age and Experience were also significant to Future Usage intentions.

However Social Influence, Switching Costs and Availability of Alternatives do not play a considerable role in influencing the user's future usage in South Africa. While current usage did not directly impact future usage intentions of using online banking, the findings on frequency of usage and functionality (applications) added value to understanding the concept of current usage.

The model had an $R^2 = 0.25$ which suggests that within the South African context, there are more factors to be considered for academia and practitioners to understand online banking behaviour amongst consumers. We cannot completely apply theories and models from other countries to the South African context. There is a need to look at factors unique to South Africa, including how customers interpret questionnaires.

The research also contributes to the current body of work and interest by banks in South Africa to move from "bricks to clicks", (moving customers from the branches onto electronic platforms) that are more accessible from any location, and require less staff to operate. To do that, practitioners need add "trust" factors to online banking as well as increase frequency of users logging on to transact. It is vital for banks to also focus on functionality that is simple, reliable and dependable, as well as adds value to customers to ensure their frequent and continued usage thereof.

Keywords: *Online banking, Internet Banking, technology usage intention, UTAUT, online trust, switching costs, online banking alternatives*

Table of Contents

Declaration ii
Acknowledgements iii
Abstract iv
LIST OF TABLES viii
CHAPTER 1: INTRODUCTION 13
1.1 Introduction 13
1.2 Context and Background 13
1.2.1 Context of Study 13
1.3 Research Problem 17
1.4 Aims and Objectives 18
1.5 Importance of the Research 19
1.6 Delimitations and Assumptions 21
1.7 Conclusion 22
CHAPTER 2: LITERATURE REVIEW 24
2.1 Introduction 24
2.2 Overview of Online Banking 24
2.2.1 Context – History, Current and Trends in online banking 24
2.2.2 Transacting online 25
2.2.3 Developing and Developed Countries 26
2.2.4 Online Banking Functionality 28
2.2.5 Advantages of Online Banking 29
2.2.6 Disadvantages of Online Banking 30
2.3. Review of Online Banking Literature 31
2.3.1. Adoption Review 31
2.3.2. Post-Adoption Review (Current Usage and Future/ Continued Usage): 33
2.3.3. Contributions and Shortcomings of Research on Online Banking 35
2.4 Theoretical Background and Research Model 37
2.4.1 Overview of Theories 37
2.4.1.1 ECT and ECM-IT 37
2.4.1.2 Consumer Trust Theory (CTT) 38
2.4.1.3 Switching Costs 38
2.4.1.4 Social Cognitive Theory (SCT) 39
2.4.1.5 UTAUT 39
2.4.2 Theoretical Synthesis 40
2.4.3 Model Development and Hypotheses 42
2.4.3.1 Dependent Variable: Future Usage Intention 42
2.4.3.2 Dependent Variable: Current Usage 42
2.4.3.3 Independent Variable: Performance Expectancy 43
2.4.3.4 Independent Variable: Effort Expectancy 43
2.4.3.5 Independent Variable: Social Influence 44
2.4.3.6 Independent Variable: Facilitating Conditions 44
2.4.3.7 Moderating Variables 45
2.4.3.7.1 Switching Costs 45
2.4.3.7.2 Availability of Alternatives 46
2.4.3.7.3 Trust 46
2.4.3.8 Control Variables 47
2.4.3.8.1 Age 47
2.4.3.8.2 Gender 48
2.4.3.8.3 Experience 48
2.4.3.9 Hypotheses Summary 48
2.4.3.10 Research Model 49
2.4.3.11 Conclusion 49
CHAPTER 3: RESEARCH METHODOLOGY 51
3.1 Introduction 51

3.2 Research Design and Data Collection 51
3.3 Population and Sampling 52
3.4 Research Instrument: Operationalisation 54
3.5 Validity and Reliability 56
3.5.1 Internal Validity 56
3.5.1.1 Content Validity 56
3.5.1.2 Face Validity 57
3.5.1.3 Construct Validity 58
3.5.1.3.1 Discriminant Validity 58
3.5.2 External Validity 58
3.5.3 Reliability 58
3.6 Hypothesis Testing 59
3.7 Ethical Considerations 60
3.8 Limitations of the study 60
3.9 Conclusion 61
CHAPTER 4: DATA ANALYSIS 62
4.1 Introduction 62
4.1.1 SPSS Tests 62
4.2 Demographic and Online Banking Descriptive Analysis 63
4.2.1 Gender 63
4.2.2 Age 63
4.2.3 Relationship between Current Usage and Gender 64
4.2.4 Relationship between Current Usage and Age 65
4.2.5 Time since Registration 66
4.2.6 Frequency of using Online Banking (Current/Actual Usage) 67
4.2.7 Usage of online activities 68
4.2.8 Usage of Online Banking Functionality 68
4.3 Data Screening- Missing Values and Outliers 70
4.3.1 Missing Values 70
4.3.2 Outliers 70
4.3.3 Reverse Scoring 70
4.4 Reliability and Validity 71
4.4.1 Inter-Item Correlations 71
4.4.2 Principal Components Analysis 72
4.4.2.1 Factor Loadings 72
4.5 Scale Reliability 74
4.6 Descriptive Statistics 75
4.6.1 Correlation between Dependent Variable and Independent Variables 76
4.7 Correlation Matrix 76
4.8 Multiple Regression 77
4.8.1 Regression on Future Usage Intention 77
4.9 Hypotheses Summary 79
CHAPTER 5: DISCUSSION OF RESULTS 80
5.1 Introduction 80
5.2 Conceptual Model 80
5.2.1 Initial Model 80
5.2.2 Revised Model 81
5.3 Dependent Variables 83
5.3.1 Current Usage 83
5.3.2 Future Usage Intentions 84
5.4 Hypotheses Supported 84
5.4.1 Influence of Effort Expectancy/ Facilitating Conditions on Future Usage Intention 84
5.4.2 Influence of Trust on Future Usage Intention 85
5.5 Hypotheses Not Supported 85
5.5.1 Influence of Performance Expectancy on Future Usage Intention 85
5.5.2 Influence of Social Influence on Future Usage Intention 86

5.5.3 Influence of Switching Costs on Future Usage Intention 86
5.5.4 Influence of Availability of Alternatives on Future Usage Intention 87
5.6 Control Variables 87
5.6.1 Influence of Age, Gender and Experience on Future Usage Intention 87
5.7 Suggestions for Future Research 88
5.8 Conclusion 89
CHAPTER 6: CONCLUSION 90
6.1 Introduction 90
6.2 Contributions to Research (Academia) 90
6.3 Contributions to Practice 91
6.4 Limitations 94
6.5 Conclusion 95
CHAPTER 7: REFERENCES 97
APPENDICES 110
Appendix A: Ethics and Title Approval 110
Appendix B: Final Online Research Questionnaire - with part screen shot 112
Appendix C: Research Questions and Codes 115
Appendix D: Data Analysis Output 117
Appendix D1: KMO Test 117
Appendix D1a: Moderators 118
Appendix D1b: Dependent Variable Loadings (CU/FU) 118
Appendix D2: Multiple Regression 119
Appendix E: Test for Assumptions 120
Appendix E1: Multicollinearity 120
Appendix E2: Linear Relationships, Heteroscedasticity, and Normality (P-P Plot) 121
Appendix E3: Linear Relationships, Heteroscedasticity, and Normality (Scatterplot) 122

LIST OF TABLES

Table 1a: Literature Review Summary- Adoption 32
Table 1b: Literature Review Summary- Post Adoption 35
Table 2: Study Constructs 41
Table 3: Hypotheses Summary.....48
Table 4: Respondent Profile 53
Table 5: Scale Ranges 54
Table 6: Constructs Application.....56
Table 7: Questions Related to Hypotheses.....60
Table 8: Profile by Gender 63
Table 9: Profile by Age (2) 64
Table 10: Cross Tabulation - Current Usage and Gender 65
Table 11: Cross Tabulation – Current Usage and Age.....66
Table 12: Findings related to Usage of Online Banking 69
Table 13: Items Removed for Low Correlations.....71
Table 14: Final Factor Loadings.....73
Table 15: Loadings with Dependent Variable.....75
Table 16: Descriptive Statistics.....75
Table 17: Correlation between Future Usage Intention and Independent Variables.....76
Table 18: Correlation Matrix.....76
Table 19: Multiple Regression between Future Usage Intention and Independent Variables 78
Table 20: Hypotheses Summary 79
Table 21: Multicollinearity Test Coefficients 120

List of Figures

Figure 1a: ICT Adoption Process 15
Figure 1b: Usage Phases within Online Banking 16
Figure 2: Developed Countries Online Banking 28
Figure 3a: Conceptual Model 49
Figure 3b: Revised Conceptual Model 81
Figure 4: Profile by Age 64
Figure 5: Time Since Registration 65
Figure 6: Findings related to Time Since Registration (Experience) 67
Figure 7: Findings related to Current (Frequency of using online banking 67
Figure 8: Findings related to Usage of Online Activities 68
Figure 9: Alternative Products and Services would make me change my bank 74
Figure 10: Linear Relationships, Heteroscedasticity, and Normality (P-P Plot) 118
Figure 11: Linear Relationships, Heteroscedasticity, and Normality (Scatterplot) 119

CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter provides background to online banking in South Africa. The chapter further explores the stages of online banking and presents the research problem within a South African banking context.

1.2 Context and Background

1.2.1 Context of Study

The growth of Online Banking has shifted banking from the traditional bricks-and-mortar environment to a virtual channel with various products and functionality. Online banking is a self-service channel which offers consumers the ability to conduct their banking via the Web without any human interaction with banking staff such as bank tellers. In South Africa, ABSA Bank was the first to launch online banking in 1994. Today the "Big Four" banks in South Africa (ABSA, First National Bank, Nedbank and Standard Bank) currently have online banking channels. However most of the smaller banks in South Africa are still finding models that work to attract consumers to their online platforms to achieve efficiencies and cost saving. Thus consumer adoption/acceptance on online banking appears the main focus of research in South Africa (Safeena, Adbullah and Date, 2010; Wu, 2005; Singh, 2004; Mattila, Karjaluoto and Pento; 2003). Moreover Maduku (2013) observed that within the South African context, studies towards customers' attitude towards Internet-banking services are still limited and under-researched.

Some authors refer to online banking as inclusive of mobile banking, and therefore include the mobile channels in their research. Cell-phone banking and automated teller machines usage has been studied extensively within a South African context by authors such as Rochelle (2011); Brown and Molla (2005) among others.

Usage of online banking tends to demonstrate different stages of activity after registration. People who have tried (registered for) online banking do not always become active users of the services. Some consumers simply remain in a dormant state, while others switch to alternative methods of banking such as mobile or branch banking respectively.

1.2.2 Usage of Online Banking

Due to the competitive nature of banks in South Africa, defining usage (active or dormant) has become largely informed by the bank's channel strategy. This means that a bank will propose their own terminology dependent on how they wish to influence or predict market growth. Consequently banks may refer to the same thing or status while using different terminology. When a consumer signs up for online banking, he/she becomes a registered online banking user. While in a registered status, the user's current/actual usage of his/her online banking account either becomes active or dormant.

1.2.3 Active Usage

An active customer on one hand uses a system's functionality within the timeframe defined by the bank (in South Africa this is at the bank's discretion), and may engage with more obscure aspects of the system's functionality. Hornblass (2012) notes that banks are inconsistent on defining an "active user". For this study, active use can be understood as using more functionality, more often. Adapa (2011) stresses that users' continued and frequent use of Internet banking has positive effects on the financial performance of the banking sector. The frequency with which an online banking user makes use of the functionality is important as it influences the transaction costs which positively influences revenue made.

1.2.4 Dormant Usage

An account is dormant when the user is registered but not currently transacting. The bank does not generate revenue on dormant accounts as [1]interchange fees are not charged for transacting with other banks, and no transactional fees are charged as there are no deposits or withdrawals on the respective accounts. A dormant consumer (based on usage of his/her account) also serves to inflate the bank's market-share, as the account is registered and counted as belonging to the respective bank, while no profits accrue to the bank. The positive aspect to dormant users is that they can be converted into actively participating users if the correct strategies are utilised to influence them.

There does not appear to be much guidance in the South African industry as to how banks classify dormancy. Nedbank, FNB, Standard Bank and ABSA do not mention specific

[1] Interchange fees are fees that banks charge each other for facilitating payment transactions between the respective banks.(South African Reserve Bank).

timeframes for dormancy, but mention that it is at the bank's discretion. However it would appear that the twelve (12) month period is a more widely accepted guide to defining the time period for dormancy. For example, [2]Bank Islam in Malaysia, [3]CIBC in Canada, [4]Sovereign Bank in America, [5]HSBC India, [6]Yorkshire Bank in the United Kingdom, [7]Barclays Bank in United Arab Emirates, [8]Palmyra State Bank in the United States of America, [9]Royal Bank of Scotland, [10]US Bank America and [11]Alliance Bank in Malaysia all define dormancy as an account not transacted on (user not transacting on the account) within a 12 month period. In light of the observations above on the dormancy period, this report will define the dormancy period as being 12 months.

1.2.5 Stages of Online Banking Usage

Kim and Crowston (2011) supported by Rfieda and Kartiwi (2013); identified stages of ICT adoption as occurring in 3 specific stages of pre-adoption, adoption and post-adoption use as illustrated in Figure 1a below:

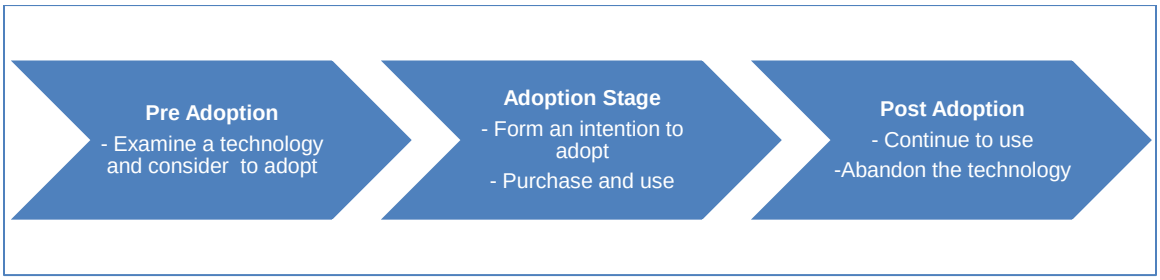


Figure 1a: ICT Adoption Process

The post-adoption stage as noted by Adapa, 2011; Gefen, Karahanna, and Straub, 2003; Parthasarathy and Bhattacherjee, 1998; Rfieda and Kartiwi, 2013 among others; should be the area of focus for internet banking today if online banking is to remain profitable. Bhattacherjee (2001) also emphasises the significance of users' continued usage over initial acceptance of the technology. At this stage, customers will either continue to use the technology, use it less frequently, or abandon the technology. Maduku (2013) who studied both the intention to start

[2] Bank Islam in Malaysia. www.bankislam.com.my,
[3] CIBC. www.cibc.co.ca,
[4] Sovereign Bank in America, www.sovereignbank.com,
[5] HSBC India, www.hsbc.co.in/
[6] Yorkshire Bank in the United Kingdom, www.ybonline.co.uk
[7] Barclays Bank in United Arab Emirates, www.barclays.ae
[8] Palmyra State Bank in the United States of America, www.palmyrastatebank.net
[9] Royal Bank of Scotland, www.rbs.com
[10] US Bank America, www.bankofamerica.com
[11] Alliance Bank in Malaysia, www.alliancebank.com.my

using and continue using Internet Banking in South Africa, also emphasises the gap in understanding customer attitudes towards Internet Banking in South Africa.

The Post Adoption phase in Figure 1a above serves to illustrate the research of this study within the South African context. To explain in more detail, Figure 1b below illustrates the various stages of usage within online banking for this particular study. The darker squares illustrate much of the focus of past research, which has examined pre-adoption and initial consumer adoption and acceptance of online banking (Foon and Fah, 2011; Safeena, Adbullah and Date, 2010; Wu, 2005; Mattila, Karjaluoto and Pento; 2003; Liao, Shao, Wang. and Chen, 1999). These studies focused on the factors that influence the behaviour of the consumer in deciding to register for online banking.

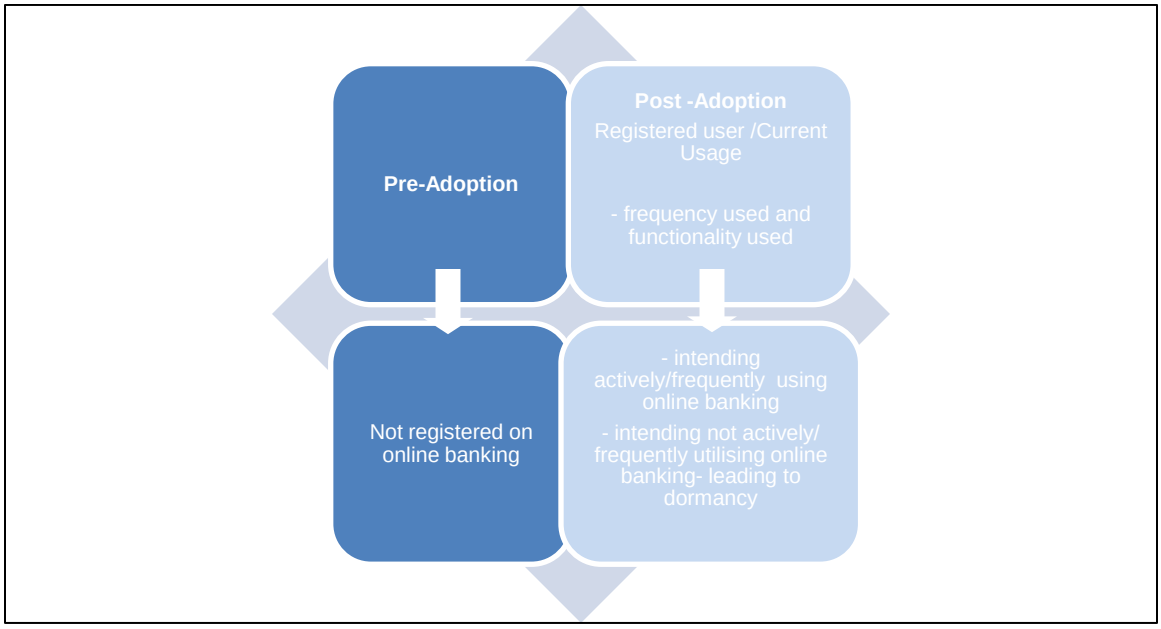


Figure 1b: Usage phases within online banking

The light blue areas in Figure 1b above illustrate that these current/actual usage behaviours and their effects on future usage intentions have not been studied comprehensively.

While there has been some research on the post-adoption or continuance usage of online banking (Eriksson and Nilsson, 2007; Lallmahamood, 2007; Bhattacherjee, 2001; Bhattacherjee, Perols Lee, 2001; Parthasarathy and Bhattacherjee, 1998), fewer studies were undertaken within the South African context. In particular, there is a lack of understanding as to why some consumers are more active than others in using online banking and certain functionality (Price Waterhouse Coopers, 2013). Moreover there is not sufficient understanding as to why the factors influencing

future usage intention and the extent to which perceptions of switching cost, satisfaction and trust influence these online banking behaviours.

1.3 Research Problem

The main research problem with online banking in South Africa is why people who have registered on online banking do not use it as much (frequently) as expected, why they use certain functionality over others and what factors lead to dormancy or dis-continuance (Adapa, 2011).

As of August 2012, the current estimated number of online bankers between FNB, ABSA and Standard Bank was only 5million (Columinate, 2012). The uptake and use of online banking in South Africa has not been as rapid as anticipated (Singh, 2004 and Weeldreyer, 2002). Searll (2014) who conducts marketing research in South Africa through the company Dashboard Marketing Intelligence notes that online banking has experienced a decline in usage from 11% in 2012 to an increased decline by a further 4% in 2013. In their study within the developing countries context, Rfieda and Kartiwi (2013) also comment that the number of internet banking users has not risen as strongly as expected by scholars and banks. Maduku (2013) and Singh (2004) observed that within the South African context, banks still face a significant challenge towards getting customers to bank online. Rfieda and Kartiwi (2013) emphasised the anxiety and doubt that customers have on whether to continue using online banking, even after trying it. This anxiety and doubt factor is linked to the risks associated with transacting in a virtual environment, and raises questions around trust which will be discussed in more detail in later chapters.

Moreover, given the potential benefits of online banking, it comes as a surprise that some consumers register for the online banking service, but after some time may become dormant/inactive or infrequent users or even migrate back to the traditional route of bricks-and-mortar banking (Maduku, 2013). Even during the advent of online banking, Robinson (2000) reported half of the people who tried Internet banking did not remain actively engaged. Also given that attracting new online consumers is more expensive than retaining existing ones (Adapa, 2011; Gefen, Karahanna, and Straub, 2003; Parthasarathy and Bhattacherjee, 1998; Rfieda and Kartiwi, 2013), it is important that online consumers be retained in an active status and using online banking frequently. Understanding online banking usage behaviours of consumers is important to the success of online banking initiatives and is thus a pertinent issue in need of investigation.

1.4 Aims and Objectives

The purpose of this research is to further our understanding of the intention of future usage of online banking. The objective is to study and identify factors influencing online banking in South Africa by addressing the following questions:

1. What factors affect actual or current usage of online banking and thereby differentiate dormant/inactive users from active users (in terms of usage of online banking account)?

   This is to obtain clarity as to the stage when users have registered (in terms of their activity on the online banking channel).

   The reason for better understanding is due to the fact that figures of registered users per bank do not provide a comprehensive picture to the actual usage of the online banking platform. It is the active and frequent usage of the functionality offered on online banking that contributes to generating revenue (Rfieda and Kartiwi, 2013).
2. To what extent are future usage intentions (to continue using online banking) a function of current usage behaviours?

   This question is to gain insight into assumptions that currently registered users have the intention to continue using online banking.

   Feedback on this question will assist in understanding if continued usage of online banking is guaranteed after registration. Insight will also be gained on factors that influence users to continue, dis-continue or infrequently use online banking after registration.
3. What factors might moderate the relationship between current/actual usage behaviour and future usage intention to continue using online banking?

   Besides factors proposed to impact dependent variables (performance expectancy, effort expectancy, social influence and facilitating conditions), there is a need to understand any other factors that may influence (by moderating) the final usage outcome of online banking usage.

   Seeking this understanding will provide a better picture into the context under study (South Africa) and any similarities of differences to other contexts where like moderators have been applied.

This study conceptualizes a user's current/actual usage behaviours as existing between dormant usage behaviour on the online banking account (i.e. registered only but not transacting) to active

usage behaviour on the online banking account (i.e. registered and actively transacting), and intending to continue using online banking in the future.

The steps towards fulfilling the aim will first be achieved by conducting a literature review on material applicable to the field of study (online banking). The research methodology will look at developing a research model around the theories identified in Chapter 2. This research will be approached as a quantitative approach where data will be collected around a sample survey to validate the hypotheses. The survey will provide a set of results to be analysed and implications will be deduced from the empirical results to provide a conclusion into the understanding of the research problem.

1.5 Importance of the Research

This study investigates online banking within a South African perspective. The study may be relevant to both practitioners and academia.

1.5.1 Significance to Practice

Stakeholders of online banking in the business environment encompass banks and other companies within the financial services industry (non-traditional banks) that now offer online banking functionality. The results of this paper would be useful to these stakeholders in providing insights and know-how of sustaining their businesses through influencing activity, frequency of use and continued usage of their channels. Insights into this consumer behaviour can be integrated into strategies for service offerings of online banking services. This concept is consistent with Benbasat and Zmud's (2003) suggestion to directly link study of perceptions and intentions to the design of IT artefacts. Benbasat and Zmud (2003) add that the causal relationship of design originates from the perceptions and intentions of the consumer, into the behavioural stage, showing us that this is influenced from adoption into usage, into future usage intentions.

Understanding consumer usage can also assist financial decision-makers into proactively turning would-be dormant users to constantly active users. Bogomolava (2009) advises that returns on investment will be higher if organisations focus their marketing capabilities on retaining lapsed customers. Molapo and Mukwada (2011) and Maduku (2013) also suggest that companies strengthen the frequency of purchase (or usage) of customers. Maduku (2013) notes how banks have even started to both reward (by using loyalty programmes) the use of Internet banking; and

penalise (by charging higher premiums on transactions) the use of branch or offline banking. By understanding variables that influence consumer Future Usage Intention, practitioners can influence these variables to their advantage to ensure that the consumer experience is positive. Products and services within online banking are continuously being enhanced and therefore learning intensive. The recognition that discontinuance or dormant behaviour of the online offering is not specific to one particular phase of the offering should be factored into how online services are offered to the consumer. A consumer's expectations might not be met by preceding service offerings, leading him/her to become a dormant user. Factoring in aspects of switching costs and consideration of alternatives becomes important in such a virtual environment, in influencing consumer decision. This is because the user cannot touch or feel a product, therefore service-providers need to provide other incentives to engage the user's positive activity. Managers can therefore also use the research results to profile potentially dormant users and draw strategies that lead against such behaviour.

Banks also need to capitalize on existing trust (of current usage) to ensure that Future Usage Intention has a positive impact on the consumer (Maduku, 2013). Product offerings and business models must become more customer-centric according to customer demands in-order to positively influence continuance in usage.

Ernst and Young (2012) highlight within their study that in today's environment where users are becoming more assertive with regards to their banking requirements, understanding customer behaviour, attitudes and requirements is more vital today for the strategic thinking of banks and their operational planning of customer treatment. The results of this study will benefit banks by providing insight into consumer behaviour that impact their usage of online banking functionality, which influence the bank's profits.

1.5.2 Significance to Academia

For academia, the theories in the paper and proposed model help to bridge the gap existing in understanding Current Usage and Future Usage Intention of online banking. As indicated earlier, there has been limited research in South Africa with regards to the post-adoptive phase of online banking. In understanding consumer Future Usage Intention of technological services, it is thus important to understand the dynamic nature of how consumers behave.

Research highlights the fact that technology does not stand on its own, but must be considered along with other factors (Adapa, 2011). The significance to academia will also be to assess if theories and models proposed on similar studies can always be adapted from different environments and produce the same results in a different environment.

The underlying model proposed in this paper will provide a guideline in terms of theories and factors that need to be extended or re-considered within the South African or developing countries context.

This study also considers a different paradigm to online banking than other researchers have conducted – that is post adoption phases of actual usage and future usage intentions specifically related to online banking in South Africa. The significance will be to add empirical evidence that furthers academic understanding within a specific field of banking technology in South Africa.

The results derived from this study can also be used by academics to identify limitations within the area of study, thus adding them towards areas of future research to improve understanding of post-adoption research of online banking in South Africa.

Research especially in technologically-linked environments such as online banking is critical as the world is changing at a rapid pace (Adapa, 2011; Berndt et al., 2010). This impacts the research that was done in previous years at it may not be as relevant in proceeding years, thus the need to stay relevant within a particular context.

1.6 Delimitations and Assumptions

- While online banking is sometimes referred to as Internet Banking, this paper will solely use the term "online banking" to better reflect that banking is done online on a computer/laptop/tablet over the Internet. The scope of this study will be focused on online banking and does not include generic electronic platforms of mobile/cell-phone/phablets banking or the use of automated teller machines or self-service terminals located at bank branches. This exclusion is due to the fact that cell-phone banking and automated teller machines usage have been studied extensively within a South African context (Rochelle, 2011; Brown and Molla, 2005). Globally, mobile banking has also been studied extensively (Hong, Thong and Tam, 2006; Kim, Chan and Gupta, 2007).
- Online banking has been in existence in the first world countries for a longer time than in South Africa (considered a developing country), and therefore research has been conducted in that aspect. This paper will focus on South Africa as the country of study as South Africa is known as the leader of information and communication technology

development in Africa (SouthAfrica.info, 2012 and Masinge, 2010). Berndt, Saunders and Petzer (2010) also highlight that to study South African banking context is appealing as the country is still a developing country, while its banking infrastructure is sophisticated, offering a range of new banking technologies which are on par to that of developed countries.

- An assumption is made within this study that users have access to technology, as they are registered users on online banking. Therefore considerations such as the digital divide and economical issues preventing technology use in South Africa are out of scope for this paper.
- It is also assumed that a user's experience on online banking was based on the length of time they had been using online banking since registration.

1.7 Conclusion

This study investigates online banking within a South African context. The aim of the study is to understand key factors that influence use online banking once registered, as well as to continue using the services in the future. The study also aims to see what functionality users find most useful on online banking platforms, as a tool of gauging the activity of their current usage. The remainder of this report will be structured as follows:

Chapter 2: Literature Review

This chapter provides a comprehensive literature review within online banking, looking at prior research. Although an overall review will be conducted on online banking, focus will be given within the context of developing countries, and specifically South Africa- which is the backdrop for the research.

The chapter also proposes a conceptual model which will be used to test based on hypotheses formulated. The research methodology will guide the techniques and instrument analysis.

Chapter 3: Research Methodology

The research methodology will provide direction for the data collection, techniques and instrument analysis.

Chapter 4: Data Analysis

By conducting data analysis through a quantitative study of registered online bankers, empirical results will be produced. These results will be assessed according to the tests conducted on specified hypotheses.

Chapter 5: Discussion on Results

This chapter discusses implications and insight into how different areas are impacted- namely academia and practice. Recommendations are also provided for future studies.

Chapter 6: Conclusion

The conclusion will provide a summary of the findings, and limitations that this study points towards as well as future recommendations towards the field of online banking.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature within online banking, looking at prior research. Although an overall review will be conducted on online banking, focus will be given within the context of developing countries, and specifically South Africa. The chapter also provides a review of the academic theories used within the research of usage (Current/Actual Usage and Future Usage Intention). Finally hypotheses as well as a conceptual model will be derived from the theory and literature review presented.

2.2 Overview of Online Banking

2.2.1 Context – History, Current and Trends in online banking

Banking technology has experienced new services and devices, leading to a shift from branch banking to automated teller machines, to cell-phone banking, and today to online banking. Liao et al. (1999) describe how initially any banking not transacted within the branch was termed "virtual" banking. This is due to the fact that the customer has no physical interaction with a branch teller, but conducts "self-service" banking virtually or over the internet. According to Peterson (2006) and The Financial Brand (2012), online banking in the international space emerged in the early 1980s. The Bank of Scotland started offering online banking services as early as 1983. However the inception of online banking only offered minimal functionality- with most banks offering only own-bank transfers. It was in the latter part of the 1980s and early 1990s that banks started offering increased functionality (Peterson, 2006). Online banking was introduced in United States of America in 1994, and South Africa followed soon after, with ABSA bank introducing the Internet service in 1996 (Singh, 2004).

In the current status, Srivastava (2007) points out that it has become imperative that banks consider the use of technology to adapt to the changing requirements of technology and customer sophistication. In developing countries, self-service channels like ATMs, cellphone/mobile banking and online banking have become the preferred channel for banks and customers alike (Searll, 2014; Pretorius, 2013; Adapa, 2011). If South Africa, Sullivan (2012) quoted research conducted by a South African research company- World Wide Worx, and reported that Internet usage in South Africa grew by 25% from 2011 to 2012 with some 8.5million users. According to Muller (2012), FNB had the highest number of online banking users in 2012, with 1.7million new

accounts. By 2013, World Wide Worx reported a decline in internet banking on the laptop/PC - attributed to most users banking via their cellphones, ATMs or in branches. Figures had declined by 15% of the user base of 8.5million. This finding is similar to study results illustrated by Rfieda and Kartiwi (2013) who found that within the context of Libya, customers continue to utilise traditional banking channels through branches rather than using online banking- despite the country having heavily invested in banking technologies.

However while online banking may not have boomed in developing countries at such a rapid pace, the trend for banks is still to offer and encourage customers to use virtual channels as these are more cost-effective by virtue of being "self-service" (Adapa, 2011). For customers, cellphone banking (including using smart-phones and phablets) will remain the mainstream channel (Searll, 2014; PwC, 2013). This is due to the fact that cellphones are more affordable and accessible- especially within the developing countries (PwC, 2013). While on the decline, branch banking still remains a preference for some clients who prefer human-engagement with the branch teller, especially for more complex transactions, as well as due to fear of online fraud (Maduku, 2013; and Singh, 2004).

2.2.2 Transacting online

As noted previously, online banking is also referred to as Internet or Electronic Banking. Egland et al. (1998) stress the distinction between the common usage of terms used for Internet banking as there will likely be differences in levels and types of risks associated with each form of banking over the Internet. Within the electronic or online platform, reference is also often made to e-commerce. E-commerce describes consumers making purchases online. The reason e-commerce has been mentioned within this text is due to the fact that variables such as trust and switching costs are found to occur within the virtual environment- where a consumer operates with little or no human interaction, whether in banking or shopping (Bhattercherjee, 2002). Extensive research has been conducted within the e-commerce field, which can be applied to online banking. For example Gefen, Karahanna and Straub (2003) found that trust increases purchase intentions as a user has to trust the e-vendor from which they purchase in a virtual environment. Maduku (2013) cites Al-Somali et al. (2009) in the significance of trust to enhance the customer's intention to use or continue using Internet banking. Bhattercherjee (2002) presented the trust factor as a key determinant for a consumer to be willing to transact in an online environment. In quoting a study conducted for the European Commission on public perceptions, Srivastava (2007) highlights that lack of trust was frequently cited as a factor that

significantly discouraged consumers to transact in an e-commerce environment. In studying the South African banking environment, Berndt et al. (2010) noted a "degree of pessimism" in using technology-based banking products. This pessimism was a direct influence of trust issues- linked to security and a perceived lack of control over the technology. In addition, Berndt et al. (2010) found that consumers actually preferred banking where there was a balance of technology and some human interaction. PwC (2013) observed that in 2013, the Big Four banks in South Africa were operating 2877 traditional branches. This figure was forecast to reduce by 21% in 2016, but not totally diminish the use of brick-and-mortar channels of doing banking. In-fact at the time of conducting their research in 2013, respondents to the PwC survey showed that in 2014 branches were forecast to increase to 2910.

Within the domain of usage, reference is also made to switching costs and attractiveness of alternatives- sometimes combined to refer to switching barriers (Julander and Soderlund, 2003). PwC (2013) notes the significance of banks to ensure that costs are clearly factored so as to attract the previously unbanked. These factors as proposed in the conceptual model, influence continued usage, or repurchase intentions within the e-commerce environment (Julander and Soderlund, 2003).

2.2.3 Developing and Developed Countries

Berndt et al. (2010) define a developing economy/country (such as South Africa, Nigeria or Zimbabwe) as an emerging economy, or one which is in the process of evolving towards developed levels in terms of income. In addition, the standards of living, levels of education and literacy are low, and the countries are usually presented with political instability.
As online banking is still maturing within the developing countries, the subject of online banking is not comprehensively published in journals. Most of the research has been commissioned and provided by research companies.

While many countries in the world have now adopted online banking, the levels of adoption tend to vary per country. Brazil, Russia, India, China and South Africa (forming the BRICS countries) are all leading and developing nations (Morazan, Knoke, Knoblauch and Schafer, 2012). However for the BRICS countries, their levels of online banking are increasing but not at significant levels as developed countries.

South Africa is considered by the World Bank (2014) as a developing country, even though much of its infrastructure within the major cities such as Johannesburg, Cape Town, Durban, and Port Elizabeth - is at a level of most developed countries. SouthAfrica.info (2012) and Masinge (2010) note that South Africa is known as the leader of information and communication technology development in Africa. For South Africa which has the infrastructure that is more advanced than other developing countries, research could provide insights into why online banking has not exceeded growth numbers as expected. In their studies Berndt et al. (2010) highlight that although the banking industry in South Africa is regarded as sophisticated, the main challenge is in banking the "unbanked". The authors note a resistance from the South African community towards adopting "technology-based" banking products and terms this "technophobia".

South Africa is often called the "Rainbow Nation" (Southafrica.info, 2012) due to its cultural diversity. There are 11 official languages, but English remains the official business language in South Africa. In 2013, it was estimated that at least two-thirds of South Africa was now urbanised (Southafrica.info, 2013), yet according to Stats SA (2013), a large majority of those who had moved from villages to the urban areas were still staying in informal settlements and possibly not afford laptops and computers for home online banking- making internet cafes the only option for online banking unless one uses computers at work. In a study conducted by research company Columinate, Pretorius (2014) observed that fraud is still the biggest problem in South Africa, causing concerns for online banking, and especially for people banking on public computers/ internet cafes- which also makes internet cafes an unattractive solution to online banking.

Of the BRICS countries, Brazil has made some greatest inroads into online banking. Eduardo, Morena, and Tomi, (2005) reported the number of clients Internet banking clients to have risen from around 8 million in 2000 to a massive 15 million users in 2003 (some of these being company/corporate accounts). Oleaga (2014) reported the number of online banking users in Brazil to be 22.1 million in 2013 - placing Brazil as the third largest numbers of online banking users in Latin America after Venezuela and Chile. Brazil's success at online banking was attributed to users spending more time banking online- said to be at least one hour 22 minutes a day (during month of July 2013) (Oleaga, 2014).

In other developing markets outside BRICS, Rfieda and Kartiwi, (2013) (who studied internet banking within a Libyan environment), and Molla and Licker, (2005) - note that little attention

has been given to the developing countries, where the development of e-banking is still in early stages. Riyadh et al. (2009) highlight the issues faced with developing countries such as Bangladesh- which include lack of telecommunications infrastructures, low Internet penetration and lack of skilled staff within the E-Banking industry. Chiemeke and Evwiekpaefe (2011) who studied e-commerce adoption within a Nigerian environment also concluded that technology studies in developing countries, especially Africa - were limited and the rate of adoption was very low.

Developed countries (such as USA, Germany, Japan) on the other hand would be characterised by high education and literacy standards, technologically advanced and high levels of income and living standards. These standards and figures are updated regularly- for example in 2014 World Bank described the gross national income per capita of a high income economy as being $12,746 or more. Dreyer (2010) at comScore (Media Metrix company) illustrated as in Figure 2 that Canada was the leading developed nation in terms of online banking penetration (64.8%), closely followed by Netherlands (60.7%). Online banking users in the top 10 countries mentioned in Figure 2 below were said to make frequent and regular monthly usage of online banking.

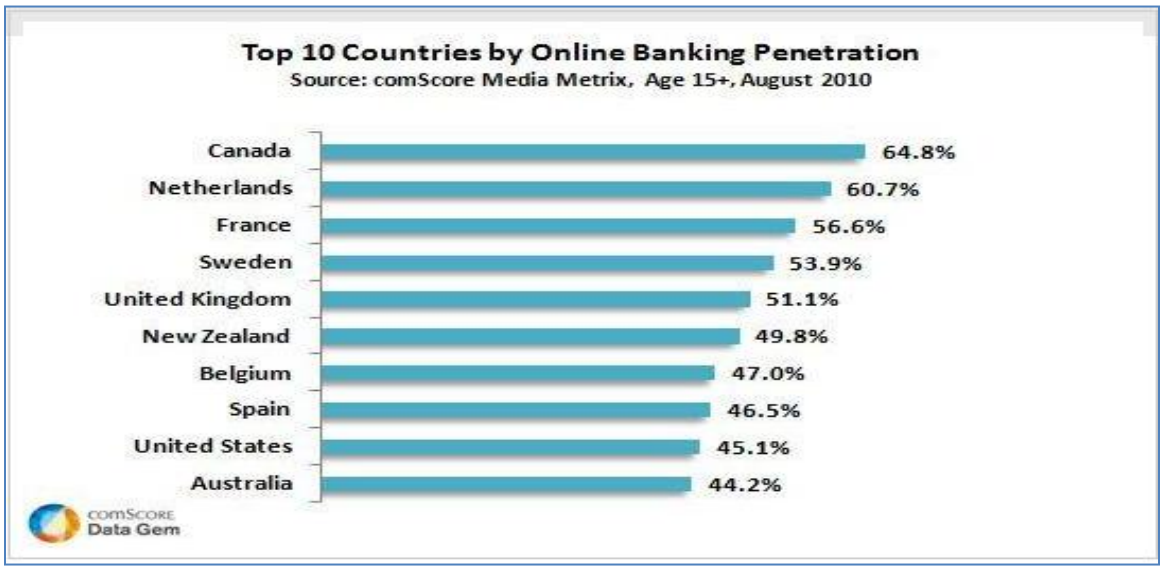


Figure 2: Developed Countries Online Banking

2.2.4 Online Banking Functionality

Today the virtual channel of banking offers various products and functionality/applications. The functionality offered by the different banks can be classified as transactional and non-

transactional. Transactional banking includes allowing the consumer to make payments to a beneficiary at their own bank or another bank, purchase prepaid airtime for cell-phones and prepaid electricity, transfer funds to linked accounts, send money to a beneficiary via a cell-phone (e-wallets), purchase Lotto tickets, trade in shares and purchase foreign currency. Non-transactional functionality includes ability to view account balances, view and download statements. As noted on SouthAfrica.info (2012), different banks in South Africa tend to offer the same basic functionalities as each other - such as the functionality to make payments, view one's own accounts and make transfers between one's accounts. Vatanasombut et al. (2008) emphasised the role of functionality in influencing usage according to what was relevant to the user. Added functionality on the other hand is used as a comparative and competitive advantage between one bank and another. First National Bank (FNB) for example, added functionality for opening of Multi-Currency Accounts, rewards management (Fuel Rewards and eBucks), PayPal, share trading and real-time account opening. World Wide Worx (2013) revealed from their research that the transaction type influenced the banking channel (such as ATM, branch, online) used - with more users preferring to conduct balance enquiries, buy prepaid airtime and sending money to someone via their mobile phone.

A survey conducted by Ernst and Young (2012) on Global Consumer Banking found that in South Africa, 61% of customers prefer to use the Internet to engage with their banks for simple transactions like viewing balances. According to the study, this was the highest representation behind Canada which had 65% preference. Further research by Columinate in 2013 revealed that online banking users were gradually starting to use online banking for more than just viewing transactions and making payments, and becoming increasingly likely to apply for new banking products such as loans and overdrafts, airtime, data and lottery tickets.

2.2.5 Advantages of Online Banking

Online banking comes with many benefits for the consumer (Stauble, 2011; Maduku, 2013; Yu and Guo, 2008; Riyadh, Akter and Islam, 2009). One visible benefit is that of convenience as the online channel is available twenty-four hours a day, seven days a week. Online banking is not location dependent as long as consumers have access to the Internet, which enables them access to their accounts anytime, from anywhere in the world. Banking has thereby become a service within the consumer's control. Online banking also has huge cost saving benefits for both the consumer and the bank (Safeena, Adbullah and Date, 2010; Maduku, 2013; Yo and Guo, 2008). Srivastava (2007) highlights that in India the average online transaction costs the bank only one-

twentieth of a transaction conducted at a teller. Processing times for clearing funds paid electronically are much quicker than branch, teller and instrument-based (e.g. cheque) banking. The benefits to consumers are thus in the increased control, convenience, accessibility, low-cost and increased speed of transacting electronically.

Financial institutions are also drawing benefits from offering banking services on the Internet (Dutta, 2012; Maduku, 2013; Riyadh et al., 2009; Cheng et al., 2006). Banks can reach and offer services to multiple clients in different geographical settings at the same time. As observed by Maduku (2013), this allows banks to expand their services to areas with no physical banking branches. While several clients can access the bank's website concurrently, only one teller can service a client at the same time in a branch. Online banking does not require any front-line staff- only the support staff that is responsible for developing and maintaining the systems. For example, FNB leveraged off their electronic channels to decrease staff overhead while at the same time growing their consumer base (Clark, 2012).

2.2.6 Disadvantages of Online Banking

While highlighting the benefits of online banking, it is also important to note that there are risks attached. These include risks of phishing attacks (a form of online identity theft). Consumers are also vulnerable to sim-swaps of their cell-phone banking details which are then used to access the consumer's online profile. Slow response times may occur due to Internet or service provider problems, leaving the network vulnerable to fraudulent activities. As with any network service, online banking infrastructure can also experience systematic failures. These inconveniences cause frustration to consumers when they cannot transact, making the consumer consider using alternative banking channels such as branch or ATMs (PWC, 2013).

Besides the frustration, the disadvantages of online are directly linked to the trust factor. If certain functionality (especially system related such as online banking) does not function as expected, people lose trust in the offering as they feel unsafe utilising the system. Gefen (2003) highlights how consumers have shown unwillingness to transact in an environment that has risk concerns. Muniruddeen (2007) also indicate that consumers are reluctant to engage in online transactions where money and personal information are involved if they do not trust the channel.

2.3. Review of Online Banking Literature

Since inception of online banking, several studies have been done in differing contexts of the functionality and services. Hong et al. (2006) note how literature review on IT adoption has actually assumed that the processes for post-adoption / continued usage decisions would be similar to that of the adoption/acceptance phase. Yet one would likely find results to differ according to the environment- as illustrated by the literature review below.

The literature review below covered different aspects of online banking which will impact this study – such as different stages of online banking, and online banking in developing versus developed countries. The summary in Tables 1a and 1b respectively lists the author(s) and year the study was published, the title of the study, key concepts studied and key findings of the study. The "Dependent Variable" column clearly defines the different areas of studies- some focusing on usage intention and different stages of online banking usage, others on adoption of online banking, while others look at trust. These concepts will be integrated into the research of this paper.

As mentioned before, most research in developing countries has not been published in the established academic journals or on specific databases. However the following journals were mainly made use of for this study:

MIS Quarterly, Information and Management, Journal of Internet Bank and Commerce, Decision Sciences, International Journal of Information Management, Journal of Information Systems in Developing Countries, Journal of Internet Banking and Commerce , Technovation among others.

Databases used included Emerald, EBSCO Host and Science Direct. Although not a database, Google Scholar was also made use of- especially for journals from the developing countries.

The following key words were used to obtain prior empirical studies:

Online banking, Internet Banking, technology usage, UTAUT, online trust, switching costs, online banking alternatives

2.3.1. Adoption Review

Table 1 illustrates how several studies on online banking within developing countries have focused more on the adoption stage. This is in addition to other authors noted before: Foon and Fah, (2011); Safeena, Adbullah and Date, (2010); Mattila, Karjaluoto and Pento, (2003); Liao, Shao, Wang and Chen, (1999) who also focused on the adoption/acceptance stage. The key

variables within the adoption/acceptance stage were trust, security, satisfaction, expectation, ease of use, perception (of cost, benefits, credibility) and support among others. However adoption of online banking is not the focus of this study, but serves to highlight that adoption within online banking has been extensively researched – and thus out of scope for this study.

Author(s)	Year	Article Title	Variables		Key Findings
			Independent	**Dependent**	
Chiemeke and Evwiekpaefe	2011	A conceptual framework of a modified unified theory of acceptance and use of technology (UTAUT) Model with **Nigerian** factors in E-Commerce adoption	**Trust/security, Cost, Culture, Technology Reliability, Accessibility, Education and Awareness, Legal and regulatory**	**Adoption**	Insufficient research in e-commerce on developing countries.
Green and van Belle	2003	Internet Banking in **South Africa**	**Satisfaction, Expectations**	**Adoption**	Found the cost issue to heavily influence customer expectations.
Riyadh, A.N., Akter, M.S., and Islam, N.	2009	The adoption of E-banking in developing countries: A theoretical model for SMEs.	**Organisational capabilities, Perceived benefits, Perceived credibility, Perceived regulatory, Support, Readiness.**	**Adoption**	Banks in Bangladesh have invested heavily in E-banking, but SMEs are not ready to adopt the technology.
Karahanna et al.	1999	Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs	**Usefulness, Ease-of-use, Visibility, Trialability, Result demonstrability**	**Pre-adoption, Post-adoption**	Post-adoption is the same as continued use. Post-adoption is influenced by beliefs of usefulness and image enhancements.
Sighn, A.M	2004	Trends in **South African** Internet banking	**Security, Loyalty, Gender, Race, Incentives for banking online**	**Internet banking adoption**	Customers preferred using ATMs to Internet banking, with more males banking online than females. Main concern for not banking online was security issues.
Wu, J	2005	Factors that influence the adoption of Internet banking by **South Africans** in the EThekwini metropolitan region.	**Relative advantage, Compatibility, Complexity, Perceived cost, Perceived risk, Social influences**	**Adoption**	Demographic and psychological factors (e.g. perceptions of relative advantage, compatibility) influence adoption. Negative perceptions of complexity and perceived risk hamper adoption.

Table 1a: Literature Review Summary- Adoption

2.3.2. Post-Adoption Review (Current Usage and Future/ Continued Usage):

Table 1b focuses on literature review related to the area of the current study- post adoption of online banking. Globally, extensive research has been done on post-adoption phase (incorporating current usage and future usage or continued intention) of online banking. Minimal research within this area of study has been done within the South African environment (Anani, 2010; Berndt et al., 2010, Maduku, 2013). Moreover these studies also focused on different aspects of online banking such as technology readiness and customer loyalty. In trying to determine where South Africa is in terms of online banking, Anani's (2010) main focus was on building relationships in-order to build loyalty in retaining clients on Internet banking. Berndt et al. (2010) focused on the socio-economic factors of South Africa that determined if the customers were technologically ready to adopt online banking. Maduku (2013) found that trust was the biggest issue in influencing customers on continuing to use online banking in South Africa.

The focus of the studies as presented in Table 1b – incorporating IT usage in different countries, was on trust, security, willingness to transact, social factors, perceived usefulness and ease of use, switching barriers, costs, relationship and commitment. As Adapa (2011) revealed within the Australian environment, the key at a post-adoption stage revealed that relationships as well as perceived usability and frequency of usage were necessary to ensure continued usage. Thus engaging customers is loyal to ensuring retention of customers, which adversely creates continued usage (Anani, 2010; Vatanasombut et al., 2008).

The studies commonly revealed trust and ease of use/ usability to be significant issues when transacting online. This was highlighted by studies in both developed and developing countries (Al-Ghaith et al., 2010; Bhattacherjee, 2002; Eriksson and Nilsson, 2007) and others below in Table 1b. While the focus was on post-adoption of online banking, none of the papers presented below used a combination of theories as intended to be used within this study (UTAUT, Trust, and Switching Costs). For example Hong et al., 2006 focused on TAM, Lai and Cui (2014) applied ECM to IS Continuance, and Rfieda and Kartiwi investigated continued use of Internet banking using ECM-IT.

As online banking uses technological infrastructure, studies on IT usage can be applied to the study.

Author(s)	Year	Article Title	Variables		Key Findings
			Independent	**Dependent**	
Agarwal, R. and Prasad, J.	1997	The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies	Innovation, Perceived voluntariness	Acceptance outcomes- Current use to future use intentions	There are different variables influencing initial use of innovation to those influencing intentions to continue using innovation in future-routinisation.
Adapa, S.	2011	Continued and frequent use of internet banking by **Australian** consumers: identification of the factor components	Channel factors, Social factors	Continued and frequent use	Perceived usability and perceived trialability were found to heavily influence continued use of online banking.
Anani, A, O.	2010	Attracting and Retaining customers in **South Africa's** banking sector	Customer loyalty, Relationship banking, Electronic banking	Customer attraction, Customer retention, Customer satisfaction	Maintaining positive relationships with customers will attract and retain customers. In South Africa, electronic banking is still a small influencing factor.
Berndt, A.D.; Saunders, S.G; and Petzer, D.J.	2010	Readiness for banking technologies in developing countries – **South Africa**	Optimism, Innovativeness, Discomfort, insecurity	Technology readiness	Consumers in South Africa not willing to adopt "technology-based" products
Bhattacherjee, A and Premkumar, G.	2004	Understanding changes in belief and attitude toward information technology usage: A theoretical model and longitudinal test	Beliefs, Attitude, Disconfirmation, Satisfaction, Beliefs	Usage Intention	User beliefs and attitudes influence information technology usage. Perceptions change with first-time usage and may change usage behaviour.
Bhattacherjee, A	2002	Individual Trust in Online Firms: Scale Development and Initial Test	Familiarity, Willingness to transact	Trust	Services such as online banking are heavily dependent on trust factor to influence willingness to transact.
Hong, S.J., Thong, J, Y, L. and Tam, Y,N.	2006	Understanding information technology usage behaviour: a comparison of three models in the context of mobile internet	Perceived usefulness, Perceived ease of use, Confirmation, Satisfaction	Continued information technology usage	TAM is a robust model for studying the initial and continued usage of technology.
Al-Ghaith, W; Sanzogni, L; Sandhu, K.	2010	Factors influencing the adoption and usage of Online services in **Saudi Arabia**	Trust, Security	Usage	Factors such as trust and security influence and usage of online services.
Eriksson, K and Nilsson, D	2007	Determinants of the continued use of self-service technology: The case of Internet banking	Perceived usefulness, Multichannel satisfaction	Continued use	Continued usage domain often neglected as most studies focus on buyers' adoption or acceptance of self-service technology.
Kim, Y and Crowston, K.	2011	Technology adoption and use theory review for studying scientists' continued use of cyber-infrastructure	Performance expectancy, Effort expectancy, Subjective norm, Facilitating Conditions	Adoption, Continued use	Cyber-infrastructure technologies not being used as much as they are being deployed.
Kim, M-K., Park, M-C and Jeong, D-H	2004	The effects of customer satisfaction and switching barrier on customer loyalty in **Korean** mobile telecommunications services	Switching barrier, Customer satisfaction	Customer loyalty	Maximized switching costs of loss cost and move-in cost lead to increased customer loyalty.

Lai, V.S.K., and Cui, X.	2014	Extending the Expectation –Confirmation Model to Evaluate the Post-Adoption Behaviour of IT Continuers and Discontinuers	Satisfaction, Confirmation, Social influences	IS continuance	ECM has important missing variables that affect user satisfaction and continuance
Lallmahamood, M.	2007	An examination of Individual's perceived security and privacy of the Internet in **Malaysia** and the influence of this privacy on their intention to use e-Commerce: Using an extension of the Technology Acceptance Model.	Perceived security and privacy, Perceived usefulness, Perceived ease of use	Usage intention	Security and privacy are the main factors influencing users' intention to use Internet banking.
Maduku, D.K	2013	Predicting retail banking customers' attitude towards Internet banking services in **South Africa.**	Trust, Demographic variables, Subjective norm, Perceived usefulness, Perceived ease of use.	Customer's attitude (to Internet banking) to adoption and continued usage	Customers still prefer to adopt and continue using Internet Banking despite trust issues. Trust is the biggest factor of predicting attitude towards internet banking.
Rfieda,A. and Kartiwi,M.	2013	Investigating Factors that affecting the Continued use of Internet Banking: Case Study of **Libya.**	Relationship commitment, Trust, Switching costs	Continued use	Not much research has been done on internet banking in developing countries. ECM-IT does not fully show continued use behaviour from relational and cognitive views. Relationship commitment and trust found to be strong predictors of continuance intention. Switching cost, which is one of the antecedent factors of commitment and trust, has also adopted in this study.
Vatanasombut et al.	2008	Information systems continuance intention of web-based applications customers: The case of online banking	Trust, Relationship Commitment, Termination cost.	Continuance intention	Trust is perhaps the strongest and most critical influence of e-commerce continuance.

Table 1b: Literature Review Summary- Post Adoption

2.3.3. Contributions and Shortcomings of Research on Online Banking

As early as 2001, Aladwani noted that despite online banking gaining significance, the main research focus was on adoption of online banking and drivers of online banking. This shortcoming of focusing more on adoption than continued usage of online banking has not changed much a decade later.

From previous studies a number of studies derived from the search on online/ Internet banking are focused on the area of adoption (Diako, Lubbe and Klopper, 2012; Al-Ghaith, Sanzogni and

Sandhu, 2010; Safeena, Abdullah and Date, 2007; Wu, 2005; Agarwal and Prasad, 1997 and Sathye, 1999; Riyadh et al., 2009). Cheung, Chan and Limayem (2005) highlighted that the area of consumer online continuance behaviour was still an under-researched area compared to intention and adoption. The focus of adoption studies in the context of online banking is even more so within developing countries, as most countries are still establishing their technology platforms. Adapa (2011) who studied online banking within the Australian environment also suggested that continued use and frequency of online banking may be more complex than current theories explain. That means academia may have to look at proposing new theories, not just using existing ones such as TAM, UTAUT and so on.

The area of mobile banking has been extensively studied both within an African and international context. Within Africa, the usage of cellular mobiles is more pronounced as cellphones are more affordable for the average consumer than purchasing computers or laptops to use for online banking. Literature review shows that a number of studies use the term online/Internet Banking as a reference to mobile banking (Molapo and Mukwada, (2011); Chigona et al., (2009); Brown and Molla, (2005); Kim, Chan and Gupta, (2005), Liao et al., (1999).

The aim of this study is to move away from online banking adoption studies and studies within the mobile banking context - which have been researched to a great extent in developing countries. Rather the focus here is on the post-adoption phase and issues associated with this phase, thus the incorporation of a combination of different theories and factors not considered by previous studies.

2.4 Theoretical Background and Research Model

2.4.1 Overview of Theories

Usage theories within an online environment have roots in consumer behaviour as well as IT/ technology and marketing constructs. Kim and Crowston (2011) support use of theories and models in technology as a provision of a framework to work with and in interpreting results. In their empirical research on online consumer behaviour, Cheung et al. (2005) found that the dominant theories in the 355 papers surveyed were Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB). However these theories and models tend to focus on the adoption and acceptance phase of technology usage. Hong et al. (2006) and Kim and Crowston (2011) noted that prior adoption studies did not adequately cover or measure the actual usage (which is current usage) or the continued or discontinued usage of the technology (which is served by looking at future usage intentions).

In terms of theories underpinning post-adoption usage of online banking, the dominant theories have been Expectation Confirmation Theory (ECT), Expectation Confirmation Model in IT Domain (ECM-IT), Consumer Trust Theory (CTT), Social Cognitive Theory (SCT), Switching Costs Theory (SCT) and Unified Theory of Acceptance and Use of Technology (UTAUT) – each of which is discussed below.

2.4.1.1 ECT and ECM-IT

ECT was proposed by Bhattacherjee (2001) and theorises that post adoption continuance behaviour is influenced by the user's confirmation and satisfaction with prior usage of that technology and their perceived usefulness of further usage. Several studies (Kang, Lee, and Lee. 2012; Chen and Meservy, 2012; Lee, 2010; Chou et al., 2010; Lankton, and McKnight, 2008; Lin, Wu and Tsai, 2005; Lai and Cui, 2014) have used ECT to explain post-usage behaviour in technology and online banking.

IS Continuance Model (ECM-IT) is based on the user's continued usage of the technology stemming from ECT. Lai and Cui (2014) argued that ECM has missed significant variables such as social influence in its explanation of IS continuance. Rfieda and Kartiwi, (2013) also observed that ECM-IT does not account for perceived performance as it is already infused into the confirmation construct. Hong et al. (2006) also note the criticism of ECM-IT based on the fact that the Model assumes pre-purchase expectations are based on the information from manufacturers, third party test reports or mass media sources, instead of the individual. Thus the

model was not considered all encompassing in explaining post-adoption behaviour within an online environment.

2.4.1.2 Consumer Trust Theory (CTT)

Originally developed by Morgan and Hunt (1994), Consumer Trust Theory stresses the critical role of trust within online services and as a significant factor for the consumers' continued use of the system. Trust has been used as a research concept in the fields of psychology, marketing, social sciences, as well as within information systems and e-commerce (Bhattacherjee, 2002). While Gefen et al. (2003) and Lee and Turban (2001) studied online shopping, and Bhattacherjee (2002) looked at online firms, they all agree that Trust is an important component of online exchange relationships. Gefen et al. (2003) evidence trust as significantly important where the consumer cannot see or touch the product. In an environment such as online banking where relationships are virtual (on a web platform), the website becomes the gateway or clearing-house through which the consumer interacts with the Bank. Some level of Trust would be required to provide comfort and security levels to the exchange relationship on online banking. Gefen et al. (2003) note that consumers have shown unwillingness to transact in an environment that has risk concerns. CTT also suggests that unlike the propositions of ECM, satisfaction does not always lead to continued use of the technology.

2.4.1.3 Switching Costs

Switching costs are often defined as a switching barrier (Kim et al., 2004; Jones, 2000) - which can either negatively or positively influence a consumer's decision to use their current service offering. Within their studies on internet/online banking, Rfieda and Kartiwi (2013) defined switching costs as the degree (including additional costs, emotional costs and psychological costs) to which customers perceive the effort to terminate the relationship they have with their bank and move to another. Rfieda and Kartiwi (2013) also found switching costs to have a significant positive effect on recommendation (social influence). Jones et al. (2000) define a switching barrier as any factor which makes it difficult or costly for consumers to change providers. Kim et al. (2004) and Fornell (1992) refer to Switching costs as the costs and inconvenience that are incurred when one wants to move to another service provider. This includes search costs, transaction and learning costs and loyal customer discounts. So for example if a user wanted to move from one bank to another within a South African context, he/she might consider time and effort of moving their home loan, car loan, debit orders, as well as

losing out on loyalty points they may have earned from one bank. In South Africa different banks offer loyalty programmes, such as eBucks offered through FNB and UCount through Standard Bank- both of which carry financial rewards. The look and feel of each online banking website also differs per bank, and may be a hindering factor for those who are not so techno-savvy to re-learn a new system.

Rfieda and Kartiwi, (2013) who highlights that switching costs is the single most important factor that internet banks need to create so as to ensure customers are loyal to the bank. Switching costs may therefore enhance the likelihood of the customer remaining on their current banking platform, therefore creating a degree of monopoly over the customer base.

This paper will adapt switching costs as the inconveniences of having to learn a new banking method/ channel , service or functionality, as well as searching for information on that banking channel (such as ATM, mobile banking).

2.4.1.4 Social Cognitive Theory (SCT)

SCT emphasises the importance of cognitive, emotional and behavioural aspects to explain how an individual's valuations after the initial use of the product would influence their continued use. Lin and Huang (2008) used SCT for predicting and improving computer and internet usage behaviours. SCT also argues that a person's cognitive behaviour would be partially shaped and controlled by social influences (Rfieda and Kartiwi, 2013) – meaning that how quickly one learns and adapts to a particular system may be influenced by people they engage with. This aspect is closely aligned to the Social Influence factor within the UTAUT model.

2.4.1.5 UTAUT

The Unified Theory of Acceptance and Use of Technology was proposed by Venkatesh, Morris, Davis and Davis (2003) within the information technology field. UTAUT is considered an acceptably robust model within information technology and usage (Venkatesh and Zhang, 2010; Sundaravej, 2009; Park et al., 2007). UTAUT is used to predict intention and usage behaviour of users and proposes four core determinants of intention and usage, namely Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI) and Facilitating Conditions (FC). These determinants were derived from eight prominent theories and models that explained information technology usage behaviour (Venkatesh et al., 2003), namely: Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behaviour (TPB), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization

(MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT). According to Kim and Crowston (2011), the two direct determinants of usage behaviour are intention and facilitating conditions.

Venkatesh et al. (2003) also proposed gender, age, experience and voluntariness as mediating the impact of the four key constructs on usage intention and behaviour. In 2012, Venkatesh, Thong and Xu extended UTAUT, incorporating price value as an additional construct amongst others. As they applied this to mobile Internet, this is consistent with adding of switching costs within this paper.

2.4.2 Theoretical Synthesis

The aim of this study is to understand post-adoption intentions within the online banking environment within a South African banking context. While one notes that the theories applied to post-adoption studies above (UTAUT, Switching Costs and Trust) all have their own merit, there is little evidence of these theories being applied within the same context to study the current usage and continued usage of online banking within a South African context. This was the motivation to combine these theories (UTAUT, Switching Costs and Trust) into a singular model within this study. On the other hand, other theories and models such as ECT and CTT have been used extensively. This highlights that previous studies have adopted a different lens to see the phenomenon of usage behaviour within the online banking environment. As emphasised by Kim and Crowston (2011), understanding the limitations of different theories assists further studies in proposing and developing their own theoretical frameworks for further studies. Hong et al. (2006) point out that one can adopt existing theories, or build and propose new frameworks to understand the under-studied area of post- adoption usage within a virtual environment.

To fulfil research gaps from previous studies within this study, there is not much value in using the same theories already studied. Hence this study proposes to use UTAUT as the main model underpinning this study as it is derived by integrating eight theories and models, and therefore comprehensively covers usage and intention behaviour. UTAUT also draws on other factors such as performance expectancy which is not covered in ECM, and Social Influences which have been highlighted within SCT.

However as Sundaravej (2009) notes, UTAUT should not be considered as the final instrument for determining usage within technology behaviour and that other theories may have relevance. As Trust and Switching Costs were also found to be significant influencing factors towards post-

adoption usage (especially in developing countries), it was also decided to add these theories to the study within this paper.

This study therefore proposes an integrated model of the above theories, but excluding such theories like ECM which have been extensively studied within post-adoption research.

Table 2 below provides a summary of concepts and variables in this report- which will be explained in more detail in the preceding sections. These variables were consistent with the work of previous technology and internet banking studies, and operationalised accordingly.

Concept/ Variable	**Definition**	**Variable**	**Author**
Current Usage/ Actual Usage	Frequency with which users use the system, and functionality mostly used. "Current users refer to individuals who had subscribed to mobile Internet services and were using it at the time of the study".	Dependent	Agarwal and Prasad (2007) Hong et al. (2006)
Future Use	Users' intentions about how they will use Online banking in the future.	Dependent	Bhattacherjee (2002), Venkatesh and Davis (2000)
Performance Expectancy	Derived from UTAUT model/theory. The degree to which an individual believes that using a particular system would improve his or her job performance.	Independent	Venkatesh et al. (2003)
Effort Expectancy	Derived from UTAUT model/theory. The degree of simplicity associated with the use of a particular system.	Independent	Venkatesh et al. (2003)
Social Influence	Derived from UTAUT model/theory. The degree to which an individual perceives that others believe he or she should use a particular system.	Independent	Venkatesh et al. (2003)
Facilitating Conditions	Derived from UTAUT model/theory. The degree to which an individual believes that an organizational and technical infrastructure exists to support the use of a particular system.	Independent	Venkatesh et al. (2003)
Trust	From Consumer Trust theory. The willingness of a party (trustor) to be vulnerable to the actions of another party (trustee) based on the expectation that the other party (trustee) will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party (trustee). Consumers have shown unwillingness to transact in an environment that has risk concerns.	Moderator	Gefen et al. (2003)
Switching costs	The costs and hassle that is incurred when one wants to move to another service provider. This includes search costs, transaction and learning (adaptation) costs.	Moderator	Kim et al. (2004) and Fornell (1992)
Availability of alternatives	How good other suppliers would be in comparison with a current supplier, and how satisfied users are with their offerings. As noted in the literature review, customers in developing countries increasingly go back to using branches or mobile banking even after trying online banking.	Moderator	Jones et al. (2000)

Table 2: Study Constructs

2.4.3 Model Development and Hypotheses

2.4.3.1 Dependent Variable: Future Usage Intention

Future Usage Intention relates to a behavioural expectation of what will happen in time to come. Agarwal and Prasad (1997) believe that although intentions (of use of technology innovations) can change with the passage of time, they have been shown to be good predictors of future usage intentions. That means current/actual usage can be used to predict usage in the future. In studying Internet-based learning technologies, Limayem and Cheung (2008) also empirically illustrated the role of prior behaviour (current usage) to have significant and positive impact on continued use of the technology. This view is supported by Bhattacherjee and Premkumar (2004) who found that users' first-hand experience of information technology affected their subsequent usage behaviour. This could lead to continued product usage or dis-continuance of the technology.

2.4.3.2 Dependent Variable: Current Usage

The term "current" implies something that is happening in the present tense, while "future" usage (as described above) relates to something still to happen. Current usage or actual usage, involves the level of frequency with which the system or service is used at that point in time. Adapa (2011) points out that frequency of usage is a reference to how often the product or service is used. Within the online banking context, current usage can therefore be said to be a post-adoption phase (after registration), which shows the "when" and "what" of the services on hand. The "when" defines the frequency with which the user makes use of online banking (Adapa, 2011), while the "what" defines the functionality they are actually using. Hong et al. (2006) defined Current users as individuals who had subscribed to mobile Internet services and were using it at the time of the study. Maduku (2013) found that South African users had high and positive intentions to start or continue using Internet banking, as well as to use Internet banking regularly. This demonstrates a positive relationship between current and future usage of online banking. Limayem and Cheung (2008) also found prior behaviour (of current use of technology) to have significant and positive impact on continued use of technology. Hong et al. (2006) note that some prior studies have not explicitly defined the difference between initial adoption and continued usage, which can be taken to demonstrate that initial adoption will naturally lead to usage of the services in the future.

It is hypothesised that:

H1: The users' current usage of online banking positively impacts on future usage intention (of online banking).

2.4.3.3 Independent Variable: Performance Expectancy

Venkatesh et al. (2003) refer to Performance Expectancy as the degree to which an individual believes that using a particular system would improve his/her ability to perform a certain function or task. An online banking service that offers functionality for what the consumer intends to achieve (such as buying prepaid airtime online rather than visiting a retail outlet) would improve the user's overall banking experience and performance. When the online banking service/ functionality offered meets the needs of the consumer's tasks at hand, it is more likely to be used. Park, Yang and Lehto (2007) found that performance expectancy was positively related to usage of mobile technologies among Chinese consumers. In studying technology in the form of decision support systems, Chang et al. (2007) also found that performance expectancy being met has a positive impact on the users' current usage of the systems. Previous studies show that a positive expectation of the performance related to the technology is directly related to positive behavioural usage of the technology. In agreement with these previous studies, it is hypothesised that:

H2: The greater the performance expectancy of online banking, the greater is the users' current usage (of online banking services).

2.4.3.4 Independent Variable: Effort Expectancy

Venkatesh et al. (2003) refer to Effort Expectancy as the degree of simplicity associated with the use of a particular system. Effort Expectancy is linked to the Technology Acceptance Model (Davis, 1989), and related to how the user perceives the functionality to be easy to use and require little effort. Within the online banking context, this would relate to functionality that makes it much easier to conclude a banking transaction than using other banking means. User friendliness and intuitive functionality provide guidance to making technology simpler to use- thereby decreasing the amount of effort a user needs to put in when using a system/service. If the functionality is easy to use, the user can do more on the system within a given time. Park (2007) and Chang et al. (2007) found effort expectancy to have a positive influence on the respective technologies within their studies. It is hypothesised that:

H3: The lower the effort expectancy of online banking, the greater the users' current usage (of online banking services).

2.4.3.5 Independent Variable: Social Influence

Venkatesh et al. (2003) refer to Social Influence as the degree to which an individual perceives that others believe he or she should use a particular system. The emphasis of usage tends to be from influence of peers. Within the online banking context, service providers, friends or family could encourage, recommend or influence one to try certain functionality on online banking. A study conducted by Ernst and Young (2012) on global consumer banking, emphasised customers are listening more to each other as compared to advice from their financial advisors. Park (2007) found social influence to be a significant factor toward usage of mobile devices among Chinese consumers as consumers were influenced to use more mobile devices by peers and friends. This highlights the significance of social influence and word of mouth on influencing one to use a particular service. However Kim and Crowston (2011) found that within post-adoption studies, social influence on the intention to continue using technology was found to be inconsistent within some studies. Within the South African context, Maduku (2013) found influence of people/peers who were most important to the customer to have a limited role towards their attitude on Internet banking services. It is hypothesised that:

H4: The greater the positive social influence surrounding online banking, the greater the users' current usage (of online banking services).

2.4.3.6 Independent Variable: Facilitating Conditions

Venkatesh et al. (2003) refer to Facilitating Conditions as the degree to which an individual believes that organizational and technical infrastructure exists to support the use of a particular system. Within the parameters of Online banking, the user operates within a virtual environment with little or no human engagement. Thus it is imperative that within a virtual banking environment, a consumer needs to feel that the necessary technical and support levels are available if and when required. For instance the bank's uptime and system reliability will influence the consumer's perception of the support behind the technology. Gupta, Dasgupta and Gupta (2008); and PwC (2013) found that facilitating conditions have a significant influence on usage of ICT in a government organisation (their context being in a developing country). In agreement with previous noted literature, it is hypothesised that:

H5: The greater the facilitating conditions for online banking, the greater the users' current usage (of online banking services).

2.4.3.7 Moderating Variables

Switching Costs, Availability of alternatives, as well as Trust will be used as variables moderating current usage towards future usage intention of online banking, as their importance is noted in Section 1.1 (Background) of this paper. Baron and Kenny (1986) identify moderating variables as those variables that have a combined effect to influence the direction or strength of the relationship between the independent and dependent variables.

2.4.3.7.1 Switching Costs

Switching costs is defined as the cost that is incurred when one wants to move to another service provider (Kim et al., 2004). This includes costs related to time, money and adaptation/ learning new features. Within the online banking environment of South Africa, banks often try and advertise competitive offerings and present the cost savings of their particular offering to influence consumers to move to them. In their survey on Internet Banking in South Africa, Green and van Belle (2003) found the cost issue to heavily influence customer expectations. Vatanasombut et al. (2008) also note that when customers anticipate high switching costs for their online banking, they are likely to commit themselves to the existing relationship. In other words, the customers' level of loyalty increases and positively influences future use of the services. It could also be said that switching costs will moderate the effort of current usage on future usage intention. This implies when switching costs are perceived to be high, there will be a stronger effect to continue using online banking, than when switching costs are perceived to be low. Fornell (1992) also includes the emotional cost- whereby a customer becomes so attached and loyal to his/her current bank and considers switching as dis-loyalty. Kim et al. (2004) also note that - the more the customer realises the switching cost, the higher the retention rate is likely to be. Gefen (2002) believes customers will remain with a vendor because the cost of switching to another vendor is such that it is not worth their while to switch. The cost-to-switch has been included as a moderator as it has been noted as a significant factor within South Africa (Columinate, 2012), and has the ability to influence a customer staying with the current bank or not. High switching costs within the online banking environment will likely deter a user from an already cumbersome process of moving their accounts, and therefore the customer will maintain the existing relationship. Therefore it is hypothesised that:

H6a: The greater the moderating effect of Switching costs on current usage, the more positive the impact on future usage intention (to use online banking).

2.4.3.7.2 Availability of Alternatives

Jones et al. (2000) note that alternative products can be perceived as switching barriers. For example, a competing banking channel (such as branch or mobile) can be considered as an available alternative to online banking and can appear more attractive than the one the consumer is currently using (online banking). This can merely be a perception, or influenced by the competitor's marketing campaigns or word-of-mouth. Moreover, satisfaction with alternatives can impact the current usage – influencing the user to move to the alternative option altogether, or make less use of the current option (online banking). Availability of alternatives during a user's current usage of online banking may have a negative or positive effect on the user's future usage intention of continuing to use online banking- depending of the satisfaction with the alternative. Therefore this moderates the effects of the customer's current behaviour on their future usage intentions. (Kim et al., 2004). It is hypothesised that:

H6b: The greater the moderating effect of Availability of alternatives on current usage, the more negative the impact on future usage intention (to use online banking).

2.4.3.7.3 Trust

Trust has been used as a research concept in the fields of psychology, marketing, social sciences, and recently within information systems and e-commerce (Bhattacherjee, 2002; Mayer, 1995). Trust is important when operating in virtual environments and increases a customer's willingness to transact with online firms (Gefen et al., 2003; Bharttacherjee, 2002). Vatanasombut et al. (2008) emphasized trust within an online banking environment and found it to be the most significant factor in influencing continued use of the online service. Al-Somali (2009) also found that customers' trust in Internet banking has a significant impact on their attitude, which directly affects their behavioural intention to continue using Internet banking. This implies a customer's untrustworthiness of the technology impacts his/her intentions to continue using online banking in the future. Empirical results presented by Maduku (2013) showed that within the South African context, trust was the strongest factor towards predicting attitude in adopting and continuing to use Internet banking. As explained above, trust can be treated as either as moderator or direct determinant- the important aspect being its strong influence on continued usage of Internet banking. Chiemeke and Evwiekpaefe (2011) who studied technologies in a developing country (Nigeria) believe trust to be a very critical element as many fear online fraud.

In their studies on online banking, Vatanasombut et al. (2008) hypothesised that customers who trust their online bank are likely to continue using the services offered by that bank. Their studies found this hypothesis to be correct. The different views presented illustrates that trust can have a moderating effect on continued usage of a service.

Authors (Pavlou and Fygenson, 2006; Gefen et al., 2003) have defined Trust as multi-dimensional. Edwards (2001) defines a construct as multi-dimensional when it refers to several distinct but related dimensions treated as a single theoretical concept. Although Gefen et al. (2003) define Trust as multi-dimensional; however, they treat and test for Trust as uni-dimensional. Bhattacherjee (2002) similarly conceptualizes and operationalises trust as multi-dimensional, and then tests the constructs as a uni-dimensional aspect. Some of the aspects mentioned in Trust being multi-dimensional are ability, benevolence, security and privacy. The difficulty of testing a multi-dimensional c132onstruct is the possibility of excluding some variables. To avoid cherry-picking or excluding certain dimension, this research will treat Trust as multi-dimensional in definition (encompassing security, integrity, benevolence, fairness, honesty), but as uni-dimensional in testing it. Due to the fact that Trust can also be seen as a moderator, it is hypothesised that:

H6c: The greater the moderating affects of Trust on current usage, the greater the impact on future usage intention (to use online banking).

2.4.3.8 Control Variables

The control variables will be used to measure how much effect the variables have on controlling the outcome of future usage intention of using online banking. By accounting for other factors than the independent variables, the controls could help in explaining any variances that appear in the dependent variable.

2.4.3.8.1 Age

Kose (2009) noted that the younger generation preferred use of online channels for banking. According to Vatanasombut et al., (2009), this was consisted mainly of the age categories between 21 year of age to 40 years of age. Within the South African context, Maduku (2013) found the age group between 18 and 29 years to have the highest Internet banking users. Singh (2004) found that persons aged 15 to 24 used the Internet daily, while older respondents (45 to 54 year olds) used the Internet once a month. Based on this concept, the expectation is for younger participants to use online banking more often than older respondents.

2.4.3.8.2 Gender

Studies have conflicting evidence on usage levels of the Internet between male and females. In their studies, Venkatesh et al. (2012), Maduku (2013), Vatanasombut et al., 2008 and Singh (2004) believe Internet customers tended to be predominantly male. In a study on Indian internet banking usage, Srivastava (2007) found a small variance in usage between males and females. In what he termed a "technology gender gap", Whitley (1999) concluded in his analysis of US and Canadian participants using technology, that men and boys had statistically significant but smaller usage of technology than females. In their study, Kim and Crowston (2011) found significant moderating effects by gender differences on continued usage.

2.4.3.8.3 Experience

Users who are savvy with technology are more likely to actively utilise their online banking accounts and services after registration than those who are less technology experienced. Venkatesh et al., (2003) found that the female gender appeared to have low experience in technology use, which had a significant impact on behavioural intentions (to continue using the technology).

2.4.3.9 Hypotheses Summary

Table 3 below is a summary of hypotheses formulated from the variables discussed in Section 2.4.3.1:

	Hypothesis	**Linked to variable**	**Relationship**
H1	The users' current usage of online banking positively impacts on future usage intentions.	Dependent: Future Usage Intention	Positive
H2	The greater the performance expectancy of online banking, the greater is the users' current usage.	Dependent: Current Usage	Positive
H3	The lower the effort expectancy of online banking, the greater the users' current usage.	Dependent: Current Usage	Positive
H4	The greater the positive social influence surrounding online banking, the greater the users' current usage.	Dependent: Current Usage	Positive
H5	The greater the facilitating conditions for online banking, the greater the users' current usage.	Dependent: Current Usage	Positive
H6a	The greater the moderating effect of Switching costs on current usage, the more positive the impact on future usage intentions.	Moderator	Positive/ moderating
H6b	The greater the moderating effects of Availability of alternatives on current usage, the more negative the impact on future usage intentions.	Moderator	Negative/ moderating
H6c	The greater the moderating effect of Trust on current usage, the greater the impact on future usage intentions	Moderator	Positive/ moderating
Controls	Age Gender Experience	Dependent: Future Usage Intention	

Table 3: Hypotheses Summary

2.4.3.10 Research Model

Figure 3a below (the conceptual model) synthesises the theories and models of UTAUT and moderators in order to understand Current Usage behaviour of online banking on Future Usage Intention. The model consolidates the variables and hypotheses described above.

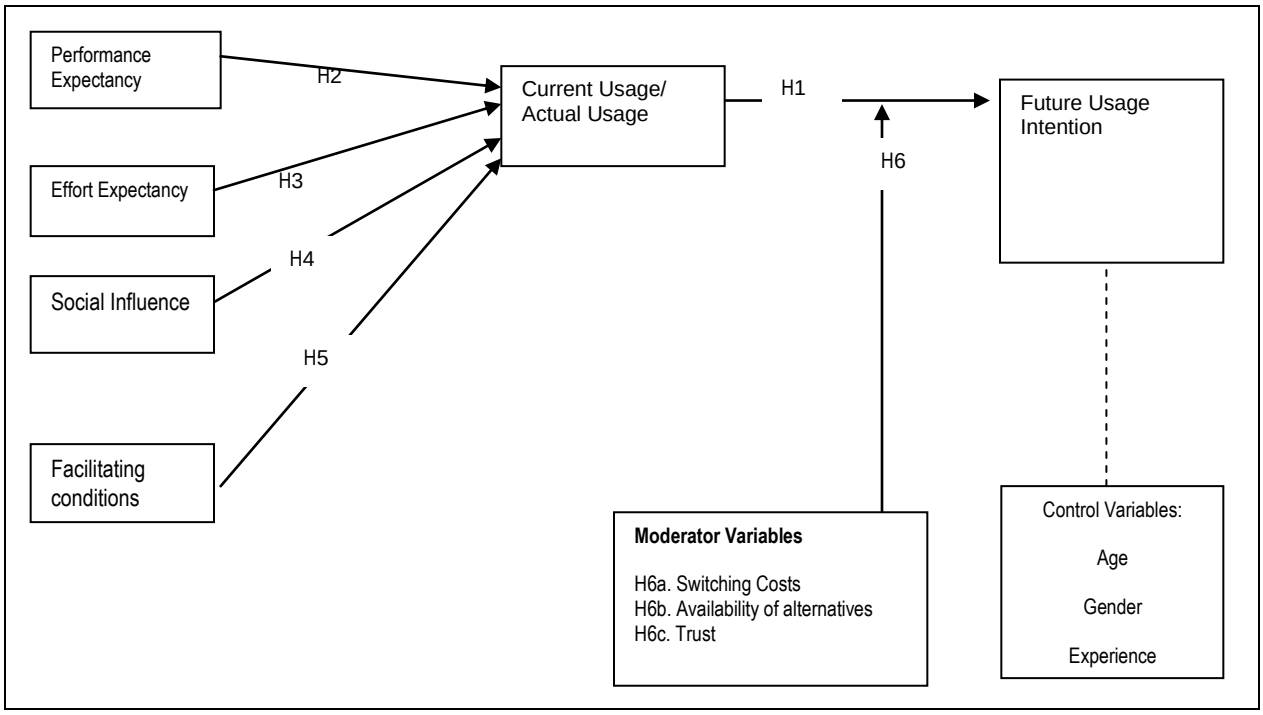


Figure 3a: Conceptual Model

Within this study, the outcome would be continued usage of online behaviour, with the intention being Future Usage Intention. This concept is closely linked to Agarwal and Prasad (2007) who believe that although intentions (of use of technology innovations) can change with the passage of time, they have been shown to be good predictors of actual future use.

2.4.3.11 Conclusion

The literature review suggests there is a growing interest in the study of online banking. However most of the research is limited to the generic "online" and electronic platforms of mobile/cell phone banking. In the context of technology usage, research has been focused on the adoption of technology, versus how users currently use the technology, and what influences their behaviour to continue using the technology, specifically that of online banking.

Within the academic field, future usage intention was found to be supported as a theory in the form of continuance intention. This study borrowed from UTAUT model which is derived from several theories and models, and included some moderators (Switching costs, Availability of alternatives and Trust) and control variables (age, gender and experience). Hypotheses were then drawn from these theories, and a conceptual model proposed, which will be tested in preceding chapters.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents an outline of the research method followed for this study. This includes the research design, a description of the sample population under study and the sampling method used, as well as the research instrument. Measuring of reliability and validity was presented to ensure the data used for testing hypotheses was appropriate for the study. Ethical considerations were also made before finalising the questionnaire. The chapter ends with discussing limitations of the study.

3.2 Research Design and Data Collection

This study aimed for a parsimonious and generalisable explanation of the behaviour of a large sample of online banking consumers. The objective was to understand actual usage and post-adoption behavior of online banking users from a South African perspective.

The research model for this study was developed based on existing theory and hypotheses were deducted for testing, thus making the approach for the study positivist. Randall and Gibson (1990) point out that positivists advocate a deductive approach to theory testing. Hussey and Hussey (1997) define deductive research as a study in which a conceptual and theoretical structure is developed, which is then tested by empirical observations. This approach is more applicable to this particular research as the aim of this study is to draw on theories of UTAUT, Trust and Switching Costs as main theories to examine current usage and future usage intention of online consumers.

Within this research study, the role of the researcher was impersonal. There was no interaction between the targeted users (other than through the online survey), or pre-conceptions to influence the respondents – other than through the online survey. The quantitative approach was more suitable for data analysis on this particular research as variables can be operationalised and analysis can proceed using statistics to test their hypothesized interrelationships (Neuman, 1997).

The approach taken to empirically test the relationships implied by the conceptual research model was by means of a survey methodology. Groenewald (1989) describes surveying as the collection of information about a selected number of characteristics of a great number of cases at a given time within prescribed boundaries. He adds that surveys measure variables and test hypotheses. Neuman (1997) adds that surveys make it possible to make generalisations that are applicable to the population. The sample population of online bankers within this study will be generalised (by using as most representative a sample of South African online bankers as possible) to indicate the overall behaviour of South African online bankers.

The instrument was administered electronically by email (with a link to a Web-based survey). The advantage of the web-based questionnaire is that it can be sent to a wide audience (Saunders et al., 1997), as opposed to when one is observing actual behaviour as you have to be in a particular place at a particular time. Aaker et al. (2004) added that use of the Internet allows for collection of data from many individuals over a relatively short space of time and at a lesser cost than using person-to-person interviews or telephonic interviews. The questionnaire was designed in such a way that all questions were close-ended, thus making direct comparison between respondents' answers possible (Creswell, 2008).

3.3 Population and Sampling

The population chosen for this study was online banking users in South Africa. "Current users" in this context was used in reference to consumers who enrolled for online banking services and whose online profiles had been activated by the respective bank. The sample was divided to incorporate online banking users from the four biggest banks in South Africa (ABSA, FNB, Nedbank and Standard Bank). The sampling frame consisted of both male and female online banking users. Different age groups were also considered -from 16 years old, as that is the official age that banks in South Africa will allow a user to register for online banking services. There was no maximum age with regards to online banking users' age as this is not specified within the banking context of South Africa. The sample was not location specific, meaning a user could have been banking in Johannesburg, Durban, Limpopo or anywhere within South Africa.

To determine this sample, the services of an established and registered market researcher (Acentric) were used. As a marketing research consultancy company, Acentric focuses on quantitative research and provide an authorised but confidential database of banking customers in South Africa. Their surveys are online based and ISO (ISO 26362:2009) certified, thereby

providing a credible database. One can provide Acentric with their research questions (such as those provided specifically for this study in Appendix C), and the Research company will reach out to their database of over 50 000 South African consumers, and 7 million globally (through alliance partners). The respondent profile and requirements provided to Acentric should be as specific as possible (as provided in Table 4 below, to ensure the correct sample population is captured. The researcher also specifies to Acentric the time period required to complete the surveys.

Acentric then collects the data and provides feedback of questionnaires and responses. The Research Company also provides facility to analyse the data. However within this study, the researcher analysed the data by means of SPSS.

The typical profile of the respondents' characteristics was as displayed in Table 4 below:

Measure	**Items**
Gender	Female Male
Age	16 years old - above 60 years old (no maximum age specified)
Location	Anywhere in South Africa
Bank	Any South African bank offering online banking, but more specifically the "Big 4 banks".
User Type	Registered online banking user
Online device	Internet (on laptop, computer, iPad)

Table 4: Respondent Profile

The sampling technique used was random sampling as it is based on a population sample of randomly selected online bankers. Bhattacherjee (2012) suggests that using random sampling ensures that all subsets of a defined population have an equal probability of being selected. This is relevant in ensuring that as diverse a population of online bankers in South Africa was studied.

Hussey and Hussey (1997) note that the sample size should be defined by deciding how accurate you want your results to be and how confident you want to be in that answer. Bartlett et al. (2001) mentioned that to determine sample size, one must specify margins of error for the items that are vital for the survey. Hair et al. (1998) recommended that a sample size between 100 to 200 is most appropriate where there is a population greater than 10000. This study employed 300 potential respondents which is within Hair et al.'s (1998) and Bartlett et al.'s (2001), recommended sample size. The margin of error was 0.05.

3.4 Research Instrument: Operationalisation

The research instrument (questionnaire) was developed in English as this is the official business language in South Africa. The majority of research variables (where applicable) were measured using a multiple-item scale, made up of measures from prior research on the same constructs, and adapted where necessary to be specific to the online banking environment. To obtain customer opinions on online banking, the draft questionnaire was initially made up of a five (5) point Likert scale. The Pilot test recommended usage of a seven (7) point scale so as to capture variance in the opinions and perceptions of respondents. Colman, Norris and Preston (1997) also suggested that a 7 point scale is more appropriate in optimizing reliability than a five (5) point scale as it prevents respondents from being too neutral in their responses. The range of responses indicated a degree of disagreement or agreement with responses relating to online banking (Aaker et al., 2004).

The following ranges in Table 5 were used where applicable. These scales were also applied in the measurement of constructs in Table 6.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Somewhat	Undecided	Agree Somewhat	Agree	Strongly Agree

Table 5: Scale Ranges

The questionnaire (Appendix B) was drawn based on items from previous studies that focused on concepts relevant to this study as illustrated in Table 6 below.

Cover/Participation Letter:

The questionnaire listed the objectives of the study as well as instructions on how to complete the questionnaire. It was important to provide an overview and context of the study to the respondent, as well as an estimate of the time of completion and date required for responses, in-order to manage respondent expectations. The questionnaire was designed to take a maximum of 15minutes to complete.

Section 1:

The first part of the questionnaire was used for screening purposes- to confirm whether the user was a registered online banking user or not. This was the basis used to select the valid responses, (where respondents answered “yes” to being a registered online banking user). The section also contained a question to determine the length of time in terms of the user’s current/actual usage of online banking.

Section 2:

This section captured constructs (performance expectancy, effort expectancy, social influence, facilitating conditions, switching costs, and availability of alternatives, trust, current usage and future usage) - from previous studies, which were then adapted and tailored in line with this study – on online banking in South Africa.

Table 6 below presents the conceptual definitions for each construct together with references to measurement items that can be found in Appendix C. The operationalisation of these variables is also shown. The definitions in Table 6 were provided through literature review so as to provide for theoretical validity.

Construct	Conceptual Definition	Measurement (*Reference Appendix C*)	Scale	Literature Source
Current Usage (CU)	Frequency with which users use the system, and functionality mostly used- found to be a good predictor of continued usage. (Adapa 2011); The user will evaluate their online banking usage in terms of functionality used and frequency of usage. Agarwal and Prasad (2007)	Q30-Q31, Q35-37	Likert 7 point Scale; Strongly Disagree – Strongly Agree Descriptive (functionality)	Adapa (2011); Agarwal and Prasad (2007)
Future Usage Intention (FU)	Within online banking this will include user's intention to actively use the functionality in the months following the survey. Bhattacherjee (2002)	Q32-34	Likert 7 point Scale; Strongly Disagree – Strongly Agree	[12]Extended from Bhattacherjee (2002) and modified accordingly
Performance Expectancy (PE)	The degree to which an individual believes that using a particular system would improve his or her job performance. Venkatesh et al. (2003)	Q3-Q6	Likert 7 point Scale; Strongly Disagree – Strongly Agree	Venkatesh et al. (2003)
Effort Expectancy (EE)	The degree of simplicity associated with the use of a particular system. Venkatesh et al. (2003)	Q7-Q10	Likert 7 point Scale; Strongly Disagree – Strongly Agree	Venkatesh et al. (2003)
Social Influence (SI)	The degree to which an individual perceives that others believe he or she should use a particular system. Venkatesh et al. (2003)	Q11-Q13	Likert 7 point Scale; Strongly Disagree – Strongly Agree	Venkatesh et al. (2003)
Facilitating Conditions (FC)	The degree to which an individual believes that an organizational and technical infrastructure exists to support the use of a particular system. Venkatesh et al. (2003)	Q14-Q17	Likert 7 point Scale; Strongly Disagree – Strongly Agree	Venkatesh et al. (2003)

[12] This conceptual definitional was derived from Bhattacherjee (2002) who also studied continued/ future usage, but modified to suit the study context in this paper of online banking.

Switching costs (SC)	The costs and hassle that is incurred when one wants to move to another banking method/ channel. This includes search costs, transaction and learning (adaptation) costs. Kim et al. (2004) and Fornell (1992)	Q18-Q21	Likert 7 point Scale; Strongly Disagree – Strongly Agree	Kim et al. (2004) and Fornell (1992)
Availability of alternatives (Alt)	What other banking channels exist, and how good other banking channel would be in comparison with an online banking how satisfied users are with their online banking offering. (Jones et al., 2000)	Q22-Q25	Likert 7 point Scale; Strongly Disagree – Strongly Agree	Jones et al. (2000)
Trust (Trust)	The willingness of a party (trustor) to be vulnerable to the actions of another party (trustee) based on the expectation that the other party (trustee) will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party (trustee). Gefen et al. (2003)	Q26-Q29	Likert 7 point Scale; Strongly Disagree – Strongly Agree	Gefen et al. (2003)

Table 6: Constructs Application

Section 3:

This section aimed at measuring the demographic information of the sample population. Gender was split accordingly into male and female, while age was apportioned into different categories following similar models within the literature review.

3.5 Validity and Reliability

This section describes measures adopted to ensure this study was both valid (the extent to which the instrument measures what it is set out to measure) and reliable (accurate and precise measurement procedure).

3.5.1 Internal Validity

Internal validity ensures that the study is drawing appropriate conclusions from the data used Kalof et al., (2008). Internal validity consists of content, face and construct validity.

3.5.1.1 Content Validity

The pre-test (expert views) was conducted with assistance from four (4) academic researchers from an academic institution (University of the Witwatersrand) prior to data collection. Content (construct) validity of the research instrument determines whether the research questions fit their

relevant content domain for each of the constructs - that is discussing online banking usage within South Africa. The objective was thus to ensure all statements were clearly phrased and not ambiguous in any manner. As shown in Table 6 where concepts were linked to literature review, the questionnaire ensured content validity by using selected items based on prior studies/ literature as suggested by Lallmahamood (2007) and Kim et al. (2004). Recommended changes that were incorporated into the Research Report as suggested by the panel were:

- Defining what Online Banking means on the questionnaire
- Defining a "registered" online banking user
- Changing Likert Scale 4 from "Neutral" to "Neither Agree or Disagree"
- Increasing number of items measured for Social Influence to at least three
- Changing use of grammar from "honest" experience to "dependable" or "reliable"
- Breaking down age groups further from the initial 3 groups that were provided- to be consistent with surveying methods
- Placing scale points under each other with radio buttons, instead of across in sentence format
- Being consistent in either using "Future Use" or "Future Usage Intention"
- Including Experience as a control factor based previous studies

3.5.1.2 Face Validity

Face validity which measures to what extent the proposed study appears to measure what it is supposed to measure (Bhattarchajee, 2012) was ensured by conducting Pilot testing on 15 randomly selected consumers. An email with the web link for the questionnaire was sent to the potential respondents, explaining the concept of the pilot test. Their participation was requested and testing was done in order to verify the survey questionnaire with the group under study. The test focused on all the possible demographics under study to include gender and age.

The results from the pilot test were positive as respondents felt the questionnaire was well aligned to the study, and easy to understand and respond to. A suggestion to amend Question 13 to maintain clarity on the comparison was implemented after discussion with the Supervisor. Initially the question read "People whose opinions I value prefer that I use online banking". The rephrased question was: "People whose opinions I value prefer that I use online banking rather than other banking channels". A suggestion to clearly define that the focus of the study was not on security concerns was also incorporated into the amended summary of the questionnaire (see Appendix B for the final questionnaire).

3.5.1.3 Construct Validity

Using SPSS, construct validity (for performance expectancy, effort expectancy, social influence and facilitating conditions) would also be tested using Confirmatory Factor Analysis (CFA) as per recommendation by Hair et al. (1998). The checks would be to see how factors meant to load against a given construct such as performance expectancy, were indeed loading appropriately (factor loading). Items with insufficient loadings would be excluded from further testing.

3.5.1.3.1 Discriminant Validity

Discriminant validity is a sub-set of construct validity which is shown by the factor correlations. Discriminant validity is used to discriminate between constructs- to illustrate where constructs that are expected to be un-related, show no relation. High correlation coefficients would show a lack or weak discriminant validity. Fornell and Larcker (1981) recommend that the square root of AVE for each construct should exceed all correlations between that and other constructs being measured.

3.5.2 External Validity

Kalof et al. (2008) define external validity as the ability to generalise from a study to a larger population. This study used random sampling as it is based on a population sample of randomly selected online bankers. This sample of registered online bankers is believed to be representative of the online banking population in South Africa and no exclusions made with regards to socio-economic factors.

3.5.3 Reliability

Reliability is concerned with how well a set of instrument items selected for a given construct measures the same construct- producing a consistent score (Lewis- Beck, 1993). This study aimed to test the data results for reliability by using Cronbach's Alpha method. Cronbach's Alpha is noted as specifically measuring the degree to which a set of items measures a single, one-dimensional construct (Bhattercherjee, 2011). For example, Performance Expectancy as a variable would be run through SPSS tests to ensure that the resultant co-efficient should not be below 0.70 to pass for this type of relational research (Hair et al., 1998). This test would be performed on all variables, and those that proved not reliable would be dropped at the time of testing.

3.6 Hypothesis Testing

SPSS will be used as the aiding tool for testing the hypotheses. Data will also be analysed (using SPSS) for outliers and missing values to ensure only significant data is included within the hypotheses testing. Given that hypotheses looks at relationship of variables, Inter-item correlations – to be tested with Pearson's Correlation will also be used to establish the relationship between the dependent and independent variables (Hair et al., 2003), thus establishing the relevance of the hypotheses. In the case of this study, usage (current usage and future usage intentions) have been established as the dependent variables. The independent variables are performance expectancy, effort expectancy, social influence, facilitating conditions. Principal components analysis (PFCA) will be used to present the relevant results (for measurement model testing), thus aggregating items into clusters of similar importance (Pallant, 2007).

Regression analysis on the hypotheses will entail using confidence levels and statistical significance to accept or reject the hypotheses. The individual hypotheses will be tested, and then the entire model to evaluate whether the entire model conceptualised can explain a significant variance in the results. Moderation (for factors of trust, switching costs and availability of alternatives) will also be tested in regression analysis.

Each of the hypotheses derived in Section 2.4.3.1 was linked to the questions on survey questionnaire and related abbreviations used to code for easier testing- as in Table 7 below. Table 7 operationalises the variables in assisting identification of measuring of the instrument. This provides for construct validity Hair et al. (1998). The exact measuring method will be defined by the stage of the hypotheses being tested as discussed in Section 3.6 above.

	Variable	**Variable concept**	**Hypothesis**	**Related Abbreviations**
	If NO (2), exclude			
1	Current Usage	Dependent Variable	Hypothesis 1	CU1-CU3
2	Performance Expectancy	Independent variable	Hypothesis 2	PE1-PE4
3	Effort Expectancy	Independent variable	Hypothesis 3	EE1-EE4
4	Social Influence	Independent variable	Hypothesis 4	SI1-SI3
5	Facilitating Conditions	Independent variable	Hypothesis 5	FC1-FC4
6	Switching Costs	Moderator Variable	Hypothesis 6a	SC1- SC4
7	Availability of Alternatives	Moderator Variable	Hypothesis 6b	Alt1-Alt4
8	Trust	Moderator Variable	Hypothesis 6c	Trust1- Trust4

9	Future Usage Intention	Dependent Variable		FU1-FU3
10	Functionality	Descriptive		
11	Gender	Control Variable		
12	Age	Control Variable		
13	Experience	Control Variable		

Table 7: Questions related to hypotheses

3.7 Ethical Considerations

Information within the financial and banking industry is often very sensitive and confidential, as it relates to customer finances. Many people are reluctant to share any information unless there is a guarantee that it will be kept confidential and that the survey is anonymous. The purpose of research ethics was to protect research participants' confidentiality and anonymity. According to Halim (2000), informed consent is a necessary condition for research. Ethical considerations were taken into account and respondents were informed of prevention of violation of the respondents' privacy. Respondents were also informed that their participation was voluntary. Confidentiality was maintained by not requesting clients to complete any personal details such as their name or identity number. All results were reported at an aggregate level and not on an individual basis. The data collected and results interpreted were not shared with any particular bank. The results were only reported within this Research Report, and may be considered for publication in journals. This research was approved by the Ethics Committee with Protocol Number H13/03/07 (Appendix A).

3.8 Limitations of the study

The study was conducted on a specific sample of registered online banking users, using an online questionnaire survey. There was risk of social desirability bias whereby the respondents might have expressed a particular viewpoint that they thought would be desirable to the research on online banking, and not necessarily answer truthfully about their usage behaviour on online banking services and individual accounts. As Baran and Davis (2003) point out, survey limitations can be limited due to the fact that these surveys are based on how a customer reports the subject under study, and not necessarily how they really use the subject. This is directly linked to and presents a limitation presented by cross-sectional surveys. Cross-sectional surveys present a snapshot or still picture of what is happening at that point in time, and therefore has implications for casual inference (Rubin and Babbie, 2010). If the study were to be re-done a month later, different dynamics in the environment may influence the customers' behaviour, thus

changing the survey results. For example if a user is happy and satisfied with their online banking usage this week, they are likely to rate the service favourably. However should the customer be a victim of online fraud in the preceding week, and had to re-do the survey, one may find the customer's views being changed by the dynamics within the environment.

The data collection method employed whereby all respondents were from a database owned by one research company (Acentric), could also lead to single source bias (Rubin and Babbie, 2010). That means there is potential outcome of causal relations where the respondents are of a like population sample with similar banking habits.

There was a possibility of non-response bias as respondents might have prior experience of using online banking, but might not have been interested in responding to the survey. This would lead to a low response rate. Also the nature of banking information- which tends to be highly confidential might have made some users to be reluctant to accurately answer all questions, despite the fact that anonymity was promised.

Use of questionnaires is sometimes said to present common-method bias (Hair et al., 1998) as scales of interest might be difficult to tell whether they are correlated due to relations among constructs of interest or common method. To minimize common-method bias within this study, respondent type was not selective. Different age groups and both gender (male and female) were surveyed.

It must be noted here that other demographics such as income and educational level were not incorporated into the study. Although not a reason to exclude, one could refer to other studies (Maduku, 2013) to obtain this background within the context of online banking in South Africa.

3.9 Conclusion

This chapter presented the approach taken to conduct this study, so as to make it replicable. A detailed description was also provided of the instrument and data collection method. By incorporating pre-tests and pilot testing, measures were taken at an earlier stage of the study to ensure that the study would be both reliable and valid. The study aimed to ensure that statistical analysis could be applied for analysing the empirical results. The next chapter will discuss the actual results of the data collected.

CHAPTER 4: DATA ANALYSIS

4.1 Introduction

This chapter discusses the statistical techniques that were used to analyse data collected for studying the usage of online banking in South Africa. The chapter first looks at the profiling and descriptive analysis of the demographics based on the responses obtained. The data was then checked for reliability and validity, before proceeding to check for missing data, outliers and need for reverse coding, and ascertaining correlation and multiple regression testing. A summary of the hypotheses based on the analysed statistical evidence will be presented to sum up the statistical results.

The email surveys were conducted over a period of three weeks. Out of a total of 300 questionnaires emailed to potential respondents, the response rate was 36% - provided by 107 responses. This response rate is supported by Pallant (2007) who suggested that a sample size greater than 100 is sufficient for Principal components analysis, which is a test that will be done for reliability later in this chapter. Hair et al. (2010), recommends a sample of preferably more than 100 for factor analysis to proceed. The sample of registered online bankers in South Africa included analysis of age and gender as control variables. The survey did not include variables of income status, education levels, geographic region, or names of the particular bank the user banked with.

4.1.1 SPSS Tests

The data collected was then coded and analysed using SPSS (IBM SPSS Version 21 and IBM SPSS Version 22 for Windows).

As per final questionnaire in Appendix B, the majority of items had been measured with the seven-point Likert scale with neutral centers. The control variables of gender were coded numerically depending on the response (in this case Female =1 and Male =2). Age was scale-based, and therefore coded according to different categories, which were then assigned a numerical value per category for example the age category 16-19 years was assigned a value of "1" and category 20-29 years was assigned a value of "2" and so on.

The category for 16-19 years only covered 4 years, while other categories covered 10 years respectively as others do (Wu, 2005; Maduku, 2013). This was done to separately capture the

age group that has just registered onto online banking as 16 years is the official age of a independently opening an online banking account in South Africa.

4.2 Demographic and Online Banking Descriptive Analysis

Gender and age were the main questions asked to obtain a demographic framework of the population sample within the study. Functionality/ applications used on online banking and frequency of using online banking were also analysed to describe the online banking platform activity within a South African context.

4.2.1 Gender

Table 8 below displays an analysis of the gender profile of the sample that responded to the survey. In terms of usage of online banking by gender, the data is skewed as there are more males (61.9%) as compared to 38.1% responses from females registered and using on online banking. As presented in the literature review, this study is aligned with Venkatesh et al. (2012), Maduku (2013), Vatanasombut et al., 2008 and Singh (2004) who found that Internet customers tended to be predominantly male.

Note: number of analysed participants was reduced to 105 due to missing values.

	Number	Percentage	Cumulative Percentage
Female	40	38.1	38.1
Male	65	61.9	100

Table 8: Profile by Gender

4.2.2 Age

The majority of respondents as shown in Figure 4 and Table 9 respectively were those in the 20 and 49 years category. The age category between 30 to 39 years had a significantly peaked response rate of 38.1%, followed by the 20 – 29 years category with 28.6% response rate. Users between 40 and 49 years old represented 21% of the response rate of registered online banking users. The category of 16 – 19 years and those older than 60 years had a very low response rate, of 2.9% and 3.8% respectively. These results are in agreement with Vatanasombut et al., (2009) who found that the largest age category for users on online banking channels was between 21 and 40 years of age. Kose (2009), Maduku (2013) and Singh (2004) also found that the "younger" participants tended to use online banking more frequently than older generations. While the

qualification of the "younger" category is subjective, one can certainly see the most represented age categories in this study as being between 20 and 49 years.

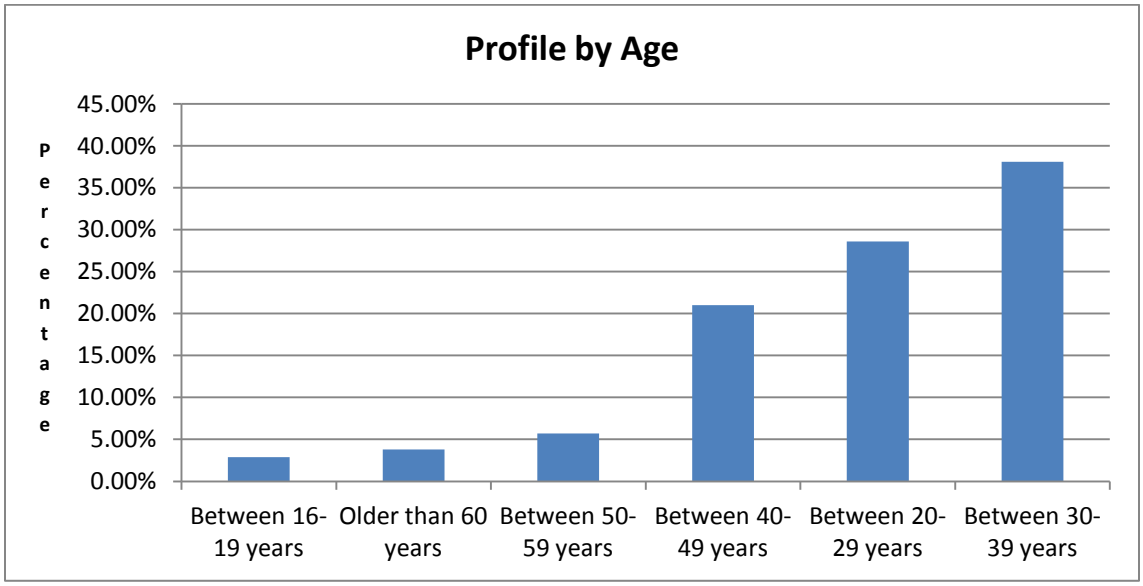


Figure 4: Profile by Age

Age Category	Number	Percentage
Between 16-19 years	3	2.9
Between 20-29 years	30	**28.6**
Between 30-39 years	40	**38.1**
Between 40-49 years	22	**21.0**
Between 50-59 years	6	5.7
Older than 60 years	4	3.8

Table 9: Profile by Age (2)

4.2.3 Relationship between Current Usage and Gender

This study set out to investigate (using Cross tabulation) the relationship between actual usage of both male and female users on online banking. The Crosstabs procedure offers tests of independence and measures of association and agreement for nominal and ordinal data (Bhattacherjee, 2012). The results in Table 10 (a cross tabulation of questions on Current Usage and gender) below illustrate both male (43 out of 105 respondents, representing 40%) and female (31 out of 105 respondents, representing 29,5%) noted that they "strongly agree" that

they are currently using online banking versus not using it. A further 23 of combined male and female users also agreed that they used online banking services more than not using it. Only a minority (4 out of 105) of both male and female users indicated that they disagreed with the statement that they currently used online banking services rather than not using the services. Thus looking at gender, both male and female agreed or strongly agreed that their preference was to utilise online banking rather than not using online banking.

Option (Currently Using?)	Female	Male
Disagree	0	2
Neither (disagree nor agree)	1	1
Somewhat agree	1	3
Agree	7	16
Strongly Agree	31	43

Table 10: Cross Tabulation- Current Usage and Gender

4.2.4 Relationship between Current Usage and Age

Figure 5, as well as the cross-tabulation between Current Usage and Age in Table 11 indicates that the age group between 20- 49 has the majority of users currently using online banking. All 4 users of online banking with the age group older than 60 years indicated that they strongly agreed to using online banking rather than not using the services. The age category of 16-19 and 50-59 years had the lowest users of online banking. This could be tied to the results in Figure 5, indicating where the potential dormant users of online banking services within a South African context may lie.

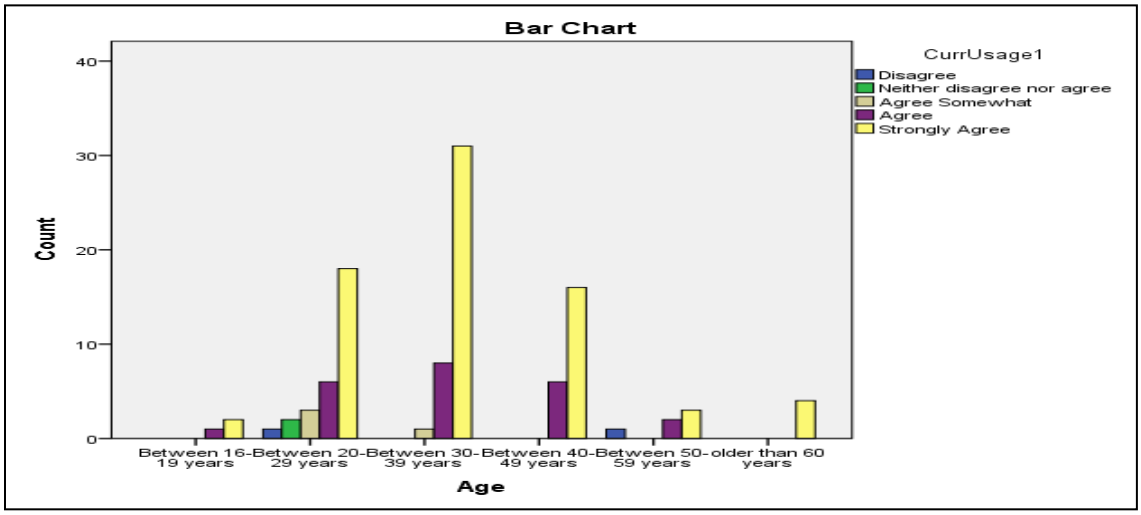


Figure 5: Findings related to link between Current Usage and Age

Option for Current Usage	Between 16-19 years	Between 20-29 years	Between 30-39 years	Between 40-49 years	Between 50-59 years	older than 60 years
Disagree	0	1	0	0	1	0
Neither (disagree nor agree)	0	2	0	0	0	0
Agree Somewhat	0	3	1	0	0	0
Agree	1	6	8	6	2	0
Strongly Agree	2	18	31	16	3	4

Table 11: Findings related to link between Current Usage and Age

4.2.5 Time since Registration

Participants were also asked to confirm the amount of time they had been using online banking since the time they registered (for online banking), to the time that this survey was conducted. This was a determinant of how experienced a user was on online banking- the longer they were registered; the more experienced they were likely to be. The demographics as they appear in Figure 6 show:

- the majority of users (48.6%; 51 out of the 105 respondents) had been using online banking for more than 3 years,
- 29.5% (31 out of the 105 respondents) had been using online banking for more than 12 months, but less than 3 years.
- 11% (12 out of the 105 respondents) of the group had been using online banking for less than a year (between 6 months and 12 months).
- Only 10.5% (11 out of the 105 respondents) of the group had been using online banking for less than 6 months at the time they completed the survey.

The number of newly registered users was fewer than those who had been registered for a period of over 3 years. This observation is consistent with Searll's (2014) finding that online banking in South Africa had initially experienced a significant uptake but registration volumes were on the decline.

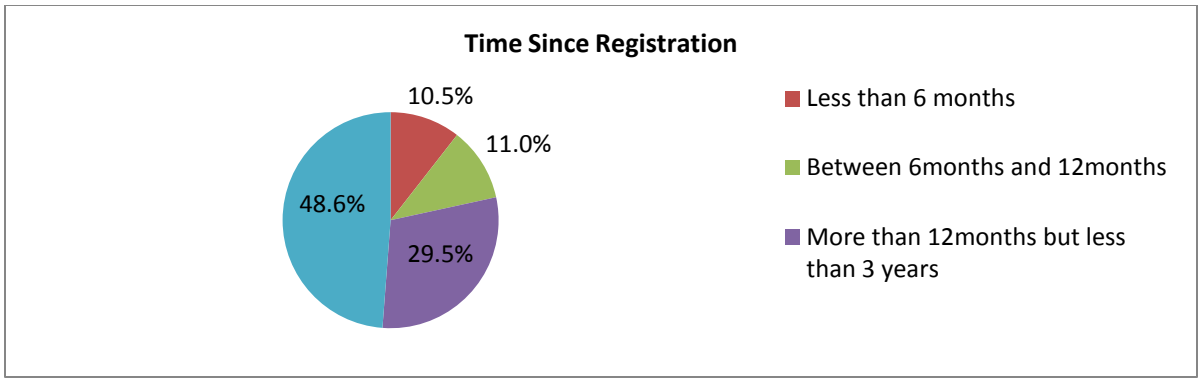


Figure 6: Findings related to Time since registration (Experience)

4.2.6 Frequency of using Online Banking (Current/Actual Usage)

Figure 7 below illustrates that the majority of users (47 out of 105 respondents) use online banking only a few times a month, and 31 out of the 105 respondents use online banking a few times a week. However only 10 out of 105 respondents made daily use of the online banking services and a further 10 used the services several times a day respectively. Out of the 105 respondents, one user indicated he/she had never used the online banking services since registration, while another user indicated he/she only used the services a few times a year, and a further 5 users only used the services once a month. The frequency of using the online banking services only once a month or a year, or never using them, could be an indication of dormant usage as defined in Chapter 2 of this study.

As Adapa (2011) noted, actual usage has been found to be a strong indicator of continued usage, thereby indicating if current usage is infrequent, this could lead to discontinuance of the online banking services. Benbasat and Zmud (2003) also indicated that the perceptions that consumers have during their current usage of the online services impact upon the behavioural stage (of future usage).

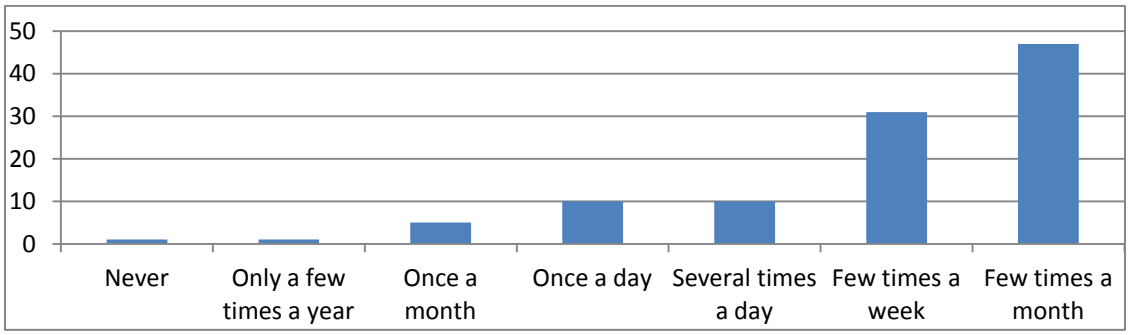


Figure 7: Findings related to Current usage (Frequency) of using online banking

4.2.7 Usage of online activities

Figure 8 highlights the users' Internet activity preference. In assessing how users spent their time on the Internet, the majority - 33% (35 out of the 105 respondents) confirmed that they participated in all mentioned activities in terms of online shopping, playing games, social networking and web browsing. Out of the 105 respondents, 27, 6% (29 of the 105 respondents) of the sample population indicated that they mainly used the Internet for online banking. 21 respondents acknowledged their main Internet activity was web browsing. Only 16 out of 105 respondents participated more in social networking, while 3 out of 105 respondents participated more in online shopping as their main activity. From the total survey group, only one person indicated that he/she spent most of his/her time playing games online. The results seem to suggest that online banking is becoming a significant activity over other Internet activities.

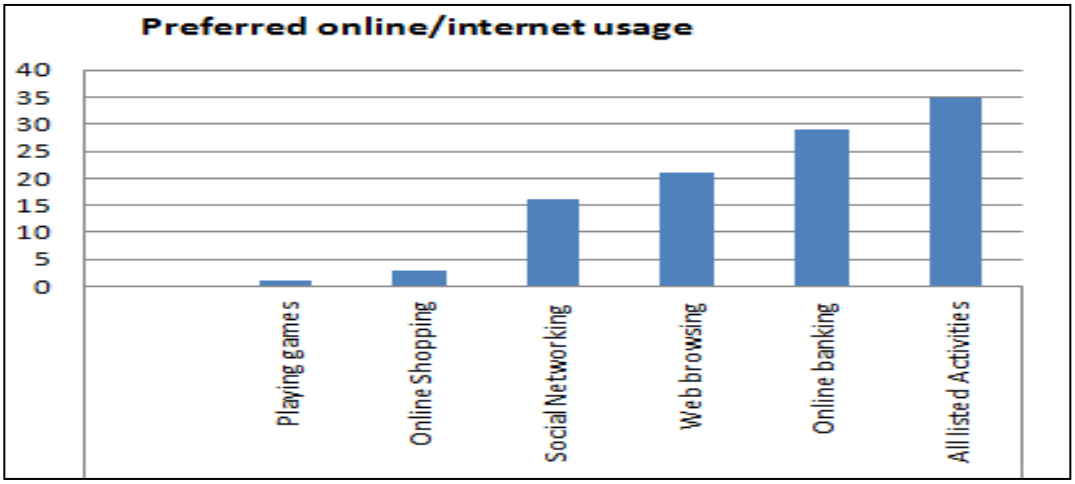


Figure 8: Findings related to Usage of online activities

4.2.8 Usage of Online Banking Functionality

As stated in Section 2.2 of this study, many banks now offer a range of services and functionality within their online banking platforms. It was thus considered important to understand which of the functionality users found most useful, or preferred to use on the online banking platform. Table 12 below illustrates results from respondents reflecting that the functionality that users mainly used once logged onto the online banking platform was to make payments to beneficiaries/ recipients and transfers between their own accounts. All 105 respondents used the payments and transfers functionality, with 88 users making it their first option of functionality when using online banking. This was followed closely by using online banking for downloading

and viewing statements – where 59 out of 105 respondents used this functionality as a second option of online banking services. Respondents also reflected that the third main use of their activities on the online banking platform was to apply for other bank products (such as insurance, vehicle finance and others). The functionality that had limited usage among online banking users was foreign exchange transactions and purchasing prepaid products. Only one person out of the 105 respondents indicated he/she used all six services offered on the online banking platform.

This indicated users were selective of the functionality they utilised on the online banking platform, and didn't see the platform as a package. These findings concur with results from a survey conducted by Daley (2012) at Ernst and Young indicating that 61% of South African online bankers mainly preferred to engage with their banks for simple transactions like viewing balances. This was followed by a behavioural change illustrated by Pretorious (2013) at Columinate Research company, revealing that South African online banking users were gradually starting to use online banking for more than just viewing transactions and making payments, and becoming increasingly likely to apply for new banking products such as loans and overdrafts, airtime, data and lottery tickets. Sullivan (2012) from World Wide Worx also indicated that most users preferred to purchase prepaid products such as airtime using their mobile phones than on the online banking platform.

	Functionality						
Preference	**Make Payments & Transfers between my accounts**	**Viewing accounts & downloading statements**	**Apply for other banking products & services**	**Purchasing prepaid products such as airtime & electricity**	**Filing tax returns online and paying electronic bills such as fines**	**Conducting foreign exchange transactions**	**All of the options**
1st option	88	0	0	0			
2nd option	5	59	0	0			
3rd option	0	0	20	0			
4th option	1	5	24	13	13		
5th option	0	1	2	0	1	2	
6th option	0	0	0	3	3	1	1
Last option	11	0	0	0			
Total	**105**	**65**	**46**	**16**	**17**	**3**	**1**

Table 12: Findings related to Usage of online banking functionality

4.3 Data Screening- Missing Values and Outliers

4.3.1 Missing Values

Of the responses received, the data was checked to ensure that all questions and values had been completed – i.e. is both the analytical questions and the descriptive section. Two questionnaires were found to have values not completed within the descriptive section (age and gender), as well as the analytical section – presenting more than 10% of missing values per questionnaire. As this could skew the analysis on these sections, the two questionnaires were removed from further analysis. This resulted in 105 questionnaires which were useable and all responses were included in the data analysis.

4.3.2 Outliers

The 105 questionnaires were also reviewed to check that none of the responses deviated from the rest of the responses within the same sample group. A Standardized (Z) value method was used, looking at results that might be outside the +/- score of standard deviations from the mean. Any response that had a standardised score of above +/-3 was considered an outlier and would have to be discarded from the useable data (Hair et al., 2011).

Within the data analysis of this study, there were outliers related to single items on performance expectancy, effort expectancy, facilitating conditions and future usage items. However, the researcher kept in mind that the study was applicable only to registered online banking users. As these items proved not to deviate from what was expected, these questions were not removed from the analysis as they could serve for further analysis. This is consistent with Albright's et al. (2011) recommendation that deleting of outliers should be considered only if the member was not within the population of interest.

4.3.3 Reverse Scoring

Two questions required reverse coding. Both were related to the dependent variable Current Usage. Question 31 ("*For complex transactions I prefer to use the branch over online banking*") and Question 36 ("*Since I registered for online banking, I use the services*..") were reverse coded in SPSS and the suffix REV was added to the question to identify it from the original.

This was done to align reading the questions along with the rest of the survey- which had been set to indicate negative sentiments (disagree) first, leading to neutral and then positive sentiments (agree).

4.4 Reliability and Validity

Before the hypotheses were tested, reliability and validity tests were conducted (Bhattacherjee, 2012). This was done to check that the data was reliable, as well as valid within the framework of this study. Content validity was already accounted for by conducting literature review on the post adoption phase of online banking. The pilot test ensured that face validity was also tested before any further analysis.

4.4.1 Inter-Item Correlations

Inter-Item Correlation checking was conducted to verify Convergent Validity (that is items meant to measure the same thing should converge). The Likert Scale with interval scale was used in the operationalization of items- thus **Pearson's Correlation** was relevant (Bhattacherjee, 2012). High correlations were considered at least .300 with at least one other item- except where the item was a single construct (Hair et al., 2003), and the following items with low correlations scores (captured below) were removed from further analysis as in Table 13 below:

Construct	Scale	Correlation (with like items)	Questions
Performance Expectancy	PE4	.182	(Q6) Using online banking increases my chances of banking conveniently
Facilitating Conditions	FC3	.148	(Q16) I can get help from others when I have difficulties using online banking
Trust	Trust4	.079	(Q29) Based on my experience with the online bank in the past, I know it is predictable
Switching Costs	*SC	.050 -.150 .0069	(Q18) All things considered, I find online banking a cheaper service compared to other methods of banking (branch banking cell-phone banking or using ATMs). (Q19) It would be difficult for me to change my online Bank for another (I have invested too much effort in setting up my current online transactability to learn new services and functionality of another bank). (Q20) All things considered equal, it would be too expensive for me to change from online banking to use other banking methods (mainly branch or mainly cell-phone banking) (Q21) I would consider switching my current Bank for another online banking service provider

Table 13: Items removed for low correlations

*Among the questions measuring Switching Costs, only one question (SC3) had a significant level. It must be noted that the researcher made the decision to completely remove Switching Costs from further analysis.

4.4.2 Principal Components Analysis

While the Pearson's Correlation for Inter-Item Correlations provided a visual picture of the item correlations, **Factor Analysis** was used to observe the underlying inter-item correlations for the respective variables- to provide evidence of the variable's structure (Bhattacherjee, 2012). Principal components analysis **(PCFA)** can demonstrate convergent validity if items have high factor loadings. PCFA will also provide an empirical summary of the data set (Pallant, 2007).
According to Hair et al. (2010), validity can be determined if there are high correlations in the data matrix. Using the results produced, the tests looked at each factor according to variables with high loadings.
Kaiser-Meyer-Olkin (KMO) and Bartlett's Test were first presented as in Appendix C. The measure of **.803** was found to be above the recommended level of 0.5 (Hair et al., 2010), and thus the Bartlett test was significant. The use of PCFA was therefore appropriate for this study.

Communalities were also extracted using Principal Component Analysis- as in Appendix C. As per recommendation that the factor should be above 0.300 (Bhattacherjee, 2012), the extracted communalities were all found to be above the desired factor. This meant all items measured were factorable and therefore PCFA was justified.

4.4.2.1 Factor Loadings

A rotated component matrix was allowed for each variable. In factor analysis, all variables were initially included, then only after rotation those with a factor loading greater than 0.6 were selected (Bhatterjee, 2012; Gefen, 2000). First the independent variables were correlated to assess whether all the related questions loaded together. After the initial run for PCFA, the result in rotated component matrix as shown in Appendix D displayed that Facilitating Conditions had unintentionally actually measured Effort Expectancy. It was decided to combine Effort Expectancy and Facilitating Conditions into a composite item which was then called "EEFC".

Although both PE3 and FC4 had high factors above .6, they were still found to cross-load and were therefore removed from any further studies. Final factor loadings after removing the variables with low loadings or multiple loading showed the following results in Table 14:

	PE	EEFC	SI	Alt	Trust
PE1	.885				
PE2	.828				
EE1		.676			
EE2		.822			
EE3		.868			
EE4		.831			
FacilitateCond1		.683			
FacilitateCond2		.857			
Sociallnf1			.907		
SocInfl2			.937		
SociaIInfl3			.794		
Alternatives1				.841	
Alternatives2				.575	
Alternatives3				.876	
Alternatives4				.857	
Trust1					.518
Trust2					.824
Trust3					.758
Cronbach Alpha Scores	**.755**	**.899**	**.872**	**.804**	**.700**
AVE's	**.807**	**.668**	**.778**	**.704**	**.562**

Table 14:Final Factor loadings

Average Variance

The average variance (AVE) extracted was calculated as per 0.5 cut-off point (Fornell and Larker, 1981). AVE scores greater than 0.5 are an indication of a reliable construct as they show that the construct is higher than the variance due to measurement error. All constructs presented high cronbach alphas and AVEs, which was an indication of high reliability and validity of the individual items.

This study had two dependent variables- current usage and future usage intentions. The dependent variables were also analysed together to verify loading – to check if current usage had any effect on future usage intentions. This was done using Multivariate Analysis. The outcome of this test showed that the loadings of the dependent variables were significantly alike and could not be extracted. The high cross loadings could be an indication of multi-collinearity (Lynch, 2003). While multi-collinearity does not always imply removal of one variable, the decision was made to drop Current Usage from further analysis- based on the assumption that since this study is conducted on users already registered and transacting on online banking, their current/actual usage was implied and factored into the independent variables measurement. The results presented thereafter were more meaningful.

Within this context, Future Usage Intentions could still be predicted from the set of variables used to derive Current Usage. The initial model proposed in Figure 2 was modified to incorporate these changes, making Future Usage Intentions the dependent variable. This change also had an impact on the moderators (Trust and Availability of Alternatives as it meant they could not moderate a direct relationship to Future Usage Intentions. To increase internal validity, these variables were then added as independent variables to the model. This is consistent with other studies (Maduku, 2013; Vatanasombut et al., 2008; Kim et al., 2004) that used Trust and Availability of Alternatives as independent variables.

However if one looks at consumer responses to perceptions on availability of alternatives it was interesting to note that the majority of respondents would not be easily swayed to move from their current offering due to products and services offered by a competitor or alternative channel. A total of 47 respondents disagreed (either disagree, somewhat disagree or strongly disagree). Only 33 respondents either agreed (somewhat or strongly agree). 25 respondents were neutral with regards to moving to an alternative offering.

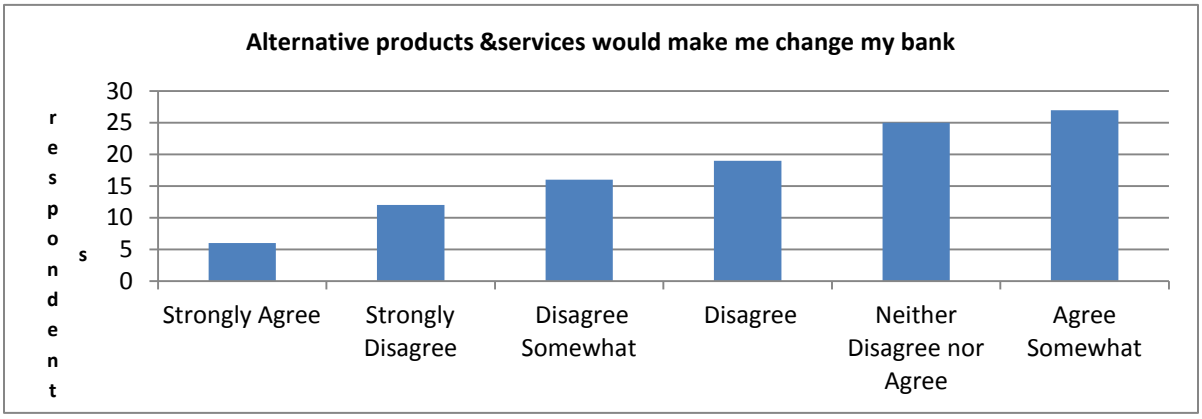


Figure 9: Alternative products & services would make me change my bank

The resultant loadings of the independent variables against Future Usage Intentions are displayed in Table 15. Alt 2 was also dropped from further analysis due to low resultant loadings (less than 0.7).

	Component					
	EEFC	ALT	SI	FUTURE	PE	TRUST
PE1					.897	
PE2					.832	
EE1	.614					
EE2	.808					
EE3	.868					
EE4	.843					
FacilitateCond1	.712					
FacilitateCond2	.833					
SocialInf1			.903			
SocInfl2			.936			
SocialInfl3			.783			
Alternatives1		.861				
Alternatives3		.906				
Alternatives4		.896				
Trust1						.680
Trust2						.876
Trust3						.757
FutureUsage2				.707		
FutureUsage3				.646		

Table 15: Loadings with dependent variable

4.6 Descriptive Statistics

The purpose of this study was to determine impact of current usage on future usage intentions of online banking. While current usage was dropped, factors associated to it showed a very strong association to future usage intentions (mean values over 4). Data tested was within reasonable indicators of skewness and kurtosis (of between -1 and 1). Availability of Alternatives with a lower mean was not removed as other tests were acceptable.

Constructs from PCFA	Alpha (α)	AVEs	Mean (μ)	Skewness	Kurtosis
PE	0.755	.807	6.6048	-.3043	-.326
EEFC	0.899	.668	6.314	-1.815	.4705
SI	0.816	.778	5.028	-.585	-.222
ALT	0.874	.704	3.457	.383	-.271
TRUST	0.700	.562	5.860	-.654	.358

Table 16: Descriptive Statistics (against FU)

4.6.1 Correlation between Dependent Variable and Independent Variables

The relationships between all independent variables and the dependent variable (Future Usage Intentions) were tested using **Pearson's Correlation.** The Likert Scale with interval scale was applicable on these questions, thus Pearson's Correlation was relevant (Bhattacherjee, 2012).

Independent Variables	**Pearson's Correlation Coefficient (r) with Future Usage Intention**
Performance Expectancy (Independent Variable)	.148
Effort Expectancy + Facilitating Conditions (Independent Variable)	.367**
Social Influence (Independent Variable)	-.007
Alternatives (Independent Variable)	-.057
Trust (Independent Variable)	.209*

Table 17: Correlation between Future Usage Intentions and independent variables

**. Correlation is significant at the 0.01 level (2-tailed). , *. Correlation is significant at the 0.05 level (2-tailed).

From the results presented, Effort Expectancy+Facilitating Conditions presented the strongest linear relationship to Future Usage Intentions of online banking with r = .367**. Trust also displayed a significant relation with an r = .209*. Social Influence was not significant, and had the least linear positive correlation of -.007.

4.7 Correlation Matrix

Before putting the factors through regression analysis, correlation of items was checked to check for statistical significance. All the results above were based on a sample size of n=105.

AVE	PE	EEFC	SI	ALT	TRUST	FUTURE
PE	0.807	.304**	.218*	-0.105	.217*	0.148
EEFC	.304**	0.668	0.104	-0.075	.445**	.367**
SI	.218*	0.104	0.778	-0.048	.262**	-0.007
ALT	-0.105	-0.075	-0.048	0.704	-.029*	-0.057
TRUST	.217*	.445**	.262**	-.029*	0.562	.209*
FUTURE	0.148	.367**	-0.007	-0.057	.209*	0.511

Table 18: Correlation Matrix

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

The AVE (Average Variance Extracted) in regression as shown by the diagonal shading in Table 18 was used to check for discriminant validity. PE had the highest discriminant validity (correlation to similar constructs) at 0.8, and the rest of the factors were all acceptable as they were greater than the .50 indicator proposed (Fornell and Larcker, 1981).

AVE can be aligned with tests in Section 3.5- when checking for validity. It was however presented in this section to align with the correlation tests.

4.8 Multiple Regression

Multiple regression was conducted to test whether the independent variables cumulatively and significantly predicted Future Usage Intention of online banking. Pandey (2009) and Bhattacherjee (2012) confirm that the traditionally accepted level of statistical significance of $p<0.05$ is a measure to see if significance supports hypotheses. If not significant, the hypotheses will be rejected.

4.8.1 Regression on Future Usage Intention

The independent variables (Performance Expectancy, Effort Expectancy/Facilitating Conditions, Social Influence, Availability of Alternatives and Trust) were regressed on the dependent variable of Future Usage Intention. Appendix E1 shows regression results when variables were treated as independent variables. (Appendix D1a illustrates results when Trust and Availability of Alternatives were tested as moderators).

While trust is commonly used as a direct influencing variable (as per later decision made within this paper), treating trust as a moderator is not a new concept. Within the banking industry in Canada, Mangin et al (2014) explored the significance of trust, security and risk as moderators within consumer acceptance of online banking. Chang and Wong (2010) also studied trust as a moderator within the adoption of e-procurement and participation of e-marketplace on firm performance. Within knowledge management, Fleig-Palmer and Schoorman (2011) considered the moderating effect between mentoring and knowledge transfer. Yang et al (2014) explored the moderating effect of both trust and availability of alternatives on the adoption of mobile self-service technologies.

The control variables of age, gender and experience were also taken into account. The following results were obtained In Table 19 (detailed output as in Appendix C):

- When the independent variables were incorporated, Effort Expectancy/Facilitating Conditions proved to be the most significant predictor of the impact of controls on Future Usage Intention.
- The inclusion of the main effects variables (Performance Expectancy, Effort Expectancy/Facilitating Conditions, Social Influence, Availability of Alternatives and Trust) results in a significant increase in the R^2 from 14 % to 25%.
- Effects of the control variables (age and experience) has some significance at $p<0.001$.
- Experience had the most significance on Future Usage Intention with a beta of .207. Gender had no significance on Future Usage Intention.

Independent Variables	**Unstandardised Coefficient**		**Standardised Coefficient**	**t**	**Sig**	
	B	**Standard Error**	**Beta**			
Constant	3.775	.756		4.991	.000	
PE	.017	.086	.020	.204	.839	
EEFC	.250	.105	.251	2.393	.019	
SI	-.043	.045	-.089	-.951	.344	
ALT	-.019	.043	-.041	-.450	.654	
Trust	.093	.090	.108	1.035	.023	
Gender	-.036	.131	-.025	-.277	.783	
Experience	.146	.068	.207	2.133	.035	
Age	.132	.061	.204	2.163	.033	
			* R^2 is significant at the $p<0.001$ level.			

Table 19: Multiple regression between Future Usage Intention, independent variables and controls

4.9 Hypotheses Summary

The conclusion on hypotheses testing was based on correlation analysis as well as multiple regression analysis as presented in Table 20 below:

Hypotheses	Relationship	Influence	Comments	Result
H1	*Current Usage to Future Usage Intention CU- FU*	*Positive*	*Impact of Current Usage not considered in further analysis.*	*Not applicable*
H2	Performance Expectancy to Future Usage Intention PE - FU	Positive	Correlation r = .148	Not Supported
H3 & H5	**Effort Expectancy** and **Facilitating Conditions** to Future Usage Intention EEFC - FU	*Positive*	*Combined Effort Expectancy with Facilitating Conditions and found to be supported* Both Pearson's Correlation (r = .367**) and multiple regression indicated a relationship between EEFC and FU.	S**upported**
H4	Social Influence to Future Usage Intention SI -FU	Positive	Pearson's Correlation indicated no relationship to FU, and regression also showed no significant relationship. (r = - .007)	Not Supported
H6a	*Switching Costs to Future Usage Intention*	*Positive*	*Impact of Switching Costs not considered in further analysis.*	*Not applicable*
H6b	Availability of Alternatives to Future Usage Intention	Negative	Correlation did not identify any relationship with FU and there was no moderating effect or independent relationship with on Future Usage Intention. (r = -.057)	Not Supported
H6c	**Trust** to Future Usage Intention	Positive	Both Pearson's Correlation and multiple regression indicated there was an underlying relationship with Future Usage Intentions. (r= .209*)	**Supported**

Table 20: Hypotheses Summary

***Age had a positive (significant) impact on Future Usage Intention**

***Experience also had a positive (significant) impact on Future Usage Intention**

Key: Supported = Correlation + Regression
Not Supported = No Correlation and No Regression
Partially Supported = Correlation only

CHAPTER 5: DISCUSSION OF RESULTS

5.1 Introduction

This chapter provides an interpretation of the data analysis that was presented in Chapter 4. The chapter begins with re-looking at the conceptual model and the changes proposed to the model, based on findings from the empirical results. The findings related to the analysis of this study are also discussed to incorporate findings from other researchers as presented in the literature review specific to this study. Based on findings within this study, suggestions are also provided for future research.

5.2 Conceptual Model

The model in Figure 3a was conceptualised in Chapter 2 when this study commenced. The model was based on UTAUT, Trust and Switching Theories. UTAUT is used to predict intention and usage behaviour of users and proposes four core determinants of intention and usage, namely Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI) and Facilitating Conditions (FC). As tests for reliability and validity progressed, changes were made to the initial model and hypotheses. These will be discussed in detail below.

5.2.1 Initial Model

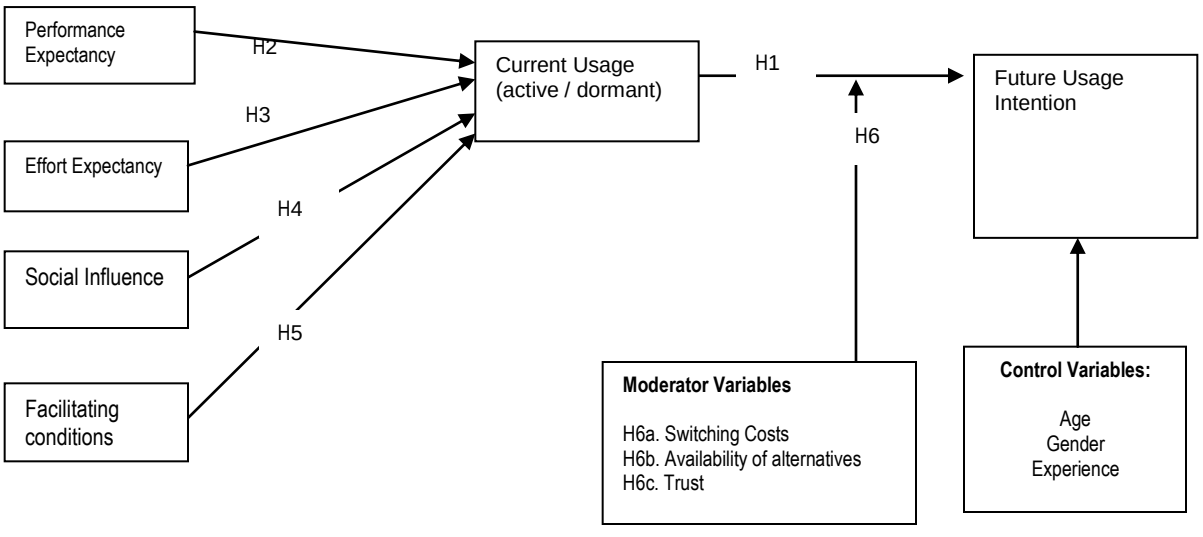


Figure3a: Conceptual model

5.2.2 Revised Model

Based on observations made during the various tests applied in this study, some of the variables e.g. current usage and switching costs had to be dropped. The model that eventually emerged for testing was as depicted in Figure 3b below.

In the resultant model, the independent variables of Performance Expectancy, Effort Expectancy-combined with Facilitating Conditions, Social Influence, Availability of Alternatives and Trust had a relationship with Future Usage Intention as the dependent variable. The tests of relationships were controlled with the variables of Age, Gender and Experience. As explained in Section 4.4.2.1, Current Usage was dropped due to problems with high cross loadings between Current and Future Usage items. The implication is that for a registered user, current usage is already repeated within the variables being measured- in this case Performance Expectancy, Effort Expectancy-combined with Facilitating Conditions, Social Influence, Availability of Alternatives and Trust, as well as applicable controls.

As mentioned earlier, Trust, Availability of Alternatives and Social Influence were previously hypothesised as moderators but were changed to independent variables due to current usage being dropped as a dependent variable.

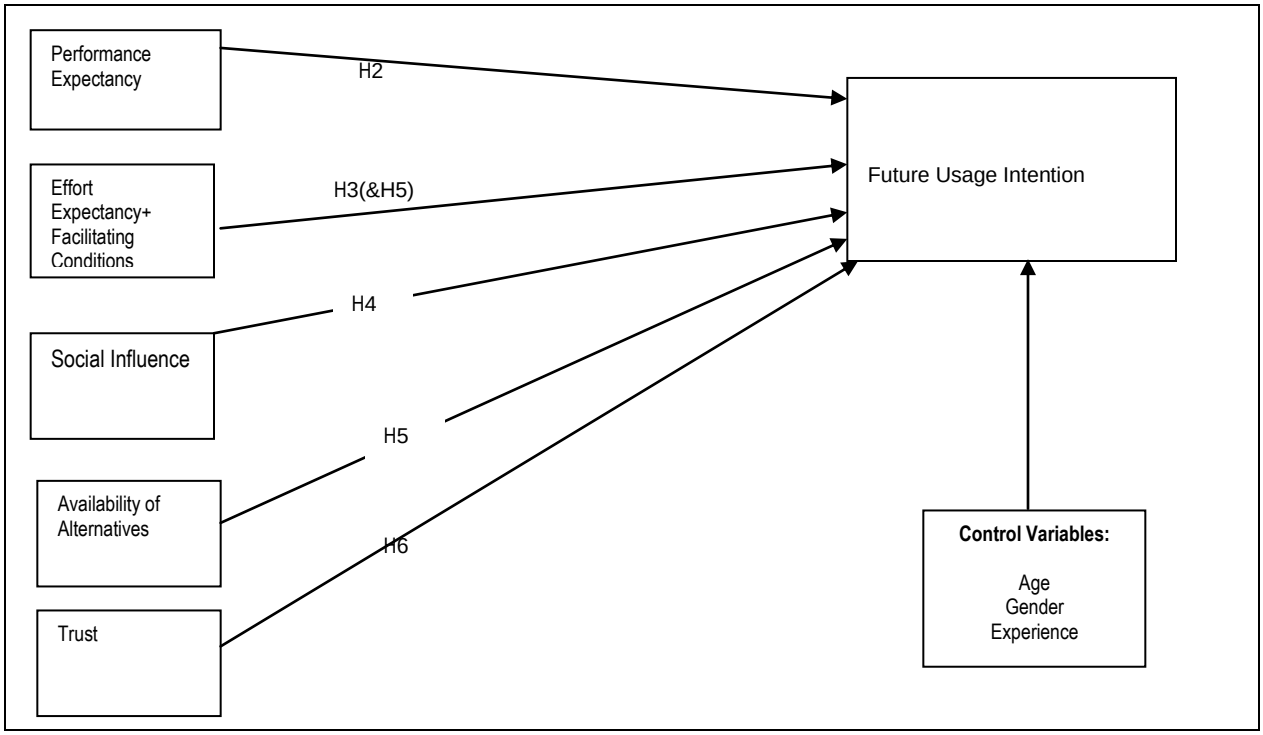


Figure 3b: Revised Conceptual Model

The fact that current usage and future usage intentions were too closely correlated (significantly alike) within this study may signify that users who are already registered for online banking may assume they are likely to they will likely keep using online banking services in the future. The customers perceive their future usage differently as opposed to those who are still making decisions whether to adopt online banking or not. This finding is closely linked to El- Kasheir, Ashour, and Yacout's (2009) findings in Egypt who also found the only factor affecting continued usage of Internet banking to be perceived ease of use (similar to effort expectancy).

Research must therefore focus on predictors that affect non-usage of the technology in-order to positively influence this passage of time.

The contradicting results of Availability of Alternatives also leave room for further research. While users consider branch banking for complex transactions, the results show that registered online bankers would not completely abandon online banking (become dormant). This raises questions on the Trust factor of online banking, in making consumers feel safe and able to obtain assistance from a human being when transacting.

5.3 Dependent Variables

Since the advent of online banking in South Africa, many banks have tried to encourage consumers to migrate from "bricks to clicks", that is moving from branch banking to the online banking platform. Branch banking tends to be more expensive to maintain as it requires more overheads such as front-line staff. However it would appear that users who register for online banking do not always remain active - or follow the "acceptance-followed by-discontinuance" anomaly which Bhattacherjee (2001) notes frequently occurs with online consumer services. Users may also not utilise the online banking functionality as frequently as the provider would have expected.

5.3.1 Current Usage

Earlier it was argued that current usage impacts positively on future usage intention of using online banking. Limayem and Cheung (2008) also empirically illustrated the role of prior behaviour (current usage) to have significant and positive impact on continued use of the technology. However the results of the current study found the two dependent variables (Current Us age and Future Usage Intentions) to be highly alike. This may be due to respondents' mis-interpretation of questions asked in the survey/ ambiguity in the questionnaire. It is also important to note that users were already registered on online banking- most of whom had been using online banking for over three years. From the sample population of 105 respondents, only one (1) user showed they were in a dormant state (had not used online banking within the past 12 months since registering), and four were neutral (did not confirm if they were dormant or active). This result could also have been influenced by social desirability, with users feeling they needed to respond in a more positive manner to influence the results.

Current users of online banking within this research appear to be particular about the functionality and frequency that they use online banking. Making payments and transfers were the most utilised functionality, and the majority of users used online banking once a month. This result supports a survey on Global Consumer Banking reported by Daley (2012) at Ernst and Young who found that in South Africa, the majority of customers (61%) prefer to use the Internet to engage with their banks for simple transactions like viewing balances. Pretorious (2012) also commented on their findings that the majority of users, presented by 85% of respondents, spent less than 20 minutes logged in to their Internet banking accounts. In their research, Berndt et al. (2010) also found that 53,5% of respondents had no intention of using the SARS e-Filing

functionality offered on some South African online banking platforms. This indicates that while not dormant, registered users have a minimal usage of online banking – restricted to once a month and only for certain functionality or transaction types. This could explain the reason for the declining use of online banking as indicated by Searll (2014). In their study on continued usage of online banking, Vatanasombut et al. (2008) regarded users with a frequency of using online banking once a month as not valid, and excluded them from the analysis. The ideal would be to encourage users to use online banking more frequently than just once a month.

5.3.2 Future Usage Intentions

The picture that was presented by the data analysis was of users who are actively registered, yet not fully using all the products and services offered by online banking. Since these users log in at least once a month, they cannot be classified as dormant. The fact remains that the users are not fully engaged, and prefer branch banking for complex transactions (Daley, 2012). The future usage of someone who currently makes minimal use of the offering on hand is very questionable and could potentially lead to dormancy. Thus Future Usage Intentions of online banking is not as high or guaranteed as practitioners would like.

5.4 Hypotheses Supported

From the data analysis and results of Chapter 4, two hypotheses were found to be supported. Effort Expectancy combined with Facilitating Conditions, as well as Trust was identified as the most significant factors - that is the variables had a positive impact on Future Usage Intention of online banking. While varied functionality is used by banks as a comparative and competitive advantage between one bank and another, the results of this research show that what users are looking for is effortless simple functionality.

5.4.1 Influence of Effort Expectancy/ Facilitating Conditions on Future Usage Intention

The current study has shown that a combination of effort expectancy and facilitating conditions have the most positive influence on future usage intention of online banking. It would appear that what is of most importance to users is a channel or functionality that has minimal effort and ease of use. Within this study, a total of 49% of the respondents noted that they preferred branch banking over online banking to conduct complex transactions. That is almost half of the users registered for online banking would consider reverting back to technology which is not self-service. This result also shows why facilitating conditions was considered as important by

registered users. Though online banking presents a virtual environment, users are still looking for resources, help or call centre assistance when they experience difficulties in transacting online. These results confirm Venkatesh, Thong and Xu (2012) and Venkatesh et al.'s (2003) emphasis on the degree of simplicity associated with the use of a particular system. User friendliness and intuitive functionality provide guidance to making technology simpler to ease.

5.4.2 Influence of Trust on Future Usage Intention

Results of the current study highlight the significance of trust on Future Usage Intention of online banking. This is consistent with results from the European Commission on public perceptions, where Srivastava (2007) highlights that lack of trust was frequently cited as a factor that significantly discouraged consumers to transact in an e-commerce environment. Several authors (Maduku, 2013; Daley, 2012; Al-Somali et al., 2009; Singh, 2004; Gefen, 2003 and Bhattacherjee, 2002 among others) also highlighted the trust factor as a key determinant for a consumer to be willing to transact in an online environment, and the influence on their continued usage of the online banking channel. Research by Ernst and Young (Daley, 2012) highlighted that 40% of customers were losing trust in the banking industry. This is quite significant for a society that is trying to bank the unbanked and encourage users to use electronic platforms. Trust within a South African or developing world context calls on banks to improve infrastructure for online banking, making the channels more secure and minimising fraud. Trust also means users still have access to a human element (like call centre agents), that they can engage with should they encounter any issues or feel their online banking security is compromised in any way. Banks should be open and engaging with clients, to understand the voice of the customer- thus instilling a sense of trust in the bank.

5.5 Hypotheses Not Supported

5.5.1 Influence of Performance Expectancy on Future Usage Intention

Testing impact of Performance Expectancy on Future Usage Intention showed no correlation in this study. This result contradicted findings by Foon and Fah (2011), Park et al. (2007) and Chang et al. (2007) who found a positive correlation of performance expectancy and technology use. The results of the current study could have differed from the hypothesis proposed in Chapter 2, as the link of the proposed hypothesis was dependent on Current Usage and not Future Usage Intention. This would mean that once a user is registered on online banking, the performance is not a significant factor for them to continue using online banking. This is supported by

Ghalandari (2012) who signified performance expectancy as having a positive relationship to behavioural intention to use online banking, but not necessarily continued usage. This could mean that the performance of the system will influence the users to use the system, but not necessarily increase the frequency of their use or guarantee continued usage of online banking in the future.

5.5.2 Influence of Social Influence on Future Usage Intention

A surprising finding was that there was no impact of social influence on Future Usage Intentions. This contradicts findings by Daley (2012), Park (2007) and Venkatesh et al. (2003) who found a positive effect between social influence and users' behaviour. Ghalandari, (2012) found that within the context of Iran, social influence had a positive and significant role on behavioural intentions of using online banking. Daley (2012) found that banking customers were consulting and engaging friends and colleagues with reference to banking products.

On the contrary and in line with the results of this study, Muduku (2013) who specifically studied Internet Banking within the South African context found that social influence had a limited role on customers' attitude towards Internet banking usage. However the results of this study were consistent with empirical evidence from Adapa (2011) who found social influence to be of no significance to users' post adoption.

It would appear that the contradiction in the results on Social Influence depends on the context in which the testing is applied. The non-relevance of social influence within the context of this study could be linked to the fact that the study was based on registered users of online banking. Thus once a consumer is registered on online banking, their future usage intention is not influenced by others, but by factors that directly affect their individual interaction with the online banking services.

5.5.3 Influence of Switching Costs on Future Usage Intention

The variable for switching costs was dropped at the beginning of the study due to loading issues. Although this contradicts findings by Kim et al. (2004), this could indicate that within the South African environment, online banking users tend to have mixed feelings around loyalty towards banks. While some may feel the impact of switching costs, others found it of little relevance. A likely reason is that South African consumers feel loyal towards their banks, and maintain the relation with the bank of choice, regardless of the costs and branch charges. Daley (2012) and

Pretorius (2012) provided significant insight into the banking environment of South Africa, by highlighting that while banking fees are considered "high" (subjectively) in South Africa, many consumers are multi-banked. Thus a consumer could for example use Nedbank for a home loan, FNB (Wesbank) for a car loan and Standard Bank for a cheque account. In this regard, the sensitivity to fees and impact of Switching Costs would not be so significant. To fully understand the impact of switching costs, one might have to consider the full dimension of relation costs such as search costs, transaction costs, and learning costs (of adapting to a new banking method). This view is supported by Cheng (2012) who argued that switching costs include many factors like transaction fees and have a direct correlation with how satisfied a user is with the online banking services.

5.5.4 Influence of Availability of Alternatives on Future Usage Intention

The results of this study did not confirm any correlation between the availability of alternatives (such as branch bank and mobile banking) and Future Usage Intention of using online banking. This was contradictory as the results also showed that users would turn to branch banking for complex transactions. One can however understand this contradiction, which was pointed out by PWC (2013), who noted that consumers become frustrated when they cannot transact online due to any inconveniences presented.

5.6 Control Variables

5.6.1 Influence of Age, Gender and Experience on Future Usage Intention

The results of the current study found age and experience to have a positive impact (positive beta coefficient) on Future Usage Intention. The assumption made for this study was that the length of time that the user had been registered on online banking determined how much experience they had on using online banking. This was found to have a positive impact on the users' Future Usage Intentions of online banking. This could imply that the older and more comfortable (experience) one gets with the online banking functionality, the more positive the usage behaviour.

While the total variable of age shows a significantly positive relationship to Future Usage Intentions, one must note that behavioural attitudes differ within different age categories. The concept of age as a significant controlling variable is consistent with the "Generation Y" (generally known as those born between 1980 and 2000, Fooh and Fah; 2011) debate presented

by Wey, Smola and Sutton (2002) that the younger generation are more socially connected and use technology more than adults. Kose (2009) also agrees that the younger population equipped with higher levels of education have a major part in influencing online banking. Green and Belle (2003) highlight that the age concept is a determinant of online banking usage as the younger generation are more willing to engage and experiment with new products offered. On the other hand, El-Kashier et al (2009) found that while difference among the age categories was not significantly different, the age group above 50 plus scored higher in factors affecting continued usage of Internet Banking in Egypt. This was closely followed by users less than 20years old, and then those between 20 and 30 years old.

This study found that gender does not have an effect on Future Usage Intentions. This was consistent with the research done in the literature review as there have been contradicting views on the role of gender. For example Srivastava (2007) found a small variance in usage between males and females. However the lack of significance of the gender factor could also be due to the sample population of this study, and a wider sample could potentially provide different results. Venkentash and Morris (2000) recommended that for future research, gender should always be considered along with other factors such as experience.

5.7 Suggestions for Future Research

Further research could revolve around dynamics of the South African environment to determine factors that are specific to users' online usage. One of the assumptions that were made within this study was that the sample population had access to technology, as they were registered users on online banking. However, by looking at the frequency that the users used online banking, this may suggest that most users access the Internet at work versus in their homes. Therefore this might limit the amount of usage during working hours. Future research could look into where and how users access online banking so as to understand the validity and background upon which the responses are made. For example if users do not have access to the Internet at home and only conduct their online banking during office hours, this may also play a role on the amount they spend online, as well as the functionality they utilise.

It might also be useful to add different dimensions to the variables- such as adding satisfaction and loyalty as a component to Availability of Alternatives. As trust presents a key element within the virtual environment, further research could delve into understanding the multi-dimensional constructs of trust to include security, privacy, integrity, benevolence and fairness issues.

Margulis (2003) reported that the ultimate aim for online banking would be to ensure that personal data is at a minimal vulnerability as much as possible.

With regards to control factors, Foon and Fah (2011) recommended that future research consider controls of gender with age and income. In contrast to the findings in this study, Maduku (2013) found that demographic factors are not good predictors of users' attitude and impact on Internet banking services in South Africa.

Future research should systematically consider a larger population sample (Albright et al. 2011), or rather a larger response rate, so as to determine consistency of responses. To counter single source bias, future research could also consider different sources of online bankers, that define a wider and more diverse population sample of online bankers in South Africa.

5.8 Conclusion

This chapter presented a discussion on the actual results of the research that was conducted. It provided an explanation of hypotheses that were supported as well as those that were not supported. Effort Expectancy combined with Facilitating conditions as well as Trust factors play a significant role within the virtual environment of online banking. While current usage does not necessarily signify that user will remain active on using online banking, the frequency of using online banking as well as the functionality that the user preferred on online banking will determine his/her future usage intention. Issues of social influence, switching costs and availability of alternatives did not appear significant in this study, but could leave room for further research. The next chapter summarises contributions of the results towards academia and practitioners, and conclude the research report.

CHAPTER 6: CONCLUSION

6.1 Introduction

This chapter begins by summarising the contributions that this study has made to both academia and practitioners in studying the impact of current usage on future usage intention of online banking amongst South African consumers. While the conceptual model was modified and certain variables excluded, the findings still presented some useful insights for the South African environment. The chapter also looks at the limitations presented by this study, and closes with making suggestions for further research within the field.

6.2 Contributions to Research (Academia)

In understanding consumer Current Usage and Future Usage Intention of technological services such as online banking, it is important to understand the dynamic nature of how consumers behave. This research highlights the fact that within the South African context, more theories and variables would have to be considered to fully understand user behaviour. While adapting previously derived models and theories provides a useful framework for research, the variables that were predicted for other countries could be interpreted differently depending on the environment – such as within a South African context. The findings of this study showed that some variables that produced positive results in other studies do not always provide a perfect fit into a different environment as there are many contributing and differing factors within each context.

Although Current Usage (dependent variable) and Switching Costs (moderator) were dropped from further testing, this research presented a relatively new attempt in trying to use a combination of a model (UTAUT) and moderating variables (switching costs, availability to alternatives and trust) that had not been previously considered in other studies of this nature. Questions remain as to the factors impacting current usage, which would need to be answered by future research. As Aladwani (2001) noted earlier, the growth of online banking still suffers from research that comprehensively considers all factors and issues. While UTAUT and Trust add significantly to understanding users' behaviour on online banking, there remains further research that would need to be done within a South African context to be applicable. Thus the revised model in Figure 3b could be incorporated and considered for further research within the South African environment. For example, South African users who are already registered for online

banking do not seem to place much emphasis on social influence, therefore this factor is not as significant for studying as has been suggested by other studies.

Berndt et al. (2010) significantly point out factors such as the Technology Readiness Index (TRI) which may assist in looking at online studies within developing countries. TRI would include factors such as access to the Internet. As noted in earlier chapters, while the major cities in South Africa are quite well advanced in terms of technology and infrastructure, there are still many areas in the country that are not technologically advanced. Accessibility to the Internet could directly impact the frequency with which users' access online banking. Other factors that could be added to this disparity presented by developing nations include income and level of education (Maduku, 2013 and Berndt et al., 2010) – which impacts affordability of laptops/PCs computer literacy skills. However this is keeping in mind that demographical variables were not found to be influential on Internet Banking in South Africa (Maduku, 2013). This could also be related to the residential provinces that were included in the study.

Researchers could also look into additional factors that impact dormancy of service. It is not enough for businesses to gauge profitability if users are not fully engaged and not using the services enough to offer a profitable margin.
Within the South African context, accountability of moderators would also need to be researched as the results within this study indicated the factors moderated not to impact the relationship between current usage and future usage intention.

6.3 Contributions to Practice

A study conducted by Daley (2012) at Ernst and Young highlighted that in the current environment where users are becoming more assertive with regards to their banking requirements, understanding customer behaviour, attitudes and requirements is more vital for the strategic thinking of banks and their operational planning of customer treatment. This study can assist practitioners by showing that theories and strategies will not necessarily produce the expected results versus when customers are directly engaged with to provide input (surveys) into what is meaningful to them when use a particular service . Daley (2012) also pointed out that in South Africa, 91% of customers would readily engage with their banks in providing recommendations with regards to customer-centric products and services they found preferable and desirable. The results of this study will benefit banks by providing insight into consumer behaviour that impact their usage of online banking functionality, which influence the bank's

profits. This aspect is critical, given the fact as highlighted by Daley (2012) who notes that 57% of South African customers feel that their banks do not adapt products and services as customers' needs change.

As trust remains the most significant factor impacting usage of online banking in South Africa, Banks need to capitalise on trust factors. Banks can insure their online channels are "trustworthy" by making the channel and functionality safe, secure and more predictable. Increased usage of security tokens, multifactor authentication, and increasing assistance to clients when they experience issues with the online platform can enhance the trust factor that a client has with their bank. Banks can also revisit their marketing and security awareness strategies to ensure know how to conduct their banking in a secure manner.

The extant literature and results within this study have proven that Effort expectancy and facilitating conditions are essential contributors to ensuring future usage of online banking. The implication to banks lies in understanding and implementing functionality that minimizes the customer's banking effort- in terms of finding certain functionality or conducting their banking. Banks can do this by enabling user-friendly channels and functionality, and even a human operator that customers can contact should they need to verify certain things. Addition of help files and contact/call centres assist in offering facilitating conditions to make online banking more efficient.

In terms of functionality offered, online banking product offerings and business models must become more customer-centric according to customer demands in-order to positively influence continuance in usage. Banks can do this by making their products and functionality to be personalised in such a manner that the customer can relate to it, more so in the way a customer would engage with a teller in the branch. For example, once a user logs into the channel, the welcome page on the online platform can include the user's name and last time that they logged in. This gives the user a sense that the bank has their information stored securely, and can always trace if there are any violations on their account. The platform can also allow the customer to configure pages to see only the pages they want to. For example a client who is not interested in share trading online must not be presented with pages relating to shares as they just serve to clutter the respective client's account. The finding that use of online banking is often restricted to a limited set of functionality; and that switching costs are not significant, provides banks with a competitive edge to price their functionality in a way that makes the most used functionality to be

favourably used. In this way, customers are likely to remain loyal to using online banking as they know it will not cost them as much compared to other channels.

While social influence was not a significant contributing factor to continued usage on online banking within this study, Singh (2004) notes that to influence future usage intentions of consumers using the online banking channel, banks have to advertise, market and educate the public on their system enhancements and products in order to gain consumer confidence. Every positive enhancement made to the system, added security features or new functionality offered must make sense to the consumer. If consumers are aware of the value-added benefits, their future usage intention will likely be remarkably higher. Positive continued marketing and awareness also distracts from the availability of alternatives, as consumers become aware of the added advantages of using online banking.

With regards to products and services offered by alternative channels, 24% of respondents in this study were neutral about their decision to move to the alternate, while 31% being positive they would move to alternative channels. Practitioners need to ensure they have strategies in place that ensure that the online banking channel remains appealing and competitive to registered customers, so that this 55% of respondents is not swayed away to alternative channels.

The recognition that discontinuance or dormant behaviour of the online offering is not specific to one particular phase of the offering should be factored into how online services are offered to the consumer. A consumer's expectations might not be met by preceding service offerings, leading him/her to become a dormant user. As different banks in South Africa define dormancy differently, further study in South Africa would also need to understand the specifics that influence dormancy within the South African context. The respondents from this study may have been from different banks, and understood the functionality and frequency related differently, hence impacting the response aligned to inactivity/dormant usage.

Understanding consumer usage can also assist financial decision-makers into proactively turning would-be dormant users, or those with low engagement levels - to constantly active users who utilise online banking more than once a month. The results within this study clearly showed that while users were not dormant, their activity levels were not very high- limiting usage to mainly once a month on particular applications. This finding links to Bogomolava's (2009) advice that returns on investment will be higher if organisations focus their marketing capabilities on retaining lapsed customers. Molapo and Mukwada (2011) – in citing Stone (2000) also suggest

that companies strengthen the frequency of purchase (or usage) of customers. Managers can therefore also use the research results to profile potentially dormant users and draw strategies that lead against such behaviour. For example this can include identifying functionality that is being infrequently used, and training users on how to make better use of the functionality, or what value the functionality can add to the user- thus promoting frequent usage of online banking.

A final implication with regards to age is that Banks also need to keep in mind that the younger generation is more engaged in technology. Online banking channels need to be developed in a way that appeals more to this market (the younger generation) – for example by making the screens more interactive, less cluttered and even offering the functionality on apps.
South African banks have no option but to forge better digital connections and relationships with their customers (Pretorius, 2012).

6.4 Limitations

The responses received from the survey were fewer than expected (N=105), which could have led to the statistical analysis not being as effective to support the hypotheses. The questionnaire was also designed for users who were already registered for online banking, while the questions used were derived from past literature where users were not current users of the technology. This could have made some of the questions irrelevant in the given context, or mis-interpretation of the questions, and therefore impacting the responses provided. None of the questions used were found within a South African context, once again perhaps leading to a mis-interpretation of requirements.

Another limitation within this study is the possibility of single source bias. All participants for the survey were sourced from a single source- using the services of a registered Agency. Therefore the responses could have been from a select and skewed sample group, associating particular questions with a perceived positive or negative response. The resultant findings could have been different had another sample of respondents been used- which could be factored into future research. The kind of survey conducted within this study also presents financial limitations. When it comes to sharing details around their banking conduct – even when not directly requested for income or bank details, respondents may feel that their financial information is confidential (PwC, 2013) and therefore be biased in their responses.

In hindsight, the questionnaire was also limited in that it did not provide respondents the ability for providing explanations- the format of close-ended questions was used. It may have been useful to fully understand why users responded the way they did- for example why Switching Costs was not considered a useful factor within the research.

The implications to practice and academia noted above serve to address the questions that were raised within the research objectives. While users' continued usage becomes assumed once they are registered, the type of functionality and services offered plays a huge role in the frequency of using online banking. While not becoming entirely dormant, the user's irregularity/in-activity in using online banking can be as close as being dormant. One cannot over-emphasise the
Future usage itself is need for service providers to ensure that the functionality they offer is closely aligned to users' requirements, as well as being user friendly and providing the necessary support for virtual customers.
This study also found the moderating factors to actually serve as dependent variables. Thus in terms of the South African context, one would need to explore different moderating variables to those proposed within this study. This leaves room for future research within this domain.

6.5 Conclusion

This study fills a gap in the study of post-adoption behaviour of online banking consumers in South Africa – by analysing their active usage and dormant usage, as well as attempting to understand the impact of current usage on future usage intention of online banking. A model not used in previous research (using UTAUT model and incorporating Trust theory, Switching Costs theory and availability of alternatives as moderators) was also considered. The results provide evidence that adapted models can differ depending on the context or environment- with a possibility of finding different moderating factors in South Africa. Within the South African environment, trust, online banking functionality and frequency of usage, age and experience should be taken into account as main determinants of future usage intentions. Effort expectancy and facilitating conditions were also found to have the most significant influence on future usage intention of users. These factors have a role to play in influencing usage behaviour of online banking. Switching costs and Availability of Alternatives did not display significance influence on future behavioural intentions within the South African environment - both as a moderator and independent variable.

Future Usage intention showed to be a function of current usage behaviour in that once users were registered on online banking, their current usage was assumed. However current usage does not directly influence future usage intention.

Global trends and developing countries (like Brazil) that are successful at online banking have provided a window into the future of online banking. Within the South African environment, online banking has already shown that it has potential and a significant role – over other activities like online shopping and web browsing. So while many customers are not dormant, their activity levels on the online banking platform are very low. Many customers also show preference for alternative channels- especially for complex transactions, but also as a possibility to migrating to. What is critical is for stakeholders to shift online banking to greater levels of usage that drive more frequent, more effective and active usage of functionality, while making the functionality simplistic yet effective (effort expectancy)!

CHAPTER 7: REFERENCES

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APPENDICES

Appendix A: Ethics and Title Approval

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON MEDICAL)
R14/49 Muzofa

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER H13/03/07**
PROJECT TITLE	Online banking usage amongst SA consumers: an empirical study of the impact of current usage on future usage intention
INVESTIGATOR(S)	Ms CV Muzofa
SCHOOL/DEPARTMENT	Economic and Business Sciences/
DATE CONSIDERED	15/03/2013
DECISION OF THE COMMITTEE	Approved subject to the following conditions: 1. Contact details of supervisor, to incl e-mail address, to be added to participant information sheet
EXPIRY DATE	16/04/2015

DATE 17/04/2013 **CHAIRPERSON** (Professor T Milani)

cc: Supervisor : Mr J-M Bancilhon

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/are are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

Signature **Date** ____/____/____

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Faculty of Commerce, Law & Management
Private Bag 3 Wits, 2050
Fax: 0270865536132
Tel: 027117178007

Reference: Ms Ntshepeng Tshabalala
E-mail: ntshepeng.tshabalala@wits.ac.za

29 May 2013
Person No: 695322
PAG

Miss CV Muzofa
P O Box 653450
Benmore
2010
South Africa

Dear Miss Muzofa

Master of Commerce: Approval of Title

We have pleasure in advising that your proposal entitled *Online banking usage amongst South African consumers: an empirical study of the impact of current usage on future usage intentions* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

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

Appendix B: Final Online Research Questionnaire - with part screen shot

MASTERS STUDY: COVER/ PARTICIPATION LETTER

Date: 12 August 2013

Good-day
My name is Vimbai Muzofa and I am a Masters student in the School of Economic and Business Sciences at the University of the Witwatersrand, Johannesburg. I am conducting research to evaluate online banking usage among South African consumers. The survey specifically researches online banking usage, and issues such as security are not the focus of this particular study.
The research forms part of my requirements for a Master of Commerce. My supervisor is Jean-Marie Bancilhon (contactable at: Jean-Marie.Bancilhon@wits.ac.za).

You are invited to take part in this study by completing the questionnaire on online baking usage in South Africa. Please note that your participation is anonymous and all responses will be confidential. You will not be asked to identify yourself by means of personal details. Only the results will be shared in the research report for evaluating online banking usage in South Africa. Your completion of the survey will be considered as consent in taking part in this study. Please note that no remuneration will be made on participation in the survey. You may discontinue participation at any time without penalty or prejudice.

The survey consists of 37 questions and will take approximately 10-15 minutes to complete. There is no right or wrong answer. Please click here to take the survey and complete all the questions. Kindly complete the survey by Friday 30 August 2013.

Thank you for considering participating in the survey.

Kind regards

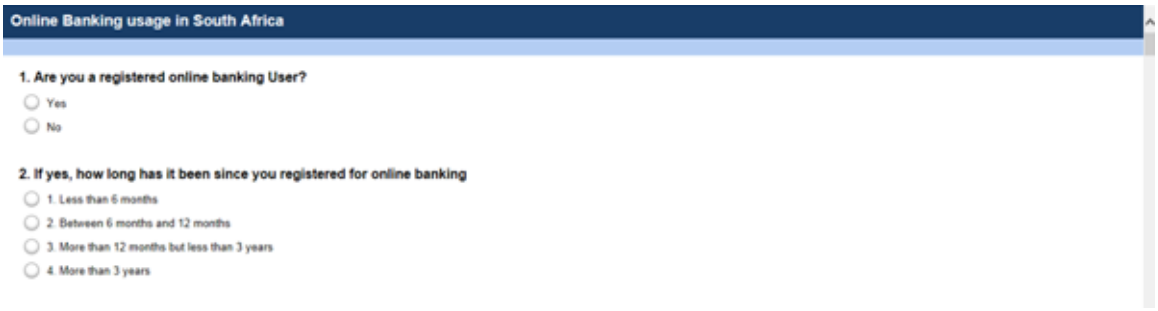
Vimbai Muzofa
Contact number: 0749983942
Email:Vimbai.muzofa@wits.ac.za
Masters Student: Division of Information Systems
School of Economic and Business Sciences
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Supervisor's Contact Details:
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Division of Information Systems
School of Economic and Business Sciences
School of Economic and Business Sciences

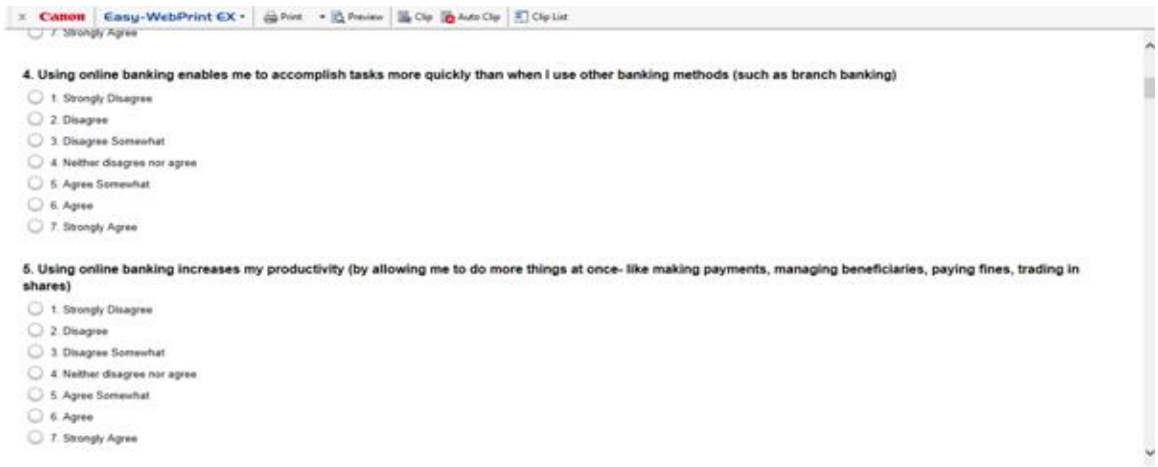
MASTERS STUDY: QUESTIONNAIRE FOR ONLINE BANKING USAGE



Section 1: Please provide the following information about your usage of online banking:



Section 2: Please select the scale below that best reflects the extent of your agreement in your online banking usage:



Section 4: Conclusion

Thank you for participating and completing the survey.
Your time and attention to this study is sincerely appreciated as it will contribute to the growing body of knowledge aimed at improving service levels and competitiveness within the banking industry in South Africa.
Should you wish to obtain a copy of the aggregated results of my study, please enter you email address below:

Appendix C: Research Questions and Codes

ID	Questions	Code
Q3	I find online banking useful in doing my banking	PE1
Q4	Using online banking enables me to accomplish tasks more quickly than when I use other banking methods (such as branch banking)	PE2
Q5	Using online banking increases my productivity (by allowing me to do more things at once - like making payments, managing beneficiaries, paying fines, trading in shares)	PE3
Q6	Using online banking increases my chances of banking conveniently	PE4
Q7	I find using online banking user friendly (clear and understandable)	EE1
Q8	It was easy for me to become skilful at using online banking	EE2
Q9	I find online banking easy to use	EE3
Q10	Learning to navigate online banking is easy for me	EE4
Q11	People who influence my behaviour think that I should use online banking more	SI1
Q12	People who are important to me think that I should use online banking more	SI2
Q13	People whose opinions I value prefer that I use online banking rather than other banking channels.	SI3
Q14	I have the resources necessary to use online banking services	FC1
Q15	I have the knowledge necessary to use online banking services	FC2
Q16	I can get help from others when I have difficulties using online banking	FC3
Q17	A specific person/ call centre is available for assistance with online banking difficulties	FC4
Q18	All things considered, I find online banking a cheaper service compared to other methods of banking (branch banking cellphone banking or using ATMs).	SC1
Q19	It would be difficult for me to change my online Bank for another (I have invested too much effort in setting up my current online transactability to learn new services and functionality of another bank)	SC2
Q20	All things considered equal, it would be too expensive for me to change from online banking to use other banking methods (mainly branch or mainly cell-phone banking)	SC3
Q21	I would consider switching my current Bank for another online banking service provider	SC4
Q22	Other banks appear to offer better online banking products and services to their customers than the one I currently bank with.	Alt1
Q23	It would be easy for me to find out the quality and benefits offered by another online banking provider	Alt2
Q24	Other banks seem to carry a better reputation than the one I currently bank with	Alt3
Q25	The products and services offered by another bank would make me change my current bank	Alt4

Q26	Based on my experience with the online bank in the past, I know it is dependable	Trust1
Q27	Based on my experience with the online bank in the past, I know it cares about customers	Trust2
Q28	Based on my experience with the online bank in the past, I know it provides good service	Trust3
Q29	Based on my experience with the online bank in the past, I know it is predictable	Trust4
Q30	Within the past twelve (12) months I have made use of online banking services	CU
Q31	For complex transactions I prefer to use the branch over online banking	CU
Q32	I intend to use online banking in the coming months rather than discontinue its use	FU
Q33	In future I intend to frequently use online banking (more than three times a week)	FU
Q34	I will strongly recommend others to use online banking	FU
Q35	Which of the following activity do you mainly do online	Functionality
Q36	Since I registered for online banking, I use the services	CU
Q37	The functionality I use on online banking is mostly	Functionality
Q38	Gender?	Descriptive
Q39	Age?	Descriptive

Appendix D: Data Analysis Output

Appendix D1: KMO Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.803
Bartlett's Test of Sphericity	Approx. Chi-Square	871.067
	df	120
	Sig.	.000

Communalities

	Initial	Extraction
PE1	1.000	.792
PE2	1.000	.754
PE3	1.000	.530
EE1	1.000	.594
EE2	1.000	.735
EE3	1.000	.776
EE4	1.000	.736
SocialInf1	1.000	.852
SocInfl2	1.000	.892
SocialInfl3	1.000	.682
FacilitateCond1	1.000	.539
FacilitateCond2	1.000	.691
FacilitateCond4	1.000	.447
CurrUsage1	1.000	.536
CurrUsage2REV	1.000	.588
CurrUsage3REV	1.000	.560

Extraction Method: Principal Component Analysis.

Appendix D1a: Moderators

Model Summary

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.186	.331		12.655	.000
	modTRUST	.121	.056	.180	2.152	.134
	modALT	.079	.064	.107	1.245	.216

a. Dependent Variable: CompositeFutUsage

Appendix D1b: Dependent Variable Loadings (CU/FU)

	Component
	1
CurrUsage1	.727
CurrUsage2REV	.554
CurrUsage3REV	.685
FutureUsage1	.637
FutureUsage2	.607
FutureUsage3	.660

Extraction Method: Principal Component Analysis

a. 1 components extracted

Rotated Component Matrix

a. Only one Component was extracted. The solution cannot be rotated.

Appendix D2: Multiple Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.378[a]	.143	.100	.66802	.143	3.309	5	99	.008
2	.500[b]	.250	.187	.63475	.107	4.550	3	96	.005

a. Predictors: (Constant), CompositeSI2, CompositeALT2, CompositeEEFC2, CompositePE2, CompositeTRUST2

b. Predictors: (Constant), CompositeSI2, CompositeALT2, CompositeEEFC2, CompositePE2, CompositeTRUST2, Age, isGender, Experience

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.094	.781		5.244	.000
	CompositePE2	.041	.088	.046	.464	.644
	CompositeTRUST2	.058	.094	.067	.618	.538
	CompositeALT2	-.008	.045	-.016	-.173	.863
	CompositeEEFC2	.328	.107	.329	3.069	.003
	CompositeSI2	-.034	.047	-.070	-.710	.480
2	(Constant)	3.775	.756		4.991	.000
	CompositePE2	.017	.086	.020	.204	.839
	CompositeTRUST2	.093	.090	.108	1.035	.303
	CompositeALT2	-.019	.043	-.041	-.450	.654
	CompositeEEFC2	.250	.105	.251	2.393	.019
	CompositeSI2	-.043	.045	-.089	-.951	.344
	isGender	-.036	.131	-.025	-.277	.783
	Experience	.146	.068	.207	2.133	.035
	Age	.132	.061	.204	2.163	.033

a. Dependent Variable: CompositeFUTURE2

Appendix E: Test for Assumptions

This section describes the results for testing for the assumptions required to perform multiple regression.

Appendix E1: Multicollinearity

The tolerance values as shown below in Table 21 were very high (close to 1 = desirable), while the variance inflation factors (VIF) all acceptable as per the recommended range of below 5 (Hair et al., 2011).

VIF assists by looking at the extent which a given explanatory variable (Future Usage Intention) can be explained by all the other explanatory variables in the analysis.

The collinearity of the independent variables was not considered problematic within this study.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.762	.684		2.576	.011		
	CompositePE	.049	.049	.085	.995	.322	.890	1.124
	CompositeEEFC	.421	.094	.412	4.465	.000	.760	1.316
	CompositeSI	.042	.042	.086	1.009	.316	.901	1.110
	CompositeAlt	-.005	.045	-.009	-.112	.911	.974	1.026
	CompositeTrust	.191	.083	.217	2.313	.023	.737	1.357

a. Dependent Variable: CompositeFutureUsage

Table 21: Multicollinearity Test Coefficients

Appendix E2: Linear Relationships, Heteroscedasticity, and Normality (P-P Plot)

To anaylse the linearity and normality of the dependent variable (Future Usage Intention), a P-P plot was used as in Figure 10 below. The results as in the graph below suggest that the residuals were approximately normally distributed, thus the dependent variable's values were relatively normal.

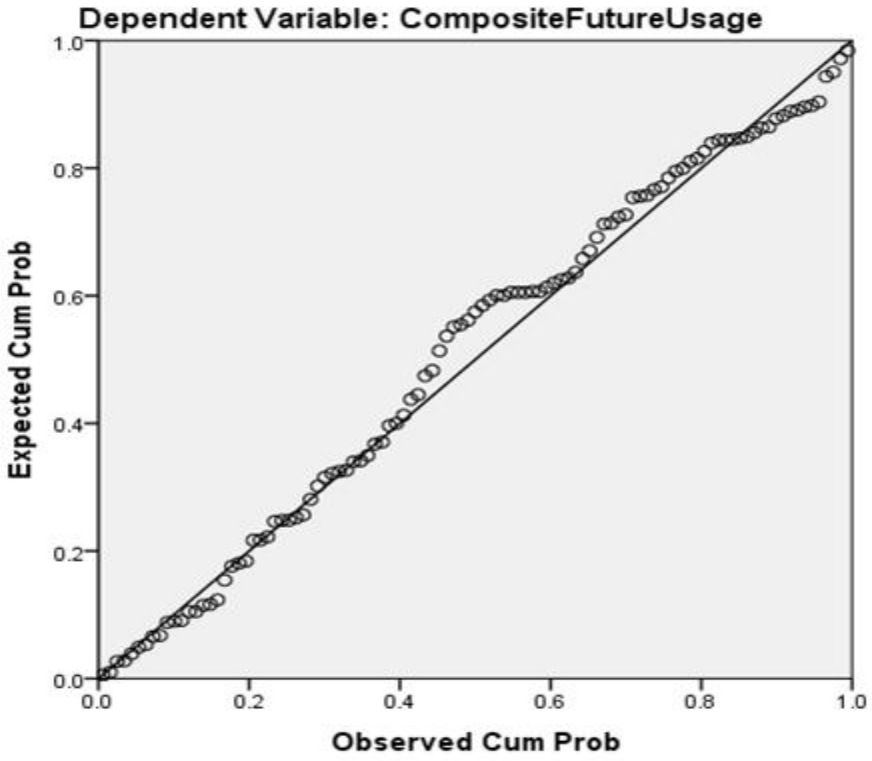


Figure 10: Normal P-P Plot of Regression Standardised Residual

Appendix E3: Linear Relationships, Heteroscedasticity, and Normality (Scatterplot)

The scatterplot depicted below (Figure 11) does not illustrate any obvious pattern. Thus it can be concluded that there is no violation of the linearity assumption or the heteroscedasticity assumption.

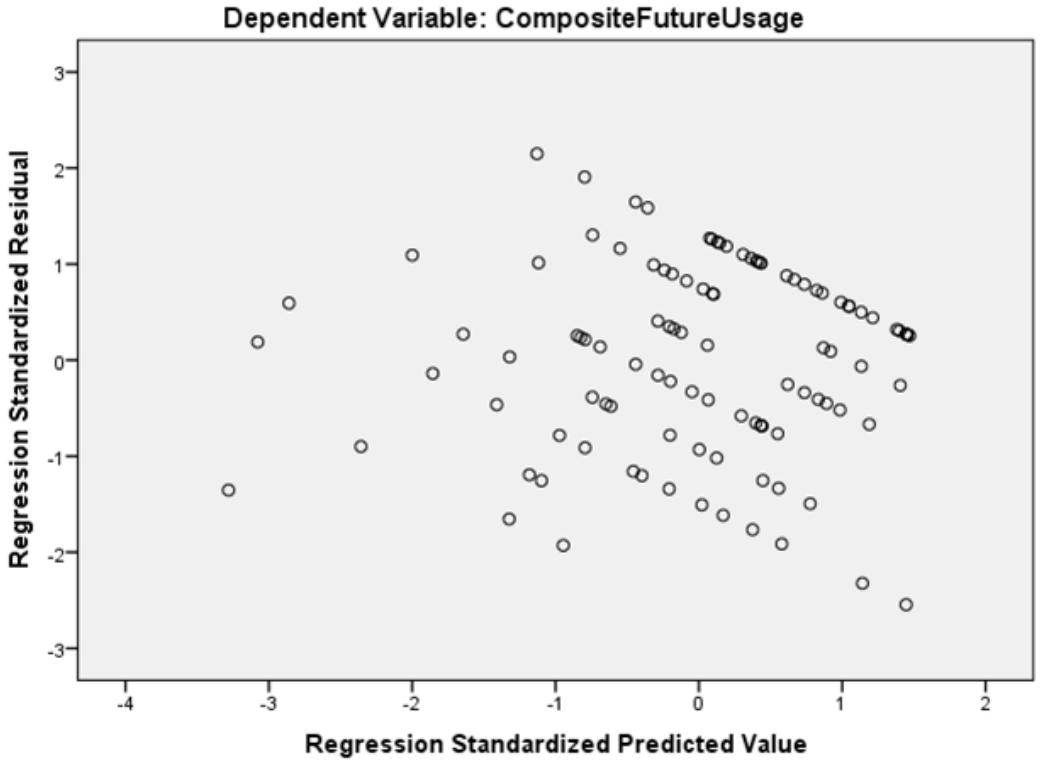


Figure 11: Normal Scatterplot of Regression Standardised Residual