



**Internet banking adoption decisions and e-service
quality of rural customers**

by

Mamoipone Elisa Masupa

Submitted in fulfilment of the requirements for the degree

Magister Technologiae in Business Administration

in the

Faculty of Management Sciences

at

Central University of Technology, Free State

Supervisor: Prof F. van der Walt

Co-supervisors: Prof P. Rambe & Mr A Nkoyi

Date: September 2017

Declaration

I declare that the research study entitled “Internet banking adoptions decisions and e-service quality of rural customers” is my own work, and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete referencing.



2018-06-07

Mamoipone Elisa Masupa

Date

Acknowledgements

First and foremost I thank God almighty for bringing me to this point in my studies. I would like to thank my supervisor, Prof F. Van der Walt, co-supervisors Prof P. Rambe and Mr A Nkoyi, for guiding me and providing me with constructive advice and feedback. Thank you for your encouragement throughout this period. Thank you to all respondents who participated in this study; without whom this study would not have taken place. Finally, thank you to my husband and my family for your continued encouragement and support.

Worldwide, banks are embracing information technology because of the rapid development in this field. In South Africa, banks have continued to supplement traditional over-the-counter banking with online banking in line with this global trend. Owing to factors unique to developing countries, however, internet banking adoption has not been as rapid as was expected. In particular, Internet banking adoption in rural areas remains problematic, and it is difficult to determine how rural customers are experiencing the quality of internet banking services. The purpose of the study was, therefore, to explore internet banking characteristics and factors influencing internet banking adoption and its relationship with the e-service quality, with specific reference to banking customers residing in rural areas of South Africa.

The research study was conducted in positivist paradigm and was quantitative in nature. A survey design was used and self-administered questionnaires were distributed to banking customers residing in a rural area of South Africa. The final sample consisted of 390 banking customers who are using internet banking or who have knowledge of internet banking. The questionnaires were distributed personally by the researcher with the assistance of trained field workers. Descriptive and inferential statistics were used to analyse the data.

The findings revealed that dimensions of innovation characteristics such compatibility, trialability and observability had moderate scores, but relative advantage and complexity had low scores. The results also showed that various factors influencing internet banking adoption, such as convenience, prior knowledge and usage, security, perceived risk and information, had low scores. The following dimensions of e-service quality received low scores, namely efficiency, system availability, fulfilment, privacy, loyalty intention and perceived value. It was only the contact dimension of e-service quality that was perceived positively. The Pearson's Product Moment Correlation results indicated a medium and positive correlation between e-Service Quality and Innovation Characteristics, and a small, significant correlation was found between e-Service Quality and

Factors Influencing Internet Banking Adoption. In view of the dearth of literature on internet banking in South Africa, the implications of this study are that the rate of internet banking adoption in rural areas should be accelerated. This study could provide useful assistance for retail banks to develop appropriate strategies to increase the internet banking adoption rate of rural customers.

TABLE OF CONTENTS

| | |
|--|-----------|
| CHAPTER 1: OVERVIEW OF THE STUDY..... | 1 |
| 1.1 INTRODUCTION AND MOTIVATION..... | 1 |
| 1.1.1 Motivation for the study..... | 2 |
| 1.2 DEFINITION OF CONCEPTS..... | 3 |
| 1.2.1 Internet banking..... | 3 |
| 1.2.2 Service quality..... | 5 |
| 1.2.3 Innovation..... | 5 |
| 1.3 PROBLEM BACKGROUND..... | 6 |
| 1.3.1 Problem statement..... | 7 |
| 1.4 RESEARCH QUESTIONS..... | 8 |
| 1.4.1 Main research question..... | 8 |
| 1.4.2 Secondary research questions..... | 8 |
| 1.5 RESEARCH OBJECTIVES..... | 8 |
| 1.5.1 Main research objective..... | 8 |
| 1.5.2 Secondary research objectives..... | 9 |
| 1.6 INTERNET BANKING IN SOUTH AFRICA..... | 9 |
| 1.7 PARALLEL STUDIES..... | 10 |
| 1.8 THEORETICAL FRAMEWORK..... | 13 |
| 1.8.1 Adoption decision-making regarding innovation..... | 13 |
| 1.9 CONCEPTUAL FRAMEWORK..... | 15 |
| 1.10 DEMARCATION OF THE STUDY..... | 16 |
| 1.11 LAYOUT OF CHAPTERS..... | 17 |
| CHAPTER 2: LITERATURE REVIEW..... | 18 |
| 2.1 INTRODUCTION..... | 18 |
| 2.2 INNOVATION DIFFUSION THEORY..... | 18 |
| 2.2.1 Diffusion and technology diffusion..... | 19 |
| 2.2.1.1 Key components of diffusion..... | 20 |
| 2.2.1.1.1 Innovation..... | 20 |
| 2.2.1.1.2 Communication channels..... | 20 |

| | | |
|-----------|---|----|
| 2.2.1.1.3 | Time | 21 |
| 2.2.1.1.4 | Social system | 22 |
| 2.2.2 | The innovation-decision process | 22 |
| 2.2.2.1 | The knowledge stage..... | 23 |
| 2.2.2.2 | The persuasion stage | 23 |
| 2.2.2.3 | The decision stage..... | 23 |
| 2.2.2.4 | The implementation stage | 24 |
| 2.2.2.5 | The confirmation stage | 24 |
| 2.2.3 | Characteristics of innovation that influence adoption decisions | 25 |
| 2.2.3.1 | Relative advantage | 26 |
| 2.2.3.2 | Compatibility | 27 |
| 2.2.3.3 | Complexity | 28 |
| 2.2.3.4 | Trialability | 29 |
| 2.2.3.5 | Observability | 30 |
| 2.2.4 | Factors influencing adopting decisions regarding internet banking.... | 31 |
| 2.2.4.1 | Demographics | 32 |
| 2.2.4.2 | Convenience..... | 34 |
| 2.2.4.3 | Prior internet knowledge and usage | 35 |
| 2.2.4.4 | Security perception | 36 |
| 2.2.4.5 | Perceived risk | 36 |
| 2.2.4.6 | Trust | 38 |
| 2.2.4.7 | Perceived cost | 39 |
| 2.2.4.8 | Social influences..... | 40 |
| 2.3 | SERVICE QUALITY | 41 |
| 2.3.1 | Conceptualising the concept of service..... | 41 |
| 2.3.2 | Conceptualising the concept of quality | 42 |
| 2.3.3 | Conceptualisation of service quality..... | 43 |
| 2.3.4 | Customer expectation of service quality | 44 |
| 2.3.4.1 | Factors influencing customer service quality expectations | 44 |
| 2.3.4.1.1 | Explicit service promises..... | 45 |
| 2.3.4.1.2 | Service provider | 45 |
| 2.3.4.1.3 | Past experience | 45 |
| 2.3.4.1.4 | Word of mouth communication | 46 |
| 2.3.4.2 | Dimensions of service quality | 46 |
| 2.3.4.2.1 | Reliability..... | 46 |
| 2.3.4.2.2 | Assurance | 47 |
| 2.3.4.2.3 | Empathy | 48 |
| 2.3.4.2.4 | Tangibility..... | 48 |

| | | |
|--|---|-----------|
| 2.3.2.4.5 | Responsiveness..... | 49 |
| 2.3.5 | E-service quality | 50 |
| 2.3.5.1 | The concept of e-service quality | 50 |
| 2.3.5.1.1 | Dimensions of e-service quality | 51 |
| 2.3.5.1.2 | Dimensions of service quality of internet banking | 53 |
| 2.3.6 | Measuring service quality | 54 |
| 2.3.6.1 | SERVQUAL: A Service quality model..... | 55 |
| 2.3.6.1.1 | Dimensions of SERVQUAL..... | 55 |
| 2.3.7 | Measuring e-service quality | 57 |
| 2.3.8 | Measuring e-service quality in internet banking | 58 |
| 2.4 | CONCLUSION..... | 60 |
| CHAPTER 3: RESEARCH METHODOLOGY..... | | 61 |
| 3.1 | INTRODUCTION | 61 |
| 3.2 | RESEARCH APPROACH..... | 61 |
| 3.3 | RESEARCH PARADIGM..... | 61 |
| 3.4 | RESEARCH DESIGN | 62 |
| 3.5 | POPULATION AND SAMPLING..... | 63 |
| 3.5.1 | Population..... | 63 |
| 3.5.2 | Sampling..... | 63 |
| 3.5.2.1 | Types of sampling..... | 64 |
| 3.5.2.2 | Sample size | 64 |
| 3.6 | THE MEASURING INSTRUMENT | 65 |
| 3.7 | PILOT STUDY | 66 |
| 3.7.1 | Validity of the measuring instrument..... | 66 |
| 3.7.2 | Initial reliability of the measuring instrument | 66 |
| 3.8 | DATA COLLECTION | 67 |
| 3.9 | ETHICAL CONSIDERATIONS | 68 |
| 3.10 | DATA ANALYSIS..... | 69 |
| 3.11 | CONCLUSION..... | 70 |
| CHAPTER 4: FINDINGS OF THE STUDY..... | | 71 |
| 4.1 | INTRODUCTION | 71 |
| 4.2 | RELIABILITY OF MEASURING INSTRUMENT | 71 |

| | | |
|--|---|------------|
| 4.2.1 | Reliability coefficients of the measuring instrument | 71 |
| 4.2.2 | Factor analysis of the measuring instrument | 72 |
| 4.2.3 | Factor analysis of the subscale measuring innovation characteristics | 76 |
| 4.2.4 | Factor analysis of the subscale measuring factors influencing internet banking adoption | 79 |
| 4.2.5 | Factor analysis of the subscale measuring e-service quality | 83 |
| 4.3 | DESCRIPTION OF THE PARTICIPANTS OF THE STUDY | 86 |
| 4.4 | DESCRIPTIVE RESULTS REGARDING INTERNET BANKING DECISION-MAKING | 89 |
| 4.5 | MEASURES OF CENTRAL TENDENCIES | 98 |
| 4.6 | THE RELATIONSHIP BETWEEN CHARACTERISTICS OF INNOVATION AND E-SERVICE QUALITY | 99 |
| 4.7 | THE RELATIONSHIP BETWEEN FACTORS INFLUENCING INTERNET BANKING ADOPTION AND E-SERVICE QUALITY | 102 |
| 4.8 | CONCLUSION | 104 |
| CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATIONS | | 106 |
| 5.1 | INTRODUCTION | 106 |
| 5.2 | RESEARCH QUESTION 1 | 106 |
| 5.3 | RESEARCH QUESTION 2 | 108 |
| 5.4 | RESEARCH QUESTION 3 | 111 |
| 5.5 | RESEARCH QUESTION 4 | 113 |
| 5.6 | IMPLICATIONS OF FINDINGS FOR PRACTICE | 113 |
| 5.7 | LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH | 114 |
| 5.8 | CONCLUSION | 115 |
| 6 | REFERENCE LIST | 116 |

LIST OF TABLES

| | |
|--|----|
| Table 2.1: A comparison of e-service quality dimensions identified by different authors..... | 52 |
| Table 2.2: The relationship between first purification and second purification of attributes of the SERVQUAL model..... | 56 |
| Table 3.1: Initial reliability of the sub-scales of the measuring instrument | 67 |
| Table 4.1: Reliability of sub-scales of the measuring instrument | 71 |
| Table 4.2: Total variance explained for full scale..... | 72 |
| Table 4.3: Three factor component matrix solution for the full scale..... | 73 |
| Table 4.4: Total variance explained for the subscale measuring innovation characteristics..... | 76 |
| Table 4.5: Six factor component matrix solution for the subscale measuring innovation characteristics..... | 77 |
| Table 4.6: Five factor component matrix solution for the subscale measuring innovation characteristics..... | 78 |
| Table 4.7: Total variance explained for the subscale measuring factors influencing internet banking adoption..... | 80 |
| Table 4.8: Six factor component matrix solution for the subscale measuring factors influencing internet banking adoption..... | 81 |
| Table 4.9: Five factor component matrix solution for the subscale measuring factors influencing internet banking adoption..... | 82 |
| Table 4.10: Total variance explained for the subscale measuring e-service quality..... | 83 |
| Table 4.11: Eight factor component matrix solution for the subscale measuring e-service quality..... | 85 |
| Table 4.12: Seven factor component matrix solution for the subscale measuring e-service quality..... | 86 |
| Table 4.13: Gender distribution of the sample | 86 |
| Table 4.14: Date of birth of the sample..... | 87 |
| Table 4.15: Highest educational qualification of sample | 87 |
| Table 4.16: Employment status of the sample | 88 |
| Table 4.17: Income distribution of the sample | 89 |
| Table 4.18: Respondents' access to traditional banks..... | 90 |
| Table 4.19: Respondents' ease of access to the nearest bank | 90 |
| Table 4.20: Respondents' knowledge of internet banking..... | 91 |
| Table 4.21: Period during which respondents obtained first knowledge of internet banking..... | 91 |
| Table 4.22: Main source of initial information regarding internet banking | 92 |
| Table 4.23: Respondents' usage of internet banking..... | 92 |
| Table 4.24: Respondents' preferred method of internet connection | 93 |
| Table 4.25: Type of device used to conduct internet banking..... | 94 |
| Table 4.26: Place where respondents do internet banking transactions..... | 94 |
| Table 4.27: Time span from being informed and adopting internet banking | 95 |
| Table 4.28: Consultation of community before adopting internet banking | 96 |
| Table 4.29: Sources of internet banking information..... | 96 |
| Table 4.30: Groups influencing internet banking adoption decisions of respondents most..... | 97 |

| | |
|---|-----|
| Table 4.31: Measures of central tendency | 98 |
| Table 4.32: Pearson's Product Moment Correlation results <i>for characteristics of innovation and e-service quality</i> | 100 |
| Table 4.33: Multiple regression analysis results for characteristics of innovation and e-service quality..... | 101 |
| Table 4.34: Pearson's Product Moment Correlation results for factors influencing internet banking adoption and e-service quality..... | 102 |
| Table 4.35: Multiple regression analysis results for characteristics of innovation and e-service quality..... | 103 |

LIST OF FIGURES

| | |
|---|----|
| Figure 1.1: Conceptual framework of the study | 15 |
| Figure 1.2: Map of the Lejweleputswa district of the Free State province..... | 17 |
| Figure 4.1: Scree plot results for full scale..... | 73 |
| Figure 4.2: Scree plot results for the subscale measuring innovation characteristics | 77 |
| Figure 4.3: Scree plot results for the subscale measuring factors influencing internet banking adoption..... | 80 |
| Figure 4.4: Scree plot results for the subscale measuring e-service quality..... | 84 |

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND MOTIVATION

Throughout the world the need to use information technology (IT), and in particular the Internet, has escalated enormously (Mitchell, Lebow, Uribe, Grathouse & Shoger, 2011:1857). The banking sector is no exception to this general trend, and it is postulated that IT has drastically changed the landscape of banking (George & Kumar, 2014:73). Over the past couple of years, international financial service providers have continued to supplement traditional banking with innovative electronic delivery channels (Yu & Guo, 2008:7). This has led to banks becoming increasingly dependent on electronic devices to deliver high quality services and this in turn has created competitive advantage and increased customer satisfaction (Ismail, Madi & Francis, 2009:230). Previous research has indicated that quality internet banking services do not only play a critical role in creating customer satisfaction but also attract new customers (Baker, Lee, Song, & Wetherbe, 2012:221). In order to attract customers, therefore, banks are encouraging the usage of internet banking by charging premium fees for over-the-counter services in contrast to minimum costs charged for internet banking services (Herrington & Weaver, 2007:1220). Banks, however, need to ensure that they are providing quality services to their customers and also that such services are in line with the needs of customers. It is, therefore, necessary to measure the perceptions of the service quality of internet banking by customers since that may influence their satisfaction and encourage their continuous usage of this service.

When considering the adoption of internet banking, the following theoretical models have been considered in previous research studies, namely the Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT) (Liao, Huang & Hsieh, 2016:1443), and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Assensoh-Kodua, Migiro & Mutambara, 2016:35). For the purpose of this study, the IDT will be used since the study examines the extent

of uptake of internet banking, including the factors that influence the rate of internet banking adoption. The IDT is postulated to be an acceptable starting point to investigate online banking in a culturally diverse country such as South Africa (Assensoh-Kodua *et al.*, 2016:36).

In line with the IDT, various reasons can be offered for the slow acceptance of internet banking, such as banking customers not realising the relative benefits of internet banking as compared to traditional banking. It is possible, however, that other additional factors can influence the adoption of internet banking in a developing country such as South Africa. In the developing countries situated in Sub-Saharan African countries, in particular in rural areas, a substantial proportion of the population is still without access to electricity (Cook, 2011:304). Moreover, it is estimated that approximately 12.9% of the population situated in a rural locality in the Free State province has internet access (Stats SA, 2012). This shows that rural areas of South Africa often have a lack in terms of infrastructure and internet access, which may hamper internet banking adoption (Ramavhona & Mokwena, 2016:2). The study, therefore, seeks to investigate the adoption of internet banking in rural areas, in order to test and calibrate key components of the IDT in this context. The study focuses specifically on innovation characteristics as well as the factors which influence adoption decisions and their relationship to service quality in order to understand why internet banking has been slow in being accepted/used by rural banking customers.

1.1.1 Motivation for the study

Academic research regarding internet banking in South African has been inadequate and inconclusive (Aguidissou, Shambare & Rugimbana, 2017:26) which shows that there is a need to further investigate this phenomenon within the South African context. Apart from the gap in the body of knowledge identified, there are many challenges unique to the South African context which need to be investigated. One of the biggest challenges is to move the unbanked to adopt to “technology-based” banking and to ensure that those that are using

internet banking continue to use this banking channel (Muzofa, 2015:27). The author further alludes to the fact that due to people residing in rural areas often not having access to computers, internet cafes are used for internet banking which is an unattractive solution due to the high levels of fraud experienced in South Africa. These aspects may possibly affect the service experience of banking customers situated in rural areas which may lead to them becoming inactive or infrequent users of internet banking. Thus, the findings of the study are useful to banks in order to address the needs of banking clients residing in rural areas in order to understand their experience of internet banking.

1.2 DEFINITION OF CONCEPTS

1.2.1 Internet banking

Kamel (2005:306) and Chavan (2013:19) state that most emerging economies have intensified their efforts to develop technological infrastructure to accommodate rapid technological development. In this regard, electronic banking (e-banking), electronic commerce (e-commerce) and electronic learning (e-learning) play a vital role. Although some authors use the terms online banking, internet banking and e-banking interchangeably (Muzofa, 2015:25), others distinguish between these terms. E-banking is regarded as the provision of banking products and services through electronic delivery channels (Chavan, 2013:19), whereas internet banking is regarded as a component of e-banking and refers to the use of internet facilities to conduct personal transactions by bank customers through computers and other electronic devices (Arunachalam & Sivasubramaniam, 2007:111; Sayar & Wolfe, 2007:213). Such transactions include, amongst others, the payments of accounts, transfers, and the investment of money (Pikkarainen, Karjaluoto & Pahnla, 2004:224), payments to a beneficiary at their own bank or another bank, purchase of prepaid airtime for cell-phones and prepaid electricity, transfer of funds to linked accounts, sending money to a beneficiary via a cell-phone (e-wallets), the purchase of Lotto tickets, trade in shares and the purchase of foreign currency (Muzofa, 2015:29). The non-transactional functionality of internet banking

includes the viewing of account balances and the viewing and downloading of statements (Muzofa, 2015:29).

Internet banking is defined as the provision of information about the bank and its products via a web page (Joseph, Ibrahim & Ibeh, 2006:475). Safeena, Date and Kammani (2011:56) define internet banking as a service that enables bank customers to have access to their accounts and the latest information on bank products and services, as well as conducting all financial transactions through the use of a bank's website. Internet banking can also be described as a type of information system that makes use of the innovative resources of the internet and the World Wide Web (WWW) to allow customers to perform financial transactions and activities anywhere and with any device which has an internet connection (Chong, Ooi, Lin & Tam, 2010:267). For the purposes of this study, the definition of internet banking offered by Shanmugam, Wang, Bugshan and Hajli (2015:624) will be adopted, namely that internet banking is "the use of internet and information and communication technologies in bank service delivery to increase the productivity of the bank".

Internet banking allows customers to perform financial transactions and activities without physically visiting a bank (Kyobutungi, 2014:11). This type of banking is considered to be a low cost distribution channel for a standardised bank service (Polasik & Wisniewski, 2009:32). Internet banking services can be offered in two ways, namely by an existing bank which offers the services in addition to its traditional delivery channels and by the establishment of virtual banks which do not have traditional delivery channels. For the purposes of this study, virtual banks will not be included because there are currently no registered virtual banks operating in South Africa.

1.2.2 Service quality

The concept of service quality within the context of internet banking is not easily definable, because it is difficult to comprehend what quality entails within the service industry (Du Plessis & Rousseau, 2007:28). Earlier researchers defined service quality as an extrinsically perceived attribution based on the customers' experience through the service encounter (Berry, Parasuraman & Zeithaml, 1990: 29-38). In later years, service quality is defined as a comparison between customer expectations of the service and their experience of the service they have received (Grönroos, 2007:16). Customers, thus, experience service quality if their experience of the service matches their expectations, or when it is better than they expected. In the banking industry, service quality remains at the core of the banking experiences of customers (Al-Hawari & Ward, 2006:127), and this influences their level of satisfaction.

Some researchers offer the opinion that service quality is a combination of technical and functional aspects of a service (Kang & James, 2004:266). The quality of electronic service (e-service), in particular, entails a variety of technical and functional elements, such as efficiency, reliability, fulfilment and privacy and these are used to determine customers' perceptions regarding service quality (Zeithaml, Parasuraman & Malhotra, 2002:362). For the purposes of this study, therefore, e-service quality will be investigated.

1.2.3 Innovation

Over time, various definitions of the concept of innovation have been offered. Van de Ven (2016:39) refers to innovation as being unique ideas that are implemented. One of the earlier definitions which is still valid today refers to innovation as being "an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 1983:11). Although internet banking is, thus, a familiar concept to urban customers, it is still perceived as an innovation by many customers who live in rural areas and small towns.

1.3 PROBLEM BACKGROUND

The banking industry continues to progress in terms of providing new and innovative products and services to their customers. One example of such progression is the provision of internet banking services through various devices. Previously, it was established that internet banking services were predominantly of benefit to customers residing in urban areas (Sharma & Patterson, 2012:470). A limited number of customers residing in rural areas of South Africa have, however, embraced the benefits of internet banking services in the same manner as their urban counterparts (Brown, Cajee, Davies & Stroeble, 2003:381). Shambare (2011:2) states that, although cell phone banking is particularly useful to banking customers residing in remote areas, the uptake of cell phone banking is still low.

Furthermore, although internet banking has gained increased attention over the past few years in academic research (Nasri, 2011:145), there seems to be a gap in the knowledge available regarding internet banking, especially with regard to developing countries in Sub-Saharan Africa (Molla & Boateng, 2006:1), and also with regards to the diffusion of innovation within the rural banking sector (Bradley & Stewart, 2003:1088). In this regard, Shambare (2011:3) states that “most of what is known about cell phone banking and its adoption is reported in scientific literature from the developed world”. This is mainly because limited research has focussed on the area of banking technology adoption in developing countries (Shambare, 2011:3). Furthermore, most empirical studies that have been undertaken focussed only on factors which influence the adoption of internet banking (Nasri, 2011:145).

Sharma and Patterson (2012:470) state that the perceptions of rural customers regarding e-banking, which includes internet banking, have not been studied sufficiently. Moreover, George and Kumar (2014:73) claim that service quality dimensions in an internet banking environment have not been investigated sufficiently. It is, however, postulated that “understanding customer perceptions of internet banking is essential because it can help researchers and practitioners

better understand why adoption of internet banking is not keeping pace with developments” (Shanmugam *et al.*, 2015:623). The authors further state that internet banking has been investigated primarily from the bank’s perspective, but few studies have investigated the value proposition of internet banking from the customers’ perspectives (Shanmugam *et al.*, 2015:623).

Assensoh-Kodua *et al.* (2016:34) state that previous research studies regarding mobile banking did not study aspects such as service quality comprehensively to determine the intention of users to continue to use mobile banking. From their review of research conducted regarding mobile banking in South Africa, they came to the conclusion that most studies did not consider trust and service quality as being important to consider when modelling technology adoption (Assensoh-Kodua *et al.*, 2016:38). Furthermore, Hanafizadeh, Keating and Khedmatgozar (2013:11) concluded that a limited amount of research has been done in Southern Africa regarding Internet banking, and they state that it is important that future research should be conducted in less-developed regions. Moreover, the measurement of service quality in electronic banking has received little attention, in particular in South Africa (Redda, 2015:2). The aforementioned statements confirm the need for the continuation of research exploring internet banking, including mobile and/or cell phone banking, and e-service quality, especially in a developing country such as South Africa where many banking customers live in rural areas. Accelerating internet banking adoption will benefit not only banks, but also rural banking customers who often do not have access to banking facilities.

1.3.1 Problem statement

Despite internet banking infrastructure being available in rural areas in South Africa and banks promoting internet banking, people who live in rural areas are not adopting Internet banking (Ramavhona & Mokwena, 2016:2). Given this background, the problem statement is: “Internet banking adoption in rural areas have been slow and therefore it is necessary to consider how rural banking

customers perceive various aspects related to internet banking and its relationship with e-service quality.”

1.4 RESEARCH QUESTIONS

1.4.1 Main research question

How do rural banking customers perceive the characteristics of innovation, factors influencing internet banking adoption decisions and e-service quality?

1.4.2 Secondary research questions

In order to answer the main research question, the secondary research questions are:

1. How do rural banking customers perceive characteristics of innovation (i.e. internet banking)?
2. How do rural banking customers perceive factors influencing internet banking adoption decisions?
3. How do rural banking customers perceive e-service quality?
4. Is there a relationship between the characteristics of innovation, the factors influencing internet banking adoption decisions and e-service quality?

1.5 RESEARCH OBJECTIVES

1.5.1 Main research objective

The main objective of the research study is to establish how rural banking customers perceive the characteristics of innovation, the factors influencing internet banking adoption decisions and e-service quality.

1.5.2 Secondary research objectives

In order to achieve the main objective of the study, the secondary research objectives are:

1. To understand how rural banking customers perceive the characteristics of innovation (i.e. internet banking);
2. To understand how rural banking customers perceive factors that influence internet banking adoptions decisions;
3. To understand how rural banking customers perceive e-service quality; and
4. To determine whether a statistically significant relationship exists between the characteristics of innovation, the factors influencing internet banking adoption decisions and e-service quality.

1.6 INTERNET BANKING IN SOUTH AFRICA

South Africa has a well-developed and regulated banking system that compares favourably with the banking systems in many industrialised countries (Banking Association of South Africa, cited by Redda, 2015:1). The online banking channel has gradually been taking off in South Africa since 1996 when it was first introduced by Barclays Africa Group Limited (ABSA), one of the traditional banks operating in South Africa. Since then customers have been attracted to the convenience, safety and lower costs of doing banking using online channels (Redelinghuis & Rensleigh, 2010:1). Thatcher and Kruger (2006:1) state that the big four banks that dominate the banking industry in South Africa, namely ABSA, Standard Bank, First National Bank (FNB) and Nedbank, have added internet as a banking channel in the form of Automated Teller Machines (ATMs), self-service terminals, internet banking and cell phone banking. ABSA was the first bank to offer a limited number of internet services to their customers. This was followed by Nedbank, which offered full internet services to its customers in 1997 (Ramavhona & Mokwena, 2016:2).

A key factor that influences the adoption of technology is privacy and this includes security concerns (Liao *et al.*, 2016:1444). According to Redelinghuis and Rensleigh (2010:2), South African banks have put in place the latest and most advanced hardware and software security when it comes to online banking. They have sophisticated verification and authentication measures incorporated with technologies such as the short message service (sms) used to notify customers when they make transactions (Redelinghuis & Rensleigh, 2010:2). Despite these measures, however, 43% of South Africans feel that traditional over-the-counter transactions are safer to use than internet banking (Alfreds, 2015), and, for this reason, many banking customers are not embracing the benefits of internet banking fully. Perrigot and Pénard (2012:24) argue that, in order to optimise the benefits of e-services, financial service providers need to understand what motivates customers and encourages their continuous use of such services.

1.7 PARALLEL STUDIES

Internet banking in the South African context has been studied before. For example, in 2003, Brown *et al.* (2003:391) used the IDT as theoretical framework, but their sample consisted of young, educated, and affluent individuals, a sample which is not representative of South African society (Brown *et al.*, 2003:391; Assensoh-Kodua *et al.*, 2016:38). Wu (2005:8) identified the factors which influence the decision to adopt to internet banking, and the author asserts that little is known and understood about the emergence of internet banking in South Africa. Moreover, it is stated that both consumer acceptance and the use of internet banking are limited in South Africa (Wu, 2005:8).

One possible reason for this fact in rural areas of South Africa is the lack of technological infrastructure in these areas. This limits public access to Internet banking services. Infrastructural inadequacy is a widespread challenge, particularly in the former homeland and rural areas of South Africa (Kgantsi & Mokoena, 1997:135) Moreover, rural customers are mostly poor, with low educational levels (Mashingo, nd), and for these reasons they may still prefer

traditional over-the-counter transactions to internet banking, because traditional banking allows banking customers to engage with banking representatives, whereas internet banking is a self-service channel (Liao *et al.*, 2016:1444). This shows that it is necessary to extend current research not only to identify the factors which influence adoption decisions but also to understand the influence of adoption decisions regarding internet banking on the experience of banking customers with regard to service quality.

Molapo (2008:11) assessed internet banking service quality for a South African sample, and the author found that respondents were satisfied with internet banking service quality. The study also found that customers evaluate internet service quality on five dimensions, namely efficiency, performance, security, responsiveness and contact (Molapo, 2008:11). The sample included in this study, however, consisted of banking customers irrespective of their geographical location. Moreover, the study investigated only service quality and did not consider its relationship to characteristics of internet banking or the factors influencing adoption decisions. The current study, therefore, confirm and extend the findings of Molapo (2008:11) because it focuses specifically on banking customers who live in a rural area, and consideration will be given to the relationship between e-service quality, the characteristics of internet banking and the factors influencing internet banking adoption decisions.

Redda (2015:175) conducted a study regarding electronic banking services quality in South Africa and investigated the following service quality dimensions of electronic banking services, namely reliability, system availability, privacy and security, website aesthetics, ease of use, functionality, efficiency, and contact and responsiveness (Redda, 2015:175). The findings of the study indicated that reliability, privacy and security are the major concerns customers have with regard to electronic banking services. The study, however, investigated service quality only and did not consider its relationship with characteristics of internet banking or the factors influencing adoption decisions. The current study confirmed and extended the findings of Redda (2015:175) because it focused

specifically on banking customers who live in a rural area, and consideration was given to the relationship between e-service quality, the characteristics of internet banking and the factors influencing internet banking adoption decisions.

Ramavhona and Mokwena (2016:1) investigated the factors that influence internet banking adoption in a rural area in South Africa. The study focussed on one province in South Africa, namely Limpopo province. They found that the main reason why the majority of respondents from South African rural areas have never used Internet banking is the lack of resources, such as computers with Internet access, and the costs associated with internet banking (Ramavhona & Mokoena, 2016:7). They also found that security concerns, and the complexity of Internet banking are hampering the intention of rural customers to adopt Internet banking. Although the current study also partly focussed on the factors that influence internet banking adoption by rural customers, the study also included innovation characteristics, and both were explored in relation to e-service quality.

Apart from the South African studies conducted on internet banking, many international studies have focussed on internet banking. Only a limited number of studies have, however, included rural samples. In a study by Sharma and Patterson (2012:470), e-banking was investigated for a rural Indian sample. The findings of the study are summarised as follows:

- Rural customers are fairly satisfied with the provisions of updating, accuracy of transactions and convenience of e-banking;
- Rural customers were not satisfied with the regulatory mechanisms and compensation given to fraudulent activities and errors by the bank; and
- Most rural customers felt uncomfortable using e-banking because of a language problem.

From the aforementioned findings one may argue that rural customers need to trust the bank and the website itself. Moreover, rural customers need to perceive that the benefits they receive from internet banking outnumber the sacrifices

made (e.g. time, effort, price, and the possibility of fraudulent activities and errors). This shows that banks need to consider strengthening the relative advantage and perceived value of internet banking in order to accelerate the adoption of internet banking in rural areas and to advance internet banking service quality.

1.8 THEORETICAL FRAMEWORK

The IDT will be used as the theoretical framework of the study.

1.8.1 Adoption decision-making regarding innovation

The adoption decision regarding innovation is explained by Rogers' (1983:11) IDT. The theory postulates that innovation is communicated over time among the members of a social system, and this is referred to as diffusion (Rogers, 1983:11-15). During this phase, information is gathered about a new idea, which leads to uncertainty reduction (Agarwal, Ahuja, Carter & Gans, 1998:1). When an individual receives information about an innovation (such as internet banking), the individual transcends through a process from receiving the information until an attitude is formed towards the innovation, after which the decision will be made regarding the adoption of the innovation (Rogers, 1983:13).

It is conceptualised that the decision-making process consists of five main steps, namely knowledge, persuasion, decision, implementation and confirmation. Knowledge occurs when the customer is exposed to internet banking and gains some understanding of how it works. Persuasion involves a process whereby the customer forms a favourable or unfavourable attitude towards internet banking based on the knowledge that he/she has. The customer makes a decision to adopt or reject that is to use or not to use internet banking based on his/her perception. Implementation occurs when the individual uses internet banking and confirmation seeks to reinforce the innovation decision which was made.

Rogers (1983:213) identified five characteristics of innovations which explain why some innovations are easily accepted while others are never widely accepted. These characteristics are relative advantage, compatibility, observability, trialability and complexity. Lee, Hsieh and Hsu (2011:124) define these five characteristics that can explain innovation adoption and the decision-making process as follows:

- Relative advantage refers to the degree to which an innovation is considered as being better than the idea it replaces;
- Compatibility refers to the degree to which innovation (i.e. internet banking) is regarded as being consistent with the values, prior experience and needs of the end-users;
- Complexity refers to the perceived level of difficulty in understanding innovations (i.e. internet banking) by the end-users and their ease of use;
- Trialability refers to the degree to which innovations can be tested; and
- Observability refers to the degree to which the results of innovation can be visible to other people.

Adopters seem to have different perceptions about these characteristics in comparison to non-adopters. According to Kotler (2000:350), the characteristics of an innovation affect its rate of adoption. Some products tend to be adopted immediately, whereas others take a long time to gain acceptance if they ever do. For the purpose of this study, the aforementioned five characteristics will be investigated in order to gain insight into the adoption decisions of rural banking customers regarding internet banking. In order to gain a holistic understanding of internet banking adoption decisions, it is also necessary to consider the factors which influence adoption decisions. Nasri (2011:145) claims that the decision to adopt internet banking is influenced primarily by six factors, namely demographics, convenience, prior internet knowledge and usage, security perception, perceived risk, and information regarding online banking. For the purpose of this study, these factors which influence adoption decisions as well as the characteristics of innovation were considered.

1.9 CONCEPTUAL FRAMEWORK

In line with the theoretical framework presented in Section 1.8, the conceptual framework which guided the study is presented in Figure 1.1.

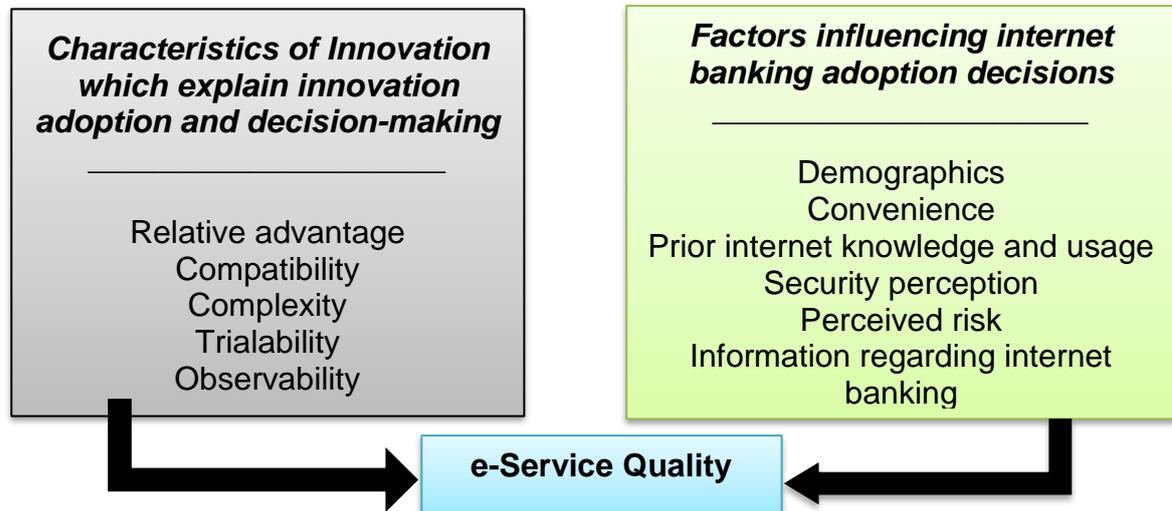


Figure 1.1: Conceptual framework of the study

The assumption is made that internet banking is a new idea or innovation for banking customers residing in rural areas. The study, firstly, investigated the characteristics of innovation, namely relative advantage, compatibility, complexity, trialability and observability. Secondly, the factors influencing internet banking adoption decisions were considered, namely demographics, convenience, prior internet knowledge and usage, security perception, perceived risk, and information regarding internet banking. Thereafter, the relationship between the characteristics of innovation and e-service quality was considered, as well as the relationship between the factors influencing internet banking adoption decisions and e-service quality.

1.10 DEMARCATION OF THE STUDY

Due to the political history of South Africa, the country's geographical layout was previously racially-based. This led to municipal restructuring with the aim of addressing the rural/urban division in order to bring about economic and social development (Nxumalo & Whittal, 2013:325). The new municipal structure therefore does not differentiate between urban and rural areas. According to Census 2001 (Stats SA, 2001), a formal urban settlement is regarded as "structured and organised. Land parcels (plots or erven) make up a formal and permanent structure. Services such as water, electricity and refuse removal are provided, roads are formally planned and maintained by the council. This category includes suburbs and townships". Thus, a formal urban settlement can include an area which fits the description of a rural area.

Rural areas are defined as "sparsely populated areas where people farm or depend on natural resources, including villages and small towns that are dispersed through the area" (Heimann, 2010:2). Data were collected in Theunissen, which has a population of 63 334 inhabitants (Free State Department of Cooperative Governance and Traditional Affairs (FSDCGTA), 2014:64, 67). According to the 2011 Census statistics, the population density of Theunissen is 9.39/km² which implies that this is a sparsely populated area (Stats SA, 2011). Theunissen is situated in the Masilonyana local municipality of the Lejweleputswa district in the Free State province of South Africa (see Figure 1.2 below), and the economy of this province is mostly agricultural and mining in nature (FSDCGTA, 2014:78). Although Theunissen is not classified as a rural area, it will be regarded as a rural-type area for the purpose of this study, based on the following reasons:

- (a) Theunissen is a sparsely populated area.
- (b) Theunissen has a high unemployment rate.
- (c) Theunissen's surroundings is mostly agricultural in nature.
- (d) Theunissen is largely an impoverished area, classified as a Category B municipality.

Figure 1.2: Map of the Lejweleputswa district of the Free State province



Source: Municipalities of South Africa (nd)

1.11 LAYOUT OF CHAPTERS

In chapter 2 a literature review will be presented, which will give the foundation on which the study was based. The literature is reviewed according to the following topics, namely internet banking, the adoption decision making process, and service quality, with specific reference to e-service quality. Chapter 3 provides a description and explanation of the methodology that was employed in the research study. The topics that are covered in this chapter are, among others, the sample selection, the collection of the data, and the statistical methods used in the study. In chapter 4, the findings of the study are presented. In chapter 5, the findings are discussed, conclusions drawn, and recommendations made, based on the findings of the research.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

From the introduction and background presented in Chapter 1, one may conclude that the rapid pace of technology and innovation within the financial services industry has resulted in the emergence of payment methods and service distribution channels such as online and mobile banking (Akinci, Aksoy & Atilgan, 2004:212). These banking distribution channels have become invaluable to financial institutions owing to the cost-cutting benefits they provide, such as reduced costs per transaction and reduced employee overheads (Akinci *et al.*, 2004:214). Unfortunately, the adoption of internet banking has not been adequately investigated in developing countries such as South Africa. Moreover, most studies that have been conducted in South Africa did not focus on rural areas. It is, therefore, important to address the current dearth of knowledge about the adoption of internet banking, particularly regarding rural samples. In this chapter, the key constructs of the study will be presented, namely the adoption of internet banking and e-service quality. Firstly, the IDT, with specific reference to the adoption to internet banking, will be discussed. The main focus of the chapter will be on factors influencing the adoption of internet banking and innovation characteristics as explained by the IDT. This will be followed by a discussion regarding service quality, with an emphasis on e-service quality.

2.2 INNOVATION DIFFUSION THEORY

The IDT, which was popularised by Everett Rogers, was first discussed by Gabriel Tarde in 1903, after which Ryan and Gross introduced the adopter categories in 1943 (Kaminski, 2011:39). In earlier years, diffusion research primarily involved technological innovations, which led Rogers (2003:23) to use the words “technology” and “innovation” frequently as synonyms. A technology is a design for instrumental action that reduces the uncertainty in the cause-effect relationships involved in achieving a desired outcome. According to Armstrong and Kotler (2000:348), adoption is the decision of an individual to

become a regular user of a product. The IDT maps out the adoption of a new innovation and explains that early adaptors “spread the word” regarding an innovation to others who also become open to it which leads to the development of a critical mass (Kaminski, 2011:40). Internet banking is potentially one of the most radical innovations within the context of banking which was previously dominated by the use of retail bank branches as a means to provide a service to customers. One wonders, however, whether a blanket approach to banking is the ideal approach when dealing with urban and rural customers, since the dynamics present in rural areas are different from those in urban areas.

2.2.1 Diffusion and technology diffusion

Rogers (2003:5) defines ‘diffusion’ as the process through which an innovation is communicated through certain channels over time among members of a social system. Diffusion is regarded as being a specific kind of communication and includes the following communication elements, namely an innovation, two individuals or other units of adoption, and a communication channel (Rogers, 2003:5). According to Sullivan and Wang (2013:1), technology diffusion is a complex process and the environment in which the diffusion takes place affects the pace of that diffusion. Their study found that factors such as bank size, household internet access, competition from out-of-state banks, average bank age, imitation of early adapters, commercial internet adoption, population density, and the number of banks significantly affected Internet bank adoption in a specific region (Sullivan & Wang, 2013:24). Since there are differences between urban and rural regions in terms of the internet access of households and population density, it is possible that the diffusion of internet banking differs between urban and rural areas.

2.2.1.1 Key components of diffusion

The four key components of the diffusion process as they were identified in the previous section are innovation, communication channels, time, and social systems.

2.2.1.1.1 Innovation

Rogers (2003:12) understands innovation as being an idea, practice, or project that is perceived as being new by an individual or other unit of adoption. Although not all banks have been consistent with regard to technology innovation, the Banking Innovation Study South Africa (2012:9) reveals that FNB has been consistently recognised as the leader in innovation, because it has launched various innovative products and services, such as the smart phone banking application. Since rural customers are mostly poor, however, with low educational levels (Mashingo, nd), with limited access to the Internet even innovation that may have been introduced a long time ago may still be perceived as being new to these individuals. Thus, although internet banking was invented some time ago, it still remains new for many banking customers who live in rural areas and, as such, it may be regarded as an innovation to this group of people.

2.2.1.1.2 Communication channels

The second key component of diffusion is communication channels. Rogers (2003:5) states that communication is the process through which participants create and share information with one another in order to reach mutual understanding. This communication occurs through channels between the sources (i.e. an individual or institution that originates a message and the receivers) (Rogers, 2003:204). Examples of communication channels are mass media and interpersonal communication. While mass media channels include a mass medium such as television, radio, or newspapers, interpersonal channels consist of a two-way communication between two or more individuals (Rogers, 2003:19). According to Rogers (2003:19), the internet functions as both a mass communication channel (e.g. websites) and an interpersonal communication

channel (e.g. e-mail). It, thus, blurs the distinction between the effects of mass communication and interpersonal communication. In order to inform customers about internet banking, it is important that banks communicate appropriately with their customers. Jahangir and Parvez (2012:28) assert that favourable communication environments may attract customers to use internet banking and they influence the adoption of internet banking. Owing to the fact that rural banking customers often do not have access to electricity and the Internet, it is necessary to consider how information regarding internet banking is shared with rural banking customers in order to ensure that rural customers are informed about this banking service.

2.2.1.1.3 Time

Time is the third key component of diffusion and is often ignored by most behavioural researchers (Rogers, 2003:20). According to Rogers (2003:20), the time dimension is involved in diffusion in three ways. Firstly, time is involved in the innovation-decision process, which is regarded as a mental process through which an individual (or other decision-making unit) passes from first knowledge of an innovation to forming an attitude towards the innovation, to a decision to adopt or reject the innovation, to the implementation of the new idea, and then the confirmation of this decision. This shows the importance of informing banking customers about internet banking services and how they can benefit them. As was mentioned earlier, a variety of channels can be used to inform banking customers. It is, however, necessary to consider the most effective manner of communicating with rural banking customers as well as the timing thereof.

The second way in which time is involved in diffusion is in the innovativeness of an individual or other unit of adoption. Innovativeness is the degree to which an individual or other unit of adoption is relatively quicker in adopting new ideas than other members of a social system (Rogers, 2003:20). The third way in which time is involved in diffusion is in the rate of adoption. The rate of adoption is the relative speed with which an innovation is adopted by members of a social

system (Rogers, 2003:20). This shows the necessity of determining how fast rural banking customers adapt to internet banking from the time that they have knowledge of it until they make a decision.

2.2.1.1.4 Social system

The social system is the fourth element in the diffusion of innovation. Rogers (2003:23) defines the social system as a set of interrelated units engaged in joint problem solving to accomplish a common goal. Since diffusion of innovation takes place in the social system, it is influenced by the social structure of the social system. For Rogers (2003:24), structure is the patterned arrangements of the units in a system. He further claims that the nature of the social system affects the innovativeness of individuals, which is the main criterion for categorising adopters.

From the aforementioned discussion, it is clear that the IDT focusses on different aspects rather than traditional change theories to offer an explanation regarding the diffusion of innovation. According to Robinson (2009:1), the IDT explains change as being primarily about the evolution of products and behaviours in order to become “better fits” for the needs of individuals and groups. In the next section the innovation-decision process will be discussed in order to understand how banking customers decide to adapt to new products and services.

2.2.2 The innovation-decision process

The innovation-decision process is regarded as being an information-seeking and information-processing activity, where an individual is motivated to reduce uncertainty about the advantages and disadvantages of an innovation (Rogers (2003:172). The five stages of the innovation-decision process, which are time-ordered, are knowledge, persuasion, decision, implementation and confirmation (Rogers, 2003:173). Each of these stages will be discussed in the next section.

2.2.2.1 The knowledge stage

The first stage of the innovation-decision process is knowledge. In this step, an individual learns about the existence of an innovation and seeks information about the innovation (Rogers, 2003:21). Thus, the individual is exposed to the innovation, but does not necessarily have complete knowledge or information about the innovation. Individuals ask questions relative to “what the innovation is and how and why it works” (Rogers, 2003:21). In the context of rural banking customers who may have technological anxieties owing to limited technological exposure, this means they need to have sufficient knowledge about internet banking and its features.

2.2.2.2 The persuasion stage

During the first phase, the individual obtains knowledge about the innovation and forms a negative or positive attitude toward the innovation. “The formation of a favourable or unfavourable attitude toward an innovation does not”, however, “always lead directly or indirectly to an adoption or rejection” (Rogers, 2003:176). The individual shapes his or her attitude after he or she knows about the innovation, so the persuasion stage follows the knowledge stage in the innovation-decision process (Rogers, 2003:176). Furthermore, while the knowledge stage is more cognitively (or knowing) centred, the persuasion stage is more affectively (or feeling) centred (Rogers, 2003:176). For rural banking customers, persuasion, or the lack thereof, may manifest itself in a negative attitude towards internet banking.

2.2.2.3 The decision stage

The third stage of the innovation-decision process is decision-making. During this stage, the individual evaluates the information and decides whether to adopt or reject the innovation. While adoption refers to “full use of an innovation as the best course of action available,” rejection means “not to adopt an innovation” (Rogers, 2003:177). If an innovation has a partial trial basis, it is usually adopted more quickly, since most individuals firstly want to try the innovation in their own

situation and then come to an adoption decision (Rogers 2003:177). The limited technological exposure and familiarity with technology, especially internet banking, of most rural customers may mean that they may rely on the assistance of banking staff before they can make an informed decision about adopting internet banking.

2.2.2.4 The implementation stage

The fourth stage of the innovation-decision process is the implementation stage during which the innovation is put into practice. An innovation, however, brings newness in which “some degree of uncertainty is involved in diffusion” (Rogers, 2003:6). Uncertainty about the outcome of the innovation can still be problematic at this stage. Rogers (2003:180) asserts that the implementer may require technical assistance from change agents and others to reduce the degree of uncertainty about the consequences of the innovation. Moreover, the innovation-decision process will end, since “the innovation loses its distinctive quality as the separate identity of the new idea disappears” (Rogers, 2003:18). Since rural customers are often less educated than urban customers and have limited exposure to the internet, it is critical that banks play an active role when internet banking is first used. This will also reduce the uncertainty that these banking customers may experience.

2.2.2.5 The confirmation stage

The fifth stage of the innovation-decision process is referred to as the confirmation of adoption stage. During this stage the person finalises his or her decision regarding the adoption of the technology. At this point, the person is committed to using the technology to its greatest potential (Rogers, 2003:189). Xue, Hitt and Chen (2011:291) found, consistently with previous findings, that once customers have adapted to internet banking, they significantly increase their banking activity, acquire more products, perform more transactions, and have a lower propensity to leave the bank. This shows the importance of creating a positive experience during the implementation and confirmation phases. It is possible that the individual can reverse the decision about adopting the

innovation if conflicting messages are received. This is particularly important if one considers that rural customers are often poor and data plans are currently very costly. As such the convenience of using internet banking will not necessarily outweigh the cost of it. Furthermore, since technological innovations are becoming increasingly sophisticated, this may not be appealing to rural customers with low educational levels. An individual who is happy with the service, however, may be inclined to ignore conflicting messages and will seek supportive messages that confirm the adoption decision (Rogers, 2003:189).

Although banking customers move through these five stages of the innovation-decision process, the speed at which innovation is adopted may differ. Some customers may decide to adapt immediately to the innovation, while others can be slower or even decide not to adapt to the innovation. Robinson (2009:3) states that early adopters are concerned with the advantages of innovation and “tend to see the risks as low because they are financially more secure, more personally confident, and better informed about the particular product or behaviour”. Others, however, are more concerned with the risk involved in change, and this requires assurance from trusted peers regarding the benefits of the innovation (Robinson, 2009:3). As was mentioned earlier, rural customers are not financially secure and have limited access to internet banking, and, as such, it is not surprising that many of these people have not yet adopted to internet banking. In order to gain additional insight into the rate of adoption, it is necessary to consider innovation itself. The characteristics of innovation which influence adoption decisions will, therefore, be discussed in the next section.

2.2.3 Characteristics of innovation that influence adoption decisions

Rogers (1983:213) identified five characteristics of innovation which explain why some innovations are easily accepted while others are never widely accepted. These are relative advantage, compatibility, observability, trialability and complexity. An adoption framework offered by Tan and Teo (2000) identifies additional factors that may influence the adoption of internet banking, namely banking needs, risk, subjective norm, self-efficacy, and technical and

government support. For the purpose of this study, however, the characteristics of innovation identified by Rogers (1983:213) will be employed since the IDT is used as the theoretical framework for this study and the additional factors referred to by Tan and Teo (2000) are taken from the decomposed theory of planned behaviour. Adopters have invariably been found to have different perceptions about these characteristics in comparison to non-adopters. According to Armstrong and Kotler (2000:350), the characteristics of an innovation affect its rate of adoption. Some products catch on immediately whereas others take a long time to gain acceptance if they ever do.

2.2.3.1 Relative advantage

Relative advantage is regarded as one of the best predictors of the adoption of innovation, and it is defined as the degree to which an innovation is considered to be better than the idea it replaces (Lee *et al.*, 2011:127). Robinson (2009:2) provides a more detailed definition of relative advantage by stating that it refers to the degree to which an innovation is perceived by a particular group of users as being better than the idea it supersedes, measured in terms of economic advantage, social prestige, convenience, and/or satisfaction. The greater the perceived relative advantage of an innovation, the more rapid the rate of adoption will be (Robinson, 2009:2). According to Dixit (2010:15), the benefits of traditional banking are the speed of accessing funds, direct interaction with a teller, bank manager or special accounts representative, and the fact that customers have much more security because the funds they have deposited are certified by a hard copy document which is signed by the allocated bank staff. Internet banking, on the other hand, provides customers with even more benefits, such as anytime access to information about their accounts, making payments or reconciling movements performed in accounts with no requirement to be physically available at the Bank (Dixit, 2010:15). Shambare (2011:4) also states that cell phone banking offers a relative advantage over other banking methods since it allows banking customers to access their accounts anywhere and at any time.

It is further asserted that there are no absolute rules for what constitutes relative advantage, as it depends on the particular perceptions and needs of the user group (Robinson, 2009:2). Gerrard and Cunningham (2007:8) state that perceived relative advantage is a significant factor driving the adoption of internet banking. For example, consumers may be motivated to use electronic banking technologies because they save time. Research conducted by Fox (2006:9) shows that 79% of internet banking users indicated that convenience was very important in their decision to use internet banking, and 71% stated that saving time was very important. Fadzli, Marhana and Zakaria (2012:24) found that relative advantage is the most influential factor for the adoption of internet banking, followed by compatibility and complexity. It was also found that internet banking is perceived as having some relative advantages over conventional banking (Fadzli *et al.*, 2012:24). If one considers that individuals who live in rural areas do not always have access to traditional banks, internet banking holds relative advantage for them, since it will allow such individuals access to banks and financial services which is currently not freely available. This assertion is confirmed by Ramavhona and Mokwena (2016:5) who found that, in rural areas, internet banking makes it easier for residents to conduct banking transactions.

2.2.3.2 Compatibility

Compatibility refers to the degree to which innovation is regarded as, or perceived to be, consistent with the existing values, prior experiences and/or perceived needs of potential end-users (Lee *et al.*, 2011:127; Robinson, 2009:1; Wu, 2005:56). The compatibility of an innovation, as perceived by members of a social system, is positively related to its rate of acceptance (Lee *et al.*, 2011:127). This implies that, if the innovation is compatible with the socio-cultural values, prior experiences and/or perceived needs of the potential user, it will be adopted more rapidly than innovation that is not compatible. As with other types of innovation, it was found that the perceived compatibility of internet banking is a key driver in the adoption decision-making process (Bradley & Stewart, 2003:1089). Other studies (e.g. Erikson & Hultman, 2008; Hernandez

& Mazzon, 2007) also reported that compatibility significantly affected the adoption of internet banking.

Shambare (2011:4) states, with regard to cell phone banking, that “if a customer uses her cell phone rather frequently and for numerous functions including calendar, camera, and communicating, [he/she has] a higher degree of compatibility than someone who rarely uses cell phones”. Cognisance should be taken of the fact that South Africa’s rural population uses less internet than city customers, and, when it is used, it is mostly for information purposes (Sithole, Moses, Davids, Parker, Rumbelow, Molotja & Labadarios, 2013:71). Ramavhona and Mokwena (2016:5) found that the majority of respondents included in their study (70.6%) have never used internet banking, a large portion (62.5%) did not have computers with internet access, and only 27.5% of the respondents have used internet banking before. It is possible, therefore, that banking customers do not have prior experience of this banking channel which could possibly influence the slow adoption rate of internet banking in a rural setting.

2.2.3.3 Complexity

Complexity is the end-users’ perceived level of difficulty in understanding innovations and their ease of use (Lee *et al.*, 2011:128). Consumers will possibly reject innovation if it is perceived as being very complex and not user-friendly. Moreover, the more complex an innovation is, the slower diffusion of it will be. Fadzli *et al.* (2012:24) mention that innovation that is simpler to understand and easy to use will be adopted more rapidly than innovations that require adopters to acquire new skills and understanding. If one takes into account that rural customers are often illiterate, this is potentially one of the most pertinent factors influencing adoption in rural areas. Apart from the channel possibly being perceived as complex by rural banking customers, it is further assumed that, owing to their low literacy levels, they also do not possess the acquired level of technical skills to use internet banking. This may cause frustration and impair the adoption of internet banking (Laukkanen & Kiviniemi, 2010:372).

Previous research studies found that the most important factors in starting to use internet banking are better access to services (convenience), better prices, and a high level of privacy, as well as an improved service (i.e. preferring self-service over office-service) (Kerem, 2001:7). It is asserted that innovation is easily accepted when the existing system (a measure of its relative advantage) is consistent with the needs of the potential adopter (a measure of its compatibility), and is easily understood and used (a measure of its complexity) (Ching & Ellis, 2004:411). Cooper, Lambert and Pagh (1997:16) reported that the ease of use of innovative products or services is one of the most important factors determining adoption from the customer's perspective, which means that the adoption of internet banking is likely to be increased when customers consider internet banking processes to be easy to use. Most modern-day consumers do find internet banking easy to use because they tend to be educated and have sufficient understanding of computers and the internet (Mohd-Suki, 2010:38). This may not be the case for consumers who are often less educated with limited exposure to modern technology such as those who live in rural areas, thus making internet banking more complex. Ramavhona and Mokwena (2016:5) found that the majority of their rural sample disagreed with the statement that internet banking programmes make it easy for them to manage their finances. A large portion of the sample (37.5%) also indicated that learning to use internet banking is not easy (Ramavhona & Mokwena, 2016:5).

2.2.3.4 Trialability

According to Rogers (2003:16), trialability refers to “the degree to which an innovation may be experimented with on a limited basis”. The more innovation is tried, therefore, the faster the adoption will take place. Innovation can be tried through opportunities such as trial versions, demonstration units and simulations (Rogers, 2003:16). The person “trying” the innovation, thus, has not yet made a decision to adopt to the innovation but is given the opportunity to be exposed to it. It is important, however, that innovations are tried, because that limits, or prevents, the formation of inaccurate assumptions about innovations or technology (Rogers, 2003:16). Ramavhona and Mokwena (2016:5) found in a

rural sample that the majority of respondents want to be able to try internet banking for at least one month, and that they indicated that they wanted to be able to use internet banking on a trial basis to see what it can do. As was mentioned earlier, rural customers often do not have access to the internet, and, therefore, banks need to consider providing this service to rural banking customers in order to accelerate the adoption of internet banking in rural areas. Since these banking customers are also not technologically sophisticated, it seems necessary that banking employees should demonstrate to customers how this banking channel works.

2.2.3.5 Observability

The fifth, and seemingly most critical, characteristic that influences innovation adoption decision is observability. Observability refers to how visible a technology is (Anuar, Adam & Mohamad, 2012:66). Adoption of an innovation is encouraged if potential users see, hear about, or have knowledge that other individuals are using the technology (Maduku, 2011:59). Rogers (2003:17) found that adoption is slow in the beginning as awareness of the technology is limited. If more people use the technology, public awareness is raised, and, as a result, the rate of adoption increases, until the technology is in common use and has saturated the market (Rogers, 2003:17). For this reason, it is important that banks focus on improving the awareness of internet banking by rural customers, in order to improve their internet banking adoption rates.

Ramavhona and Mokwena (2016:5) found that the majority of rural respondents indicated that they were aware of internet banking, the facilities it offers and what needs to be done in order to become an internet banking user. They are, furthermore, aware of the services that could be used through internet banking. They also found that trialability and observability are the main predictors of the adoption of internet banking for a rural sample (Ramavhona & Mokwena, 2016:5). This implies that banks need to improve their efforts to provide rural customers with the opportunity of testing internet banking and making it more visible in order to raise the awareness of it in rural areas.

Contrary to the findings of the latter study, a study conducted in Asia by Sethuraman, Vijayabanu and Therasa (2016:8) found that awareness does not necessarily lead to usage. These authors reported a significant gap between awareness and the actual usage of banking channels. Only 27.65% of rural respondents included in their study were aware of internet banking, and 10.63% are using internet banking. It remains important, however, to improve internet banking awareness as it can potentially lead to adoption in future. It may influence the intention of banking customers to adopt internet banking. It is also important that banks realise that it is not sufficient to raise awareness, and that opportunities also need to be created for customers to test the banking channel in order for rural customers to understand the benefits that the channel holds.

The five factors which influence the innovation adoption decision discussed above, namely relative advantage, compatibility, complexity, trialability and observability, are core to the IDT. These factors cannot, however, be studied without considering factors which are linked to them and which influence adoption decisions regarding internet banking, such as trust, perceived cost, perceived risk, demographic characteristics, and social influences. This is mainly because rural banking customers are often poor, and, owing to the costs attached to internet banking, it is necessary also to consider how the perceived cost of internet banking influences the decision of rural customers to adopt internet banking. Moreover, various demographic characteristics of rural banking customers need to be considered, such as their low educational levels and computer literacy levels. In the next section these factors will be discussed.

2.2.4 Factors influencing adopting decisions regarding internet banking

Knowledge of the usage and adoption of electronic banking has become important as banks continue to analyse the financial impact of these banking channels. Nasri (2011:145) asserts that the decision to adopt internet banking is influenced primarily by six factors, namely demographics, convenience, prior internet knowledge, security perception, and perceived risk. Other factors influencing the decision to adopt internet banking are trust, perceived cost and

social influences. These factors seem to be of particular importance to rural banking customers, since such customers are the most vulnerable as regards the high cost of data to access internet banking. Owing to their limited access to, and consequently experience with, internet banking, it is important that trust and the role of social structures are also considered.

2.2.4.1 Demographics

Internet banking has been studied in relation to a variety of demographic variables. Branca (2008:237) found that, when analysing demographic influences on innovativeness, early adopters of electronic banking are usually younger, well-educated and possess a higher income. Younger customers were found to value the convenience or time-saving potential of electronic banking more than older customers (Laforet & Li, 2005:372). In addition, younger consumers also considered the absence of face-to-face contact as being less important than did older consumers (Laforet & Li, 2005:372). This implies that younger customers would, most likely, make less use of physical branches for conducting their banking activities, while older customers may still appreciate interpersonal contact. Mutengezanwa and Ngoma (2013:145) reported a relationship between age and internet banking adoption for a Zimbabwean sample. Their study found that people aged 26-45 years were more likely to adopt internet banking than other age groups (Mutengezanwa & Ngoma, 2013:145). Some of the respondents in this age group are referred to as Generation X (born between 1970 and 1989), and this generation is described as being individualistic, self-reliant, hard-working, open-to-change, adaptable, technologically literate, independent, creative, and not intimidated by authority (Gursoy, Maier & Chi, 2008:451; Robbins, Judge, Odendaal & Roodt, 2009:102; Roux, 2008:20). It could, therefore, have been expected that respondents that are part of Generation X would be more likely to adapt to internet banking than other generation groups.

In South Africa, most young people migrate to urban areas to find work, and as a result, rural customers are mostly older (Barker, 2007:29). Branca (2008:238) found that late adopters of innovation were found to be older, less educated, having a lower income, with limited reliance on social media and were more reliant on local friends, groups and family. This shows that it is not surprising that rural customers have not yet adopted internet banking since they are mostly older, less educated, and poor, with limited access to technology. Among the demographic variables identified, age and occupation were found to be the main predictors of technology adoption. The influence of age, however, depends on the product category being adopted (Branca, 2008:240). Proença and Rodrigues (2011:192) found that there is a significant relationship between demographic variables such as age, level of education, occupation and gender and self-service banking technology. The study found that younger and middle-aged people with a higher education are the main users of Self Service Terminals (SST) in banking. Younger customers were found to value the convenience, or time saving potential, of electronic banking more than older customers (Proença & Rodrigues, 2011:192).

In terms of education, a relationship was established between education and adaption (Nasri, 2011:146). Highly educated consumers usually have a high aptitude for computers and possess good information processing skills (Polasik & Wisniewski, 2009:39). Mutengezanwa and Ngoma (2013:152) also found a relationship between education and internet banking adoption for an African sample. It seems, therefore, that research findings have consistently reported that people who are more educated are more inclined to adopt internet banking. This has implications for rural samples which are often less educated and require a more hands-on approach to the adoption of internet banking.

Research on demographic variables have also highlighted the existence of gender differences in computer attitudes arising from differing levels of confidence and stereotypes (Polasik & Wisniewski, 2009:39). Flavia (cited by Nasri (2011:146) and Polasik and Wisniewski (2009:39) indicate that women are less likely to conduct their banking activities online. Studies have also argued that geographical location plays a role in the adoption of electronic banking (Polasik & Wisniewski, 2009:39). In locations where bank branches are sparse, customers may be forced into transacting via the internet (Polasik & Wisniewski, 2009:39). This may, however, not be the case in South Africa where people living in rural areas have limited access to internet connectivity and accessibility, and are less likely to use internet banking irrespective of the sparsity of banking branches.

2.2.4.2 Convenience

Nasri (2011:146) is of the view that convenience has been identified by several studies as being an important factor in favour of the adoption of innovation technologies. Poon (2008:4) also postulates that convenience is one of the most critical factors affecting the adoption of internet banking. It is postulated that the greater the convenience experienced by customers with reference to internet banking, the more likely they are to adopt it (Jaruwachirathanakul & Fink, 2005:5). Polasik and Wisniewsik (2009:2) claim that customers may be attracted to the appealing features of online banking, such as better access to information, speed of payment transaction or a sense of complete control over one's account, all of which relates to convenience. Banks, however, cannot rely on this aspect alone to motivate the adoption of internet banking in rural areas, since most of those who live in them do not even have access to the internet and, consequently, the banking channel.

Laforet and Li (2005:58) offer a similar opinion, stating that customers decide to move from traditional banking to electronic self-service because of the dissatisfaction they have experienced with the slow speed of customer service in branches, inconvenient branch opening hours and a limited number of branch staff available to serve customers. Nasri (2011:150) also established that convenience affects the utilisation of internet banking. This argument is in line with that of Polasik and Wisniewski (2009:3) who argue that the decision by customers to use internet banking is frequently motivated by convenience and efficiency, because customers do not have to travel to a banking branch, queue, or be limited to the bank's opening hours. Since rural banking customers are often not within walking distance of branches of banks, it is possible that other factors, such as expensive data costs, lack of internet access, and a lack of access to electricity have a more profound impact on their decision not to adopt internet banking.

2.2.4.3 Prior internet knowledge and usage

Karjaluoto *et al.* (cited by Nasri, 2011:146) found that prior experience with computers and technology and attitudes of consumers influence both their attitudes towards on-line banking and their actual behaviour. Nasri (2011:150) reported that prior internet knowledge has a significant influence on adoption decisions. When customers do not have prior internet knowledge and skills, they may not be aware of the special features of internet banking. As was alluded to earlier in the study (see section 1.1), a substantial proportion of the rural population of Sub-Saharan Africa still does not have access to electricity (Cook, 2011:304), and only approximately 12.9% of the population situated in a rural locality in the Free State province has internet access (Stats SA, 2012). Prior internet knowledge is, therefore, almost absent in rural areas and, as a result, the population in rural areas may be unaware of the special features of internet banking and the benefits of using this banking channel. This shows that South African banks may need to consider providing internet access to rural banking customers in order for them to become more conversant with the use of internet banking.

2.2.4.4 Security perception

Nasri (2011:147) states that security is one of the most important factors in determining the decision of consumers to use internet banking. Similarly, Munusamy, de Run, Chelliah and Annamalah (2012:454) point out that security is a major concern where ever online transactions take place. Polatoglu and Ekin (cited by Nasri, 2011:147) proposed that security consists of three dimensions, namely reliability, safety and privacy. Customers are often very sceptical about the fact that the privacy policies of organisations will keep their information confidential. This often results in customers rejecting new technology and electronically based delivery channels (Rotchanakitumnuai & Speece, 2003:5). Ramavhona and Mokwena (2016:5) found that the majority of respondents (South Africans residing in a rural area) disagreed that internet banking is as safe as traditional banking, and felt that banks have not set security measures to protect their bank customers. Banks should, therefore, focus on changing this perception by explaining the safety features of internet banking to customers.

2.2.4.5 Perceived risk

The decision to purchase or use an innovative product may involve a high level of perceived risk (Koenig-Lewis, Palmer & Moll, (2010:410). Perceived risk has been identified by many studies as one of the most influential factors in the adoption of e-banking (Aldas-Manzano, Lassala-Navarre, Ruiz-Mafe & Sanz-Blas, 2009:53; Erikson & Hultman, 2008:555; Laforet & Li, 2005:362). This is mainly because customers perceive e-banking services as being riskier than conventional banking (Zhao, Hammer-Lloyd, Ward, Goode, 2008:505). Factors such as password integrity, the privacy of personal information, fraud, theft and other concerns are likely to breed uncertainty about internet banking. Chitungo and Munongo (2013:69) found a strong negative relationship between perceived risk and mobile banking adoption for a rural sample in Zimbabwe. They state that “if individuals perceive higher risks and uncertainty such as issues of loss and theft of financial information due to system hacking, this would discourage adoption of mobile banking by the rural communities as they are risk averse”

(Chitungo & Munongo, 2013:69). This shows the importance of reducing risk and uncertainty, in particular for rural banking customers.

Bitner, Gremler and Zeithaml (2008:15) categorise perceived risks as being economic, functional, social, and psychological risks, which influence the pre-purchase decision of customers. The aforementioned authors allude to fears such as the fact that credit-card information may be misused and disappointment experienced by friends and family in case of a poor product or service all influence the pre-purchase decision of customers. According to Almogbil (2005:26), perceived functional performance of internet banking determines whether or not it is adopted by customers. Owing to the technical nature of the self-service features of internet banking, the functional risk is higher within developing nations with high levels of illiteracy (Almogbil, 2005:26), and the issue is worse when one considers rural banking customers. In developing countries, perceived operating difficulty and the chances of incomplete transactions owing to slow internet connections are high (Agarwal, Rastogi & Mehrotra, 2009:5; Aslam & Sarwar, 2010:128). The lower the perception of risk involved in using a new product such as internet banking, therefore, the more likely an individual will be prepared to use it (Nasri, 2011:147).

Lee (2009:132) conducted a study to investigate the effect of perceived risks and benefits on customers' behavioural intentions to use online banking and to determine which factors have the most significant impact on the decision to use online banking. The scholar examined five specific risk factors, namely financial, security/privacy, performance, social, and time risks, and found that "the intention to use online banking is adversely affected mainly by the security/privacy risk, as well as financial risk" (Lee, 2009:134). These findings are supported by another study by Hua (2009:9) who investigated online banking acceptance in China. Hua's (2009:9) study showed that perceived ease of use is of less importance than privacy and security, and she emphasised that "security is the most important factor influencing users' adoption". From these

studies one can conclude that security remains an important factor influencing the adoption decision.

For the purpose of this study, the aforementioned factors identified by Nasri (2011:145) as the main influencing factors of internet banking adoption will be included. It is, however, noted that trust, perceived cost and social influences are also factors influencing decisions about the adoption of internet banking. Although they do not form part of the study, these factors will be briefly discussed in the next section.

2.2.4.6 Trust

Trust consists of two essential elements, namely credibility and benevolence (Muhammed & Khalil, 2011:6). Credibility requires partners to be sincere, stand by their word and fulfil their promises and obligations (Muhammed & Khalil, 2011:6). Benevolence requires an interest in the welfare of the other party which assumes that a person will not take action which will have a negative impact on the other party (Muhammed & Khalil, 2011:6). In order for banking customers to trust internet banking, therefore, banks need to keep their promises to customers and have their best interests at heart. Austin, Ibeh and Yee (2006:39) define online trust as the willingness to engage in an online transactional relationship despite being vulnerable to the seller as a result of a lack of verifiable and adequate knowledge of the vendor, the product or service being sold, and no guaranteed assurance of how or where disputes will be resolved. Jarvenpaa, Tractinsky and Vitale (2000:45) further state that, for trust to exist, the consumer needs to believe that the supplier has the ability and motivation to deliver services of the quality expected. It is clear from both Austin *et al.* (2006:39) and Jarvenpaa *et al.* (2000:45) that the issue of trust in the relationship between consumer and supplier is greatly influenced by the realisation of expectations created by the supplier which may potentially influence customers' perceptions about service quality.

Roy, Dewit and Aubert (cited by Muhammed & Khalil, 2011:7) argue that trust is equally important in traditional and electronic business transactions and that it is critical to establish a long-term business relationship. Muhammed and Khalil (2011:10) found that trust has a significant, positive effect on the ease of use but not the usefulness of internet banking. The more the user trusts the bank and its website, therefore, the higher the belief that online banking was easy.

2.2.4.7 Perceived cost

According to Ching and Ellis (2004:414), the adoption of e-banking will be driven by the perceived costs and benefits inherent in the particular innovation. The cost of an innovation has many components, such as initial investment costs, operational costs, and utilisation costs (Ching & Ellis, 2004:414). It is further observed that there are two fundamental sets of factors that affect user needs, namely price factors and non-price factors (Ching & Ellis, 2004:414). Hill (2004:86) found that, with time, internet costs have decreased and will become much more affordable in the future, and this will encourage the use of internet banking. It seems that, if consumers are to use or adopt new technologies, the technologies must be reasonably priced in relation to alternatives. Otherwise, the acceptance of the new technology may not be viable from the standpoint of the consumer.

As stated by Wu (2009:40), in South Africa, ABSA launched a marketing campaign offering free internet access as a means of promoting its internet banking services in 2001. With this campaign, 20 800 people signed up in the first three days, and, with this initiative, the number of people banking online with ABSA increased from 150 000 to 300 000 (Wu, 2009:40). In an international study, Asghar (2012:6) found that most respondents did not find internet banking to be an expensive service, and 57% agreed that there were no hidden charges for online banking because all rates and charges were clearly and honestly communicated to users (Asghar, 2012:6). Although internet banking itself is not necessarily expensive, however, data to access the internet remains expensive.

Because rural customers are often poor and have a limited disposal income, this hampers the use of this service.

2.2.4.8 Social influences

Groups that have a direct influence on a person are called membership groups (Yuan, Lee & Kim, 2010:2). These are groups to which an individual belongs and with whom he or she interacts. Some membership groups are regarded as primary groups, such as family, friends, neighbours and co-workers with whom an individual interacts fairly continuously (Yuan *et al.*, 2010:2). Family members constitute the most influential primary reference group, and from one's parents one acquires an orientation towards religion, politics and economics, as well as a sense of personal ambition, self-worth and love (Cheung, Chang & Lai, 2000:45). Even if the customer no longer interacts frequently with his or her parents, their influence on the individual's behaviour can still be significant (Aslam & Sarwar, 2010:128).

Cheung *et al.* (2000:55) state that social pressures can emanate from any group, such as parents, colleagues or friends. While it would be difficult to predict how a particular group could influence an individual in terms of the adoption of internet banking, it is nevertheless possible to assert that there is some influence by others on an individual's intention to adopt Internet banking. With greater awareness, people are more likely to start discussing the advantages and disadvantages of internet banking. Because there is very strong communal cohesion in rural communities, it is likely that social groups influence the decision to adopt internet banking. Unfortunately, only a limited number of people have adopted Internet banking in rural communities, and for this reason it is possible that social pressure to adopt internet banking is fairly low.

From the aforementioned discussion, it is evident that the adoption decision is complex and can be influenced by a variety of factors. Although it was found that internet banking increases service quality which is necessary for survival in competitive markets (Rouibah *et al.* cited by Hanafizadeh *et al.*, 2013:2), most research studies have been conducted in developed countries and in urban areas, and, therefore, it is necessary to understand which factors influence customers residing in rural areas when making internet banking adoption decisions and how these shape their experience of e-service quality. In the next section service quality will be discussed with specific reference to e-service quality.

2.3 SERVICE QUALITY

Scholars are not yet in agreement with regards to the conceptual definition of service quality. In order to gain a more in-depth understanding of what it constitutes, the concept of service and quality will be discussed separately in the subsequent section, after which service quality will be conceptualised.

2.3.1 Conceptualising the concept of service

Scholars are in agreement that a service can be distinguished from a product owing to its intangible nature (Pride & Ferrell, 2014:420; Bitner *et al.*, 2008:4). Owing to the fact that a service is behavioural in nature, it has been described as an act, deed, performance or an effort (Rathmell, 1996:58; Wilson, Zethaml, Bitner & Gremler, 2006:38). Moreover, a service results in an outcome put together through partly coinciding production and consumption processes (Grönroos, 2007:150).

In line with the aforementioned views, a service may be regarded as any activity that one party offers to another which is essentially intangible and which is received through some form of exchange which satisfies an identified need (Bitner *et al.*, 2008:4). When customers interact with banks, the service provider has the opportunity of demonstrating to the customer the quality of its service (Grönroos, 2007:81). Since this example is applicable to traditional banking, the conceptualisation of service with regards to internet banking is likely to differ. Internet banking customers do not necessarily interact with a representative of the bank and for this reason the nature of the services provided by banks have changed. With internet banking, most of the encounters with the organisation are remote and impersonal (Bitner *et al.*, 2008:122) and as such electronic services (e-services) need to be considered. This concept will be discussed in more detail in Section 2.3.5.

2.3.2 Conceptualising the concept of quality

According to Golder, Mitra and Moorman (2012:1), “quality is perhaps the most important and complex component of business strategy”. Unfortunately, it is difficult to define quality, and there is currently not a universal definition of quality (Evans & Lindsay, 2008:12). Quality can be defined as satisfying or exceeding customer requirements and expectations, and consequently, to some extent, it is the customer who finally judges the quality of a product (Shen, Tan & Xie, 2000:91).

The concept of quality can be viewed from two perspectives, that of the service provider (retail bank) and that of the receiver (the customer). Brink and Berndt (2009:55) report that quality involves all the actions that retail banks and their employees perform to satisfy their customers, while Futrell (2004:52), highlights that quality, from the retail bank’s perspective, means establishing requirements and specifications. This is one of the reasons Markovic (2006:86) suggests that quality must be taken into account in order to customise service delivery according to specific behaviours and expectations of particular customers. From the aforementioned discussion it is clear that banks need to focus on the quality

of internet banking services in order to determine whether they are meeting customers' quality expectations.

2.3.3 Conceptualisation of service quality

With increased competition among banks, service quality has become a popular area of academic research and has been acknowledged as a means of creating competitive advantage and supporting satisfying customer relationships (Zeithaml, Bitner & Gremler, 2009:127). Service quality is a concept that has aroused substantial interest and debates in academic literature. Scholars are, however, not yet in agreement regarding the conceptualisation of service quality from the perspective of customer service expectation (Brunner-Sperdin, Peters & Strobl 2012:23). Brink and Berndt (2009:64) argue that service quality is the bank's ability to establish customer expectations accurately and to provide services at a quality level equal to these expectations. Similar to this argument, Munusamy, Chelliah and Mun (2010:399) explain that service quality is the difference between customers' expectations for the service encounter and the perceptions of the service received. Crick and Spencer (2011:467), however, claim that changing consumer expectations and variations in consumer perceptions ensure that "quality service is not a fixed goal but rather a moving target".

While service quality has been defined as the overall assessment of service by customers (Eshghi, Roy & Ganguli, 2008:119), other scholars have defined the concept by identifying components of service quality. A significant number of studies suggest that service quality is comprised of service product, service environment, and service delivery (Karatepe, 2013:5). It is also suggested that service quality consists of two dimensions, namely technical (i.e. what customers actually receive) and functional dimensions (i.e. how a service is delivered) (Hendricks, 2003:33).

Hendricks (2003:33) mentions that service quality can be divided between an attribute dimension (referring to the expectations of customers which includes expectations such as speed of delivery, ease of use and reliability) and affect dimension (referring to customers' feelings about technology and can be divided between the customer's attitude towards using the technological product and the customer's need to interact with the service. It is further argued that service quality in the banking sector engages all the actions that banks and their employees perform to satisfy their customers (Brink & Berndt, 2009:55).

When considering service quality, therefore, there are two main schools of thought, namely those that focus on the difference between performance and expectations [such as the models proposed by Grönroos (1983) and Parasuraman, Zeithaml & Berry (1988)], and others that focus on perceptions only (i.e. Cronin & Taylor, 1992) (George & Kumar, 2014:74). Service quality can, thus, be viewed and assessed from different theoretical frameworks. It seems, however, that customers' expectations are at the centre of service quality and for this reason these will be discussed in the next section.

2.3.4 Customer expectation of service quality

Customer expectations are not formed based on the service rendered but on what customers think a service provider should offer (Parasuraman *et al.*, 1988:12). These expectations can be influenced by various factors as will be discussed in the next section.

2.3.4.1 Factors influencing customer service quality expectations

Zeithaml *et al.* (2009:89) state that customer expectations of service quality can be influenced by a variety of factors, such as explicit service promises, past experience, word-of-mouth communication, and the service provider's communications.

2.3.4.1.1 Explicit service promises

Explicit service promises are personal or non-personal statements about the service made by the organisation to customers. According to Zeithaml *et al.* (2009:89), a promise is personal when it is communicated by the sales person, and it is non-personal when it happens in a form of advertising, brochures, web pages or types of publications. For example, when banking consultants give a commitment that internet banking has some features, it becomes an explicit service promise. Overpromising and under-delivering may have a negative impact on a customer's experience of service quality. Banking consultants, therefore, need to take care when making explicit service promises such as stating that customers have 24hour access to internet banking, because, if a customer can for some reason not access internet banking, it may imply the breaking of a service promise which may negatively impact on the customer's experience of service quality.

2.3.4.1.2 Service provider

Khan and Fasih (2014:333) assert that the manner in which customers evaluate the performance of the service provider is critical in gaining customer satisfaction and loyalty. According to Zeithaml *et al.* (2009:89), service promises made by service providers are of particular importance, because they are service-related cues that can lead to an inference about the type of service that can be expected by the service provider. For example, if a customer wants to apply for a loan on-line and uses a user-friendly interface that is appealing and professional, it may create an expectation of excellent quality service to follow in the next step.

2.3.4.1.3 Past experience

Past experience incorporates previous experience with the focal service provider. Zeithaml *et al.* (2009:90) state that past understanding and experiences of performance of other service providers offering the same service may influence the customer's expectations of the service provided. This implies

that, if a banking customer had a poor past experience with a bank, it could influence his/her future expectations of service quality.

2.3.4.1.4 Word of mouth communication

Word of mouth communication refers to communication other than from the service provider itself (Luke, 2007:56). According to Zeithaml *et al.* (2009:89), sources of word of mouth communication include consumer reports, family, friends and colleagues. People discuss their experiences of services rendered to them more especially when a poor, or surprising, service was offered (Zeithaml *et al.*, 2009:89). In a rural community, word of mouth communication seems to be of particular importance since people there do not have steady access to information online. If one rural banking customer, thus, had a positive experience with internet banking, he/she would probably inform others about the experience.

From the aforementioned discussion, it is clear that various factors may influence customers' expectations about service quality. In the next section, the various dimensions of service quality will be discussed.

2.3.4.2 Dimensions of service quality

Service quality consists of the following dimensions, reliability, assurance, empathy, tangibility and responsiveness.

2.3.4.2.1 Reliability

Reliability refers to the ability to perform the promised service both dependably and accurately (Cui, Lewis & Park, 2003:191). This dimension of service quality consists of accurate order fulfilment, accurate record keeping, quoting, billing, commission calculations and keeping service promises (Parasuraman, Zeithaml & Berry, 1985:23). It is, thus, mainly concerned with honouring a promise, which implies that the bank should fulfil its promises in the delivery of its service (Zeithaml *et al.*, 2009:113). It is of paramount importance that banks should

strive to keep their promises reliably (Estep, 2010:2). For example, should the bank promise to process a home loan application within 24 hours, it needs to ensure that it has internal processes in place that will facilitate the delivery of its promises truthfully and consistently.

Bacal and Associates (2013:3) argue that reliability is the foundation of the creation of a long-term relationship with customers and contributes to customer retention and loyalty. Moreover, if a bank is reliable, it will probably lead to customers having more confidence in the service the bank delivers. According to Yang and Fang (2004:302), reliability is the most important dimension of service quality when one considers banking services. If banking customers find that internet banking is a reliable service offered by banks, this will lead to customers having more confidence in this service channel.

2.3.4.2.2 Assurance

Assurance refers to the knowledge of employees and their courtesy in serving customers, as well as their ability to convey trust and confidence (Cui *et al.*, 2003:191; Khan & Fasih, 2014:333). The behaviour of retail bank employees must instil confidence in the mind of the customer regarding the bank, and this will relieve some of the fears that customers may have (Brink & Berndt, 2009:54). Assurance will be advanced when banking employees are polite and friendly when assisting banking customers with questions regarding internet banking and providing sound advice. Other factors that banks need to consider when dealing with rural banking customers are, for example, the ease of access to on-line information and ensuring that banking employees are knowledgeable and experienced with regard to assisting rural banking customers with internet banking concerns.

2.3.4.2.3 Empathy

Empathy is regarded as being important to organisations that focus on relationship building with customers to ensure the organisation's survival as opposed to transaction marketing (Andaleeb & Conway, 2006:3-4). A consistent demonstration of empathy creates a unique, sustainable customer relationship that is difficult for competitors to replicate (Entel, Grayson & Huttner, 2007:4). According to Boone and Kurtz (2000:2), empathy refers to the provision of caring, individualised attention in building customer trust and confidence. Pride and Ferrell (2014:431) postulate that empathy indicates considerate care for customers' problems and an understanding of their desires. Examples of empathy in private sector banks are: giving individual attention; convenient operating hours; giving personal attention; having customers' best interests at heart; and understanding customers' specific needs (Ananth, Ramesh & Probaharan, 2011:245). It seems necessary that banks adopt a customer-oriented attitude when dealing with rural banking customers because they are often illiterate, with limited exposure and access to technology. This means that banks should consider giving more individualised attention to these customers in order to understand their specific needs, concerns and demands. By providing more individualised attention to rural banking customers, banks will probably be placed in a position where customers' needs and expectations about internet banking are understood more accurately.

2.3.4.2.4 Tangibility

According to Brink and Berndt (2009:57), the tangibility dimension of service quality refers to physical aspects, such as the facilities, equipment and material used during the service which should reflect positively on the organisation. In terms of internet banking, tangibles include Information and Technology (IT) equipment (i.e. hardware and software) (Khan & Fesih, 2014:333). According to Blose and Tankersley (2004:80), tangible features of the service experience could be used in solving customer problems. This service quality dimension can be promoted if complaints by customers are handled in a proficient and

professional manner by the retail bank employees. Ananth *et al.* (2011:245) state that tangibility of private sector banks includes modern looking equipment, physical facility, employees that are well dressed and materials that are visually appealing.

2.3.2.4.5 Responsiveness

Responsiveness is defined as the willingness or readiness of employees to provide services to customers (Parasuraman *et al.*, 1985:24). This dimension also involves understanding the needs and wants of the customers, convenient operating hours, individual attention given by the staff, attention to problems and the customers' safety in their transactions (Kumar, Kee & Manshor, 2009:211). Responsiveness means that the companies can respond quickly and willingly to the customer's problems, and, therefore, that they are ready to serve customers and provide express services (Kumar *et al.*, 2009:211). This dimension of service quality seems to be of particular importance to rural banking customers. Owing to the remote location of banking branches in rural areas, banking customers may find that the operating hours of these branches are limited and difficult to adhere to. Moreover, since such customers have low levels of education, it is possible that they are not fluent in the language of the workplace, which is often English. It is, therefore, possible that bank employees are not always ready to serve banking customers from rural areas.

Although cognisance is taken of the conceptualisation and dimensions of service quality, the study will focus specifically on e-service quality owing to its relevance to internet banking. This will be discussed in the next section.

2.3.5 E-service quality

Since internet banking is delivered through an electronic platform, it is necessary to consider service quality from an electronic commerce perspective. It is asserted that e-service quality is becoming increasingly important in determining the success or failure of electronic commerce applications such as Internet banking (Zavareh, Ariff, Jusoh, Zakuan & Bahari, 2012:441). Moreover, since internet banking differs significantly from traditional banking, electronic service quality (e-service quality) is likely to differ noticeably from service quality. In the next section, the concept of e-service quality will be discussed, after which the dimensions of e-service quality will be presented.

2.3.5.1 The concept of e-service quality

Before defining the concept of e-service quality, a brief discussion will be presented regarding e-service and how it differs from traditional services. There are two important features which distinguish traditional services from e-services, namely (a) the nature of the service encounters which do not involve human contact, and (b) e-services are typically offered as part of a broader multi-channel service bundle which combines internet provided services with other channels, such as the telephone, or physical facilities (Sousa & Voss, 2012:789). Whereas traditional services are mostly interpersonal in nature, e-services are predominantly not connected with human contact, since the service is accessible through electronic networks, and the service is employed by a person via the Internet (Batagan, Pocovnicu & Capsizu, 2009:375). This implies that previously banks relied to a great extent on their employees in order to promote banking customers' experience of service quality, but with e-service quality, other dimensions need to be considered in order to promote the experience of e-service quality for banking customers.

An e-service can be defined as the electronic provision of a service to customers (Buckley, 2003:455). According to Rowley (2006:339) the delivering of online service on the information which is first gathered from consumers and then analysed by providers as such, the customised service can be offered. Akinyele and Olorunleke (2010:209) define e-services, also referred to as high-technology services, as knowledge-intensive services or composite-service offers interactively co-produced by the customer and the organisation through, or with the help of electronic communication media. Hoffman and Bateson (2006:69) describe e-service as an electronic service available via the internet which completes tasks, solves problems or conducts transactions. Internet banking may, thus, be regarded as an e-service provided by banks since it is available via the internet, and it allows banking customers to conduct transactions and obtain banking information through this electronic platform.

Unfortunately, scholars are not yet in agreement with regards to the definition of electronic service quality, although it is a standard construct used in scholarly works (Beneke, Acton, Richardson & White, 2011:76). Moreover, the dimensions of e-service quality are often labelled differently by different authors (Beneke *et al.*, 2011:76). E-service quality can be defined as the customers' overall evaluation and judgement of excellence and quality of e-service offerings in the virtual market place (Santos, 2003:235). For the purpose of this study, e-service quality is defined as the extent to which a website facilitates efficient and effective shopping, purchasing and delivery (Parasuraman, Zeithaml & Malhotra, 2005:217).

2.3.5.1.1 Dimensions of e-service quality

Over the years, different scholars have identified different dimensions of e-service quality. Ojasalo (2010:127) compared several theories that define e-service quality elements. The most descriptive dimensions of e-service quality are presented in Table 2.1.

Table 2.1: A comparison of e-service quality dimensions identified by different authors

| Barnes and Vidgen, 2002 | Santos, 2003 | Wolfenbarger and Gilly, 2003 | Ribbink, van Riel, Lijander and Straukens, 2004 | Lee and Lin, 2005 | Parasuraman, Zeithaml and Malhotra, 2005 | Raman, Stephenaus, Alam and Kuppusamy, 2008 | Swaid and Wigand, 2009 |
|--|---|---|---|---|--|---|---|
| <ul style="list-style-type: none"> ● Usability ● Design ● Information ● Trust ● Empathy | <ul style="list-style-type: none"> ● Ease of use ● Appearance ● Linkage ● Structure and layout ● Content ● Reliability ● Efficiency ● Support ● Communication ● Security ● Incentive | <ul style="list-style-type: none"> ● Fulfillment /reliability ● Website design ● Customer service ● Security /privacy | <ul style="list-style-type: none"> ● Ease of use ● E-scape (i.e. web site design) ● Customization ● Responsiveness ● Assurance | <ul style="list-style-type: none"> ● Website design ● Reliability ● Responsiveness ● Trust ● Personalization | <p>Web site's entire customer base:</p> <ul style="list-style-type: none"> ● Efficiency ● Fulfillment ● System availability ● Privacy <p>For customers with nonroutine encounters:</p> <ul style="list-style-type: none"> ● Responsiveness ● Compensation ● Contact | <ul style="list-style-type: none"> ● Ease of use ● Appearance ● Reliability ● Customization ● Communication ● Incentive | <ul style="list-style-type: none"> ● Website usability ● Information quality ● Reliability ● Responsiveness ● Assurance ● Personalization |

(Source: Ojasalo, 2010:127)

From the information presented in Table 2.1 it is clear that different scholars have focussed on different dimensions of e-service quality. The most prominent dimensions mentioned in the aforementioned table are design, ease of use, responsiveness, assurance, appearance, efficiency, communication and reliability. In a meta-analysis conducted by Rowley (cited by Beneke *et al.*, 2011:76) the following dimensions of e-service quality were the most prominent, namely site features, security, responsiveness, accessibility, reliability, information and communication. It is argued that there is growing evidence of variation in the outcomes of different studies on the dimensions of e-service quality that have surfaced in an attempt to address the key dimensions of e-service quality directly or indirectly (Ladhari, 2010:65). The four core dimensions of e-service quality as identified by Parasuraman *et al.* (2005:230) are efficiency, fulfilment, system availability, and privacy:

- Efficiency, the first dimension of e-service quality, includes ease of use and speed of accessing and using the website as well as the design of the website. According to Beneke *et al.* (2011:76), website design includes aspects such as the architecture of the website, the colours, graphics, images, animations and overall presentation of the website, and ease of use, on the other hand, refers to aspects such as the ease with which customers can find web pages from search engines, and navigate and absorb content from the website, as well as simplicity. Redda (2015:68) states that efficiency is achieved when the site is simple to use, structured properly, and requires a minimum amount of information to be supplied by the customer.
- The second dimension is fulfilment, which means the extent to which the website's promises about order delivery and item availability are fulfilled. This dimension includes the correct technical functioning of the site and the accuracy of service promises, billing and product information.
- System availability, the third dimension of the e-service quality, covers the correct technical functioning of the website. It concerns the availability of the website, whether the website crashes or freezes, and whether it runs smoothly.
- The last dimension of the e-service quality is privacy. This dimension measures the degree to which the site is safe and protects customer information. It emphasises the need for companies to continue to reassure customers through website design cues and external communications signalling the privacy/security of their websites.

2.3.5.1.2 Dimensions of service quality of internet banking

It is important that internet banking should be carefully managed in order to maintain the customer relationships which were previously provided through face-to-face encounters. George and Kumar (2014:75) identify and explain the following key service quality dimensions of internet banking which were identified by previous studies, namely:

- Responsiveness, referring to prompt responses and the ability to obtain help with questions and/or problems;
- Reliability, which refers to the correct technical functioning of the website and the accuracy of the promised service;
- Efficiency, which entails aspects such as ease to use the website, the structuring of the website and minimum information input by the customer;
- Security/Privacy, referring to the protection of personal information and safety of the site from intrusion; and
- Fulfilment, which entails the fulfilling of promises in terms of order delivery and item availability.

From the aforementioned discussion regarding the dimensions of e-service quality, it is clear that different scholars have identified different dimensions of e-service quality. A study by Redda (2015:168) identified eight dimensions of electronic banking service quality for a South African sample, namely reliability, system availability, privacy and security, website aesthetics, ease of use, functionality, efficiency, and contact and responsiveness. The study, however, used a general sample of electronic bank customers. It, thus, seems necessary to extend the findings of this study in order to establish how rural banking customers perceive the e-service quality of internet banking.

2.3.6 Measuring service quality

The measurement of service quality entails the comparison of the situation as it was before and after changes occur in order to determine the location of quality-related problems and the establishment of clear standards for service delivery (Ladhari, Ladhari & Morales, 2011:224). This implies the need to develop valid instruments for the systematic evaluation of the performance of banks from the customer point of view and the association between perceived service qualities (Cronin, Brady & Brand, 2010:17). Over the years, however, various measures of service have been developed focussing on the various dimensions of service

quality as was discussed in the previous section. In the next section some of the prominent measures of service quality will be discussed.

2.3.6.1 SERVQUAL: A Service quality model

Measuring customer service gaps is at the heart of the Service Quality (SERVQUAL) model (Prayag, 2007:33). The SERVQUAL tool was developed by Parasuraman *et al.* (1985:41-50) in order to measure service quality. SERVQUAL is an instrument that assesses both the expectations and perceptions of customers regarding service quality (Parasuraman *et al.*, 1988:12-40) and has become the most commonly used instrument for measuring service quality in several different industries (Wilson *et al.*, 2006:3).

The tool can be used for a number of purposes, as detailed by Zeithaml *et al.* (2009:154). It can be used to determine the average gap score between customers' perceptions and expectations relative to each service attribute. Examples of some of the questions that are asked are "were my expectations met in terms of the service the bank provided", and "were my expectations met in terms of the internet banking service that was provided" (i.e. the speed of access, the reliability of the service)? The greatest benefit of the SERVQUAL model is that it is a great tool for the identification of service weaknesses and for alerting management regarding customer perceptions and these lead to the formulation of strategies to ensure that customers expectation are fulfilled (Crampton, Jiang & Klein, 2000:102).

2.3.6.1.1 Dimensions of SERVQUAL

The SERVQUAL model originally had 97 attributes which were identified by Parasuraman *et al.* (1985:18). After undergoing two purifications, however, the 97 assessing attributes of service quality were reduced to ten dimensions and five dimensions respectively (Parasuraman *et al.*, 1985:18). The initial purification refined the attributes of service quality from 97 attributes to ten dimensions, which were tangibles, reliability, responsiveness, competence, courtesy, credibility, security, communication, understanding and access

(Parasuman *et al.*, 1985:19). In the second stage, these ten dimensions were abridged to five dimensions which are tangibility, reliability, responsiveness, assurance and empathy (Parasuraman *et al.*, 1985:23). In Table 2.2, the relationship between the first purification and second purification of the attributes of the SERVQUAL model is indicated (Parasuraman *et al.*, 1985:23).

Table 2.2: The relationship between first purification and second purification of attributes of the SERVQUAL model

| First Purification | Second Purification |
|---|---------------------|
| Tangibles | Tangibility |
| Reliability | Reliability |
| Responsiveness | Responsiveness |
| Competence Courtesy Credibility Security | Assurance |
| Communication Understanding Access | |
| | Empathy |

(Parasuraman *et al.*, 1985:23).

It is important to realise that the SERVQUAL model cannot be used as it is in different types of organisations. This is mainly because different industries might require different measurements for service quality. Moreover, SERVQUAL focusses only on the service delivery process (Kang & James, 2004:266). The latter authors further stress that the majority of research pertaining to service quality has focused on the measurement of service quality based on the functional dimension only. Their study also found the following: (a) that the high correlations between the five SERVQUAL factors are an indication that the constructs are represented by a second-order latent variable, namely functional quality, (b) that the perceptions of overall service quality are influenced by both functional and technical quality, and (c) that business image plays a mediating role in a customer's perception of overall service quality (Kang & James, 2004:274).

In response to the criticism of the SERVQUAL model, Cronin and Taylor (1992:56) developed the SERVPERF (Service Performance) scale which aims to measure customer's perceptions of the service encounter. Cronin and Taylor (1992:56) argue that perception is sufficient for measuring service quality and, therefore, customer expectations should not be included as suggested by the SERVQUAL scale (Mesay, 2012:1). According to Mesay (2012:2), the SERVPERF scale is found to be superior not only as an efficient scale but also by being more efficient in reducing the number of items to be measured by 50%. Although cognisance is taken of these measures of service quality, the study focusses specifically on e-service quality and, therefore, measures of e-service quality will be discussed in the next section.

2.3.7 Measuring e-service quality

In order to measure e-service quality, a number of useful scales have been developed, such as WebQual, WebQualTM, SITEQUAL, e-SERVQUAL, eTailQ, eTransQual and PeSQ (Marimon, Yaya & Fa, 2012:1363). Marimon *et al.* (2012:1364) further postulate that Parasuraman *et al.* (2005) have conducted the most thorough research on the topic of service quality and produced the e-service quality scale (E-S-QUAL) and a recovery scale (E-RecS-QUAL).

Parasuraman *et al.* (2005:225) define E-S-QUAL broadly as a scale which encompasses all phases of a customers' interactions with the website, such as the extent to which a website facilitates efficient and effective shopping, purchasing and delivery. The E-S-QUAL scale conceptualises, constructs, refines and tests a multiple-item scale (E-S-QUAL) for measuring the service quality delivered by Web sites through which customers shop online (Parasuraman *et al.*, 2005:225). E-RecS-QUAL, is applicable only to customers who had non-routine encounters with the sites, and it contains 11 items comprising three dimensions, namely responsiveness, compensation, and contact (Parasuraman *et al.*, 2005:227).

Akinci *et al.* (2004:232) undertook a re-assessment of E-S-QUAL and E-RecS-QUAL in a pure service setting and came up with some improvement to the model. Their findings show that efficiency and fulfilment have the strongest effects on service quality, followed by system availability and then privacy. Similarly, Yang and Tsai (2007:120) found the results from E-S-QUAL demonstrated that the pattern of effects is consistent across dependent variables and suggests that the factors representing efficiency, fulfilment, and responsiveness have the strongest effects, followed by contact and then privacy and compensation.

2.3.8 Measuring e-service quality in internet banking

Jayawardhena (2004:200) used the SERVQUAL scale and adjusted it to the internet banking context. The scale consists of 21 items, divided into five dimensions which are defined as follows (Jayawardhena, 2004:201):

- Access, which refers to the employment of customers utilising the service through a number of points of entry and the ability to carry out a wide range of transactions;
- Website interface, which refers to the maintenance of a website that enhances the overall browsing experience of customers;
- Trust which refers to the ability to inspire confidence among customers by providing prompt and information rich service;
- Attention, which refers to the provision of an accurate personalised service to customers; and
- Credibility, which refers to the delivering of promised service to customers at all times.

In a study by Wu, Tao and Yang (2012:477) a measure was developed to measure e-banking service quality. The confirmatory factor analysis identified a four-factor model, labelled efficiency, privacy/security, reliability, responsiveness and contact (Wu *et al.*, 2012:489) which is somewhat different from the dimensions identified by Jayawardhena (2004:201). Both studies,

however, provided valuable information and measurements which has be used to measure the e-service quality of internet banking.

In order to measure e-service quality in the current study, the measure developed by Parasuraman *et al.* (2005) is used. The questionnaire consists of seven dimensions of e-service quality, namely (Zeithaml *et al.*, 2002:362):

- Efficiency, which refers to the ability of the customers to get to the website, find their desired product and information associated with it, and checkout with minimal effort. According to Al-dweeri, Obeidat, Al-dwiry, Alshurideh and Alhorani (2017:94) efficiency has several sub-dimensions, such as informational content and website updating, website design, usability, and navigation.
- System availability, which refers to the technical function of the website, such as the extent to which it is available and functioning properly.
- Privacy (or security), referring to the company's will and ability to maintain the integrity of customer data. It is, thus, the degree to which the site is safe and protects customer information (Redda, 2015:69).
- Contact, which refers to the availability of assistance through telephonic or online representatives (Redda, 2015:70).
- Perceived value, which is defined as "the total evaluation of the benefits of a product by the customer about what was purchased and what was received in terms of goods or services" (Wood & Heerden, 2007:281). As a result of the evaluation of the benefits perceived by the consumer and the perceived costs regarding a product/service, a perceived value is established in the mind of the consumer regarding the relevant product/service (Dursun & Çerçi, 2004:1-16).
- Loyalty intention, which refers to attitudinal loyalty and so the consumer's relatively enduring affective orientation to a product, store or service (Parasuraman *et al.*, 1988:12).
- Fulfilment, which refers to the extent to which the site's promises about order delivery and item availability are fulfilled (Redda, 2015:69).

From the above, it is evident that electronic services are different from traditional service encounters in the way they are produced, used and consumed. For instance, while traditional goods provide tangible traits of the product or service, online services deal with services that are mostly intangible by nature. The replacement of interpersonal contact with human-machine interaction implies that different approaches and methods are required for assessing service quality. This implies that the dimensions a customer seeks from electronic services are different from those of service quality, and as such they require different forms of understanding and attention. So the measurement of e-service quality requires adaptation depending upon the service setting.

2.4 CONCLUSION

In Chapter 2, a detailed discussion of the IDT was presented, and this is used as the theoretical framework of the study. After this, service quality was discussed, with an emphasis on e-service quality. From the literature presented it is clear that scholars are not yet in agreement regarding the concept and measurement of e-service quality, and this indicates the need to conduct more research in this field. Moreover, throughout the literature review there is a noticeable absence of information available regarding e-service quality and the relationship between internet banking adoption and e-service quality. In the next chapter, the research methodology of the study will be discussed.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter aims to present an overview of the research methodology that guided this study. In this chapter the research approach and paradigm will be discussed after which the research design will be discussed. This will be followed by a discussion regarding the population and sampling, measuring instrument, pilot study, data collection and data analysis used in the study, as well as ethical considerations.

3.2 RESEARCH APPROACH

The research approach that was used is deductive research. Deductive research involves the testing of a theoretical proposition or hypothesis by basing it on a previously conceived theory (Saunders & Lewis, 2012:194). In this study, the IDT was used as the theoretical framework guiding the study.

3.3 RESEARCH PARADIGM

A research paradigm is defined as a set of beliefs and assumptions about important features of reality that provides a basis for understanding a particular world view (Maree, 2007:47). The research paradigm that was used for the purposes of this study is the positivist research paradigm, because the study relies on empirical data and is quantitative in nature. According to Bryman and Bell (2007:15), positivism is defined as an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond. Thus, through the positivistic paradigm it was aimed to give effect to the primary objective of the study by quantifying and assessing the variables that influence the adoption decision-making of rural banking customers, as well as e-service quality.

3.4 RESEARCH DESIGN

Zikmund and Babin (2010:64) define the research design as a master plan that specifies the methods and procedures for collecting and analysing information. Bryman and Bell (2007:28) argue that a research design is about the specific research strategy that the researcher implements to solve the research problem. It is also asserted that the research design aims to address the research objectives or hypothesis of a study (McDaniel & Gates, 2010:48). In essence, the researcher develops a structure or framework that is used to answer a specific research problem or opportunity (McDaniel & Gates, 2010:48). Wiersma and Jurs (2009:119) state that the purpose of a research design is to provide answers to the specific research questions. According to Leedy and Ormrod (2010:15), the purpose of a research design is to discover the truth and to learn what has never been known previously. For the purpose of this study, a case study design was used. A case study design is regarded as very useful when “exploring an area where little is known or where you want to have a holistic understanding of a situation, phenomenon, episode, site, group or community” (Kumar, 2011:155). This research design was regarded as most suitable to investigate the research topic of this study.

The case study design was quantitative in nature. According to Mooi and Sarstedt (2011:52), primary data can either be quantitative or qualitative in nature. Quantitative research uses large samples and involves structured survey questioning that is subsequently numerically and statistically analysed (Davis, 2000:25). Since the data were collected once-off from the sample, the study may be regarded as cross-sectional in nature. There are different research techniques researchers can use to conduct quantitative research, namely mail surveys, face-to-face structured interviewing, telephonic interviews, the internet, and customer comment cards (Zeithaml, Bitner & Gremler, 2008:184). For the purpose of this study, survey research was employed since a large sample was used to collect quantitative data once off regarding internet banking adoption decisions and e-service quality. Marsden and Wright (2010:4) note that all forms of survey research require a well-

structured questionnaire. Zeithaml *et al.* (2008:183) describe survey research as a method of obtaining information based on questioning respondents. The purpose of survey research is to produce statistics that are a quantitative or numerical description of aspects of the studied population (Fowler, 2002:2). It is, thus, appropriate to use it for the current study.

3.5 POPULATION AND SAMPLING

3.5.1 Population

Creswell (2008:151) defines a population as a group of individuals who have the same characteristics. The population of a research study is a group which is of interest to the researcher and the group to which the results of the study will ideally be generalised (Gay & Airasian, 2006:98). The population of the study is banking customers who live in a rural-type area in South Africa, as was motivated in Section 1.10. The town of Theunissen is situated in the Lejweleputswa district of the Free State province of South Africa and has a population of 63 334 people (FSDCGTA, 2014:64,67).

3.5.2 Sampling

According to Zikmund and Babin (2010:63), a sample is defined as a subset of a larger population. Gay and Airasian (2006:101) define sampling as a process of selecting a number of the participants for a study in such a way that they represent the selected larger group from which the individuals, items, or events selected are referred to as a population. Blumberg, Cooper and Schindler (2008:228) emphasise that the basic idea of sampling is that, by selecting some of the elements in a population, these can be used to draw conclusions about the entire population. Sampling techniques provide a range of methods that enable one to reduce the quantity of data needed for a study by considering only data from a sub-group rather than all possible elements (Saunders, Lewis & Thornhill, 2009:210).

3.5.2.1 Types of sampling

Two types of sampling can be identified, namely probability sampling and non-probability sampling. According to Watkins (2016:93), probability sampling is used when the researcher can determine that each segment of the population will be represented in the sample, and non-probability sampling is used when the researcher cannot forecast or guarantee that each element of the population will be represented in the sample. For the purpose of this study, non-probability sampling was used, since the researcher had to rely on respondents that met the sample parameter and were available and willing to participate in the study. The non-probability sampling method that was used was convenience sampling.

The convenience sampling method is a non-probability sampling technique where participants are selected because of their accessibility and proximity to the researcher (Leedy & Ormrod, 2010:212). The primary reason for the use of convenience sampling was the absence of a data set from which to select respondents. This is mainly because banks do not make information available regarding banking customers owing to the confidentiality of this information. The sample parameter was, therefore, banking customers who are situated in a rural-type area who use internet banking or who have used internet banking, and/or have knowledge of internet banking. The unit of analysis was individuals.

3.5.2.2 Sample size

To determine the appropriate size for a study, one has primarily to consider the nature of the population and the purpose of the study. In non-probability sampling the sample size is determined by the financial resources available and the number of subgroups to be analysed (Cant, Brink & Brijball, 2005:178). In order to include a representative sample of the population, which consists of 63 334, the Raosoft sample size calculated

(www.raosoft.com) suggested a sample of 382 individuals at a 95% confidence level. The final sample size of the study was 390.

3.6 THE MEASURING INSTRUMENT

A questionnaire is a list of carefully-structured questions, chosen after considerable testing, with a view to eliciting reliable responses from a chosen sample. The aim is to find out what a selected group of participants do, think or feel (Collis & Hussey, 2003:173). Since the study is quantitative in nature, a structured questionnaire was subsequently designed to achieve the empirical objectives of the study. According to Shiu, Hair, Bush and Ortinau (2009:329), a structured questionnaire is a framework of specific scales and questions constructed in order to gather primary data. The questions in a questionnaire can be unstructured or structured. Unstructured questions allow respondents to describe their feelings and attitudes freely (Zeithaml *et al.*, 2008:464). Structured questions, on the other hand, are closed-ended questions that provide a specified structured response format (Zeithaml *et al.*, 2008:465). According to Neuman (2006:71), the advantages of using structured or close-ended questions are that they are much easier and quicker to code, capture and analyse than open-ended questions.

The questionnaire was divided into four sections (see Annexure A). Section A included biographical questions and general questions. Section B contained questions regarding innovation characteristics, such as relative advantage, compatibility, complexity, trialability and observation. Section C contained questions regarding the factors influencing internet banking adoption such as convenience, prior internet knowledge and usage and knowledge, security, risk, and information regarding online banking. Section D contained questions regarding e-service quality. The scale used in the structured questionnaire was a five-point Likert scale, ranging from strongly disagree to strongly agree. Four questions (questions 97 to 100) were rated on a ten-point Likert scale. An existing questionnaire was used to measure e-service quality that was developed by Parasuraman *et al.* (2005:1). The

questionnaire comprised of 32 items in a Likert-scale format with different response categories. The questionnaire measured seven dimensions of e-service quality, namely efficiency, system availability, fulfilment, privacy, contact, loyalty intentions and perceived value. A sample item is “It is easy to move around on the website” and “The site protects information about my web behaviour”.

3.7 PILOT STUDY

Prior to distributing the final questionnaire to the sample, a pilot study was conducted. The pilot study included 40 individuals from the target population who did not form part of the final sample. The 40 participants included in the pilot study were selected using convenience sampling. The data collected during the pilot study were used to determine the initial reliability and validity of the measuring instrument which will be discussed in the subsequent sections.

3.7.1 Validity of the measuring instrument

During the pilot study, content validity was considered. In order to determine the initial content validity of the questionnaire, a statistician and three subject experts were requested to provide insight into the content of the questionnaire. After the completed questionnaires were returned, comments were considered and amendments made to the layout of the questionnaire. Experts also recommended changes to the questions posed in Section A of the questionnaire. These suggested changes were made to the original questionnaire and the final questionnaire was confirmed.

3.7.2 Initial reliability of the measuring instrument

During the pilot study, the initial reliability of the measuring instrument was also considered. Table 3.1 provides the Cronbach Alpha coefficient results for the different subscales of the measuring instrument used.

Table 3.1: Initial reliability of the sub-scales of the measuring instrument

| Sub-scale | Item | Cronbach Alpha |
|---|------|----------------|
| Innovation characteristics | 25 | 0.87 |
| Factors influencing internet banking adoption | 25 | 0.95 |
| e-Service quality | 32 | 0.95 |
| Total Scale | 82 | 0.97 |

As shown in Table 3.1, the Cronbach Alpha Coefficient for the three sub-scales of the questionnaire ranged from 0.87 to 0.95. Both the “factors influencing internet banking adoption” and “e-Service quality” had an Alpha Coefficient of 0.95, while the “Innovation characteristics” sub-scale had an internal consistency of 0.87. The total scale had an initial Cronbach Alpha Coefficient of 0.97 which can be regarded as being very good.

3.8 DATA COLLECTION

After the completion of the pilot study, the final questionnaire was constructed and data collection commenced. There is a variety of ways in which data can be collected for research purposes. Primary data were collected for the purpose of this study. Zikmund and Babin (2010:175) define primary data as data gathered and assembled for a research project at hand. There are three primary data collection methods, namely observation, an experiment and the survey method (Gerber, Nel & Kotze, 2005:88). Primary data can be collected by means of questionnaires, checklists, surveys, interviews, observations, focus groups, case studies and documentation reviews (Coldwell & Herbst, 2004:48-49). As was mentioned earlier, primary data were collected by means of a survey. The current study made use of self-administered questionnaires during the survey research. Self-administered questionnaires can be defined as structured questionnaires filled out by respondents in the absence of the fieldworker (Mitchell & Jolley, 2010:263). Self-administered

questionnaires have various advantages. Mitchell and Jolley (2010:263) mention that self-administered questionnaires are cost-effective and quick to administer, and they are easy to distribute to a large number of respondents.

The researcher and trained field workers distributed the questionnaires. In order to distribute the questionnaires, a street map of Theunissen was used to select households to be included in the study randomly. Only banking customers who use internet banking, who have used internet banking and/or have knowledge of internet banking were included in the study. Although the intention was to draw a probability sample, it was not possible because the households which were selected did not all meet the sample parameter. Of the 400 questionnaires despatched, 390 were returned, which yielded a response rate of 97.5%.

3.9 ETHICAL CONSIDERATIONS

Through ethical research obligations, researchers ensure that no harm is inflicted on any party as a result of the research study. According to Polonsky and Waller (2005:123), researchers need to understand the basics of ethical research and how this might affect the research project. Primarily, the objectives and procedures as well as the nature of this study were devised in a way that no potential harm would result from them. Ethical surveying was accomplished by ensuring that respondents were encouraged to participate in the study, but that they were not coerced nor pressured offensively to participate.

The researchers also ensured that the participation of respondents was based on informed consent. The right of respondents not to be misrepresented or exploited was, thus, upheld through giving the correct information about the purpose of the research. Respondents were also informed that they were not obligated to complete the questionnaire and that they could stop participating in the research project as it suited them (see Annexure B).

The researcher adopted the following specific steps from Shammout (2007:140-141) in order to ensure the ethical requirements of confidentiality and anonymity:

- The names of the respondents were not asked anywhere in the questionnaire;
- The anonymity of respondents was preserved by not asking the respondents their physical addresses;
- Personal information was not presented individually but as sample summaries;
- Raw data was exclusively used for the stated research purposes and not for any other purposes; and
- Completed questionnaires were destroyed once the data transcribing had been completed and backed up.

3.10 DATA ANALYSIS

The analysis of the responses was planned and directed by the researcher in collaboration with the study supervisor, and the statistical analysis was carried out by an independent research psychologist. The responses on the returned questionnaires were captured on an Excel spreadsheet, after which the data was analysed by the independent research psychologist, using the SPSS statistical package version 20. The data analysis included descriptive and inferential statistics. In order to describe the sample included in the study and descriptive statistics are used. In order to answer secondary research question one to three, measures of central tendency such as the mean, median, minimum and maximum scores and standard deviation were calculated. The mean, median, minimum and maximum scores and standard deviations were used to describe the data obtained by the different sections in the questionnaire that measured innovation characteristics, factors influencing internet banking adoption and e-service quality. In order to establish whether there is a relationship between these variables, inferential statistics were used. In particular, Pearson's Product Moment Correlation

were calculated. Furthermore, a multiple regression analysis was performed to determine the influence of innovation characteristics and factors influencing internet banking adoption on e-service quality.

3.11 CONCLUSION

This chapter has outlined the research methodology followed in order to achieve the objective of this research study. Issues relating to the research approach, research paradigm, research design, target population and sampling procedures used, the measuring instrument, pilot study, data collection, ethical considerations, as well as the main statistical tools used during data analyses, were discussed. In the following chapter, the findings of the study will be presented.

CHAPTER 4: FINDINGS OF THE STUDY

4.1 INTRODUCTION

In Chapter 4 the findings of the study based on the research questions given in Chapter 1 are presented. First, the reliability and construct validity of the questionnaire will be discussed after which the measures of central tendency will be discussed. Thereafter, descriptive results will be presented, followed by the inferential statistics.

4.2 RELIABILITY OF MEASURING INSTRUMENT

4.2.1 Reliability coefficients of the measuring instrument

The primary objective of the research study (see section 1.5.1) was to establish how rural banking customers perceive the characteristics of innovation, the factors influencing internet banking adoption decisions and e-service quality. The reliability coefficients of the different sub-scales of the final measuring instrument are reported in Table 4.1.

Table 4.1: Reliability of sub-scales of the measuring instrument

| Scale | Item | Cronbach Alpha |
|---|-----------|----------------|
| Innovation characteristics | 25 | 0,901 |
| Factors influencing internet banking adoption | 25 | 0,821 |
| e-Service quality | 32 | 0,897 |
| Total Scale | 82 | 0,937 |

As shown in Table 4.1, the Cronbach Alpha Coefficient for the three sub-scales of the measuring instrument ranged from 0.821 to 0.901. The total scale had a Cronbach Alpha Coefficient of 0.937, which is very good.

4.2.2 Factor analysis of the measuring instrument

In order to execute the factor analysis, the Kaiser-Meyer-Olkin (KMO) test was used. This is a test that measures whether data is suitable for factor analysis by measuring the sampling adequacy for each variable in the model and also for the complete model (Mitchell & Jolley, 2010:288). The KMO index ranges from zero to one, and a measure of 0.5 or greater is an indicator of sampling adequacy (Malhotra, 2010:638). The data were highly factorable with the KMO measure of sampling at 0.823.

According to Pallant (2013:190), the Bartlett's test of sphericity should also be significant for the factor analysis to be appropriate (i.e. $p < 0.05$). The Bartlett's Test of Sphericity was statistically significant on the 99th percentile (Chi-squared = 19201.760; $df = 3321$; $p \leq 0.000$). An exploratory factor analysis with oblique (Oblimin) rotation was, thus, utilised to conduct the factor analysis. The cut-off used for the extraction of factors was factor loadings > 0.30 . All the factors loadings exceeded the cut-off used, and it was determined that 20 components had an eigenvalue exceeding 1 and accounted for 71.647% of the total variance (see Table 4.2 below).

Table 4.2: Total variance explained for the full scale

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 14,995 | 18,286 | 18,286 | 14,995 | 18,286 | 18,286 |
| 2 | 5,090 | 6,207 | 24,493 | 5,090 | 6,207 | 24,493 |
| 3 | 4,358 | 5,315 | 29,808 | 4,358 | 5,315 | 29,808 |
| 4 | 3,896 | 4,751 | 34,559 | 3,896 | 4,751 | 34,559 |
| 5 | 3,328 | 4,059 | 38,618 | 3,328 | 4,059 | 38,618 |
| 6 | 3,032 | 3,698 | 42,316 | 3,032 | 3,698 | 42,316 |
| 7 | 2,517 | 3,070 | 45,385 | 2,517 | 3,070 | 45,385 |
| 8 | 2,395 | 2,920 | 48,306 | 2,395 | 2,920 | 48,306 |
| 9 | 2,315 | 2,823 | 51,128 | 2,315 | 2,823 | 51,128 |
| 10 | 2,190 | 2,670 | 53,799 | 2,190 | 2,670 | 53,799 |
| 11 | 1,949 | 2,377 | 56,176 | 1,949 | 2,377 | 56,176 |
| 12 | 1,880 | 2,293 | 58,469 | 1,880 | 2,293 | 58,469 |
| 13 | 1,710 | 2,085 | 60,554 | 1,710 | 2,085 | 60,554 |
| 14 | 1,635 | 1,993 | 62,547 | 1,635 | 1,993 | 62,547 |
| 15 | 1,486 | 1,813 | 64,360 | 1,486 | 1,813 | 64,360 |
| 16 | 1,329 | 1,621 | 65,981 | 1,329 | 1,621 | 65,981 |
| 17 | 1,311 | 1,599 | 67,580 | 1,311 | 1,599 | 67,580 |
| 18 | 1,145 | 1,396 | 68,976 | 1,145 | 1,396 | 68,976 |
| 19 | 1,130 | 1,378 | 70,354 | 1,130 | 1,378 | 70,354 |
| 20 | 1,060 | 1,293 | 71,647 | 1,060 | 1,293 | 71,647 |

An inspection of the scree-plot, however, indicated a clear break after the second factor (see figure 4.1):

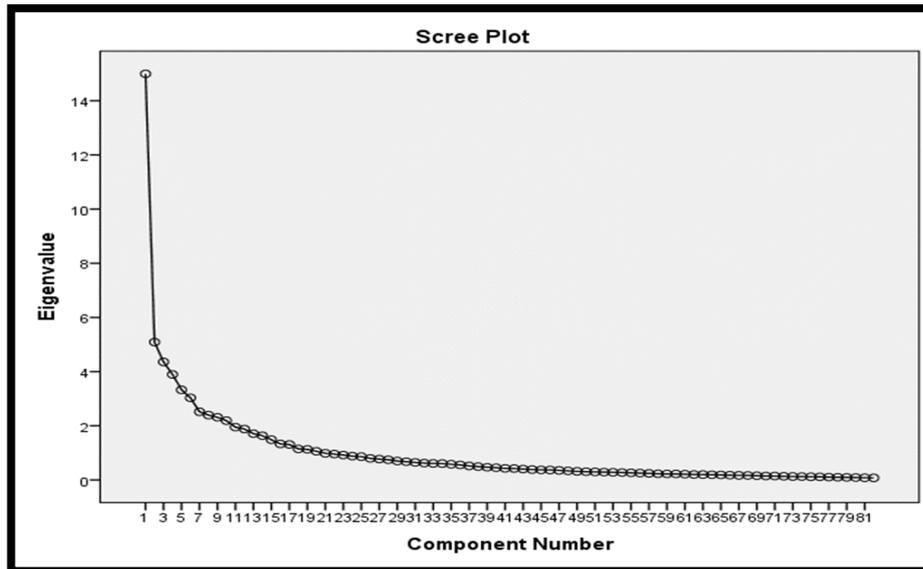


Figure 4.1: Scree plot results for full scale

As a result of the clear break after the second factor, a further factor analysis was done with a forced three factor rotation. The results are shown in Table 4.3 below.

Table 4.3: Three factor component matrix solution for the full scale

| ITEM | Component | | |
|--------|-----------|-------|-------|
| | 1 | 2 | 3 |
| IC13 | ,555 | | |
| IC9 | ,552 | | -,333 |
| SQ21 | ,552 | | |
| SQ15 | ,551 | -,418 | |
| IC14 | ,550 | | |
| IC8 | ,550 | | -,339 |
| SQ16 | ,542 | -,375 | |
| SQ17 | ,534 | -,326 | |
| FIIB25 | ,529 | | |
| FIIB15 | ,526 | | ,340 |
| IC6 | ,518 | ,305 | |
| FIIB23 | ,516 | | |
| SQ19 | ,515 | | |

| ITEM | Component | | |
|--------|-----------|-------|-------|
| | 1 | 2 | 3 |
| SQ24 | ,511 | | |
| FIIB24 | ,507 | | |
| SQ20 | ,506 | -,311 | |
| IC11 | ,506 | | |
| IC10 | ,498 | | -,330 |
| SQ23 | ,498 | -,331 | |
| SQ26 | ,497 | -,375 | |
| IC5 | ,492 | ,309 | -,338 |
| SQ22 | ,491 | | |
| IC7 | ,490 | | -,350 |
| IC12 | ,490 | | -,336 |
| FIIB19 | ,488 | | |
| FIIB13 | ,486 | | ,447 |
| IC3 | ,485 | ,319 | |
| IC15 | ,480 | | |
| FIIB14 | ,477 | | ,413 |
| SQ28 | ,475 | -,318 | |
| SQ18 | ,471 | -,305 | |
| IC1 | ,469 | | |
| FIIB21 | ,464 | | |
| IC21 | ,462 | | |
| SQ25 | ,457 | -,402 | |
| IC4 | ,456 | ,348 | -,350 |
| SQ27 | ,454 | -,328 | |
| FIIB22 | ,451 | | |
| FIIB17 | ,448 | ,315 | |
| FIIB16 | ,446 | | ,354 |
| SQ14 | ,444 | -,443 | |
| IC23 | ,436 | | |
| SQ9 | ,435 | | |
| FIIB12 | ,432 | | ,424 |
| IC22 | ,430 | | |
| SQ10 | ,421 | -,328 | |
| SQ5 | ,415 | | |
| IC2 | ,414 | | |
| SQ6 | ,412 | -,316 | |
| SQ4 | ,411 | | |
| FIIB18 | ,411 | | |
| FIIB10 | ,403 | | |
| FIIB7 | ,402 | ,309 | |
| IC24 | ,395 | | |

| ITEM | Component | | |
|--------|-----------|-------|------|
| | 1 | 2 | 3 |
| FIIB8 | ,392 | | |
| FIIB5 | ,384 | ,333 | |
| SQ3 | ,374 | | |
| SQ8 | ,365 | -,327 | |
| IC25 | ,345 | | |
| IC17 | ,327 | | |
| FIIB20 | ,322 | | |
| SQ2 | ,305 | | |
| IC20 | ,301 | | |
| SQ1 | | | |
| FIIB6 | | | |
| IC16 | | | |
| IC18 | | | |
| SQ29 | | | |
| SQ31 | | | |
| FIIB4 | | | |
| SQ12 | ,376 | -,503 | |
| SQ13 | ,446 | -,461 | |
| SQ11 | ,325 | -,431 | |
| SQ7 | | -,304 | |
| SQ30 | | | |
| IC19 | | | |
| FIIB9 | | | |
| FIIB11 | ,410 | | ,453 |
| FIIB3 | ,311 | | ,414 |
| FIIB2 | | | ,408 |
| FIIB1 | | | ,327 |
| SQ32 | | | |

The following three factors were derived: a general factor specifically focusing on innovation characteristics (Factor 1), e-service quality (Factor 2), and factors influencing internet banking adoption (Factor 3).

In the next section, the factor analysis results of the subscale measuring innovation characteristics will be discussed.

4.2.3 Factor analysis of the subscale measuring innovation characteristics

The data were highly factorable with KMO measure of sampling at 0.862 and the Bartlett's Test of Sphericity statistical significant on the 99th percentile (Chi-squared = 4736.475; df = 300; $p \leq 0.000$). An exploratory factor analysis with oblique (Oblimin) rotation was utilised to conduct the factor analysis and it was determined that six components had an eigenvalue exceeding 1 and accounted for 67.113% of the total variance (see Table 4.4).

Table 4.4: Total variance explained for the subscale measuring innovation characteristics

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total |
| 1 | 7,638 | 30,550 | 30,550 | 7,638 | 30,550 | 30,550 | 5,089 |
| 2 | 2,609 | 10,437 | 40,987 | 2,609 | 10,437 | 40,987 | 3,730 |
| 3 | 2,024 | 8,095 | 49,083 | 2,024 | 8,095 | 49,083 | 3,098 |
| 4 | 1,866 | 7,464 | 56,547 | 1,866 | 7,464 | 56,547 | 4,601 |
| 5 | 1,545 | 6,181 | 62,728 | 1,545 | 6,181 | 62,728 | 3,971 |
| 6 | 1,096 | 4,384 | 67,113 | 1,096 | 4,384 | 67,113 | 2,544 |
| 7 | 0,945 | 3,779 | 70,892 | | | | |

An inspection of the scree-plot (See Figure 4.2), indicates that six factors had an eigenvalue exceeding 1.

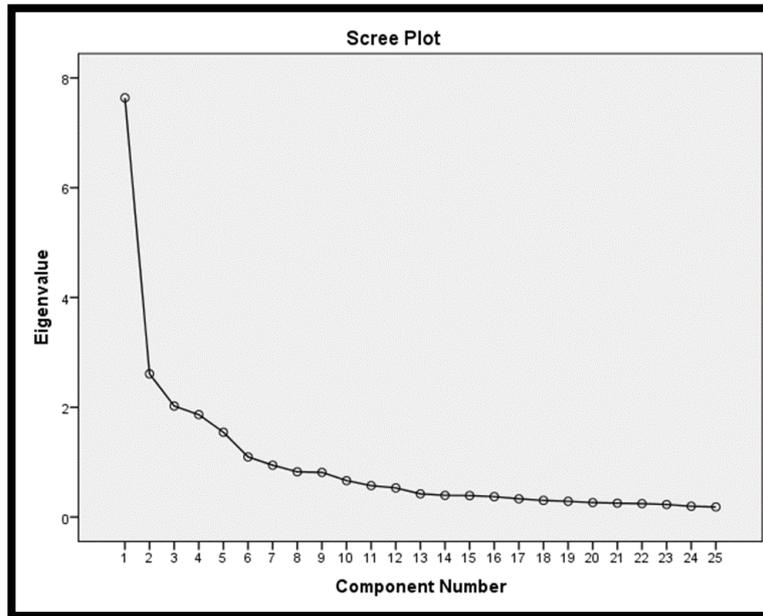


Figure 4.2: Scree plot results for the subscale measuring innovation characteristics

The results of the six-factor matrix for the subscale measuring innovation characteristics are shown in Table 4.5 below.

Table 4.5: Six factor component matrix solution for the subscale measuring innovation characteristics

| Dimension | Component | | | | | |
|--------------------------|-----------|------|------|-------|-------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| IC8 – Compatibility | ,856 | | | | | |
| IC7 – Compatibility | ,818 | | | | | |
| IC9 – Compatibility | ,736 | | | | | |
| IC6 – Compatibility | ,700 | | | | | |
| IC5 – Compatibility | ,607 | | | | | |
| IC10 – Compatibility | ,581 | | | | -,416 | |
| IC24 – Observability | | ,874 | | | | |
| IC25 – Observability | | ,872 | | | | |
| IC23 – Observability | | ,778 | | | | |
| IC22 – Observability | | ,553 | | | | ,446 |
| IC17 – Trialability | | | ,780 | | | |
| IC16 – Trialability | | | ,755 | | | |
| IC18 – Trialability | | | ,631 | | | |
| IC1 – Relative Advantage | | | | -,881 | | |

| Dimension | Component | | | | | |
|--------------------------|-----------|---|------|-------|-------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| IC2 – Relative Advantage | | | | -,864 | | |
| IC3 – Relative Advantage | | | | -,860 | | |
| IC4 – Relative Advantage | | | | -,725 | | |
| IC13 – Complexity | | | | | -,760 | |
| IC12 – Complexity | | | | | -,759 | |
| IC11 – Complexity | | | | | -,747 | |
| IC14 – Complexity | | | ,308 | | -,543 | |
| IC20 – Trialability | | | | | | ,794 |
| IC21 – Observability | | | | | | ,751 |
| IC19 – Trialability | | | ,306 | | | ,387 |

As can be seen from Table 4.5, the following six factors were derived: Compatibility (sub-factor 2 of Innovation Characteristics), Observability (sub-factor 5 of Innovation Characteristics), Trialability (sub-factor 4 of Innovation Characteristics), Relative Advantage (sub-factor 1 of Innovation Characteristics), Complexity (sub-factor 3 of Innovation Characteristics) and factor 6 which included items from previously mention components. As a result, a further factor analysis was done with a forced five factor rotation with results displayed in Table 4.6 below.

Table 4.6: Five factor component matrix solution for the subscale measuring innovation characteristics

| ITEM | Component | | | | |
|----------------------|--------------------|--------------------|-------------------|-----------------------|------------|
| | Compati- bility | Observa- bility | Trial- ability | Relative Advantage | Complexity |
| IC8 – Compatibility | ,843 | | | | |
| IC7 – Compatibility | ,812 | | | | |
| IC9 – Compatibility | ,766 | | | | |
| IC6 – Compatibility | ,662 | | | | |
| IC10 – Compatibility | ,630 | | | | -,364 |
| IC24 – Observability | | ,866 | | | |
| IC23 – Observability | | ,812 | | | |
| IC25 – Observability | | ,799 | | | |
| IC22 – Observability | | ,710 | | | |
| IC21 – Observability | | ,494 | ,376 | | |
| IC17 – Trialability | | | ,724 | | |
| IC18 – Trialability | | | ,724 | | |
| IC16 – Trialability | | | ,665 | | |
| IC20 – Trialability | | ,316 | ,596 | | |

| ITEM | Component | | | | |
|--------------------------|--------------------|--------------------|-------------------|-----------------------|------------|
| | Compati- bility | Observa- bility | Trial- ability | Relative Advantage | Complexity |
| IC19 – Trial-ability | | | ,516 | | |
| IC3 – Relative Advantage | | | | -,851 | |
| IC1 – Relative Advantage | | | | -,835 | |
| IC2 – Relative Advantage | | | | -,811 | |
| IC4 – Relative Advantage | | | | -,750 | |
| IC13 – Complexity | | | | | -,771 |
| IC12 – Complexity | | | | | -,746 |
| IC11 – Complexity | ,329 | | | | -,704 |
| IC14 – Complexity | | | | | -,614 |
| IC15 – Complexity | | | ,377 | | -,523 |

The factor analysis confirmed the underlying structure of the sub-scale measuring innovation characteristics, consisting of five components, namely compatibility, observability, trialability, relative advantage and complexity.

In the next section, the factor analysis results of the subscale measuring factors influencing internet banking adoption will be presented.

4.2.4 Factor analysis of the subscale measuring factors influencing internet banking adoption

The data were highly factorable with KMO measure of sampling at 0.840 and the Bartlett's Test of Sphericity statistical significant on the 99th percentile (Chi-squared = 5115.902; df = 300; $p \leq 0.000$). An exploratory factor analysis with oblique (Oblimin) rotation was utilised to conduct the factor analysis of the scale and it was determined that six components had an eigenvalue exceeding 1 and accounted for 68.338% of the total variance (see Table 4.7).

Table 4.7: Total variance explained for the subscale measuring factors influencing internet banking adoption

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total |
| 1 | 7,062 | 28,248 | 28,248 | 7,062 | 28,248 | 28,248 | 4,642 |
| 2 | 3,050 | 12,201 | 40,449 | 3,050 | 12,201 | 40,449 | 1,913 |
| 3 | 2,542 | 10,168 | 50,617 | 2,542 | 10,168 | 50,617 | 3,233 |
| 4 | 1,973 | 7,891 | 58,508 | 1,973 | 7,891 | 58,508 | 3,790 |
| 5 | 1,241 | 4,963 | 63,472 | 1,241 | 4,963 | 63,472 | 4,355 |
| 6 | 1,217 | 4,867 | 68,338 | 1,217 | 4,867 | 68,338 | 3,732 |
| 7 | 0,919 | 3,677 | 72,015 | | | | |

Despite six factors being indicated the scree plot below (see Figure 4.3 below) clearly indicate a break after the fifth factor.

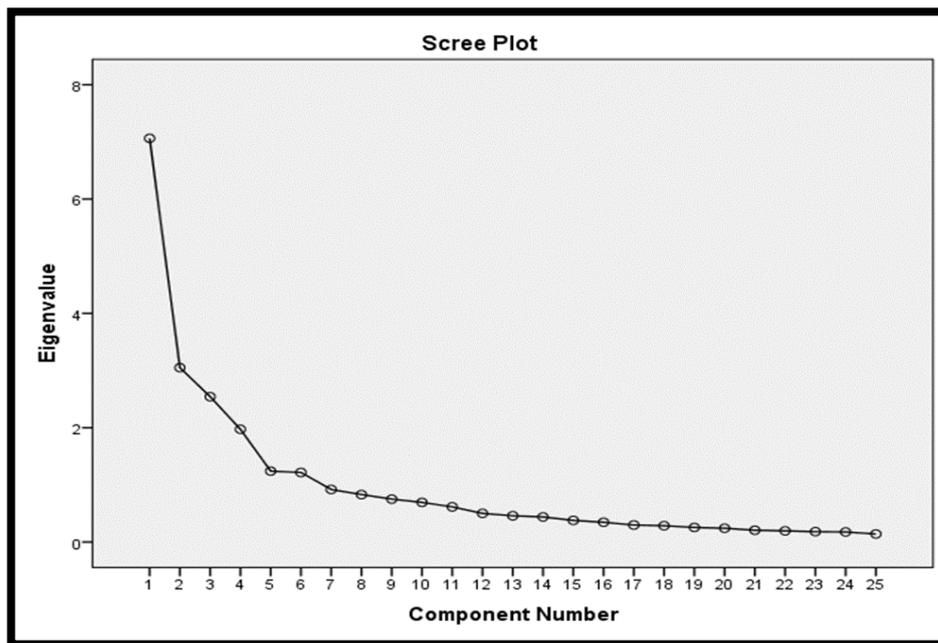


Figure 4.3: Scree plot results for the subscale measuring factors influencing internet banking adoption

The results of the pattern matrix with six factors are displayed in Table 4.8 below.

Table 4.8: Six factor component matrix solution for the subscale measuring factors influencing internet banking adoption

| | Component | | | | | |
|--------|-----------|-------|------|------|------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| FIIB12 | ,855 | | | | | |
| FIIB13 | ,769 | | | | | |
| FIIB11 | ,724 | | | | | |
| FIIB14 | ,699 | | | | | |
| FIIB15 | ,636 | | | | ,363 | |
| FIIB10 | ,441 | -,309 | | | | -,383 |
| FIIB9 | | -,800 | | | | |
| FIIB2 | | | ,915 | | | |
| FIIB1 | | | ,886 | | | |
| FIIB3 | | | ,808 | | | |
| FIIB4 | | | ,369 | | | -,305 |
| FIIB24 | | | | ,877 | | |
| FIIB25 | | | | ,866 | | |
| FIIB23 | | | | ,780 | | |
| FIIB22 | | ,337 | | ,650 | | |
| FIIB18 | | | | | ,853 | |
| FIIB17 | | -,343 | | | ,804 | |
| FIIB19 | | | | | ,708 | |
| FIIB16 | ,373 | -,329 | | | ,580 | |
| FIIB21 | | ,380 | | ,380 | ,407 | |
| FIIB20 | | | | | ,351 | |
| FIIB8 | | | | | | -,813 |
| FIIB7 | | | | | | -,794 |
| FIIB6 | | | | | | -,750 |
| FIIB5 | | | ,348 | | | -,600 |

As can be seen from Table 4.8, the following six factors were derived: Security (sub-factor 3 of factors influencing internet banking adoption), Convenience (sub-factor 1 of factors influencing internet banking adoption), information regarding online banking (sub-factor 5 of factors influencing internet banking adoption), Risk (sub-factor 4 of factors influencing internet banking adoption), Prior internet knowledge and usage (sub-factor 2 of factors influencing internet banking adoption) and component 2 as seen in the above table which included items from previously mentioned components. As a result, a factor analysis was done with a forced 5 factor rotation with results displayed in Table 4.9 below.

Table 4.9: Five factor component matrix solution for the subscale measuring factors influencing internet banking adoption

| | Component | | | | |
|---|-----------|--------------------------------------|-------------|-----------------|------|
| | Security | Information regarding online banking | Convenience | Prior knowledge | Risk |
| FIIB13 – Security | ,833 | | | | |
| FIIB12 – Security | ,794 | | | | |
| FIIB14 – Security | ,789 | | | | |
| FIIB15 – Security | ,682 | | | | ,308 |
| FIIB11 – Security | ,667 | | | ,321 | |
| FIIB23 – Information re. online banking | | ,839 | | | |
| FIIB24 – Information re. online banking | | ,825 | | ,332 | |
| FIIB22 – Information re. online banking | | ,807 | | | |
| FIIB25 – Information re. online banking | | ,782 | | | |
| FIIB21 – Information re. online banking | | ,585 | | | |
| FIIB2 – Convenience | | | ,896 | | |
| FIIB1 – Convenience | | | ,876 | | |
| FIIB3 – Convenience | | | ,814 | | |
| FIIB4 – Convenience | | | ,487 | | |
| FIIB5 – Convenience | | | ,482 | ,483 | |
| FIIB8 – Prior internet knowledge and usage | | | | ,742 | |
| FIIB7 – Prior internet knowledge and usage | | | | ,674 | |
| FIIB10 – Prior internet knowledge and usage | ,410 | | | ,584 | |
| FIIB9 – Prior internet knowledge and usage | | | | ,562 | ,330 |
| FIIB6 – Prior internet knowledge and usage | | | | ,504 | |
| FIIB17 – Risk | | | | | ,801 |
| FIIB18 – Risk | | | | | ,744 |
| FIIB16 – Risk | ,367 | | | | ,607 |
| FIIB19 – Risk | | ,333 | | | ,575 |

The factor analysis confirmed the underlying structure of the sub-scale measuring factors influencing internet banking adoption as consisting of security, information regarding online banking, convenience, prior internet knowledge and usage, and risk.

In the next section the factor analysis results for the subscale measuring e-service quality will be presented.

4.2.5 Factor analysis of the subscale measuring e-service quality

The data were highly factorable with KMO measure of sampling at 0.845 and the Bartlett's Test of Sphericity statistical significant on the 99th percentile (Chi-squared = 7224.748; df = 496; $p \leq 0.000$). An exploratory factor analysis with oblique (Oblimin) rotation was utilised to conduct the factor analysis and it was determined that eight components had an eigenvalue exceeding 1 and accounted for 71.348% of the total variance (see Table 4.10).

Table 4:10: Total variance explained for the subscale measuring e-service quality

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total |
| 1 | 8,657 | 27,053 | 27,053 | 8,657 | 27,053 | 27,053 | 4,470 |
| 2 | 3,341 | 10,439 | 37,492 | 3,341 | 10,439 | 37,492 | 3,352 |
| 3 | 2,741 | 8,566 | 46,058 | 2,741 | 8,566 | 46,058 | 3,769 |
| 4 | 2,237 | 6,991 | 53,049 | 2,237 | 6,991 | 53,049 | 3,080 |
| 5 | 1,803 | 5,634 | 58,683 | 1,803 | 5,634 | 58,683 | 4,767 |
| 6 | 1,723 | 5,383 | 64,067 | 1,723 | 5,383 | 64,067 | 4,741 |
| 7 | 1,313 | 4,102 | 68,169 | 1,313 | 4,102 | 68,169 | 4,031 |
| 8 | 1,017 | 3,179 | 71,348 | 1,017 | 3,179 | 71,348 | 3,662 |
| 9 | ,844 | 2,639 | 73,987 | | | | |

Despite eight factors being indicated the scree plot below clearly indicate a break after the seventh factor (see Figure 4.4).

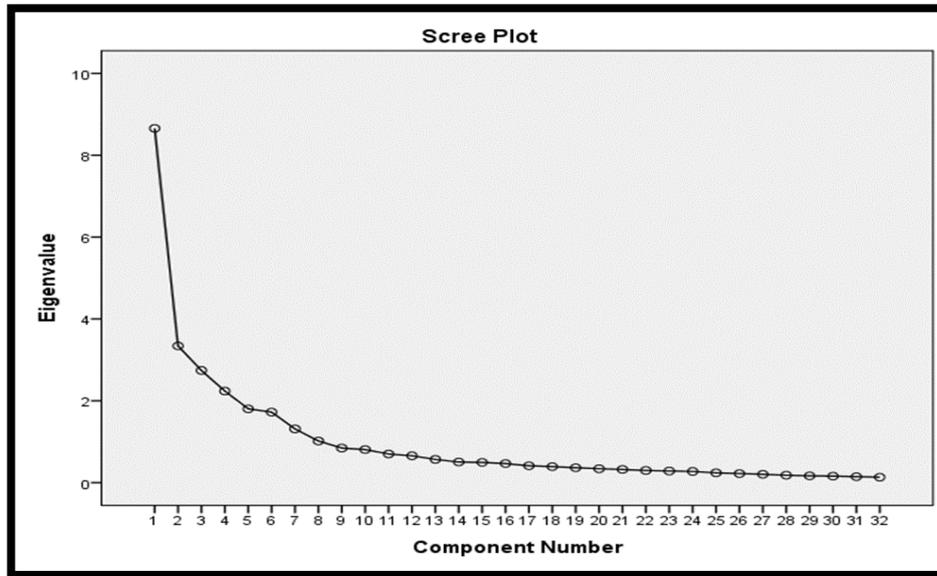


Figure 4.4: Scree plot results for the subscale measuring e-service quality

The results of the pattern matrix with eighth factors are displayed in Table 4.11 below.

Table 4.11: Eight factor component matrix solution for the subscale measuring e-service quality

| | Component | | | | | | | |
|----------------------------|-----------|------|-------|------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| SQ22 – Contact | ,817 | | | | | | | |
| SQ23 – Contact | ,796 | | | | | | | |
| SQ24 – Loyalty | ,656 | | | | -,368 | | | |
| SQ21 – Contact | ,649 | | | | | | -,336 | |
| SQ2 – Efficiency | | ,911 | | | | | | |
| SQ1 – Efficiency | | ,855 | | | | | | |
| SQ3 – Efficiency | | ,835 | | | | | | |
| SQ4 – Efficiency | | ,546 | | | | | | -,469 |
| SQ10 – System availability | | | -,796 | | | | | |
| SQ9 – System availability | | | -,790 | | | | | |
| SQ8 – Efficiency | | | -,674 | | | | | -,313 |
| SQ11 – System availability | | | -,608 | | | -,334 | | |
| SQ32 – Perceived value | | | | ,826 | | | | |
| SQ31 – Perceived value | | | | ,806 | | | | |
| SQ30 – Perceived value | | | | ,776 | | | | |
| SQ29 – Perceived value | | | | ,733 | | | | |
| SQ27 – Loyalty | | | | | -,935 | | | |
| SQ26 – Loyalty | | | | | -,858 | | | |
| SQ28 – Loyalty | | | | | -,724 | | | |
| SQ25 – Loyalty | ,316 | | | | -,691 | | | |
| SQ14 – Fulfilment | | | | | | -,846 | | |

| | Component | | | | | | | |
|-----------------------------|-----------|---|-------|---|---|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| SQ15 – Fulfilment | | | | | | -,801 | | |
| SQ13 – Fulfilment | | | | | | -,717 | | |
| SQ16 – Fulfilment | | | | | | -,680 | -,397 | |
| SQ12 – Systems availability | | | -,352 | | | -,557 | | |
| SQ18 – Privacy | | | | | | | -,810 | |
| SQ19 – Privacy | | | | | | | -,782 | |
| SQ20 – Privacy | ,393 | | | | | | -,666 | |
| SQ17 – Fulfilment | | | | | | -,384 | -,632 | |
| SQ5 – Efficiency | | | | | | | | -,729 |
| SQ7 – Efficiency | | | | | | | | -,716 |
| SQ6 – Efficiency | | | | | | | | -,710 |

As can be seen from Table 4.11, eight factors were derived, namely efficiency, contact, system availability, perceived value, loyalty, fulfilment, privacy and efficiency. As a result, a factor analysis was done with a forced seven factor rotation with results displayed in Table 4.12 below.

Table 4.12: Seven factor component matrix solution for the subscale measuring e-service quality

| | Component | | | | | | |
|-----------------------------|-----------|------|-------|------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| SQ20 – Privacy | ,818 | | | | | | |
| SQ21 – Contact | ,761 | | | | | | |
| SQ19 – Privacy | ,721 | | | | | | -,363 |
| SQ22 – Contact | ,708 | | | | | | ,401 |
| SQ23 – Contact | ,577 | | | | | | ,457 |
| SQ18 – Privacy | ,553 | | | | | | -,534 |
| SQ2 – Efficiency | | ,891 | | | | | |
| SQ3 – Efficiency | | ,859 | | | | | |
| SQ1 – Efficiency | | ,825 | | | | | |
| SQ4 – Efficiency | | ,697 | | | | | |
| SQ5 – Efficiency | | ,517 | -,381 | | | | |
| SQ8 – Efficiency | | | -,827 | | | | |
| SQ9 – Systems availability | | | -,771 | | | | |
| SQ10 – Systems availability | | | -,693 | | | | |
| SQ11 – Systems availability | | | -,649 | | | -,348 | |
| SQ6 – Efficiency | | | -,639 | | | | |
| SQ7 – Efficiency | | | -,508 | | | | |
| SQ32 – Perceived value | | | | ,827 | | | |
| SQ31 – Perceived value | | | | ,806 | | | |
| SQ30 – Perceived value | | | | ,776 | | | |
| SQ29 – Perceived value | | | | ,733 | | | |
| SQ27 – Loyalty intention | | | | | -,953 | | |
| SQ26 – Loyalty intention | | | | | -,899 | | |
| SQ25 – Loyalty intention | | | | | -,772 | | |
| SQ28 – Loyalty intention | | | | | -,723 | | |
| SQ24 – Loyalty intention | ,366 | | | | -,493 | | ,404 |

| | Components | | | | | | |
|-----------------------------|------------|---|-------|---|---|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| SQ14 – Fulfilment | | | | | | -,859 | |
| SQ15 – Fulfilment | | | | | | -,816 | |
| SQ13 – Fulfilment | | | | | | -,730 | |
| SQ16 – Fulfilment | | | | | | -,696 | |
| SQ12 – Systems availability | | | -,393 | | | -,568 | |
| SQ17 – Fulfilment | ,388 | | | | | -,407 | -,455 |

The results confirm the underlying structure of the sub-scale as all seven facets that were presumed to be measured came to the fore in the results including efficiency, systems availability, fulfilment, privacy, contact, loyalty intention and perceived value.

In Section 4.3 the reliability coefficients and factor analyses of the measuring instruments were discussed. From the results presented it is clear that the subscales and full scale had good to very good reliability. Furthermore, the underlying structure of the variables included in the study were confirmed. A description of the participants of the study will be presented in the next section.

4.3 DESCRIPTION OF THE PARTICIPANTS OF THE STUDY

The final sample of the study consisted of 390 individuals. In this section the biographical details of the sample will be presented (see Section A of the research questionnaire attached as Annexure A).

The gender distribution of the sample is indicated in Table 4.13.

Table 4.13: Gender distribution of the sample

| Gender | Frequency | Percentage | Cumulative percentage |
|--------------|------------|------------|-----------------------|
| Male | 205 | 52.56 | 52.56 |
| Female | 167 | 42.82 | 95.38 |
| Missing | 18 | 4.62 | 100.00 |
| Total | 390 | 100 | |

Most respondents provided information regarding their gender (95.38%). The sample consisted predominantly of males (n=205, 52.56%). The female respondents (n=167) formed 42.82% of the total sample. A total of 18 respondents (4.62%) did not answer the question regarding their gender.

In Table 4.14 the date of birth of the sample is presented.

Table 4.14: Date of birth of the sample

| Date of birth | Frequency | Percentage | Cumulative percentage |
|-----------------|------------|------------|-----------------------|
| 1990 and later | 169 | 43.33 | 43.33 |
| 1970-1989 | 134 | 34.36 | 77.69 |
| 1950-1969 | 52 | 13.33 | 91.02 |
| 1949 and before | 17 | 4.36 | 95.38 |
| Missing | 18 | 4.62 | 100 |
| TOTAL | 390 | 100 | |

Most respondents provided information regarding their date of birth (95.38%). The sample consisted predominantly of individuals born in 1990 or later (n=169, 43.33%), followed by the respondents born between 1970 and 1989 (n=134, 34.36%), 1950 to 1969 (n=52, 13.33%) and 1949 and before (n=17, 4.36%). A total of 18 respondents (4.62%) did not answer the question pertaining to date of birth.

In Table 4.15 the highest educational qualification of the sample is presented.

Table 4.15: Highest educational qualification of the sample

| Highest educational level | Frequency | Percentage | Cumulative percentage |
|-----------------------------|------------|------------|-----------------------|
| Below Grade 12 | 107 | 27.44 | 27.44 |
| Grade 12 | 196 | 50.26 | 77.70 |
| Diploma or degree | 61 | 15.64 | 93.34 |
| Post-graduate qualification | 16 | 4.10 | 97.44 |
| Missing | 10 | 2.56 | 100 |
| TOTAL | 390 | 100 | |

Most respondents provided information regarding their highest educational qualification (97.44%). The sample consisted predominantly of individuals who are in possession of a Grade 12 certificate (n=196, 50.26%), followed by individuals who have a qualification less than Grade 12 (n=107, 27.44%), individuals holding a diploma or degree qualification (n=61, 15.64%), and post-graduate qualification (n=16, 4.10%). A total of 10 respondents (2.56%) did not answer the question regarding highest educational qualification.

In Table 4.16 the employment status distribution of the sample is presented.

Table 4.16: Employment status of the sample

| Employment status | Frequency | Percentage | Cumulative percentage |
|-------------------|------------|------------|-----------------------|
| Self-employed | 128 | 32.82 | 32.82 |
| Employed | 86 | 22.05 | 54.87 |
| Unemployed | 151 | 38.72 | 93.59 |
| Other | 16 | 4.10 | 97.69 |
| Missing | 9 | 2.31 | 100 |
| TOTAL | 390 | 100 | |

Most respondents provided information regarding their employment status (97.69%). The sample consisted predominantly of individuals who are unemployed (n=151, 38.72%), followed by individuals who are self-employed (n=128, 32.82%), and employed (n=86, 22.05%). A total of 16 respondents (n=16, 4.10%) chose the “other” category and nine respondents (2.31%) did not answer the question regarding employment status.

In Table 4.17 the income distribution of the sample is presented (see question 18 of the research questionnaire attached as Annexure A).

Table 4.17: Income distribution of the sample

| Income | Frequency | Percentage | Cumulative percentage |
|-------------------|-----------|------------|-----------------------|
| Less than R5 000 | 299 | 76.67 | 76.67 |
| R5 000 to R20 000 | 56 | 14.36 | 91.03 |
| More than R20 000 | 15 | 3.85 | 94.88 |
| Missing | 20 | 5.12 | 100 |
| TOTAL | 390 | 100 | |

Most respondents provided information regarding their income (94.88%). The sample consisted predominantly of individuals who are earning less than R5 000 per month (n=299, 76.67%), followed by individuals who are earning between R5 000 and R20 000 per month (n=56, 14.36%) and more than R20 000 (n=15, 3.85%). A total of 20 respondents (5.12%) did not answer the question regarding income.

From the biographical results presented in Table 4.13 to Table 4.17, the participants of the study may be described as mostly males and mostly born in 1990 or later. Furthermore, most respondents have a Grade 12 certificate and most are unemployed. Most of the respondents indicated that their income is below R5 000.

4.4 DESCRIPTIVE RESULTS REGARDING INTERNET BANKING DECISION-MAKING

From the literature review presented in Chapter 2, it became apparent that a number of considerations influence internet banking decision-making. These considerations are, for example, access to traditional banks, distance that the individual resides from the bank, the place where people do their banking transactions, the time it took from the time you first heard about internet banking until you decided to use it, consultation and the types of people that influence internet banking decisions. In Tables 4.18 to 4.23 the results related to these general questions regarding internet banking are presented.

In Table 4.18, information regarding respondents' access to traditional banks is presented.

Table 4.18: Respondents' access to traditional banks

| Access to banking facilities | Frequency | Valid % | Cumulative % |
|------------------------------|------------|------------|--------------|
| Yes | 297 | 76.2 | 76.20 |
| No | 81 | 20.7 | 96.90 |
| Missing | 12 | 3.1 | 100 |
| Total | 390 | 100 | |

The question regarding access to traditional banks were posed to establish whether traditional banks are available to respondents regardless of whether they are using this service. According to the information presented in Table 4.18, 76.2% (n=297) of respondents indicated that they have access to traditional banks, while only 20.7% (n=81) of respondents indicated that they do not have access to a bank. A total of 12 (3.1%) of the respondents did not answer the question. An overwhelming majority of the respondents, therefore, have access to a traditional bank.

In Table 4.19 respondents' ease of access to the nearest bank will be presented.

Table 4.19: Respondents' ease of access to the nearest bank

| Ease of access to nearest bank | Frequency | Valid % | Cumulative % |
|--------------------------------|------------|------------|--------------|
| Walking distance | 236 | 60.51 | 60.51 |
| Driving distance | 128 | 32.82 | 93.33 |
| Missing | 26 | 6.67 | 100 |
| Total | 390 | 100 | |

Table 4.19 indicates that most respondents (n=236, 60.51%) stay within walking distance of the nearest bank, while 32.82% (n=128) of the respondents stay within driving distance of the nearest bank. A total of 26 (6.67%) of the respondents did not answer the question. Most respondents are, therefore, within a reasonable distance from the nearest traditional bank.

In Table 4.20 data regarding respondents' knowledge of internet banking is presented.

Table 4.20: Respondents' knowledge of internet banking

| Usage of internet banking | Frequency | Valid % | Cumulative % |
|---------------------------|------------|------------|--------------|
| Yes | 300 | 76.92 | 76.92 |
| No | 72 | 18.46 | 95.38 |
| Missing | 18 | 4.62 | 100 |
| Total | 390 | 100 | |

With regards to knowledge of internet banking, most of the respondents (n=300; 76.92%) reported that they have knowledge of internet banking and only 72 respondents (18.46%) indicated that they have not heard of internet banking. A total of 18 respondents (4.62%) did not answer the question.

In Table 4.21 data regarding the time of respondents' first knowledge about internet banking is presented.

Table 4.21: Period during which respondents obtained first knowledge of internet banking

| Period of first knowledge of internet banking | Frequency | Valid % | Cumulative % |
|---|------------|------------|--------------|
| 1996-2000 | 48 | 12.31 | 12.31 |
| 2001-2005 | 77 | 19.74 | 32.05 |
| 2006-2010 | 89 | 22.83 | 54.88 |
| 2011-2016 | 172 | 44.10 | 98.98 |
| Missing | 4 | 1.02 | 100 |
| Total | 390 | 100 | |

With regards to the period during which respondents were first informed about internet banking, the majority of the respondents became knowledgeable about internet banking between 2011 to 2016 (n=172, 44.10%), followed by those who became knowledgeable about internet banking between 2006 and 2010 (n=89, 22.83%), followed by those who became knowledgeable between 2001 and 2005 (n=77, 19.74%), and lastly those who became knowledgeable of internet

banking between 1996 and 2000 (n=48, 12.31%). A total of 4 (1.02%) respondents did not answer the question.

In Table 4.22, respondents' main source of initial information about internet banking is indicated.

Table 4.22: Main source of initial information regarding internet banking

| Main sources of initial information regarding internet banking | Frequency | Valid % | Cumulative % |
|--|------------|------------|--------------|
| Radio or television | 148 | 37.94 | 37.94 |
| Bank | 140 | 35.89 | 73.83 |
| Friends or family | 84 | 21.54 | 95.37 |
| Other | 12 | 3.08 | 98.45 |
| Missing | 6 | 1.55 | 100 |
| Total | 390 | 100 | |

According to Table 4.22, 148 respondents (37.94%) were initially informed regarding internet banking by radio or television, 140 respondents (35.89%) were initially informed by the bank itself, 21.54% (n=84) of the respondents were initially informed by friends or family members, and 12 respondents (3.08%) were informed by another source. A total of 6 (1.55%) of the respondents did not answer the question.

In Table 4.23 the respondents' usage of internet banking is indicated.

Table 4.23: Respondents' usage of internet banking

| Usage of internet banking | Frequency | Valid % | Cumulative % |
|---------------------------|------------|------------|--------------|
| Yes | 173 | 44.36 | 44.36 |
| No | 198 | 50.77 | 95.13 |
| Missing | 19 | 4.87 | 100 |
| Total | 390 | 100 | |

With regard to the usage of internet banking, the results presented in Table 4.23 show that 173 (44.36%) of the respondents are using internet banking, and 198 (50.77%) are not using internet banking. A total of 19 (4.87%) of the respondents did not answer the question.

From the information presented in Tables 4.18 to 4.23, it is clear that most of the respondents have access to traditional banks and most live within walking distance from these banks. Since most of the respondents have access to traditional banks. Most respondents, however, indicated that they have only recently been informed about internet banking (between 2011 and 2016), and that they were mostly informed about internet banking through radio and/or television, or via the bank itself. This implies that traditional banks situated in rural areas, as well as media such as radio and television can be used more effectively in order to promote internet banking usage and to assist this group of customers in using internet banking.

The results presented also indicated that only 44.36% of the sample is currently using internet banking, and that 50.77% of the sample indicated that they are currently not using internet banking. Since the following set of questions is related to the use of internet banking, only respondents who are using internet banking are included. Those who have indicated that they have knowledge of internet banking or who have used internet banking in the past were not included in the data presented in tables 4.24 to 4.30.

In Table 4.24 the respondents' preferred method of internet connection is indicated.

Table 4.24: Respondents' preferred method of internet connection

| Preferred method of connection | Frequency | Valid % | Cumulative % |
|--------------------------------|------------|------------|--------------|
| Cell phone data | 118 | 68.6 | 89.53 |
| Wi-Fi | 36 | 20.93 | 20.93 |
| Other data | 10 | 5.82 | 98.84 |
| Landline/ADSL line | 6 | 3.49 | 93.02 |
| Missing | 2 | 1.16 | 100 |
| Total | 172 | 100 | |

The results indicated in Table 4.24 indicate that most respondents conduct internet banking by connecting to the internet via their cell phone data (n=118, 68.6%), followed by respondents using Wi-Fi (n=36, 20.93%), or other sources of data (n=10, 5.82%), and only a few respondents use a landline or ADSL line (n=6, 3.49%). Only 2 (1.16%) of the respondents did not answer the question.

In Table 4.25, the type of device that respondents use to do internet banking will be presented.

Table 4.25: Type of device used to conduct internet banking

| Type of device | Frequency | Valid % | Cumulative % |
|----------------|------------|------------|--------------|
| Cell phone | 121 | 70.35 | 70.35 |
| Tablet | 25 | 14.55 | 84.90 |
| Computer | 24 | 13.95 | 98.85 |
| Other | 2 | 1.15 | 100 |
| Total | 172 | 100 | |

The data presented in Table 4.25 reveal that an overwhelming majority of respondents (n=121, 70.35%) use their cell phones to conduct internet banking, followed by respondents using tablets (n=25, 14.55%) and computers (n=24, 13.95%). Only two respondents (1.15%) indicated that they use another type of device to conduct internet banking.

In Table 4.26, data regarding the place where respondents execute internet banking transactions are presented.

Table 4.26: Place where respondents do internet banking transactions

| Facility | Frequency | Valid % | Cumulative % |
|---------------|------------|------------|--------------|
| Home | 91 | 52.91 | 52.91 |
| Internet Cafe | 55 | 31.98 | 84.89 |
| Work | 16 | 9.30 | 94.19 |
| Other | 10 | 5.81 | 100 |
| Total | 172 | 100 | |

The data presented in Table 4.26 indicate that most respondents (n=91, 52.91%) do internet banking transactions at home, while 55 respondents (31.98%) use internet cafes to execute internet banking transactions, 16 (9.30%) execute internet banking transactions at work, and 10 (5.81%) chose the 'other' category.

In Table 4.27, data regarding the time span from being informed about internet banking and adopting internet banking are presented.

Table 4.27: Time span from being informed and adopting internet banking

| Time span | Frequency | Valid % | Cumulative % |
|---------------------------|------------|------------|--------------|
| Immediately started using | 71 | 41.28 | 41.28 |
| Less than a year | 74 | 43.02 | 84.30 |
| Between 1 and 5 years | 11 | 6.40 | 90.70 |
| More than 5 years | 16 | 9.30 | 100 |
| Total | 172 | 100 | |

According to the information presented in Table 4.27, 71 of the respondents (41.28%) indicated that they started using internet banking immediately. A total of 74 respondents (43.02%) started using internet banking within less than a year, 11 respondents (6.40%) between one and five years, and 16 respondents (9.30%) took more than five years to adopt internet banking. This implies that an overwhelming majority of the respondents (84.30%) took less than year to adopt internet banking after being informed about this banking channel. Only a limited number of respondents (n=27, 15.70%) took a year or more to adopt internet banking.

In Table 4.28, data regarding the extent to which the community was consulted regarding internet banking are presented.

Table 4:28: Consultation of community before adopting internet banking

| Extent of consultation in community | Frequency | Valid % | Cumulative % |
|-------------------------------------|------------|------------|--------------|
| Widely | 24 | 13.95 | 13.95 |
| Many people | 78 | 45.35 | 59.30 |
| Few people | 47 | 27.33 | 86.63 |
| Not at all | 22 | 12.79 | 99.42 |
| Missing | 1 | 0.58 | 100 |
| Total | 172 | 100 | |

The data presented in Table 4.28 shows that 24 respondents (13.95%) consulted widely before adopting internet banking, while 78 respondents (45.35%) indicated that they consulted many people, 47 respondents (27.33%) consulted few people and 22 respondents (12.79%) reported that they did not consult at all. One respondent (0.58%) did not answer the question.

In Table 4.29, data regarding sources of internet banking information are presented.

Table 4.29: Sources of internet banking information

| Sources of information | Frequency | Valid % | Cumulative % |
|------------------------|------------|------------|--------------|
| Friend/family | 117 | 30 | 30 |
| Bank | 143 | 36.67 | 66.67 |
| Radio/TV | 120 | 30.77 | 97.44 |
| Other | 5 | 1.28 | 98.72 |
| Missing | 5 | 1.28 | 100.00 |
| TOTAL | 390 | 100 | |

The data presented in Table 4.29 indicates that banks inform most respondents about internet banking (n=143, 36.67%), followed by radio and television (n=120, 30.77%), family or friends (n=117, 30%) and other (n=5; 1.28%). A total of 5 respondents (1.28%) did not answer the question.

In Table 30, data of groups influencing internet banking adoption decisions of respondents are presented.

Table 4.30: Groups influencing internet banking adoption decisions of respondents most

| Sources of information | Frequency | Valid % | Cumulative % |
|------------------------|-----------|---------|--------------|
| Friends | 73 | 42.45 | 42.45 |
| Family | 69 | 40.13 | 82.58 |
| Co-workers | 15 | 8.69 | 91.27 |
| Others | 7 | 4.07 | 95.34 |
| Neighbours | 5 | 2.92 | 98.26 |
| Missing | 3 | 1.74 | 100.00 |

The data presented in Table 4.30 indicates that friends primarily influenced respondents to use internet banking (n=73, 42.45%), followed by family (n=69, 40.13%) and co-workers (n=15, 8.69%). A total of seven respondents (4.07%) indicated that other people influenced them to use internet banking and five respondents (2.92%) indicated that they were influenced by neighbours. A few respondents (n=3, 1.74%) did not answer the question.

The information presented in Tables 4.24 to 4.30 indicates that respondents who are using internet banking use it mostly at home. Moreover, respondents primarily use their cell-phones to conduct internet banking and most connect to the internet via data loaded on their cell-phones. Most of the respondents started using internet banking in less than a year which implies that the rural banking customers included in this study adopted internet banking relatively quickly. Before they started using internet banking, however, the majority of respondents consulted many people. Respondents were mostly informed about internet banking by the bank itself. These findings may imply that it will be meaningful for banks to consider providing banking clients with free data which may promote the usage of internet banking via cell-phones. Furthermore, social groups are important channels of communication in rural areas which can be used in order to disseminate information regarding internet banking.

4.5 MEASURES OF CENTRAL TENDENCIES

It is necessary to assess the levels of the scores of the respondents in the current sample. Table 4.31 provides an indication of the measures of central tendencies of innovation characteristics, factors influencing internet banking adoption and e-service quality. Take note that the median represents the 50% mark in each case. In order to determine whether the respondents' evaluation was positive or negative, the median and the mean are compared with each other.

Table 4.31: Measures of central tendency

| Dimensions | Min | Max | Mean | Median | Std. |
|---|-----|-----|-------|--------|-------|
| Construct: Characteristics of innovation | | | | | |
| Relative advantage | 4 | 25 | 15.69 | 16 | 4.895 |
| Compatibility | 5 | 25 | 15.32 | 15 | 4.930 |
| Complexity | 4 | 20 | 12.35 | 13 | 3.983 |
| Trialability | 2 | 58 | 12.44 | 12 | 4.267 |
| Observability | 2 | 25 | 15.51 | 15 | 4.915 |
| Dimensions | Min | Max | Mean | Median | Std. |
| Construct: Factors influencing internet banking adoption | | | | | |
| Convenience | 4 | 55 | 14.48 | 15 | 4.245 |
| Prior knowledge and usage | 4 | 44 | 13.90 | 14 | 5.587 |
| Security | 4 | 20 | 13.60 | 14 | 4.138 |
| Perceived risk | 2 | 20 | 12.83 | 14 | 3.980 |
| Information | 4 | 20 | 12.53 | 13 | 4.128 |
| Construct: e-service quality | | | | | |
| Efficiency | 9 | 55 | 27.32 | 28 | 6.690 |
| System availability | 4 | 20 | 12.84 | 13 | 3.659 |
| Fulfilment | 5 | 25 | 16.62 | 17 | 4.654 |
| Privacy | 2 | 15 | 10.19 | 11 | 3.272 |
| Contact | 3 | 15 | 10.20 | 10 | 3.073 |
| Loyalty intention | 5 | 25 | 17.58 | 18 | 4.879 |
| Perceived value | 13 | 40 | 32.32 | 33 | 5.365 |

According to the measures of central tendency presented in Table 4.31, it would seem that the following aspects related to innovation characteristics were below the median, namely relative advantage (mean = 15.59; median = 16) as well as complexity (mean = 12.35; median = 13.00). All the other aspects measured represented a positive perspective or view of innovation characteristics. In terms of the factors that influence internet banking adoption, all the factors were below the median, namely convenience (mean = 14.48; median = 15), prior knowledge and usage (mean = 13.90; median = 14), security (mean = 13.60; median = 14), perceived risk (mean = 12.83; median = 14) and information regarding internet banking (mean = 12.53; mean = 13). Regarding e-service quality, only one aspect scored above the median, namely contact (mean = 10.20; median = 10). The following aspects scored below the median including efficiency (mean = 27.32; median = 28), system availability (mean = 12.84; median = 13), fulfilment (mean = 16.62, median = 17), privacy (mean = 10.19, median = 11), loyalty intention (mean = 17.58, median = 18) and perceived value (mean = 32.32; median = 33).

In the next sections (sections 4.6 and 4.7) the relationship between innovation characteristics, factors influencing internet banking and e-service quality are discussed.

4.6 THE RELATIONSHIP BETWEEN CHARACTERISTICS OF INNOVATION AND E-SERVICE QUALITY

In this section the relationship between the innovation characteristics and e-service quality is discussed. In order to establish whether a significant relationship exists between these factors, Pearson's Product Moment Correlation was performed. The correlation (r) indicates the linear relationship between two interval or ratio variables, and can have a value between -1 and +1. The following guidelines will be used to interpret the correlations between the variables measured (Cohen, 1988:79-81): weak correlation ($r=0.10$ to 0.29), medium correlation ($r=0.30$ to 0.49), strong correlation (0.5 to 1.0). Table 4.32

below illustrates the results of the correlation analysis indicating the relationship between characteristics of innovation and e-service quality.

Table 4:32 Pearson's Product Moment Correlation results for characteristics of innovation, factors influencing internet banking adoption and e-service quality

| Variables | | Relative advantage | Com- patibility | Com- plexity | Trial- ability | Obser- vability | e- Service quality |
|--------------------|---------------------|--------------------|--------------------|-----------------|-------------------|--------------------|--------------------------|
| Relative advantage | Pearson Correlation | 1 | | | | | |
| | Sig. (2-tailed) | | | | | | |
| Compatibility | Pearson Correlation | .532** | 1 | | | | |
| | Sig. (2-tailed) | .000 | | | | | |
| Complexity | Pearson Correlation | .403** | .504** | 1 | | | |
| | Sig. (2-tailed) | .000 | .000 | | | | |
| Triability | Pearson Correlation | .207** | .163** | .253** | 1 | | |
| | Sig. (2-tailed) | .000 | .001 | .000 | | | |
| Observability | Pearson Correlation | .277** | .340** | .371** | .263** | 1 | |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | | |
| e-Service quality | Pearson Correlation | .287** | .369** | .357** | .119* | .344** | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | .019 | .000 | |

* $p \leq 0.05$; ** $p \leq 0.01$

The Pearson's Product Moment correlation results presented in Table 4.32 indicated that all the variables had statistically significant correlations:

- Compatibility had a statistically significant positive relationship with relative advantage. This relationship was strong ($r = 0.532$; $p \leq 0.000^{**}$).
- Complexity had a statistically significant positive relationship with relative advantage ($r = 0.403$; $p \leq 0.000^{**}$) as well as compatibility ($r = 0.504$; $p \leq 0.000^{**}$).
- Trialability had a statistically significant positive relationship with relative advantage ($r = 0.207$; $p \leq 0.000^{**}$), compatibility ($r = 0.163$; $p \leq 0.001^{**}$)

as well as complexity ($r = 0.253$; $p \leq 0.000^{**}$). All these relationships were weak.

- Observability had a statistically significant positive relationship with relative advantage ($r = 0.277$; $p \leq 0.000^{**}$), compatibility ($r = 0.340$; $p \leq 0.000^{**}$), complexity ($r = 0.371$; $p \leq 0.000^{**}$) as well as trialability ($r = 0.263$; $p \leq 0.000^{**}$).
- E-service quality had a statistically significant positive relationship with relative advantage ($r = 0.287$; $p \leq 0.000^{**}$), compatibility ($r = 0.369$; $p \leq 0.000^{**}$), complexity ($r = 0.357$; $p \leq 0.000^{**}$), trialability ($r = 0.119$; $p \leq 0.019^*$) and observability ($r = 0.344$; $p \leq 0.000^{**}$).

Multiple regression analysis was performed to determine the influence of characteristics of innovation on e-service quality. Please take note that normality was assumed.

Table 4.33: Multiple regression analysis results for characteristics of innovation and e-service quality

| Independent Variables | e-Service quality | | | | | | | |
|-----------------------|-------------------|----------------|--------|---------|--------|---------------------|---------------------|-------|
| | R | R ² | F | β | t | P | Partial Correlation | VIF |
| Relative advantage | 0.464 | 0.215 | 20.980 | 0.071 | 1.296 | 0.196 | 0.066 | 1.468 |
| Compatibility | | | | 0.181 | 3.108 | 0.002 ^{**} | 0.157 | 1.657 |
| Complexity | | | | 0.165 | 2.984 | 0.003 ^{**} | 0.151 | 1.493 |
| Trialability | | | | -0.021 | -0.443 | 0.658 | -0.023 | 1.119 |
| Observability | | | | 0.207 | 4.097 | 0.000 ^{**} | 0.205 | 1.250 |

R, R-value; R², R-squared value; F, F-value; β , Beta-value; p, significance; VIF, Variance Inflation Factor. ^{**} $p \leq 0.01$

Analysing the regression focusing on characteristics of innovation simultaneously on e-service quality resulted in a multiple regression correlation of 0.215 ($R^2 = 0.215$) that is significantly different from zero as can be seen in Table 4.33. Thus, the various independent variables (e.g. relative advantage, compatibility, complexity, trialability and observability) in conjunction predicted

21.5% of the variance in e-service quality. Significant unique contributions of prediction were found for compatibility ($\beta = 0.181$; $p \leq 0.002^{**}$) which contributed 2.46% of the variance (partial correlation = 0.157), complexity ($\beta = 0.165$; $p \leq 0.003^{**}$) which contributed 2.28% of the variance (partial correlation = 0.151) and lastly Observability ($\beta = 0.207$; $p \leq 0.000$) which contributed 4.20% of the variance.

4.7 THE RELATIONSHIP BETWEEN FACTORS INFLUENCING INTERNET BANKING ADOPTION AND E-SERVICE QUALITY

Table 4.34 below illustrates the results of the correlation analysis indicating the relationship between factors influencing internet banking adoption and e-service quality.

Table 4:34: Pearson's Product Moment Correlation results for factors influencing internet banking adoption and e-service quality

| Variables | | Convenience | Prior knowledge | Security | Risk | Info online banking | e-Service quality |
|---------------------|---------------------|-------------|-----------------|----------|--------|---------------------|-------------------|
| Convenience | Pearson Correlation | 1 | | | | | |
| | Sig. (2-tailed) | | | | | | |
| Prior knowledge | Pearson Correlation | .141** | 1 | | | | |
| | Sig. (2-tailed) | .005 | | | | | |
| Security | Pearson Correlation | .248** | .311** | 1 | | | |
| | Sig. (2-tailed) | .000 | .000 | | | | |
| Risk | Pearson Correlation | .246** | .156** | .469** | 1 | | |
| | Sig. (2-tailed) | .000 | .002 | .000 | | | |
| Info Online Banking | Pearson Correlation | .213** | .007 | .254** | .415** | 1 | |
| | Sig. (2-tailed) | .000 | .897 | .000 | .000 | | |
| e-Service quality | Pearson Correlation | .139** | .124* | .327** | .242** | .310** | 1 |
| | Sig. (2-tailed) | .006 | .014 | .000 | .000 | .000 | |

* $p \leq 0.05$; ** $p \leq 0.01$

The Pearson product moment correlation results (see Table 4:34) indicates that all the variables had statistically significant correlations, specifically:

- Convenience had a statistically significant positive relationship with prior knowledge and usage ($r = 0.141$; $p \leq 0.005^{**}$). However, the relationship was weak.
- Security had a statistically significant positive relationship with convenience and the aforementioned was weak ($r = 0.248$; $p \leq 0.000^{**}$). The relationship between security and prior knowledge was statistically significant and of medium strength ($r = 0.311$; $p \leq 0.000^{**}$).
- Risk had a statistically significant positive relationship with convenience and prior knowledge and usage. These relationships were weak ($r = 0.246$; $p \leq 0.000^{**}$) for convenience and prior knowledge ($r = 0.156$; $p \leq 0.002^{**}$). Furthermore, risk had also a statistically significant positive relationship with security ($r = 0.469$; $p \leq 0.000^{**}$). This relationship was medium in strength.
- Information regarding online banking had a statistically significant positive relationship with convenience ($r = 0.213$; $p \leq 0.000^{**}$), security ($r = 0.254$; $p \leq 0.000^{**}$) as well as risk ($r = 0.415$; $p \leq 0.000^{**}$). The last mentioned relationship was medium while the other two correlations were weak.
- Service quality had a statistically significant positive relationship with convenience ($r = 0.139$; $p \leq 0.006^{**}$), prior internet knowledge and usage ($r = 0.124$; $p \leq 0.014^*$), security ($r = 0.327$; $p \leq 0.000^{**}$), risk ($r = 0.242$; $p \leq 0.000^{**}$) as well as information regarding online banking ($r = 0.310$; $p \leq 0.000^{**}$).

Multiple regression analysis was performed to determine the influence of characteristics of innovation on e-service quality. Please take note that normality was assumed.

Table 4.35: Multiple regression analysis results for characteristics of innovation and e-service quality

| Independent Variable | Service quality | | | | | | | |
|-------------------------------|-----------------|----------------|--------|-------|-------|---------|---------------------|-------|
| | R | R ² | F | β | t | P | Partial Correlation | VIF |
| Convenience | 0.406 | 0,164 | 15.002 | 0.018 | 0.357 | 0.721 | 0.018 | 1.112 |
| Prior knowledge | | | | 0.042 | 0.856 | 0.393 | 0.044 | 1.123 |
| Security | | | | 0.240 | 4.301 | 0.000** | 0.215 | 1.418 |
| Risk | | | | 0.021 | 0.370 | 0.712 | 0.019 | 1.474 |
| Info regarding online banking | | | | 0.236 | 4.525 | 0.000** | 0.226 | 1.243 |

R, R-value; R², R-squared value; F, F-value; B, Beta-value; p, significance; VIF, Variance Inflation Factor. **p ≤ 0.01

Analysing the regression focusing on the factors influencing internet banking adoption simultaneously on e-service quality resulted in a multiple regression correlation of 0.164 ($R^2 = 0.164$) that is significantly different from zero as can be seen in Table 4.35. Thus, the various independent variables (e.g. convenience, prior knowledge, security, risk, and information regarding online banking) in conjunction predicted 16.4% of the variance in e-service quality. Significant unique contributions of prediction were found for security ($\beta = 0.240$; $p \leq 0.000^{**}$) which contributed 4.62% of the variance (partial correlation = 0.215), and information regarding online banking ($\beta = 0.236$; $p \leq 0.000^{**}$) which contributed 5.11% of the variance.

4.8 CONCLUSION

In Chapter 4 the reliability of the measuring instruments was discussed, after which measures of central tendencies and findings of the study were presented. The chapter presented a number of different methods of quantitative analysis applied to obtain descriptive statistics. The results were presented in the form of tables which assisted to provide a detailed analysis of the data collected. The findings regarding factors influencing internet banking adoption, characteristics of innovation and e-service quality were presented. In the next chapter, a

discussion of the findings will be presented. A summary of research questions, showing clearly what can be understood from the findings and the implications thereof will also be presented.

CHAPTER 5:

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The previous chapter presented the findings of the study. In this chapter, these findings will be discussed, and research questions will be answered. This will be followed by presenting the implications of the findings as well as a discussion regarding the limitations of the study. Finally, recommendations for future research will be offered, and conclusions will be drawn.

5.2 RESEARCH QUESTION 1

The first research question of the study was: “How do rural banking customers perceive characteristics of innovation (i.e. internet banking)?” (see section 1.4.2). The results presented in Table 4.31 show that the respondents viewed the following innovation characteristics positively, namely compatibility, trialability and observability. The overall score for innovation characteristics was also positive. Relative advantage and complexity were viewed negatively.

In terms of relative advantage, the respondents did not perceive internet banking to be a better idea or hold more advantages than traditional banking. This finding is contradictory to the findings of Ramavhona and Mokwena (2016:5) who found that in rural areas internet banking makes it easier for residents to conduct banking transactions. The finding regarding relative advantage is concerning because previous research has indicated that the greater the perceived relative advantage of innovation the more rapidly the rate of adoption will be (Robinson, 2009:2). The perceived relative advantage of internet banking is, thus, a significant factor to consider in order to promote the rate of adoption. When the relative advantage of internet banking improves, it is possible that banking customers living in rural areas will adopt internet banking more quickly. Banks, therefore, need to understand what motivates rural customers and in this way

develop a strategy around factors that will motivate them to adopt internet banking.

It is possible that relative advantage was perceived negatively owing to respondents finding internet banking complex to use and, thus, not realising the advantages it holds. The results revealed that the respondents did not perceive internet banking as being user-friendly and easy to understand (see results for the complexity dimension of innovation characteristics). As was stated in chapter 2 (see section 2.2.3.3), it is expected that rural banking customers will possibly perceive internet banking as being complex, owing to their low literacy levels. However, it is noted that respondents were mostly in possession of a Grade 12 certificate (see Table 4:15). In addition, rural customers do not possess the required level of technical skills to use internet banking which may cause frustration and impair internet banking adoption (Laukkanen & Kiviniemi, 2010:372). Ramavhona and Mokwena (2016:6) found that complexity and relative advantage were not significant predictors of internet banking adoption in South African rural areas. It is possible, therefore, that, although these factors had low scores, they are likely not to influence the decision of rural customers to adopt internet banking. It is advisable, though, that banks investigate the complexity of internet banking in order to understand which features rural banking customers find complex. This information will assist banks in improving the user-friendliness of internet banking.

In terms of compatibility, the results show that the respondents perceived internet banking as being compatible with their lifestyle. In order to improve on the compatibility dimension, however, it is suggested that aspects, such as time and convenience, should be considered in order to ensure that respondents view internet banking as being consistent with their values and/or needs (Lee *et al.*, 2011:127). It is postulated that the stronger the compatibility characteristic of innovation becomes, the more likely it will be that rural banking customers will adopt internet banking.

The innovation characteristic of trialability was viewed positively by the sample. Ramavhona and Mokwena (2016:5) found, for a rural sample, that the majority of respondents wanted to be able to try internet banking for at least one month, and they indicated that they wanted to be able to use internet banking on a trial basis to discover what it could do. This suggests that banks need to consider creating the opportunity for rural banking customers to experiment with internet banking for at least a month, because that could possibly influence their perception of the relative advantage of internet banking.

Another innovation characteristic that was perceived positively is observability. Ramavhona and Mokwena (2016:5) found that the majority of rural respondents indicated that they were aware of internet banking, the facilities it offers and what they needed to do in order to become an internet banking user. They were aware of the services that could be used through Internet banking. It is possible, therefore, that rural customers are aware of internet banking, but, because they often do not have regular access to this facility and the internet, the latter possibly influences internet banking to a larger extent than the characteristics of innovation measured.

5.3 RESEARCH QUESTION 2

The second research question of the study was: “How do rural banking customers perceive the factors influencing internet banking adoption decisions?” (see section 1.4.2). The results presented in Table 4.31 show that the respondents did not agree with most of the statements regarding convenience, prior knowledge and usage, security, perceived risk and information.

In terms of convenience, the respondents did not agree that internet banking was convenient, and this included aspects such as having access to information, the speed of payment transactions and a sense of complete control over their bank accounts (Polasik & Wisniewsik, 2009:2). It is possible that rural banking customers do not see internet banking as being convenient, because of factors such as expensive data costs, a lack of internet access, and a lack of access to

electricity. It is, therefore, possible that the convenience of Internet banking will be realised if rural banking customers have access to electricity and are provided with data and facilities to access the internet.

The results presented in Table 4.31 further revealed that the respondents did not agree with statements pertaining to prior knowledge and usage of internet banking. This is to be expected, because people staying in rural areas are less exposed to computers and technology, and, consequently, internet banking (Collins & Wellman, 2010:1344). This may be one of the reasons why the respondents are not aware of the special features of internet banking and how it can benefit them. Similar to the argument offered in terms of convenience, often the rural population in South Africa does not have access to electricity and has limited access to internet banking, and so it is not surprising that prior knowledge and usage of internet banking had low scores. It is, therefore, possible that prior internet knowledge is limited in rural customers and so this population group may be unaware of the special features of internet banking and the benefits of using this banking channel. This shows that South African banks need to consider providing internet access to rural banking customers in order for them to become more conversant with the use of internet banking.

The sample also did not agree that Internet banking was safe to use. This finding supports the finding by Ramavhona and Mokwena (2016:5) who found that the majority of respondents (South Africans residing in a rural area) disagreed that internet banking is as safe as traditional banking and that banks have set security measures to protect their banking customers. Moreover, the security factor is regarded as one of the most important factors influencing the decision to use internet banking (Nasri, 2011:147). As was indicated in section 2.2.4.4, it is necessary for banks to focus on changing the perceptions of banking customers that internet banking is not as safe as traditional banking. This implies a strong focus on safety features of internet banking as compared to traditional banking.

Perceived risk also had low scores which suggests that the sample viewed internet banking as being risky. This finding is in line with the findings of Almogbil (2005:26) who found that the technical nature of the self-service features of internet banking, the functional risk of internet banking, is likely to be high in developing nations owing to the high level of illiteracy in these countries. Furthermore, Agarwal *et al.* (2009:5), Aslam and Sarwar (2010:59) also allude to the fact that developing countries experience operational difficulties such as slow internet connections and that these increase the chances of internet transactions not being completed, so increasing the risk of using internet banking. It is, therefore, suggested that the perceived risk of using Internet banking should be reduced and internet banking security should be improved. This seems to be possible only if more attention is paid to technical concerns regarding internet access and usage in rural areas.

Information regarding internet banking received low scores from the respondents, which may suggest that rural banking customers do not have enough information about internet banking. This may be indicative of unsuccessful or poor marketing strategies used in rural areas. Banks, therefore, need to improve their information-sharing regarding internet banking in order for rural customers to make informed decisions about the banking channel. It is suggested that banks should develop an active marketing strategy to diffuse information regarding internet banking. From the descriptive results presented in Table 4.29, it was reported that respondents indicated that they were informed about internet banking primarily by the bank itself, radio or television. This finding is in line with the Living Standards Measure (LSM) which indicates that LSM levels 1-5 (i.e. those that have completed high school or less, live in rural and small urban areas with an average household income of R4 310 or less) have access to radio and television (Parumasur & Roberts-Lombard, 2014:133).

Furthermore, the conceptual framework presented in Figure 1.1 showed that demographics are a factor that influences internet banking adoption. From the information presented in Tables 4.13 to 4.17, the sample of the study can be described as consisting of mostly males, and respondents are mostly born in 1990 and later. In terms of highest educational qualification, most respondents hold a Grade 12 qualification. Furthermore, the sample is mostly unemployed, earning a salary of less than R5 000 per month.

It was interesting to note that most of the sample had a Grade 12 qualification, which is contradictory to the description of rural customers that are described as having low educational levels (Mashingo, nd) and on average working-aged individuals have only five years of education (Daniels, Patridge, Kekana & Musundwa, 2013:11). The LSM indicates that some people living in rural areas have completed high school and have an average income of R4 310 per month (Parumasur & Roberts-Lombard, 2014:133). The current sample included working and unemployed individuals, and the statistics referred to by Daniels *et al.* (2013:11) included only working individuals. It is possible, therefore, that individuals with Grade 12 qualifications are mostly unemployed since the work opportunities in rural areas are mostly manual labour type of jobs in the agricultural and mining industries and these are mostly unskilled or semi-skilled jobs that do not require a Grade 12 qualification.

5.4 RESEARCH QUESTION 3

The third research question of the study was: “how do rural banking customers perceive e-service quality?” (see section 1.4.2). The results presented in Table 4.31 show that the following dimensions of e-service quality received low scores, namely efficiency, system availability, fulfilment, privacy, loyalty intention and perceived value. It was only the contact dimension of e-service quality that was perceived positively. This finding regarding e-service quality is in contrast to that of Bebli (2012:67) and Molapo (2008:11) who found that respondents were satisfied with the e-service quality of internet banking. Having customers that perceive e-service quality positively is important, since service quality is related

to customer satisfaction. It is, therefore, possible that, if banking customers are experiencing e-service quality, they will also experience customer satisfaction. Owing to the stiff competition between banks, it is important that they continuously strive to improve on the services that they offer in order to improve their customers' satisfaction and experience of e-service quality.

The respondents did not agree that internet banking services are efficient. This shows that they possibly found it difficult to access the internet banking website and that the speed of access might be slow. Possible contributing factors are, for example, a poor technology infrastructure and poor network coverage by data service providers. It is important that internet websites are accessible in any location and at any time. Moreover, it is also important that the bank's website does not freeze during a transaction which requires that current network coverage needs to be extended. In addition, respondents did not agree that the system was available, which implies that the technical functioning of internet banking was perceived negatively. It is important that banks repair system breakdowns on the website as quickly as possible. Moreover, banks should consider providing rural banking customers with data in order for them to enjoy a properly functioning internet banking system.

In terms of privacy, the respondents did not agree that internet banking sites are safe and protective of customer information. This shows that banks need to focus more on creating a sense of trust as far as internet banking is concerned in order for banking customers to have confidence in using the website. Moreover, a sense of security should be created in users of internet banking. Fulfilment was also viewed as negative which shows that the respondents did not perceive internet banking to deliver on its promises or that internet banking was accurately presented.

5.5 RESEARCH QUESTION 4

The fourth research question of the study was: “Is there a relationship between characteristics of innovation, factors influencing internet banking adoption decisions and e-service quality?” The results found a medium strong statistically significant positive correlation between Factors Influencing Internet Banking Adoption and Innovation Characteristics. A medium strong positive correlation was also indicated between e-Service Quality and Innovation Characteristics. This implies that, if the banks improve internet banking in terms of compatibility, trialability, observability, complexity, and relative advantage, this is likely to lead to an increase in the e-service quality of internet banking. On the other hand, a small statistically significant correlation was found between e-Service Quality and Factors Influencing Internet Banking Adoption. This shows that if banks improve the following aspects regarding internet banking, namely convenience, prior knowledge and usage, security, perceived risk and information, this is likely to improve the e-service quality of internet banking.

5.6 IMPLICATIONS OF FINDINGS FOR PRACTICE

The findings of the study hold many implications for banks if they are to accelerate the rate of internet banking adoption in rural areas. Firstly, it was found that rural banking customers do not agree that internet banking is easy and convenient to use or that it is advantageous to use it. This finding may be attributed to the lack of access to internet banking. Banks should consider the option of providing rural banking customers with data or regular access to technology in order for rural customers to become more familiar with internet banking and so make it more convenient for them to use.

Respondents also mentioned that they do not have much knowledge about internet banking and that they perceive it as being unsafe to use and risky. When people have more access to, and knowledge about, the internet, it is likely that they will use internet services more effectively, which will speed up the rate of internet banking adoption in rural areas. Apart from the important role of the

mass media to diffuse information about internet banking, it is suggested that word-of-mouth communication should be encouraged by banks to motivate potential customers to adopt internet banking. It is further suggested that government should provide free basic computer training in rural areas in order to educate people about computers and the internet. It will also be in the interests of rural citizens if public access to the internet is expanded and that the bandwidth in these areas is improved.

It is further important that banks note that rural banking customers are not satisfied with various dimensions of e-service quality, such as efficiency, system availability, fulfilment, privacy, loyalty intention and perceived value. In order to improve customer satisfaction in this very competitive banking environment, more attention needs to be paid to dimensions of e-service quality. Again, it might be that limited internet access and poor internet connectivity could influence the perceptions of banking customers and so banks are encouraged to partner with government in order to develop a properly functioning technology infrastructure in rural areas. This may improve the internet banking adoption rate and provide customers with greater independence with regard to controlling their banking activities and transactions.

5.7 LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH

Although the primary and secondary objectives of the research study were met, the study has some limitations. The first limitation is that it was impossible to draw a representative sample of the population. This limitation was encountered owing to the absence of a sampling frame that could not be provided by the banks because of confidentiality concerns. The research study, therefore, had to rely on banking customers who are already using internet banking, who have used internet banking, or who have knowledge of internet banking. The findings, therefore, cannot be generalised to a general rural sample of banking customers in South Africa.

Since only one town was included in the study, it is suggested that the study be conducted in other rural areas in South Africa in order to establish whether the findings of the study are similar in different geographical areas and in other provinces in South Africa. The study included only individual banking customers. Therefore, it is suggested that future research regarding internet banking and e-service quality should be extended to include corporate customers as well. This will also allow researchers to make meaningful comparisons between individual and corporate banking customers. A consideration for future research would also be to explore other demographic and psychological variables and to understand how these are related to internet banking adoption. Despite the above limitations, the study makes a unique contribution to technology adoption studies within the South African context.

5.8 CONCLUSION

From the aforementioned discussion, it is clear that all the objectives of this study have been achieved. The study provides an understanding of rural banking customers in terms of the factors that influence internet banking decision making, innovation characteristics that influence internet banking adoption, as well as e-service quality. From the results presented, one realises that the South African banking industry will have to focus more on understanding the needs and challenges of rural banking customers in order to improve their competitiveness in a very competitive market. The results of the study will provide valuable insights for South African banks which will assist them in responding to the changing needs, wants and preference of rural customers. Should banks not focus more on internet banking adoption in rural areas, however, it is likely that will have a negative impact on their future existence.

6 REFERENCE LIST

Agarwal, R., Ahuja, M., Carter, P.E. & Gans, M. 1998. Analysis of factors influencing adoption and usage of knowledge management. *Academy of Commercial Banking and Finance*, 8(1): 7–12.

Agarwal, R., Rastogi, S. & Mehrotra, A. 2009. Customer's perceptiveness regarding e-banking in an emerging economy. *Journal of Retailing and Customer Service*, 16 (2): 5-7.

Aguidissou, O., Shambare, R. & Rugimbana, R. 2017. Individual differences versus consumer readiness variables predictive power over internet banking adoption in South Africa. *Journal of Economics and Behavioral Studies*, 9(6): 26-38.

Akinci, S., Aksoy, S. & Atilgan, E. 2004. Adoption of Internet banking among sophisticated consumer segments in an advanced developing country. *International Journal of Bank Marketing*, 22(3): 212-232.

Akinyele, S.T. & Olorunleke, K. 2010. Technology and service quality in banking industry: An empirical study of various factors in electronic banking services. *International Business Management*, 4(4), 209-221.

Al-dweeri, R.M., Obeidat, Z.M., Al-dwiry, M.A., Alshurideh, M.T. & Alhorani, A.M. 2017. The impact of e-service quality and e-loyalty on online shopping: Moderating effect of e-satisfaction and e-trust. *International Journal of Marketing Studies*, 9(2): 92-103.

Al-Hawari, M. & Ward, T. 2006. The impact of automated service quality on financial performance and the mediating role of customer satisfaction. *Marketing Intelligence and Planning*, 24 (2):127-147.

Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafe, C. & Sanz-Blas, S. 2009. The role of consumer innovativeness and perceived risk in online banking usage. *Internet Journal of Bank Marketing*. 27(1): 53-75.

Alfreds, D. 2015. SA wary of internet banking. Retrieved from:
<http://www.fin24.com/Tech/News/SA-wary-of-internet-banking-20150624>.
Accessed on 17 May 2017.

Almogbil, A. 2005. *Security, perceptions, and practices: Challenges facing Adoption of online banking in Saudi*. Unpublished PhD Thesis. Washington: George Washington University.

Ananth, A., Ramesh, R. & Prabakaran, B. 2011. Service Quality GAP Analysis in Private Sector Banks: A Customer Perspective. *Internationally Indexed Journal*, II(1): 245-252.

Andaleeb, S.S. & Conway, C. 2006. Customer satisfaction in the restaurant industry: An examination of the transaction-specific model. *Journal of Service Marketing*, 20(1):3-11.

Anuar, M.M., Adam, F. & Mohamad, Z. 2012. Muslim consumers' perception on Internet banking services. *International Journal of Business and Social Science*, 3(5): 63-71.

Armstrong, G. & Kotler, P. 2000. *Marketing*. 5th ed. Prentice Hall: Englewood Cliffs, NJ.

Arunachalam, L. & Sivasubramanian, M. 2007. The future of Internet Banking in India. *Academic Open Internet Journal*, 20 (3): 111-121.

Asghar, N. 2012. An empirical analysis of customer satisfaction on adoption of internet banking in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 3(9):6.

Aslam H.D. & Sarwar, S. 2010. Improving Performance Management Practices in IT firms of Pakistan. *Journal of Management Research*. 2(2): 128-132.

Assensoh-Kodua, A., Migiros, S. & Mutambara, E. 2016. Mobile banking in South Africa: a systematic review of the literature. *Bank and Bank Systems*, 11(1): 34-41.

Austin, N. K., Ibeh, K. I. N. & Yee, J. C. C. 2006. Consumer trust in the online travel marketplace. *Journal of Internet Commerce*, 5(2): 21-39.

Bacal & Associates. 2013. Why are consistency, reliability and predictability so important in customer service? Retrieved from:
<http://www.work911.com/planningmaster/faq/fail/htm>. Accessed on 14 May 2014.

Banking Innovation Study South Africa. 2012. Retrieved from:
<http://www.systemiclogic.com/wp-content/uploads/2012/04/2012-Banking-innovation-study-highlevel-overview-v1.01.pdf>. Retrieved on 2 July 2017.

Baker, J., Lee, S. Song, J. & Wetherbe, J.C. 2012. Examining online Consumers behaviour: a service oriented view. *International Journal of Information Management*, 32: 221-231.

Barker, F. 2007. *The South African labour market: Theory and practice*. Van Schaiks: Pretoria.

Batagan, L., Pocovnicu, A. & Capsizu, S. 2009. E-service quality management. *Journal of Applied Quantitative Methods*, 4(3): 372-381.

Bebli, R.S. 2012. Internet banking service quality on customer satisfaction in the banking sector of Ghana. *Journal of marketing research*, 4(2): 67.

Beneke, J., Acton, A., Richardson, D. & White, F. 2011. E-service quality: An investigation of its key dimensions and the discriminatory power in the residential property sector. *Acta Commercii*, 75-87.

Berry, Parasuraman & Zeithaml. 1990. Five Imperatives for Improving Service Quality. *Sloan Management Review*, Summer, 1990: 29-38.

Bitner, M. J., Gremler, D. & Zeithaml, V. 2008. *Service Marketing*. New York: McGraw Hill.

Blose, J. E. & Tankersley, W. B. 2004. Linking dimensions of service quality to original outcomes. *Managing service quality*, 14 (1): 75-89.

Blumberg, B., Cooper, D.R. & Schindler, P.S. 2008. *Business research methods*. London: McGraw-Hill.

Boone, L. & Kurtz, D. 2000. *Contemporary marketing*. Philadelphia: The Dryden press.

Bradley, L. & Stewart, K. 2003. The diffusion of Online Banking. *Journal of Marketing Management*, 19: 1087-1109.

Branca, A.S. 2008. Demographic influence on behaviour: An update to the Adoption of bank delivery channels. *International Journal of bank Marketing*, 26(4): 237-259.

Brink, A. & Berndt, A. 2009. *Customer relationship management and customer service*. Cape Town: Juta.

- Brown, I., Cajee, Z., Davies, D. & Stroebel, S. 2003. Cell phone banking: Predictors of adoption in South Africa – an exploratory study. *International Journal of Information Management*, 23(5): 381-394.
- Brunner-Sperdin, A. & Peters, M. 2012. What influences guests' emotions? The case of high-quality hotels. *International Journal of Tourism Research*, 11: 171-183.
- Bryman, A. & Bell, E. 2007. *Business Research Methods*. 2nd ed. New York: Oxford University Press Inc.
- Buckley, R. 2003. *Case Studies in Ecotourism*. Wallingford: CABI.
- Cant, M. C., Brink, A., & Brijball, S. 2005. *Customer Behaviour: A South African perspective*. Cape Town: Juta.
- Chavan, C. 2013. Internet banking – benefits and challenges in an emerging economy. *International Journal of Research in Business Management*, 1(1): 19-26.
- Cheung, W., Chang, M. K. & Lai, V. S. 2000. Prediction of Internet and world web usage at work, *Decision Success*, 33: 45-57.
- Ching, H. L. & Ellis, P. 2004. Marketing in Cyberspace: what factors drive e-commerce adoption? *Journal of Marketing Management*, 20: 409-429.
- Chitungo, S.K. & Munongo, S. 2013. Extending the Technology Acceptance Model to Mobile Banking Adoption in Rural Zimbabwe. *Journal of Business Administration and Education*, 3(1): 51-79.
- Chong, A.Y., Ooi, K., Lin, B. & Tan, B. 2010. Online banking adoption: an empirical analysis. *International Journal of bank marketing*, 28(40): 26-28.

Cohen, J.Q. 1988. *Statistical power analysis for the behavioral sciences*. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Associates.

Coldwell. D & Herbst. F. 2004. *Business Research*. Cape Town: Juta.

Collis, J. & Hussey, R. 2003. *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*. Palgrave Macmillan, Houndmills, Basingstoke, Hampshire.

Collins, J. & Wellman, B. 2010. Small town in the Internet society: Chappleau is no longer an island. *American Behavioral Scientist*, 53(9), 1344–1366.

Cook, P. 2011. Infrastructure, rural electrification and development. *Energy for sustainable development*, 15: 304-313.

Cooper, M. C., Lambert, D. M. & Pagh, J. D. 1997. Supply chain management: More than a new name for logistics. *The International Journal of Logistics Management*, 8(1): 1-16.

Crampton, S. M., Jiang, J. J. & Klein, G. 2000. A note on SERVQUAL reliability and validity in information system service quality measurement. *Decision Sciences*, 31(3): 102-144.

Creswell, J. W. 2008. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 2nd ed. Sage: California.

Crick, A. P. & Spencer, A. 2011. Hospitality quality: New directions and new an exploratory study of service quality in the Scottish hotel sector. *International Journal of Contemporary Hospitality Management*, 23(4): 463-478.

Cronin, J. J. & Taylor, S. A. 1992. Measuring service quality: a re-examination and extension. *Journal of Marketing*, 55-68.

Cronin, J., Brady, M., K. & Brand, R. 2010. Performance only measurement of service quality: A replication and extension. *Journal of Business Research*, 55(1): 17-31.

Cui, C.C., Lewis, B.R. & Park, W. 2003. Service quality measurement in the banking sector in South Korea. *International Journal of Bank Marketing*, 21(4):191-201.

Daniels, R.C., Patridge, A. Kekana, D. & Musundwa, S. 2013. *Rural livelihoods in South Africa*. Southern Africa Labour and Development Research Unit. Working Paper no 122. UCT: Cape Town.

Davis, D. 2000. *Business research for decision making*. 5th ed. Pacific Groove, USA: Duxbury Thomson Learning.

Dixit, N. 2010. Acceptance of E-banking among Adult Customers: An Empirical Investigation in India. *Journal of Internet Banking and Commerce*, 15(2): 4-15.

Du Plessis, P.J. & Rousseau, G.G. 2007. *Buyer behaviour: understanding consumer psychology and marketing*. 3rd ed. Cape Town. Oxford University Press.

Dursun, Y. & Çerçi, M. 2004. Perceived Health Service Quality, Perceived Value, A Study on The Patient Satisfaction and Behavioural Intention Relationship, Erciyes University. *Journal of the Faculty of Economics and Administrative Sciences*, 23: 1-16.

Entel, T., Grayson, S. & Huttner, N. 2007. The empathy engine: Turning customer service into a sustainable advantage. Booz & Co. The Katzenbach Center. Online at http://www.booz.com/media/uploads/The_Empathy_Engine.pdf. Accessed on 12 May 2012.

Erikson, L.T. & Hultman, J. 2008. Small business e-commerce development in Sweden- an empirical survey. *Journal of small business and enterprise development*, 15(3): 555-570.

Eshghi, A., Roy, S. & Ganguli, S. 2008. Service quality and customer satisfaction: An empirical investigation in Indian Mobile Telecommunications services. *Marketing Management Journal*, 18(2): 119-144.

Estep, M. 2010. How important is reliability really? Available from: <http://www.unitiv.com/intelligent-help-desk-blog/bid/35645/how-important-is-reliability-really>. Accessed on 25th August 2013.

Evans, J.R. & Lindsay, W.M. 2008. *The management and control of quality*. 7th ed. Mason, OH: Thomson South-Western.

Fadzli, A., Marhana, M. A. & Zakaria, M. 2012. Muslim Consumers' Perception on Internet Banking Services. *International Journal of Business and Social Science*, 3(5): 24.

Fowler, F. J. 2002. *Survey Research Methods, Applied Social Research Methods Series*. Sage: Thousand Oaks.

Fox, S. 2006. Online banking: A pew Internet project data memo. Pew Research Centre. Retrieved from: http://www.pew-internet.org/reports-/pdfs/pip_online_bankling.pdf. Accessed on 5 July 2017.

Free State Department of Cooperative Governance and Traditional Affairs (FSDCGTA). 2014. *Free State Province Spatial Development Framework*. Final Consultative Draft.

Futrell, C. 2004. *Fundamentals of selling: Customers for life through service*. 8th ed. New York: McGraw-Hill,

Gay, L.R. & Airasian, P. 2006. *Educational Research*. 9th ed, Upper Saddle River, ND: Pearson.

George, A. & Kumar, G.S.G. 2014. Impact of service quality dimensions in internet banking on customer satisfaction. *Decision*, 41(1):73-85.

Gerber, C., Nel, D. & Kotze, T. 2005. *Marketing Research*. Claremont: New Africa Books.

Gerrard, P. & Cunningham, J. B. 2007. The diffusion of Internet banking among Singapore consumers. *International Journal of Bank Marketing*, 21(1): 8-28.

Golder, P. N., Mitra, D. & Moorman, C. 2012. What is quality? An integrative framework of processes and states. *Journal of Marketing*, 76(4):1-2.

Grönroos, C. 1983. *Strategic Management and Marketing in the Service Sector*. Marketing Science Institute. Boston, MA.

Grönroos, J. 2007. *Service Management and Marketing: Customer Management in Service Competition*. 3rd ed. West Sussex: John Wiley & Sons.

Gursoy, D., Maier, T.A. & Chi, C.G. 2008. Generational differences: An examination of work values and generational gaps in the hospitality workforce. *International Journal of Hospitality Management*, 27(3):448-458.

Hanafizadeh, P., Keating, B.W. & Khedmatgozar, H.R. 2013. A systematic review of Internet banking adoption. *Telemat Informat*. Retrieved from: <http://dx.doi.org/10.1016/j.tele.2013.04.003>. Accessed on 13 June 2017.

Heimann, C. 2010. *Comprehensive Rural Development Programme*.

Presentation by Chief Director of Department of Rural Development and Land Reform. ISAD multi-stakeholder forum. 25 February 2010.

Hendricks, K.B. 2003. Firm characteristics, total quality management, and financial performance. *Journal of Operations Management*, 19(2): 33-38.

Hernandez, J.M.C. & Mazzon, J.A. 2007. Adoption of internet banking: proposition and implementation of an integrated methodology approach. *International Journal of Bank Marketing*, 25(2): 72-88.

Herrington, C. & Weaven, S. 2007. E-retailing by banks: e-service quality and its importance to customer satisfaction. *European journal of marketing*, 43(9):1220-1231.

Hill, K. 2004. Study: Demographics vs. Marketing. *CRM daily* Retrieved from: <http://www.crmdaily.newsfactor.com/story.xhtml>. Retrieved on 20 April 2011.

Hoffman, K.D. & Bateson, J.E.G. 2006. *Services Marketing: Concepts, Strategies & Cases*. 3rd ed. Thomson/South-Western, Mason, OH.

Hua, G. 2009. An Experimental Investigation of Online Banking Adoption in China. *Journal of Internet Banking and Commerce*, 14 (1): 1-12.

Ismail A., Madi, M.B.A. & Francis, S. K. 2009. Exploring the relationships among service quality features, perceived value and customer satisfaction, *Journal of Industrial Engineering and Management*, 2(1):230-250.

Jahangir, N. & Parvez, N. 2012. Factors determining customer adaptation to Internet banking in the context of private commercial banks of Bangladesh. *Business Perspectives and Research*, July-December: 25-36.

Jaruwachirathanakul, B. & Fink, D. 2005. Internet banking adoption strategies for a developing country: The case of Thailand. *Internet research*, 15 (3):295-311.

Jarvenpaa, S.L., Tractinsky, N. & Vitale, M. 2000. Consumer trust in an Internet store. *Information Technology and Management*, 1: 45-71.

Jayawardhena, C. 2004. Measurement of service quality in internet banking: The development of an instrument. *Journal of Marketing Management*, 20(1-2).
<http://dx.doi.org/10.1362/026725704773041177>

Joseph, M., Ibrahim, E.E. & Ibeh, K. 2006. Customers perception of electronic service deliver in the UK retail banking sector. *International Journal of bank Marketing*, 24(7): 475-493.

Kamel, S. 2005. The use of information technology to transform the banking industry in developing nation. *Information Technology Development*, 11(4):306.

Kaminski, J. 2011. Diffusion of Innovation Theory. *Canadian Journal of Nursing Informatics*, 6(2):39-103.

Kang, G. & James, J. 2004. Service quality dimensions: an examination of Gronroos service quality model. *Managing service quality*, 14(4):266-277.

Karatepe, M. 2013. Service Quality, Customer Satisfaction and Loyalty: The Moderating Role of gender. Retrieved from:
<http://www.questia.com/library/1G1-267133418/service-quality-customer-satisfaction-and-loyalty>. Accessed on 28 August 2013.

Kerem, K. 2001. *Adoption of electronic banking: underlying consumer Behaviour and critical success factors*. Unpublished dissertation. M Com. Tallinn Technical University.

Kgantsi, M. & Mokoena, S. 1997. *South African farmer support services: An end-user perspective*. Unpublished research report. Development Bank of Southern Africa.

Khan, M.M. & Fasih, M. 2014. Impact of service quality on customer satisfaction and customer loyalty: Evidence from Banking sector. *Pakistan Journal of Commerce and Social Sciences*, 8(2): 331-354.

Koenig-Lewis, N., Palmer, A. & Moll, A. 2010. Predicting young consumers take up of Mobile banking service. *International Journal of Bank Marketing*, 28(5): 410-432.

Kotler, P. 2000. *Marketing: An Introduction*. New York: Prentice Hall.

Kumar, R. 2011. *Research methodology: A step by step guide for beginners*. 3rd Ed. London: SAGE.

Kumar, M., Kee, F. & Manshor, A. 2009. Determining the relative importance of critical factors in delivering service quality of banks: An application of dominance analysis in SERVQUAL model. *Managing Service Quality*, 19(2): 211-228.

Kyobutungi, A. 2014. *Internet banking and customer satisfaction of commercial banks in Uganda: A case study of Centenary Rural Development Bank in Mbarara municipality*. Research proposal – Diploma in Business Administration. Bishop Stuart University.

Ladhari, R. 2010. Alternative measures of service quality: a review. *Managing Service Quality: An International Journal*, 18(1): 65-86.

Ladhari R., Ladhari, I. & Morales, M. 2011. Bank service quality: comparing Canadian and Tunisian customer perceptions. *International Journal of Bank Marketing*, 29: 224-246

- Laforet, S. & Li, X. 2005. 'Consumers' attitudes towards online and mobile banking in China', *International Journal of Bank Marketing*, 23(5): 362-380.
- Laukkanen, T. & Kiviniemi, V. 2010. The role of information in mobile banking resistance. *International Journal of Bank Marketing*, 28(5): 372-388.
- Lee, M. 2009. Factors influencing the adoption of internet banking: an integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce and Application*, 8(3): 130–141.
- Lee, Y.H., Hsieh, Y.C. & Hsu, C.N. 2011. Adding innovation diffusion theory to the technology acceptance model: Supporting employees' intentions to use E-Learning Systems. *Educational technology and society*, 14(4): 124-137.
- Leedy, P.D. & Ormrod, J.E. 2010. *Practical research: planning and design*. 9th ed. Upper Saddle River, N.J: Pearson.
- Liao, C., Huang, Y. & Hsieh, T. 2016. Factors influencing internet banking adoption. *Social behavior and Personality*, 44(9): 1443-1456.
- Luke, G.J. 2007. *An assessment of the service quality expectations and perceptions of the patients of Awali Hospital in the Kingdom of Bahrain*. Unpublished Master's dissertation. Rhodes Investec Business School. Johannesburg: Juta.
- Maduku, K.D. 2011. *Understanding Retail Bank Customers' Attitude Towards and Usage of Cell Phone and Internet Banking Services in Gauteng, South Africa*. Unpublished master's dissertation, University of Johannesburg.
- Malhotra, N.K. 2010. *Marketing research: an applied orientation*. 6th ed. Upper New Jersey: Pearsons.

Maree, K. 2007. *First Step in Research*. Pretoria: Van Schaik.

Marimon, F., Yaya, L. H.P. & Fa, M.C. (2012). Impact of e-quality and service recovery on loyalty: A study of e-banking in Spain. *Total Quality Management and Business Excellence*, 23(8):1363.

Markovic, S. 2006. Expected service quality measurement in tourism higher education. *Nase Gospodarstvo* 52 (1/2): 86-95.

Marsden, P. V. & Wright, J. D. 2010. *Handbook of Survey Research*. 2nd ed. Emerald Group Publishing, London.

Mashingo, M.P. nd. Informal finance: an instrument for developing the poor households in South Africa. Unpublished paper. Retrieved from:
<http://financialmarketsjournal.co.za/oldsite/7thedition/printedarticles/informalfinance.htm>. Accessed on 3 June 2017.

McDaniel, C.D. & Gates, R.H. 2010. *Marketing research with SPSS*. Wiley.

Mesay, S.S. 2012. Banking service quality, customer satisfaction and loyalty in Ethiopian banking sector. *Journal of Business Administration and Management Sciences Research*, 1(1):1-9.

Mitchell, M.L. & Jolley, J.M. 2010. *Research design explained*. New York: Wadsworth Cengage Learning.

Mitchell, M. E., Lebow, J. R., Uribe, R., Grathouse, H., & Shoger, W. 2011. Internet use, happiness, social support and introversion: A more fine grained analysis of person variables and internet activity. *Computers in Human Behavior*, 27(5), 1857-1861.

Mohd-Suki, N. 2010. An empirical study of factors affecting the internet banking adoption among Malaysian consumer. *Journal of Internet Banking and Commerce*, 15(2): 38-54.

Molapo, M.N. 2008. *An assessment of internet banking service quality*. Unpublished masters dissertation, University of Johannesburg, South Africa.

Molla, A. & Boateng, R. 2006. Developing e-banking capabilities in a Ghanaian bank: preliminary lessons. *Journal of Internet Banking and Commerce*, 11(2): 1-18.

Mooi, E. & Sarstedt, M. A 2011. *Concise guide to market research: The process, data, and methods using IBM SPSS Statistics*. 2nd ed. Heidelberg Dordrecht: Springer.

Muhammed, S.A. & Khalil, A. 2011. Internet banking and Jordanian corporate customers: Issues of security and trust. *Journal of internet banking and commerce*, 16(1). Retrieved from: <http://www.arraydev.com/commerce/jibc/>. Accessed on 13 June 2015.

Municipalities of South Africa. nd. Retrieved from: <https://municipalities.co.za/map/108/lejweleputswa-district-municipality>. Accessed on 10 February 2018.

Munusamy, J., Chelliah, S. & Mun, W. H. 2010. *Service quality delivery and its Quality*. 5th ed. Singapore: Blackwell Publishing.

Munusamy, J., de Run, E.C., Chelliah, S. & Annamalah, S. 2012. Adoption of retail internet banking: A Study of Demographic Factors. *Journal of Internet Banking and Commerce*, 452-258.

Mutengezanwa, M & Ngoma, M.F. 2013. Socio-demographic factors influencing adoption of internet banking in Zimbabwe. *Journal of Sustainable Development in Africa*, 15(8): 145-153.

Muzofa, C.V. 2015. *Online banking usage amongst South African Consumers: An Empirical study of the impact of current usage on future usage intention*. MCom dissertation. Johannesburg: University of the Witwatersrand.

Nasri, W. 2011. Factors influencing the adoption of internet banking in Tunisia. *International Journal of Business and Management*, 6(8):143-160.

Neuman, WL. 2006. *Social research methods: qualitative and quantitative approaches*. 6th ed. Boston: Pearson Education.

Nxumalo, C. & Whittal, J. 2013. Municipal Boundary Demarcation in South Africa: Processes and Effects on Governance in Traditional Rural Areas. *South African Journal of Geomatics*, 2(4): 325:341.

Ojasalo, J. 2010. E-Service quality: A conceptual model. *International Journal of Arts and Sciences*, 3(7): 127-143.

Pallant, J. 2013. *A step by step guide to data analysis using IBM SPSS: survival manual*. 5th ed. New York: McGraw-Hill.

Parasuraman, A., Zeithaml, V.A. & Berry, L.L. 1985. A conceptual model of service quality and its implications of service quality. *Journal of Marketing*, 49, 18-41.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. 1988. SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality, *Journal of Retailing*, 64(1): 12-40.

Parasuraman, A., Zeithaml, V.A. & Malhotra, A. 2005. E-S-QUAL: a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3): 213-233.

Parumasur, S.B. & Roberts-Lombard, M. 2014. *Consumer Behaviour*. Third Ed. Cape Town, Juta.

Perrigot, R. & Pénard, T. 2012. Determinants of E-commerce adoption by franchisors: insights from the US market. *26th Annual International Society of Franchising Conference*.

Pikkarainen, T., Karjaluoto, H. & Pahnla, S. 2004. Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Research*, 14 (3):224-235.

Polasik, M. & Wisniewski, T.P. 2009. Empirical analysis of internet banking adoption in Poland. *International Journal of Bank Marketing*, 27(1): 32-52.

Polatoglu, V. & Ekin, S. 2001. An empirical investigation of the Turkish consumers' acceptance of Internet banking service. *The International Journal of Bank Marketing*, 19(4): 156-166.

Polonsky, M. & Waller, D. 2005. *Designing and managing a research project*. USA: Sage.

Poon, W. 2008. User's adoption of e-banking services: The Malaysian perspective. *Journal of Business & Industrial Marketing*, 23(1): 58-69.

Prayag, G. 2007. Assessing international tourist perceptions of service quality at Air Mauritius. *International Journal of quality and reliability management*, 24(5): 33-106.

Pride, W. M. & Ferrell, O. C. 2014. *Marketing express*. South-Western Pub.

Proença, J.F. & Rodrigues, M.A. 2011. A comparison of users and non-users of banking self-service technology in Portugal. *Managing Service Quality: An International Journal*, 21(2): 192-210.

Ramavhona, T.C. & Mokwena, S.N. 2016. Factors influencing internet banking adoption in South African rural areas. *South African Journal of Information Management*, 18(2), a642. <http://dx.doi.org/10.4102/sajim.v18i2.642>.

Rathmell, J.M. 1996. What is meant by services? In Gabbott, M., Hogg, G., ed. *Contemporary services marketing management*. (58-64). London: Dryden Press.

Redda, E.H. 2015. *Electronic banking services in South Africa: Service quality scale development and validation*. PhD thesis in Marketing Management. North West University: Vaal Triangle Campus.

Redelinghuis, A. & Rensleigh, C. 2010. Customer perceptions on internet banking information protection: *SA Journal of Information Management*, 12(1):1-6.

Robbins, S., Judge, T.A., Odendaal, A. & Roodt, G. 2009. *Organisational behaviour: Global and Southern African perspectives*. (2nd Edition). Cape Town: Pearson Education South Africa.

Robinson, L. 2009. *Enabling change: Tools, Training, Strategy and Facilitation*. Retrieved from: www.enablingchange.com. Accessed on 12 February 2011.

Rogers, E.M. 1983. *Diffusion of innovations*. New York: Free Press.

Rogers, E. M. 2003. *Diffusion of innovations*. 5th ed. New York: Free Press.

- Rotchanakitumnuai, S. & Speece, M. 2003. Barriers to internet banking adoption: a qualitative study among corporate customers in Thailand. *International Journal of Bank Marketing*, 21(6): 312-323.
- Roux, D.F. 2008. *Approaches, expectations and perceptions of different generations regarding culture and leadership in the Engineering Department at Sishen Mine*. MBA thesis. Stellenbosch: University of Stellenbosch.
- Rowley, J. 2006. An Analysis of the E-Service Literature: Towards A Research Agenda, *Internet Research*, 16 (3): 339-359.
- Safeena, R., Date, H. & Kammani, A. 2011. Internet Banking Adoption in an Emerging Economy: Indian Consumer's Perspective. *International Arab Journal of e-Technology*, 2(1): 56-64.
- Saunders, M.N.K. & Lewis, P. 2012. *Doing Research in Business & Management: An Essential Guide to Planning Your Project*. Pearson, Harlow.
- Saunders, M., Lewis, P., & Thornhill, A. 2009. *Research methods for business students*. 5th ed. London: Pearson.
- Santos, F. 2003. E-service quality: a model of virtual service quality dimensions. *Managing Service Quality*, 13(3): 233-246.
- Sayar, C. & Wolfe, S. 2007. Internet banking market performance: Turkey versus the UK. *International journal of bank marketing*, 25(3): 213-223.
- Sethuraman, J., Vijayabanu, C. & Therasa, C. 2016. A Study on Channel Preferences among Urban and Rural Banking Customers. *Indian Journal of Science and Technology*, 9(27). Retrieved from: <http://www.indjst.org/index.php/indjst/article/view/97603/71630>. Retrieved on 3 June 2017.

Shambare, R. 2011. Cell phone banking adoption in South Africa. *Business and Economic Research*, 1(1): 1-15. Retrieved from:
<http://www.macrothink.org/journal/index.php/ber/article/viewFile/1144/1608>.
Accessed on 3 June 2017.

Shammout, A.B. 2007. *Evaluating an Extended Relationship Marketing Model for Arab Guests of Five-Star Hotels*. Doctoral Thesis. Victoria University, Melbourne, Australia.

Shanmugam, M., Wang, Y., Bugshan, H. & Hajli, N. 2015. Understanding customer perceptions of internet banking: the case of the UK. *Journal of Enterprise Information Management*, 28(5): 622-636.

Sharma, N. & Patterson, P.G. 2012. Switching costs, alternative attractiveness and Services. *International Journal of Service Industry Management*, 11(5):470-490.

Shen, X., Tan, K. & Xie, M. 2000. An integrated approach to innovative product development using Kano's model and QFD. *European Journal of Innovation Management*, 3(2): 91-99.

Shiu, E., Hair, J., Bush, R., & Ortinau, D. 2009. *Marketing Research*. European Edition. London: McGraw-Hill.

Sithole, M.M., Moses, C., Davids, Y.D., Parker, S., Rumbelow, J., Molotja, N. & Labadarios, D. 2013. Extent of access to information and communications technology by the rural population of South Africa. *African Journal of Science, Technology, Innovation and Development*, 5(1):71-84.

Sousa, R. & Voss, C. 2012. The impacts of e-service quality on customer behaviour in multi-channel e-services. *Total Quality Management*, 23(7): 789-806.

Statistics South Africa. 2001. Census 2001: Metadata. Available from:
http://www.statssa.gov.za/census/census_2001/metadata/Geography.pdf.
Accessed on 9 February 2018.

Statistics South Africa. 2012. *General Household Survey*. Available from:
<http://www.hsrc.ac.za/en/review/hsrc-review-may-2013/spreading-the-news-the-use-of-ict-to-raise-rural-living-standards>. Accessed on 3 June 2017.

Sullivan, R. & Wang, Z. 2013. Internet banking: An exploration in technology diffusion and impact. Retrieved from:
<https://pdfs.semanticscholar.org/bd6c/2768824ba842fd8aea1822591b4290a6cd4e.pdf>. Retrieved on 5 June 2017.

Tan, M. & Teo, T.S.H. 2000. Factors influencing the adoption of Internet Banking. *Journal of the Association for Information Systems*, 1 (5): 1-42.

Thatcher, A. & Kruger, I. 2006. South African online banking usability: Comparisons between Niche and traditional banks, *Ergonomics SA, Journal of the Ergonomics Society of South Africa*, 18(1): 57-66.

Van de Ven, A.H. 2016. The innovation journey: you can't control it, but you can learn to maneuver it. *Innovation, Organization & Management*, 19(1): 39-42.

Watkins, J.A. 2016. *A practical guide for researchers to the preparation of written presentations of academic research*. Cape Town: Lavender Moon.

Wiersma, E.W. & Jurs, S.G. 2009. *Research methods in Education: An introduction*. Boston, MA: Allyn and Bacon.

Wilson, A., Zethaml, V.A., Bitner, M.J. & Gremler, D.D. 2006. *Service Marketing*. 4th ed. McGraw-Hill: Johannesburg.

Wood, K. & Heerden, C.V. 2007. The Relationship between e-Service Quality, e-Value, e-Satisfaction and e-Loyalty in Online Tourism Portals, *SAJEMS NS*, 10(3): 281-297.

Wu, J. 2005. *Factors that influence the adoption of internet banking by South Africans in the eThekweni metropolitan region*. Master's dissertation. Durban Institute of Technology: Durban.

Wu, J. 2009. *Factors that influence the adoption of internet banking by South Africans in the Ethekeweni metropolitan region*. Unpublished masters' dissertation. Durban: Durban Institute of Technology.

Wu, Y. L., Tao, Y. H. & Yang, P. C. 2012. Learning from the past and present: measuring internet banking service quality. *The Service Industries Journal*, 32(3): 477-497. <https://doi.org/10.1080/02642069.2010.529434>.

Xue, M., Hitt, L.M. & Chen, P. 2011. Determinants and Outcomes of Internet Banking Adoption. *Management Science*, 57(2): 291-307.

Yang, Z. & Fang, X. 2004. Online service quality dimensions and their relationships with satisfaction: A content analysis of customer reviews of securities brokerage services. *International Journal of Service Industry Management*, 15(3): 302-326.

Yang, H. & Tsai, F. 2007. General E-S-QUAL Scales Applied To Websites Satisfaction and Loyalty Model. *Communications of the IIMA*, 7(2): 115-126.

Yu, J. & Guo, C. 2008. An exploratory study of ubiquitous technology in retail banking, *Academy of Commercial Banking and Finance*, 8(1): 7-12.

Yuan, X., Lee, H.S. & Kim, S.Y. 2010. Present and future of internet banking in China. *Journal of Internet Banking and Commerce*, 15(1): 2-4.

Zavareh, F.B., Ariff, M.S.M., Jusoh, A., Zakuan, N. & Bahari, A.Z. 2012. E-Service quality dimensions and their effects on e-customer satisfaction in Internet banking services. *Procedia Social and Behavioural Sciences*, 40: 441-445.

Zeithaml, V.A., Bitner, M.J. & Gremler, D.D. 2008. *Service Marketing*. New York: McGraw Hill.

Zeithaml, V.A., Bitner, M.J. & Gremler, D.D. 2009. *Services Marketing: Integrating Customer Focus across the Firm*, 5th ed. McGraw-Hill Higher Education, New York, NY.

Zeithaml, V. A., Parasuraman, A. & Malhotra, A. 2002. Service quality delivery through Web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4): 362-375.

Zhao, A. L., Hammer-Lloyd, S., Ward, P. & Goode, M. H. 2008. Perceived risk and Chinese consumers' internet banking services adoption. *International Journal of Bank Marketing*, 26(7): 505-525.

Zikmund, W.G. & Babin, B.J. 2010. *Exploring marketing research*. Cengage: Mason Ohio.

APPENDIX A: RESEARCH QUESTIONNAIRE
INTERNET BANKING ADOPTION DECISIONS

SECTION A: BIOGRAPHICAL DETAILS

Please answer the following questions by placing a cross (x) in the applicable box.

| | | | | | | |
|-----|--|---------------------------|------------------|-----------------------|-----------------------------|------------------|
| 1. | What is your gender? | Male | | Female | | |
| 2. | When were you born? | 1949 and before | 1950 - 1969 | 1970 – 1989 | 1990 and later | |
| 3. | What is the highest educational level that you have completed? | Below Grade 12 | Grade 12 | Diploma or Degree | Post-graduate qualification | |
| 4. | What is your employment status? | Self-employed | Employed | Unemployed | Other (specify) | |
| 5. | Do you have access to a bank in your community? | Yes | | | No | |
| 6. | How far is the bank that you use? | Walking distance | | | Driving distance | |
| 7. | Have you ever heard about internet banking? | Yes | | | No | |
| 8. | When was the first time you heard about internet banking? | 1996-2000 | 2001-2005 | 2006-2010 | 2011-2016 | |
| 9. | From whom did you first hear about internet banking? | Friend/Family | Bank | Radio/TV | Other: State | |
| 10. | Are you using internet banking? | Yes | | | No | |
| 11. | How do you connect to the internet? | WiFi | Cell phone data | Landline | Data | |
| 12. | If you are using internet banking, which device(s) do you use? | Computer | Cell phone | Tablet | Other (specify) | |
| 13. | If you are using internet banking, where do you do most of your transactions? | Home | Internet cafe | Work | Other | |
| 14. | How long did it take from the time you first heard about internet banking until you decided to use it/not? | Immediately started using | Less than a year | Between 1 and 5 years | More than 5 years | |
| 15. | How widely did you consult your community about internet banking before making the decision to use it/not? | Widely | Many | Few | Not at all | |
| 16. | How were you informed about internet banking? | Friend/Family | Bank | Radio/TV | Other | |
| 17. | Who influenced your decision most regarding internet banking? | Family | Friends | Neighbours | Co-workers | Others (Specify) |

| | | | | |
|-----|--------------------------------------|------------------|------------------|---------------|
| 18. | How will you rate your income group? | Less than R5 000 | R5 000 – R20 000 | Above R20 000 |
|-----|--------------------------------------|------------------|------------------|---------------|

SECTION B: INTERNET BANKING DECISION MAKING

Please rate the following statements regarding internet banking using the rating scale below. Place a cross (x) in the applicable box.

| 1 | 2 | 3 | 4 | 5 |
|--------------------------|-----------------|----------------|--------------|-----------------------|
| Strongly disagree | Disagree | Neutral | Agree | Strongly Agree |

| | | | | | | |
|----|--|---|---|---|---|---|
| 19 | Internet banking is better than traditional banking. | 1 | 2 | 3 | 4 | 5 |
| 20 | Internet banking is cheaper than traditional banking. | 1 | 2 | 3 | 4 | 5 |
| 21 | Internet banking makes it easy to do banking transactions. | 1 | 2 | 3 | 4 | 5 |
| 22 | Internet banking allows me to do banking transactions quickly. | 1 | 2 | 3 | 4 | 5 |
| 23 | I prefer internet banking to traditional banking. | 1 | 2 | 3 | 4 | 5 |
| 24 | Internet banking fulfils my personal needs. | 1 | 2 | 3 | 4 | 5 |
| 25 | Internet banking suits my lifestyle. | 1 | 2 | 3 | 4 | 5 |
| 26 | Internet banking allows me to do banking the way it suits me. | 1 | 2 | 3 | 4 | 5 |
| 27 | I prefer internet banking because it suits my social status. | 1 | 2 | 3 | 4 | 5 |
| 28 | Internet banking matches my values. | 1 | 2 | 3 | 4 | 5 |
| 29 | For me, Internet banking is easy to learn. | 1 | 2 | 3 | 4 | 5 |
| 30 | I find it easy to find information regarding internet banking. | 1 | 2 | 3 | 4 | 5 |
| 31 | I easily understand internet banking instructions. | 1 | 2 | 3 | 4 | 5 |
| 32 | I easily do banking transactions using internet banking. | 1 | 2 | 3 | 4 | 5 |
| 33 | To me, Internet banking is user-friendly. | 1 | 2 | 3 | 4 | 5 |
| 34 | I needed time to experiment with internet banking before using it. | 1 | 2 | 3 | 4 | 5 |
| 35 | It will be easier for me to use internet banking after you have tried it. | 1 | 2 | 3 | 4 | 5 |
| 36 | A trial on internet banking convinces a person to use it. | 1 | 2 | 3 | 4 | 5 |
| 37 | It is better to experiment with internet banking before using it. | 1 | 2 | 3 | 4 | 5 |
| 38 | It is important to first experiment with internet banking before using it. | 1 | 2 | 3 | 4 | 5 |
| 39 | I have seen other people using internet banking. | 1 | 2 | 3 | 4 | 5 |
| 40 | People whom I have seen using internet banking, like using it. | 1 | 2 | 3 | 4 | 5 |
| 41 | I can tell my friends what internet banking is because I have seen how it works. | 1 | 2 | 3 | 4 | 5 |
| 42 | When I saw other people using internet banking, I became interested in using it. | 1 | 2 | 3 | 4 | 5 |
| 43 | It is important to see how internet banking works before using it. | 1 | 2 | 3 | 4 | 5 |

SECTION C: FACTORS INFLUENCING INTERNET BANKING ADOPTION

Please rate the following statements regarding the factors that influence internet banking adoption using the following rating scale:

| 1 | 2 | 3 | 4 | 5 |
|-------------------|----------|---------|-------|----------------|
| Strongly disagree | Disagree | Neutral | Agree | Strongly Agree |

| | | | | | | |
|-----|---|---|---|---|---|---|
| 44. | Internet banking give a person easy access to information. | 1 | 2 | 3 | 4 | 5 |
| 45. | Internet banking allows a person to do transactions fast. | 1 | 2 | 3 | 4 | 5 |
| 46. | Internet banking gives me complete control over my banking transactions. | 1 | 2 | 3 | 4 | 5 |
| 47. | Internet banking is easy to use. | 1 | 2 | 3 | 4 | 5 |
| 48. | Internet banking is convenient to use. | 1 | 2 | 3 | 4 | 5 |
| 49. | I have thorough knowledge of the internet. | 1 | 2 | 3 | 4 | 5 |
| 50. | I often use the internet | 1 | 2 | 3 | 4 | 5 |
| 51. | I am skilled at using the internet. | 1 | 2 | 3 | 4 | 5 |
| 52. | I can easily find information on the internet. | 1 | 2 | 3 | 4 | 5 |
| 53. | I know how to use the internet. | 1 | 2 | 3 | 4 | 5 |
| 54. | My personal information is kept safe with internet banking. | 1 | 2 | 3 | 4 | 5 |
| 55. | Internet banking is a reliable way to do banking. | 1 | 2 | 3 | 4 | 5 |
| 56. | Internet banking keeps my transactions confidential. | 1 | 2 | 3 | 4 | 5 |
| 57. | Other people cannot log into my internet banking profile. | 1 | 2 | 3 | 4 | 5 |
| 58. | I can do transactions securely with internet banking. | 1 | 2 | 3 | 4 | 5 |
| 59. | It is not risky to use internet banking. | 1 | 2 | 3 | 4 | 5 |
| 60. | I do not risk losing my money if I use internet banking. | 1 | 2 | 3 | 4 | 5 |
| 61. | I am confident that information about my internet banking transactions is not shared with others. | 1 | 2 | 3 | 4 | 5 |
| 62. | Others cannot tamper with my internet banking transactions. | 1 | 2 | 3 | 4 | 5 |
| 63. | Other people cannot hack into my internet banking profile. | 1 | 2 | 3 | 4 | 5 |
| 64. | I am aware of the advantages of internet banking. | 1 | 2 | 3 | 4 | 5 |
| 65. | I am aware of the disadvantages of internet banking. | 1 | 2 | 3 | 4 | 5 |
| 66. | I have information regarding the transactions I can do online. | 1 | 2 | 3 | 4 | 5 |
| 67. | I know all the features of internet banking. | 1 | 2 | 3 | 4 | 5 |
| 68. | I have sufficient information regarding internet banking. | 1 | 2 | 3 | 4 | 5 |

SECTION D: SERVICE QUALITY

Please rate the performance of your internet banking website's using the following rating scale:

| 1 | 2 | 3 | 4 | 5 |
|-------------------|----------|---------|-------|----------------|
| Strongly disagree | Disagree | Neutral | Agree | Strongly Agree |

| | | | | | |
|--|---|---|---|---|---|
| 69 The site makes it easy for me to find what I need | 1 | 2 | 3 | 4 | 5 |
| 70 It is easy to move around on the website | 1 | 2 | 3 | 4 | 5 |
| 71 The site enables me to complete a transaction quickly | 1 | 2 | 3 | 4 | 5 |
| 72 The information on the website is well organised | 1 | 2 | 3 | 4 | 5 |
| 73 The internet banking webpage loads its pages fast | 1 | 2 | 3 | 4 | 5 |
| 74 The site is simple to use | 1 | 2 | 3 | 4 | 5 |
| 75 The site enables me to get on to it quickly | 1 | 2 | 3 | 4 | 5 |
| 76 The site is well organised | 1 | 2 | 3 | 4 | 5 |
| 77 The site is always available for transactions | 1 | 2 | 3 | 4 | 5 |
| 78 The site launches and runs the right away | 1 | 2 | 3 | 4 | 5 |
| 79 The site does not crash | 1 | 2 | 3 | 4 | 5 |
| 80 Pages at this site do not freeze after I enter my information | 1 | 2 | 3 | 4 | 5 |
| 81 The site delivers on transactions as promised | 1 | 2 | 3 | 4 | 5 |
| 82 This site concludes transactions within a suitable time-frame | 1 | 2 | 3 | 4 | 5 |
| 83 The site quickly delivers financial transactions | 1 | 2 | 3 | 4 | 5 |
| 84 The site is truthful about its offerings | 1 | 2 | 3 | 4 | 5 |
| 85 The site makes accurate promises about delivery of transactions | 1 | 2 | 3 | 4 | 5 |
| 86 The site protects information about my web behaviour | 1 | 2 | 3 | 4 | 5 |
| 87 The site does not share my personal information with other sites | 1 | 2 | 3 | 4 | 5 |
| 88 The site protects my banking information | 1 | 2 | 3 | 4 | 5 |
| 89 The site provides a contact number to reach the company | 1 | 2 | 3 | 4 | 5 |
| 90 The site has customer representatives available online | 1 | 2 | 3 | 4 | 5 |
| 91 The company offers the option to speak to a live person if there is a problem | 1 | 2 | 3 | 4 | 5 |

Indicate your likeliness of engaging in each behaviour on a scale from 1 (very unlikely) to 5 (very likely):

| | | | | |
|---------------|----------|---------|--------|-------------|
| 1 | 2 | 3 | 4 | 5 |
| Very Unlikely | Unlikely | Neutral | Likely | Very Likely |

How likely are you to...

| | | | | | |
|---|---|---|---|---|---|
| 92. Say positive things about the site to other people? | 1 | 2 | 3 | 4 | 5 |
| 93. Recommend this site to someone who seeks your advice? | 1 | 2 | 3 | 4 | 5 |
| 94. Encourage friends and others to do business with this site? | 1 | 2 | 3 | 4 | 5 |
| 95. Consider this site to be our first choice of future transactions? | 1 | 2 | 3 | 4 | 5 |
| 96. Do more business with this site in the coming months? | 1 | 2 | 3 | 4 | 5 |

Please rate the internet banking web site on the following items, using a scale from 1 (poor) to 10 (excellent):

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|
| 97. The cost of internet banking service (how economical the site is) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 98. The overall convenience of using this site | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 99. The extent to which the site give you a feeling of being in control | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 100. The overall value you get from this site for your money and effort | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

If you would like to receive the results of the study, kindly provide me with your email address.

Thank you for your time.

*****END OF QUESTIONNAIRE *****

August 2016

CONSENT FORM

Internet banking adoption decisions and service quality

The research study investigates five significant innovation characteristics and selected factors which influence adoption decisions so as to establish rural customers' experience of the service quality of internet banking.

You are requested to complete the attached questionnaire. It will take you approximately 15 minutes to complete the questionnaire.

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You are free to decline to participate in this study or to withdraw at any point even after you have signed the form without any consequences. Should you be willing to participate you are requested to sign this consent form:

I, _____ hereby voluntarily consent to participate in the above-mentioned study. I have not been coerced in any way to participate, and I understand that I can withdraw at any time should I feel uncomfortable during the study. I also understand that my name will not be disclosed to anybody who is not part of the study and that the information will be kept confidential and not linked to my name at any stage. I also understand how I might benefit from participation and what the possible risks might be. In addition, I will contact the researcher if I need any additional information.

SIGNATURE OF THE PARTICIPANT

DATE

Signature of the person obtaining consent