CONSUMER PERCEIVED RISK OF INTERNET BANKING IN KENYA:
A SURVEY OF THREE SELECTED BANKS IN NAIROBI COUNTY

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FACULTY OF INFORMATION SCIENCE AND TECHNOLOGY

A Research Thesis Submitted to the Graduate School in Partial Fulfillment of the Requirements for the Award of the Degree of Masters in Information Systems

KISII UNIVERSITY

February, 2017
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DEDICATION

I dedicate this Thesis to my brothers David and Julius and my sister Everline, and to the loving memory of my parents Andrew and Sabina. They have been true fountains of inspiration.
ACKNOWLEDGEMENT

I would like to thank my supervisors Dr. Makori and Dr. Ngetich. Their tireless effort to make sure that my work was presentable is worth a million times acknowledgement. I thank our secretary. She was always available to give me necessary information in the school. I thank God for giving me life and good health all through my schooling time. I thank the government of Kenya for providing security that ensured I finished my studies well. I thank the ministry of education for providing a great curriculum that suited my choice. I thank the respondents for accepting to fill the required information in the questionnaires, without them my thesis would not have been completed. I thank bank managers in the various branches for allowing me to carry out data collection in their premises. I thank my external and internal examiners as well as panelists who spared their time to contribute to ensure that I improve this thesis. I thank my friend Isaac who has always motivated and encouraged me throughout my studies. I thank my dear friend Faith who encouraged me to finish my studies.
ABSTRACT

The purpose of this study was to examine consumer perceived risk of internet banking and adoption in Kenya with reference to three selected banks and suggest possible solutions to enhance customer satisfaction. Objectives of this study were to; examine factors that influence adoption of internet banking in the three selected commercial financial institutions, determine the extent of use of internet banking services by customers in the three selected banks, find out challenges facing use of internet banking by customers in the selected banks and find out solutions to the challenges that hinder consumers in the use of internet banking services in the selected banks. This was a quantitative and descriptive survey of the three selected banking institutions. Data was collected using questionnaires that were distributed using lead people in the respective banks. The questionnaires were structured with both open ended and closed ended type of questions. Data was analyzed using Microsoft excel and presented using charts and tables. A total number of 150 respondents were used for this study. The study established that young adults are mostly involved in the use of internet banking services. The study established the extent of use of internet banking by customers with the majority using internet banking services for inquiries, withdrawals and deposits. The study found out challenges hindering use of internet banking services by customers as slow network connection, network failure, poorly designed websites and unavailability of services during website maintenance. In order to promote use of internet banking services, there is need for banking organizations to launch awareness campaigns to customers by alleviating fear to issues such as lack of privacy and security of customer’s information through advertisements as well as promotions could be held at bank branches to offer prizes to customers who sign and use internet banking services. The rapid development of internet banking has created a competitive environment for financial institutions offering internet banking. Internet banking enables customers to perform financial transactions via the internet at any time and from anywhere and thus saving time. Banks also benefit from reduced operational cost by adopting internet banking.
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# LIST OF ABBREVIATIONS AND ACRONYMS

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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ATMs:</td>
<td>Automatic Teller Machines</td>
</tr>
<tr>
<td>BSAR:</td>
<td>Bank Supervision Annual Report</td>
</tr>
<tr>
<td>CBK:</td>
<td>Central Bank of Kenya</td>
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<td>CCK:</td>
<td>Communication Commission of Kenya</td>
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<tr>
<td>CRBs:</td>
<td>Credit Reference Bureaus</td>
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<tr>
<td>E-Banking:</td>
<td>Electronic Banking</td>
</tr>
<tr>
<td>E-Commerce:</td>
<td>Electronic Commerce</td>
</tr>
<tr>
<td>EDB:</td>
<td>Economic Development Board</td>
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<td>EDI:</td>
<td>Electronic Data Interchange</td>
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<td>FSDK:</td>
<td>Financial Sector Deepening Kenya</td>
</tr>
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<td>KCB:</td>
<td>Kenya Commercial Bank</td>
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<tr>
<td>KWFT:</td>
<td>Kenya Women’s Finance Trust</td>
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<td>MFBs:</td>
<td>Micro Finance Banks</td>
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<tr>
<td>MRPs:</td>
<td>Money Remittance Providers</td>
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<tr>
<td>GCC:</td>
<td>Gulf Cooperation Council</td>
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<tr>
<td>IAMAI:</td>
<td>Internet and Mobile Association of India</td>
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<td>IB:</td>
<td>Internet Banking</td>
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<td>IT:</td>
<td>Information Technology</td>
</tr>
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<td>I&amp;M:</td>
<td>Investment and Mortgages Limited</td>
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<td>PDAs:</td>
<td>Personal Digital Assistants</td>
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<tr>
<td>PEOU:</td>
<td>Perceived Ease of Use</td>
</tr>
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<td>POS:</td>
<td>Point Of Sale</td>
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<td>PU:</td>
<td>Perceived Usefulness</td>
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<tr>
<td>SFCU:</td>
<td>Stanford Federal Credit Union</td>
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<td>SWIFT:</td>
<td>Society of Interbank Financial Telecommunication</td>
</tr>
<tr>
<td>TAM:</td>
<td>Technology Acceptance Model</td>
</tr>
<tr>
<td>TPB:</td>
<td>Theory of Planned Behavior</td>
</tr>
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<td>TRA:</td>
<td>Theory of Reasoned Action</td>
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<td>3G:</td>
<td>Third Generation</td>
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CHAPTER ONE

INTRODUCTION

This chapter discussed background to the study, statement of the research problem, purpose of the study, objectives of the study, research questions, significance of the study, assumptions of the study, scope of the study, limitations of the study, justification of the study, conceptual framework, relationship between variables and operational definition of terms.

1.1 Background to the Study

Internet connectivity has traversed every aspect of our society and has propagated tremendous improvements in efficiency and customer service (Sullivan & Wang, 2014). Public as well as private sectors have now turned to the use of information technology and internet as one of the means to service delivery (Pourkiaei & Ardestani, 2014). Banking organizations are shifting from traditional ways of service delivery where a bank customer needs to personally visit a banking hall to access services, to new innovative platforms such as the use of internet banking. Sullivan and Wang (2014) refer internet banking as a bank that provides a website which allows customers to execute transactions on their accounts. This implies that internet banking is the use of internet as a delivery channel to communicate instructions to and receive information from a financial institution where an account is held in order to carry out banking services such as opening account, transfer of money, balance inquiry, printing of statements and paying of bills via a banks website.

Banks are established organizations that are authorized by the government to accept deposits, pay interest, clear checks, make loans available, act as an intermediary in
financial transactions, and provide other financial services to its customers (BSAR, 2013). The Central Bank of Kenya was established on 24th March, 1966 through an Act of Parliament - the Central Bank of Kenya Act of 1966. Following the promulgation of the new constitution on August 27th, 2010, the Central Bank of Kenya (CBK) is now established under Article 231 of the Constitution, 2010. Under this Article the Central Bank has the responsibility of formulating monetary policy, promoting price stability, issuing currency and performing any other functions conferred on it by an Act of Parliament (CBK ACT 2010). The Constitution guides that “the Central Bank shall not be under the direction or control of any person or authority in the exercise of its powers or performance of its functions” (CBK ACT 231, 1-5).

According to the bank supervision annual report (2013), the banking sector as at 31st December 2013 comprised of the Central Bank of Kenya, as the regulatory authority, 44 banking institutions (43 commercial banks and 1 mortgage finance company - MFC), 7 representative offices of foreign banks, 9 Microfinance Banks (MFBs), 2 credit reference bureaus (CRBs), 1 Money Remittance Provider (MRP) and 101 Forex bureaus. Out of the 44 banking institutions, 30 locally owned banks comprise 3 with public shareholding and 27 privately owned while 14 are foreign owned (BSAR, 2013). The 9 MFBs, 2 CRBs and 101 Forex bureaus are privately owned. The foreign owned financial institutions comprise of 10 locally incorporated foreign banks and 4 branches of foreign incorporated banks (BSAR, 2013).

Due to the rapid growth of banking organizations, banks are searching for new solutions that will help them offer better services to existing customers as well as attract new markets. Internet technology is being utilized as a marketing tool to
enhance service delivery. This implies that banks can now offer many opportunities to both customers as well as banking institutions. Internet banking offers convenience to bank customers, allowing them to use services from banks in distance and avoid hassles to go to the bank branches as well as it generates substantial cost savings to banks (Sullivan & Wang, 2014).

In internet banking system the bank has a centralized database that is web-enabled. All the services that the bank has permitted on the internet are displayed in menu. Once the branch offices of bank are interconnected through terrestrial or satellite links, there would be no physical identity for any branch. It would be a borderless entity permitting anytime, anywhere and anyhow banking (Pourkiaei & Ardestani, 2014). Internet banking therefore enables customers to perform their activities in an efficient and cost-effective way regardless of the location they are so long as they can be connected to the internet.

Financial institutions in Kenya cannot ignore technological information systems since they play an important role in their operations. This is so because customers are aware of technological advancements and thus demand higher quality services. About late 2007, some Kenyan banks started implementing Internet banking as a new online service channel. As elsewhere, these banks expect that Internet banking can offer customers a variety of online services with more convenient access to information and transactions. These services include the ability to check account balances, request statements, transfer money, pay loans, bills, taxes, foreign exchange and remittance, trade, and global fund transfer. Some of these are usually 24-hour services such as, bill payment and international fund transfer (Pourkiaei & Ardestani, 2014).
1.1.1 Context of the Study

According to the Central Bank of Kenya ACT (1966), the banking sector in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and various prudential guidelines as issued by the Central bank of Kenya. As the industry regulator, the Central bank of Kenya is responsible for promoting and maintaining the safety, soundness and integrity of the banking system. This responsibility is undertaken through the implementation of policies and standards in line with international best practice for bank supervision and regulation. Oversight of the Central bank Kenya falls under the Finance minister’s docket (BSAR, 2013). The banking sector in Kenya comprises of Banking Institutions which are; commercial banks and a mortgage finance company, representative offices of foreign banks, Microfinance Banks (MFBs), foreign exchange bureaus, money remittance providers (MRPs) and Credit Reference Bureaus (CRBs) (BSAR, 2013). The study will be carried out in three banks in Nairobi County namely; Chase bank, I&M bank and Kenya commercial bank. Below is a brief description of the three banks.

Chase Bank was established in Kenya in 1995 and with time it became one of the first growing financial institutions in Kenya (Banking Survey, 2014). Chase bank has a rich heritage in customer service and relationship. The bank offers many banking products and services such as digital banking, personal banking, business banking and corporate banking. Under digital banking, chase bank offers a variety of services such as mobile banking and internet banking (Banking Survey, 2014).

I&M Bank was founded in 1974 as a financial services company and later converted to a commercial bank. I&M bank limited offers a range of banking services and
internet banking as well. It has roots in east Africa with leading management practices. In the year 2015, it was voted as the best bank in internet banking (I&M banking awards, 2015).

Kenya commercial bank was born into existence when two banks namely national bank of India and Grindlays bank merged to form the National and Grindlays bank (KCB Group, 2014). The government of Kenya took control of KCB with acquiring 100% of shareholding in the bank. Kenya commercial bank has branches in Kenya, Uganda, Tanzania, Rwanda, Burundi and South Sudan. Kenya commercial bank is the oldest bank in East Africa and offers many banking services including internet banking (KCB Group, 2014).

1.2 Statement of the Problem

The 21st century has witnessed the use of information technology increase rapidly in various countries around the globe. Advanced telecommunication and computer technology has enabled the internet to become the leading medium and innovative distribution channel for businesses (Mitchell et al., 2011). Internet banking enables customers to perform financial transactions via the internet through the website of a bank at any time, from anywhere where internet connectivity is available (Hu & Liao, 2011). Banks also benefit from reduced operational cost by adopting internet banking. As a result, financial institutions have invested large amounts of money to improve internet banking services. Banks have sought to remain up to date by resorting to provide internet banking in order to satisfy customer’s needs and desires by moving financial services from a face-to-face to a self-service driven technology (Wessels & Drennan, 2010).
Surprisingly there are many customers who have refused to use internet banking services (Koenig-Lewis et al., 2010). Security of information on the internet is the primary factor, which determines the adoption of internet banking technology (Pourkiaei & Ardestani, 2014). Several studies have examined the factors that hinder customers from utilizing internet banking as a relevant financial delivery channel in many developed countries around the world (Alsajjan & Dennis, 2010). For example in India, Pourkiaei and Ardestani (2014) conducted a research on internet banking with a view to study the satisfaction level of customers. The research report indicates that customers were not using all the services provided by banks because of different reasons such as lack of know-how regarding the method of using services, doubt about the safety and security related issues which brings fear regarding transmission of private data (Pourkiaei & Ardestani, 2014). Commercial banks in Kenya are trying to introduce internet banking systems to improve their operations and to reduce costs. Internet banking adoption in Kenya is very low despite high levels of internet access (Njuguna et al., 2012). In Kenya, little research has been conducted on the adoption and usage of internet banking and thus adoption and usage trends are unclear (Njuguna et al., 2012). Adoption of Internet banking services in developing countries is slower than anticipated (Ajam & Nor 2013). This study is anchored on the basis of slow adoption and use of internet banking by bank customers despite high levels of internet access (Internet Freedom East Africa, 2014).

1.3 Purpose of the Study
The purpose of this study was to examine consumer perceived risks that affects adoption and use of internet banking in Kenya using three selected banks and suggest possible solutions to enhance customer satisfaction.
1.3.1 Objectives of the Study

Specific objectives of the study were to:

i. Examine factors that influence adoption of internet banking in the three selected banks

ii. Determine the extent of use of internet banking services by customers in the three selected banks

iii. Find out challenges facing use of internet banking by customers in the three selected banks

iv. Find out solutions to the challenges that hinder adoption of internet banking services by customers in the three selected banks

1.4 Research Questions

Specific questions to the study were:

i. Which factors influence the adoption of internet banking in the three selected banks?

ii. What is the extent of use of internet banking services by customers in the three selected banks?

iii. Are there challenges facing use of internet banking by customers at the three selected banks?

iv. Are there possible solutions to the challenges facing use of internet banking by customers in the three selected banks?

1.5 Significance of the Study

The research findings will be of great benefit to financial service providers to have a better understanding of customer’s intentions and hence attract more customers by allowing them to develop competitive internet banking strategies distinct from traditional banks strategies. The study will be useful to banks planning to offer digital
financial services especially internet banking to know the extent it can be used by customers and the services already in the market. This study will be significant for bank executives and indeed the policy makers of the banks and financial institutions to be aware of internet banking as a product of internet commerce with a view to making strategic decisions. The study will be useful to small and medium enterprises owners to educate themselves on the many avenues and platforms that internet banking offers and that can be useful to increase efficiency and profits. Finally, this study adds knowledge the existing literature, and is a valuable tool for students, academicians, managers and individuals who want to learn more about internet banking.

1.6 Assumptions of the Study
Internet banking is a recent development and practice in Kenya although it is widely practiced by customers. Banking institutions in Kenya are well developed in advanced technological operations to support internet banking services.

1.7 Scope of the Study
The study involved three selected leading banks in Kenya and the customers involved in the study were from the three banks. The banks were within Nairobi County because of its technological advancement.

1.8 Limitations of the Study
The study was limited to three leading banking institutions. This study was a descriptive survey of the three banks which were purposively selected.

1.9 Justification of the Study
This study will benefit banking and other financial institutions to adopt and use internet banking as a new innovation technology. In addition it will increase banking services through the use of mobile banking initiative services. This study will also assist in development and deployment of technology because this is a modern digital
environment. Both customers and banking organizations should ensure that internet banking is used.

1.10 Conceptual Framework

Conceptual framework is a theoretical roadmap of assumption of principles and rules that concretize the ideas comprising a broad concept. Kombo (2006) has shown that the two major forms of variables are the dependent and independent variables. In this study, the independent variable is internet banking and consumer perceived risk that is affected by technological innovations. The dependent variable include trust, perceived privacy, responsiveness, perceived web security, perceived usefulness, perceived ease of use, quality website and computer self efficacy. The intervening variables include: attitude, age, education and gender. The outcome leads to adoption and use of internet banking.

![Figure 1.1: Conceptual Framework](Researcher, 2016)
1.11 Relationship between Variables

1.11.1 Trust

Internet banking is a new concept in developing countries (Safeena et al., 2011 & Berndt et al., 2010). Trust comes from factors such as perceived privacy and security, and is a major factor in electronic channels that may influence consumers' attitudes and intentions to adopt and use internet banking services (Ezzi, 2014). Lack of trust has been identified as one of the hindrances to the adoption and use of internet banking (Kesharwani & Bisht 2012 & Farzianpour et al., 2014). This means that trust is needed more when customers process more sensitive personal information including financial information.

1.11.2 Perceived Privacy and Security

Privacy and security of information is an asset to an individual. According to Ezzi (2014), many applications require individuals to give personal information such as social security numbers, bank account numbers, account information like balances, and identifying transactions and thus people of from walks of life tend to be concerned for their privacy and security. With respect to the attitude toward and adoption of internet banking many experts has acknowledged consumers’ concerns regarding security, privacy, and trust (Zanoon & Gharaibeh 2013; Nasri 2011; Zahid 2010). Changchit (2008) observed that in today’s digital age, internet users are concerned with many privacy issues as this digital age continue to affect a daily personal financial information. Saeednia and Abdollahi (2012) studied privacy and found that privacy directly and significantly influences trust as a mediator variable to promote affective commitment of the clients of online banking. A research study by Virk (2013) revealed that majority of customers considered that privacy had always been their major concern amidst news of fake websites asking for login details which
makes a customer think twice before opting for Internet banking. The findings of Ramseook-Munhurrun and Naidoo (2011) reveal that reliability and security are perceived as the most important dimensions in internet banking transactions that influence satisfaction and behavioral intentions. The more people feel secure, the more they will adopt and use internet banking services.

1.11.3 Responsiveness

Responsiveness is an influential factor in determining consumer’s attitude and intention to use online services (Alsudairi, 2013). Responsiveness is a measure of feedback time and accuracy of response (Ezzi, 2014). Responsiveness is about the speed and effectiveness of the bank’s web portal to provide information necessary to facilitate the customer to perform transactions efficiently. This implies that quick and efficient feedback and fast transaction completion is described as responsiveness to serving customers’ needs (Nimako et al., 2013). Responsiveness is related to cognitive learning theory and suggests that human behavior is based on how humans think about certain activities, events or other mental stimuli (Engel et al., 1995). These mental processes could be a variety of activities ranging from gathering information, learning about the information and problem solving using the information (Engel et al., 1995). If a customer intends to use internet banking system and is unable to obtain feedback from the system, the customer will perceive the effectiveness of the system negatively and this could hinder further usage of the system. In addition customers who find the internet banking system responsive in processing their needs quickly and efficiently are likely to value and use the internet banking system (Ezzi, 2014).

1.11.4 Perceived Usefulness

Technology acceptance model is for the most part based on two user perceptions: perceived usefulness and perceived ease of use (Davis, 1989). Both perceptions are
deemed relevant in constructing one’s attitude towards a certain type of information system. A positive attitude directly affects an individual’s intention to use an information system while a negative attitude inhibits an individual intention to adopt and use an information system (Davis, 1989). Thus attitude towards using information systems is the fundamental predictor of the user’s acceptance behavior-intention to use. Perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). Perceived usefulness is a major factor that affects attitude toward acceptance of information systems. For example, Yusoff et al., (2009) found a positive relationship between students’ usage of a new e-library and their perceived usefulness of the system. When applied to similar information systems, this finding could suggest that when students feel that a particular information system is perceived as useful, their resulting level of usage will be higher. In addition, Suki and Suki (2011) examined the relationships between perceived usefulness and subscribers’ attitudes toward and intentions to use third generation (3G) mobile services in Malaysia. These researchers found perceived usefulness to have a positive effect on attitude toward and behavior intention to use third generation mobile services.

1.11.5 Perceived Ease of Use
Perceived ease of use is the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). Ezzi (2014) reveals that an application that is perceived to be easier to use than another is more likely to be accepted by users, as it will positively influence attitudes and subsequently intention to use. Thus the more a system is perceived to be used easily the more chances for that system to be accepted by users. Most users want a system that gives them less physical stress
and little mental exercise while using it as this will determine their level of satisfaction with the usage (Odumeru, 2012).

1.11.6 Computer Self-efficacy
Self-Efficacy theory (SET) proposed by Bandura (1977) is based on cognitive learning theory, and used to explain psychological changes achieved by different treatments from the self-efficacy theory. Self-efficacy is the most important precondition for behavioral change (Bandura, 1977). People would change their behavior based on their confidence in their ability to perform that behavior leading to successful outcome. Garlin and McGuiggen (2002) argued that self-efficacy is more applicable to predict consumer behavior toward products or services that involve complex decision-making. For example, use of new technology or new product, instances where successful consumption would require skillful performance. Computer self-efficacy has a strong influence on the behavioral intention to use internet banking system that has been considered as new technology especially in developing countries (Riyadh, 2009). Chung (2002) found that lack of prior skill using internet banking skill inhibited consumer adoption and usage and that consumers who did not use the internet channel did not feel a need to use it. Ariff et al, (2013) examined the impact of computer self efficacy and found out that high computer self-efficacy is a positive factor in determining individuals’ intentions to use the internet banking system.

1.11.7 Demographics
Customer demographics include such characteristics as age, education level and gender. The level of education plays an important role in consumer adoption and usage of information systems (Al-Ashban & Burney, 2001). A study on Saudi consumers found out that education level has a significant influence on the use of
online banking (Al-Somali et al., 2009). Age is an important factor that influences the use of internet banking. In Turkey, mid-aged consumers are more likely to use internet banking than younger or older consumers (Akinci et al., 2004). A study by Lichtenstein and Williamson (2006) reveals that male perceptions of internet banking convenience is associated with high levels of accessibility and internet self-efficacy while for women it was important for 24/7 home access.

Other characteristics which impact on customers’ intention to use internet banking are perceived web security and quality website. Perceived web security is related to issues that threaten the user from using a website. It is a set of procedures, practices, and technologies for assuring a reliable, predictable operation of web servers, browsers, and other programs that communicate with web servers and the surrounding internet infrastructure. Ensuring web security is more complicated than ensuring internet security in general (Garfinkel & Simson, 2002). Factors such as loss of money due to a mistake in selecting the correct option on a website, hidden costs, website crush, viruses, account hacking and complexity of a website affect the usage pattern. It is a challenge as well as an opportunity for banks to provide risk free financial services to customers (Kashyap & Sharma, 2012). Transactions executed through the internet calls for a substantial amount of trust. Trust failure in businesses carried over the internet results in abstention from online shopping (Kim et al., 2011). Susceptibility of a website where business transaction is carried out is a major concern for customers (Kim et al., 2011). This implies that customers are highly worried about security and privacy. Security worries include risk of possession of critical information about customer by third parties while privacy relates to worrying about abuse of information by the handler of it (Ribbink et al., 2004). Quality of a website deals with aspects such
as speed, accessibility, navigability and content (Miranda et al., 2006). A website should always be as simple as possible. Financial institutions must design a navigable website which allows fast and easy interaction with customers (Ortega et al., 2007). Banks should focus on aspects such as ease of use, usefulness and time saving. Good websites are richer in content, accessible and navigable. Complex websites with more information, communication and transaction elements are usually slower (Miranda et al., 2006). General content, technical and appearance of a website are most important dimensions which impact website usage behavior (Al Qeisil et al., 2014).

1.12 Operational Definition of Terms

**Adoption**

It is a process that allows people to participate in a rapidly changing world by getting aware of a new technology and progresses through a series of steps that end in an appropriate and effective usage of that technology.

**Internet banking**

Process of using banks website that is connected to the internet to conduct financial transactions and activities such as opening an account, transfer of funds, paying bills and checking for statements.

**Customers**

Individuals or businesses that purchases goods or services produced by a business and are responsible for paying for the goods and thus creating demand.

**Banking**

Banking refers to the business activity of making profits by lending money to customers and safeguarding money that belong to customers.
Chase Bank

Commercial privately owned bank in Kenya which was incorporated in Kenya in 1996 and licensed by the central bank of Kenya.

Commercial Organizations

Groups with particular skill set, strategies, resources or priorities in place designed to turn a profit.

Internet Banking Practices

Process of performing financial transactions such as opening an account, paying bills, and transfer of funds on an internet enabled website operated by a bank.

E-Banking

This are computerized applications used to carry out banking transactions such as cash withdrawals through cash dispensers.

E-Commerce

These are Business or commercial transaction that utilizes internet to buy and sell goods and services through internet browsers.

M-Banking

Mobile banking (M-banking) is the ability to conduct bank transactions using a mobile devise. It involves the provision and access of banking and financial services via a mobile terminal.

1.13 Chapter Summary

This chapter discussed background to the study, statement of the research problem, purpose of the study, objectives of the study, research questions, significance of the study, assumptions of the study, scope of the study, limitations of the study, justification of the study, conceptual framework, relationship between variables and operational definition of terms.
CHAPTER TWO
LITERATURE REVIEW
This chapter focused on theoretical as well as empirical literature. It discussed adoption and use of internet banking in the global banking environment, adoption of internet banking in developing countries, development of internet banking, internet banking services, challenges facing adoption and use of internet banking, application of internet banking, advantages of internet banking, mobile banking in Kenya, impact of internet banking, consumer internet banking model, empirical literature and research gap.

2.1 Adoption of Internet Banking in the Global Banking Environment
Internet banking has experienced sporadic growth in many countries and transformed traditional banking practices. Internet banking (2015) reveals that internet banking was gaining considerable adoption in developed countries than in developing countries. Banks have considered the adoption of internet banking as a platform for improving customer experience, achieving competitive advantage and reducing operational costs. Today, all banks in USA and most of the banks in Europe and around the world offer Internet banking (Al-Khatib, 2012). They have continually endeavoured to improve customer experience in the banking services offered through online and offline channels. In order to provide enhanced banking experience for both retail and corporate customers, banks have committed to upgrade their core banking platforms (Banking Industry, 2013). A research from CAC Bank (2010) reveals that Yemen banks have committed huge amount of money to upgrade their internet technology services. Since the introduction of internet banking in Yemen in 2002, only four banks provide internet banking services (Budde, 2011). The slow pace at
which Yemen banks are taking to adopt internet banking suggests that internet banking service is still very low in Yemen (Zolait, 2011).

Indonesia and South Korea has the highest internet penetration (The International Monetary Fund, 2011). In his research, Nguyen (2011) reveals that South Korea has many online banking users than Indonesia even though Indonesia has the highest growth rate of online banking users in Southeast Asia. In Bahrain there is competitive pressure from foreign banks, which has forced local banks to reconsider the way they conduct their business. Being one of the highest levels of internet users amongst the Gulf Cooperation Council (GCC), Bahrain locals are reluctant to adopt themselves to internet banking services (Economic Development Board, 2011). In order to retain existing customers, banks will be required to evaluate carefully issues that affect customers because it will be costly to attract new customers. Internet banking is one avenue that banks can use to retain customers and attract high profits (Economic Development Board, 2011). It is thus becoming increasingly important for marketers to understand new trends in technology which can attract new as well as retain existing customers.

Organizations such as banking sector have always been in the forefront to using information technology in order to add value to its products, services and efficiency. Use of advanced technology has led to the shift from traditional banking to modern banking methods such as electronic banking (e-Banking) which started in 1990’s (Kumar, 2014) and electronic commerce (e-Commerce). E-Banking started with the introduction of computers and automatic teller machines (ATMs). ATMs were introduced by Luther Simjian in 1939 and introduced in New York in 1960. However
these machines were not commercially successful as according to Luther, only prostitutes and gamblers used them to avoid face-to-face dealings with bank tellers. Currently, the most common and useful technology based banking methods are online or internet banking, mobile banking, video banking, telephone banking, ATM, and plastic money (Vijayaragavan, 2014). Internet has become one of the indispensable technology tools being used by various business organizations in the twenty-first century (Maruf et al., 2014). Significantly internet banking enables customers to conduct financial banking transactions on a secure website which can be operated by a retail, virtual bank, credit union or building society. It makes banking faster and easy. Video banking is used for conducting banking transactions or consultations through a remote video connection. This technology was called videotext technology and provided voice response and handprint processing. It can be performed over purpose built banking transaction machines similar to Automated Teller Machines (ATM) or through bank branches enabled with video conferencing (Aldrich, 1982). Telephone banking is a bank service provided by financial institutions allowing its customers to conduct banking transactions over the telephone. Institutions which provide banking services exclusively over telephone are called Phone Banks. They use special technology to modernize the customer by providing bank and account related information over a telephone. Automatic teller machine ATMs are electronic machines, which are operated by a customer himself to deposit or to withdraw cash from bank. For using an ATM, a customer has to obtain an ATM card from his bank. The ATM card is a plastic card, which is magnetically coded. It can be easily read by the machine. Plastic money is a must need of our busy life. Today plastic money is the best alternative of the cash. It is also safer to travelling with a plastic money card than cash. Today it is very easy to carry money without having a lot of cash or gold. This is
a new idea of present life-style which has made money transition so easy that anybody can carry it with him or her in a pocket (Vijayaragavan, 2014).

2.2 Adoption of Internet Banking in Developing Countries

According to Ajam and Nor (2013), Internet banking in developing countries has been slower than anticipated and that it has not been used as much as they could or should have been. In Malaysia, the rapid technological advancement and increasing consumer demands for more efficient delivery of services has provoked banks to continually make transitions towards internet banking platforms (Central Bank of Malaysia, 2011). With high number of internet subscribers, internet banking adoption rate is still low in Malaysia (Mozie et al., 2012).

There are many advantages of using internet banking as a delivery channel. Despite the benefits that come with this form of technology, many banks and consumers in some least developed and developing countries are yet to adopt and implement internet banking services (Fonchamnyo, 2013). Nigeria is one of the developing countries in Africa which has fully recognized the benefits of information technology. But reasons such as low-level trust in the security measures of internet banking is attributed to the reluctance and low adoption of internet banking in Nigeria (Adesina & Ayo, 2010). Trust is therefore a main contributing factor in electronic commerce growth (Eastlick & Lotz, 2011). In India, financial products and services have become available over the internet which has consequently become an important distribution channel for a number of banks. A study on internet users conducted by internet and mobile association of India (IAMAI, 2014) revealed that 23% of online users prefer internet banking channel compared to 53% who prefer Automatic Teller Machines (ATMs) in India. This indicates that a significant number of online users do not use
internet banking. There is increasing development in the financial sector for the last 35 years in order to remain in the state of the art of information technology. Internet has traversed all sectors of our economy to especially banks and has enhanced internet banking with tremendous success in terms of service delivery channels. Despite the fact that the internet has an ever-growing importance in the banking sector, not all financial institutions (banks) that have adopted internet banking have been successful. Musiime and Ramadhan (2011) pointed out that in Uganda, where the concept of internet banking was introduced in early 2006, adoption and implementation has either been slow in banks or among customers. In developing countries, internet banking is still in its early stages. Musiime and Ramadhan (2011) highlights that in Zimbabwe, commercial banks introduced internet banking in the past seven years. Since then, the adoption of the technology among individual customers is still very slow in these commercial banks.

2.3 Development of Internet Banking

Internet banking traces its roots back to rapid advancement of information technology and electronic commerce. In 1939, Luther Simjian patented the first Automated teller machine (ATM) which was introduced in New York in 1960. This venture was not commercially successful because only gamblers and prostitutes used the machines to avoid face-to-face encounter with bank tellers (Automated Teller Machine, 2010). The first commercially successful ATM was introduced by James Goodfellow in 1966 which used a photostatic process with radioactive inked vouchers (Bellis, 1997). In 1979, Michael Aldrich invented online shopping using modified TV technology with a simple menu-driven human-computer interface that represented a new, universally-applicable participative communication medium which was the first since the invention of the telephone (Aldrich, 1982). The creation of World Wide

The concept of internet banking can be understood as a combination of four fields namely: information technology, finance, marketing, and service management. Research by Sabi (2014) indicates that internet banking evolved as one of the core applications of electronic commerce. Electronic commerce being a medium of shopping in which consumers use internet to browse, buy and pay for items, begun in the early 1970s with such innovations as electronic transfer of funds (Sabi, 2014). Further development of electronic commerce applications yielded electronic data interchange (EDI), which added other kinds of transaction processing functionalities and extended participation to all industries (Sabi, 2014).

Internet banking started in 1995 in United States and Europe (Al-Khatib, 2012). It started with simple functions such as real time access to information about interest rate, checking account balances and computing loan eligibility. Later these services graduated to online bill payment, transfer of funds between accounts and cash management services for corporate organizations and individuals (Khan et al., 2009). The first internet banking based services on the World Wide Web were provided by Stanford Federal Credit Union (SFCU) in October 1994 (Zimucha, 2012). Since then internet banking has rapidly spread in many countries of the world as a result of its convenience and ease in conducting banking activities at any time anywhere as long as there is internet connectivity (Auta, 2010). The diffusion of internet banking rapidly became one of the main electronic commerce applications
together with online retail or electronic business and electronic services at the start of the 21st century. Despite the benefits that come with this new delivery channel for banking services, many banks and consumers in some least developed and developing countries are yet to adopt and implement internet banking services (Fonchamnyo, 2013).

2.4 Internet Banking Services

Banks that offer internet banking services are still considered limited in Africa when compared to Europe or USA, yet a few pioneers have emerged, notably in South-Africa, Nigeria, Zambia, Algeria, Kenya among others (Sathye, 1999; Ndubisi et al., 2004). As most African countries prepare to enter the World Trade Organization, they face the possibility of competition from multinational banks. The concern of the national banks in the African continent about loss of domestic market share has encouraged them to consider offering online banking services. However, empirical evidence has shown that online banking services do not appear to be as widespread in Africa as in Europe and the USA and that there are many obstacles preventing the spread of adopting this technology in the Africa and in the UAE (Ndubisi et al., 2004). Many Kenyan banks may be technologically capable of offering online banking services, but the telecommunications infrastructure remains a big challenge. Second, Internet penetration in rural areas is still relatively low, which may not encourage the investment required to develop online banking (Gikandi & Bloor, 2010). Since 2002, Kenya has experienced a steady increase in the use of e-banking technologies such as automated teller machine (ATM), mobile and internet banking, electronic funds transfer, direct bill payments and credit card (Central Bank of Kenya 2008). The annual report by Central Bank of Kenya shows that the adoption and usage of automated teller machine has been surpassed by mobile banking in the last few years (Central
Bank of Kenya 2008). Online banking in Kenya is a recent innovation which started in 2008 (CBK, 2009). The first bank in Kenya to offer online banking was I&M bank who were granted the chatter to offer E-Commerce internet system banking in the East African region in the year 2008 (I & M News, 2008). Currently Kenya has over 26 banks offering internet banking all which are members of the Society of interbank financial telecommunication (SWIFT) and Kenya exchange service bureau (KENEX) (CBK, 2011). Fierce competition between banks, both in retail and wholesale, has forced banks to find new and profitable areas where to expand. But Internet banking seems to represent a viable strategy also for new entrants in the banking sector. Commercial banks are dominant players in the Kenyan Banking system. Since the onset of internet banking in Kenya in early 2000, the number of online customers is still very low. Banks in Kenya have continued to intensify marketing and infrastructures have continued to mature. Privacy and security are perceived to be the most important issues that inhibit customers from using internet banking in Kenya (Gikandi & Bloor, 2010). Moreover research by Njuguna et al., 2012 shows that the younger generation has a higher exposure to internet use and that they are adopting and using internet banking more than the older generation.

The number of banks offering electronic banking in the Kenya has risen steadily since the service was first launched in 1996 by Barclays Bank, with most institutions in the banking sector now providing online banking services to their customers both on the corporate and individual level (Gikandi & Bloor, 2010). It is worth noting that internet banking has been accepted only in specific line of services (Internet Banking, 2015).
2.5 Application of Internet Banking

According to Pourkiaei and Ardestani (2014), there are three types of Internet banking that are being employed in the market place: information, communication and transaction. Information is the most basic level of internet banking. The bank has marketing information about its products and services on a stand-alone server. This level of internet banking service can be provided by the bank itself or by sourcing it out. Communication is the type of internet banking which allows interaction between the bank’s system and the customer. It may be limited to electronic mail, account inquiry, loan applications, or static file updates but the risk is higher with this configuration as compared to the earlier systems. Transaction is a system of internet banking where customers are allowed to execute financial operations.

The mobile telephony sector has witnessed a positive growth over the years. This sector has continued to expand, both in terms of subscriptions and development of new and innovative products that aims at enhancing service delivery and increasing customer value (CCK, 2012). Technology is being used by businesses today to enhance growth and competitiveness (Anyasi & Otubu, 2009). Firms are developing new and innovative products to be able to maintain existing customers and to attract new markets. One such innovation is the introduction of M-banking technology in the banking sector. M-banking has changed the way banks perform their operations, this has led to the introduction of new products and services that are aimed at lowering transaction costs and reaching a larger number of customers (Mari, 2003; Anyasi & Otubu, 2009; Ayo, Adewoye & Oni, 2010). M-banking provides the potential of increasing efficiency of payments system and expanding access to formal financial services by those who presently lack it. At the same time, it could make banking more
convenient and cheaper to those who already have bank accounts (Porteous, 2006). It is clear that M-banking technology will make Kenya realize high levels of savings to finance overall investment needs.

M-banking employs the use of mobile telecommunication devices to offer banking services. For example, Customers can use mobile phones or personal digital assistants (PDAs) to withdraw money from their bank accounts, check account balances, make payments, mobile phone top up and money transfers (Mari, 2003; Porteous, 2006; Porteous, 2007; Anyasi & Otubu, 2009; Aker & Mbiti, 2010; Saleem & Rashid, 2011; Porteous & Neville, 2006; Cheah, et al., 2011). It offers mobile customers the ability to conduct bank transactions using a mobile devise. It involves the provision and access of banking and financial services via a mobile terminal (Drexelius & Herzig, 2001). M-banking includes basic services such as bank account statements, funds transfer, electronic payment options as well as informational based financial services such as alerts on account limit, account balance, and access to stoke broking. M-banking helps customers to bank virtually by using the web interface or using text-message in any place and time. Smart phones can be used to conduct internet banking through the use of wireless internet connectivity and mobile developed applications. Phones that cannot access wireless internet can use text-messaging interface to help customers to conduct mobile banking. Mobile banking is progressively traversing numerous sectors of our economy and industry. With the continuous evolution of information technology, the banking industry especially in Kenya has found itself unable to resist the state of the art of technological indulgence. Continuous developments in internet banking have borne mobile banking. In one aspect, mobile telecommunications act as front office for financial services while
existing banks are left as providers of back office functions (Williams & Torma, 2007).

According to Porteous (2006), M-banking can be classified into two namely: transformational M-banking, which is the provision of banking services using a mobile phone to reach the unbanked population and additive M-banking, in which the mobile phone is simply an additional channel that is used to provide banking services to those already banked.

According to Williams and Torma (2007), mobile transactions can simultaneously enhance the outreach of financial services, reduce information asymmetries, and provide relatively low cost informational and transactional financial products. It therefore has the potential to transform the access to finance for a significant number of people. It brings closer to reality the aspiration to provide mass access to finance to all countries and income groups (Williams & Torma, 2007, p 18).

2.5.1 Advantages of Mobile Banking

M-banking customers are driven by the convenience that is brought about by the technology in terms of deposits, withdrawals and making payments (Porteous, 2007; Mas & Radcliffe, 2011; Masinge, 2010). Johnson, Brown, and Fouillet (2012) argues that M-pesa offers a high level of reliability and convenience since agents are located even in small market centres and customers can undertake transactions from the comfort of their homes. This system therefore offers a great potential for formal financial providers to reach low-income rural people (FSD annual report, 2009; Ivatury & Mas, 2008).

M-banking has the potential of reducing costs across the financial system. Findings from a survey conducted in 2008 by FSD showed that on average the closest agent to
respondents was reachable in less than 12 minutes and at a transport cost of approximately 15 shillings. By contrast FinAccess data showed that the nearest bank branch for around 60% of the population would be reached in more than 30 minutes and the transport would cost more than 50 shillings. This highlights the significance of proximity to overall transaction costs (FSD Annual Report 2009; FSD Annual Report 2010).

M-banking lowers the cost of delivery, which includes costs both to banks of building and maintaining a delivery channel and to customers of accessing services, for example, costs associated with travelling and queuing in the banks (Porteous, 2006; Ivatury and Mas, 2008; Anyasi & Otubu, 2009; Mas and Radcliffe, 2011; CCK, 2012). M-banking facilitates faster and more efficient financial transfers, increasing the volume of trade and access to finance for a large segment of the unbanked in developing countries. M-banking customers can conduct transactions wherever they have cell coverage and that they need to visit a retail agent only for transactions that involve depositing or withdrawing cash. In developing countries, M-banking may reduce the need for the rollout of higher cost financial infrastructure such as dedicated point of sale (POS) devices (Porteous & Neville, 2006).

2.5.2 Mobile Banking in Kenya

Internet has become a vehicle through which you can access information as well as communicate. About 44.12% of Kenyan populations have access to the internet with majority accessing the service through mobile phones (CCK, 2012). Over the last ten years the financial sector in Kenya has seen dramatic changes. This has been made possible by a number of factors which include; developments in the wider economy, policy and regulatory reforms, increased competition and new technology and amendments to the Banking Act in 2009. Finance Bill which passed into law at the
end of the year allows banks to use small shops, petrol stations, pharmacies and other retail outlets as agents. With reduced transaction costs and a huge expansion in geographical reach, access to financial services could increase enormously (FSD Annual Report 2009).

Research shows that M-pesa is addressing a major need in Kenya for safe, quick, low-cost and accessible money transfer services (FSD Annual Report, 2008; Mas and Radcliffe, 2011). In 2008, M-pesa linked up with the independent ATM network, PesaPoint, which enables customers to access and withdraw funds from their M-pesa accounts at 110 ATMs across the country (FSD Annual Report, 2009). M-pesa has also continued to develop linkages with the formal banking system. A number of the larger retail banks have connected to the M-pesa system allowing direct transfers between M-pesa and bank accounts. For example, in the second quarter of the year 2010, Equity bank and Safaricom Company launched a new joint product, M-kesho. The product is a specialized bank account held by Equity bank and accessed through M-pesa. Equity bank has also launched another product with Orange (Telkom Kenya), which provides a direct link to an Equity bank account and allows transfer of funds across all mobile networks (FSD Annual Report, 2010; Mas & Radcliffe, 2011).

By September 2010, M-pesa had 9 million registered customers 60% of Safaricom’s customer base, 23% of the population, and 40% of Kenyan adults. Equity Bank, Family Bank, Kenya Commercial Bank (KCB), Musoni and the Kenya Women’s Finance Trust (KWFT) now offer their customers with mechanized M-pesa services whereby customers are able to withdraw their money or repay loans. Orange (Telkom Kenya), Yu (Essar Telcom) and Airtel (Bharti Airtel) have all introduced mobile money services. By early 2011, almost 90 formal financial institutions had
integrated their operations with mobile money, primarily M-pesa. M-pesa has made the mobile money market easy to enter for many participants. It’s anticipated that all serious market players will continue to roll-out mobile money solutions and these will include savings solutions (CCK, 2012).

M-pesa was developed by Vodafone and Safaricom Company to provide branchless banking services, a system that would enable financial deepening, ultimately increasing access to financial services for people on relatively low incomes (Mobile Ventures Kenya, 2012). However, through the pilot testing stage, the initial Mobile Micro-Finance model was adjusted to become a person-to-person money transfer service (Mobile Ventures Kenya, 2012). Indeed, the mobile money transfer service has continued to record a positive growth, and the coming years it may be no exception as this service has become a medium of payment and provision of accessible and affordable banking services (CCK, 2012).

2.6 Impact of Internet Banking

Customers are expected to enjoy several benefits as a result of the implementation of Internet banking. According Intana and Chansa-ngavej (2014), bank customers, can do almost all their personal banking transactions online 24 hours a day from anywhere. All of those activities offered to customer due to time saving and convenience is the main influence served on Internet banking. Internet banking would be beneficial in reducing transaction costs (Intana & Chansa-ngavej 2014, pp. 126). New technology helps in time saving and enables financial service providers to launch new products and services with efficiency that make it fast and convenient for customers to conduct various banking transactions (Intana & Chansa-ngavej 2014, pp. 126). Financial institutions will greatly benefit by adopting techniques that will attract
more customers to adopt internet banking. Consumers will enjoy the privilege of access to far more providers of financial services (Birch & Young, 1997). As a result of a wider choice of internet bank service providers, the costs searching, negotiating and concluding deals will be lower as the comparison of products and services would be made easier over the internet (Bakos, 1991; Malone et al., 1989, Peters, 1998). Information on pricing and returns is far easier to gather (Birch & Young, 1997). Customers will also save traveling costs to bank branches and also avoid the heavy traffic jams and long queues (Chan, 2001). Customers will enjoy the benefits of conducting their banking transactions at ease because they would not be subjected to high-pressure sales tactics (Birch & Young, 1997).

Besides opportunities of internet banking, banks and financial institutions across the world face new challenges to the ways they operate, deliver services and compete with each other in the financial sector. Driven by these challenges, banks and financial institutions have implemented services delivery using internet banking (Chan & Lu, 2004). The objectives of launching internet banking include cost reduction, performance improvement, wider coverage, revenue growth, and customer convenience (Bradley & Stewart, 2002; Chau & Lai, 2003). From the customer’s perspective, internet banking facilitates a convenient and effective approach to manage personal finances, as it is accessible 24 hours a day and 365 days in a year without visiting the bank and from any locations (Rotchanakitumunai & Speece, 2003).

With the continuous growth of competition in the market place, understanding customers has become more and more an important issue of marketing. According to the Chartered Institute of Marketing, marketing is defined as the process of
management to identify, anticipate and satisfy customer requirements profitably. It shows that today’s companies have moved their focuses from products and sales to customer oriented marketing (Lin, 2003). According to Hanson (2000), customer service is an organization’s ability to supply their customers’ wants and needs. He further explains improving customer service involves both learning what customers’ needs and wants are, and developing action plans and process to give customers what they really want and need. Nowadays, customer service has been emerging as a competitive weapon for business firms to obtain competitive advantage. In addition, customer service has gained specific importance for the survival of companies. With this increased importance of customer service, it is obviously that service quality became an increased concern (Eppinette & Inman, 1997). However, due to services’ four distinctive characters namely: intangibility, inseparability, heterogeneity and perishability, service quality becomes difficult to measure and evaluate. Therefore, customers’ perceptions of service quality draw major concern by both business managers and researchers (Hoffman & Bateson, 2002).

The incredible growth of the internet is changing the way corporations conduct business. The advantages of the Internet, offer a wide range of opportunities for companies to find new ways of conducting their business in order to cope with increased competition more efficiently and effectively. As a result, business practices through the internet are increasingly becoming the subject of studies evaluating the impact of internet on economic growth and business performance (Venkatraman, 2000). Most online service providers, however, have encountered substantial problems and challenges in conducting online service quality. The primary reasons for these difficulties are due to service providers’ lack of experience in operations of this
recent challenge and their limited understanding of online customers’ usage behaviors (Mols, 2000). As a critical measure of organizational performance, service quality remains at the forefront of both the marketing literature generally and the services marketing literature specifically (Johnston, 1997). Practitioners and academics alike are keen on accurately measuring service quality in order to better understand its essential antecedents and consequences, and, ultimately, establish methods for improving quality to achieve competitive advantage and build customer satisfaction (Palmer, 1995). Since customer expectation and perception of internet service will change over time, quality will become an increasingly important issue. Therefore, understanding service quality within the delivery channel of internet becomes more and more important (Mols, 2000). The banking industry is no exception. The introduction and customer acceptance of internet-based home banking may bring a dramatic change in the way retail banks build and maintain close relationship with their customers (Jun and Cai, 2001).

Although there is a significant growth of internet users in Kenya, the number of financial transactions carried out over the internet remains very low. This trend however is the same globally and it has been observed that potential users either do not adopt internet banking or do not use it continually after adoption. Mearian (2001) indicated that huge number of customers in USA is accessing most of the banks’ websites but only a minority of customers has made online financial transactions. Gartner expressed that out of 61% online users, only 20% of consumers carries out online banking in the USA (Brown, 2001). Several studies have reported not only low adoption rate but also disparity in adoption rates among European countries. ACNielsen (2002b) found that use of internet banking is increasing in Asian countries but it is still lower than the estimations. Due to these slow adoption
rates, the transformation of banking services from the traditionally known physical branches commonly referred to ‘bricks and mortar’ to the modern way through information and communication technology systems better known as ‘clicks and mortar’ is yet to be realized to the extent it was predicted (Bradley & Stewart, 2002). Customers in some countries have ranked internet banking as less important than other channels such as ATM or telephone banking (Aladwani, 2001; Rotchanakitumunai & Speece, 2003; Suganthi & Balachandran, 2001).

An understanding of the extent of the customers’ adoption or utilization of internet banking services has become critical. According to Courtier and Gilpatric (1999), banks and financial companies must survey customers’ requirements on a regular basis in order to understand factors that can affect their adoption or usage of internet banking. Since the onset of internet banking in Kenya in early 2000, the number of online customers is still very low. However, there has been a notable increase as banks continue to intensify marketing and the infrastructures continues to mature (Gikandi & Bloor, 2010).

2.7 Consumer Internet Banking Model

Consumer internet banking model incorporates the fundamental factors of technology acceptance model in determining the acceptance (attitude toward) and adoption (intent to use) an information system and additional characteristics suggested by Ezzi (2014) such as privacy, security, trust, computer self-efficacy, responsiveness and demographics. The reason why consumer internet banking model is more appropriate for this study is because internet banking services are quite different from information systems. Internet banking enables customers from widely different backgrounds to perform banking transactions and financial activities on a virtual space.
Technology acceptance model was first introduced by Davis et al., (1989) and soon tested by Davis (1989). His purpose was to explain the effect of how users’ perceptions of system characteristics influence acceptance of information systems applications. Technology acceptance model has roots and was adapted from the Theory of Reasoned Action to the field of information systems (Davis, 1993). Technology acceptance model suggests that intention to use an information system is determined by perceived usefulness of the system which influences attitude. Perceived usefulness is suggested to be directly impacted by perceived ease of use. Attitude has been defined by Davis (1993) as the degree of evaluative affect that an individual associates with using the target system in his or her job. In discussing technology acceptance model, Davis (1989) clarified that an individual’s attitude is a kind of perceived behavioral control, where a high degree of perceived control will influence behavior intention, resulting actual behavior (Tung et al., 2007).

Technology acceptance model become a widely used model for predicting the acceptance and use of information systems, and was recently applied to predict internet adoption as well. Based on the theories in social psychology such as the theory of reasoned action (Ajzen and Fishbein, 1980) and the theory of planned behavior (TPB) (Ajzen, 1985). Thus technology acceptance model has been validated as a powerful and parsimonious framework for explaining the adoption of information systems by the users (Davis et al., 1989). On the other hand, researchers found technology acceptance model was incomplete for prediction of intentions and usage. For example, Calisir et al. (2009) argued that although the model was applicable to a variety of technologies, it had been criticized for not providing sufficient information on individuals’ opinions about novel systems. Similarly, Khanifar et al. (2012)
pointed out that while the model had been found to be an adequate and robust model, it included only three variables to predict intention to use such as perceived usefulness, perceived ease of use, and intention to use.

Technology acceptance model views perceived usefulness and perceived ease of use as the most salient beliefs that influence an individual’s decision to adopt new technology (Davis et al., 1989). These constructs also provide better measures for predicting and explaining system use than other constructs (Davis, 1989). Correspondently, the characteristic of perceived innovative attributes consisted of trialability, relative advantage, complexity, and compatibility (Rogers, 1995). The originality of the technology acceptance model derives from two related beliefs, perceived usefulness (PU) and perceived ease of use (PEOU), which generalizes across different settings. TAM assumes that users engage in behaviors because they have evaluated the benefits and expect certain results (Dishaw & Strong, 1999). Snoj et al. (2004) found out that users do not use a system for its own sake but instead use it because of its attributes that drive value, according to the utility provided by the combination of attributes.
2.8 Challenges facing adoption and use of internet banking services

Internet banking is now facing great technological revolution to incorporate technologies such as mobile banking (Gikandi & Bloor, 2010). Privacy and security are perceived to be the most important issues that inhibit customers from using internet banking in Kenya (Gikandi & Bloor, 2010). It is worth noting that internet banking has been accepted in specific line of services (Internet Banking, 2015). In developing countries such as Nigeria, benefits of internet banking have been recognized. However reasons such as low-level trust in the security measures of internet banking are attributed to the reluctance and low adoption of internet banking (Adesina & Ayo, 2010). The main contributing factor in electronic commerce growth therefore is trust (Eastlick & Lotz, 2011). In Africa and UAE, there are a number of constraints related to social and infrastructure that must be taken into account when evaluating the development of online banking in Kenya (Ndubisi et al., 2004). Many Kenyan banks have the capacity to offer online banking services. However, the
telecommunications infrastructure remains deficient. Second, internet penetration in rural areas is still relatively low, which may not encourage the investment required to develop online banking (Gikandi & Bloor, 2010).

2.9 Empirical and Intellectual Studies

In Thailand, research by Intana and Chansa-ngavej (2014) established that the volume of transactions of internet banking services grew continually through the use of extended technology acceptance model for internet banking. With the sporadic expansion in volume of banking services, internet banking technology faces problems from its customers. A research by Lee (2009) reveals that a large number of customers still refused to adopt the use of internet banking services because of uncertainty and security of private information. Similarly Raza and Hanif (2013) researched on the factors affecting internet banking adoption among internal and external customers. Findings from this study show a significant positive relationship of all considered variables with internet banking adoption.

Amani et al. (2011) conducted an empirical investigation on the adoption of internet banking by Iranian customers. Findings revealed that perceived usefulness and computer self efficacy were the main factors that influenced acceptance of internet banking. Eze et al., (2011) investigated factors affecting internet banking adoption among young adults in Malaysia. Findings reveal that perceived ease of use, perceived usefulness, perceived credibility, relative advantage, trialability and self efficiency influence customers to adopt internet banking. This could enable banks to formulate effective techniques to attract this group to use this service. On the same line, Nasri (2011) researched on factors influencing the adoption of internet banking in Tunisia and findings of the study reveal that internet banking usage is much
persuaded by factors such as risk, convenience, security and also prior internet knowledge. Demographic factors show significant impact on the behavior to use internet banking. Banks should take some steps to upgrade their security, low risk and prior internet knowledge for making good marketing strategies. Further research by Safeena et al., (2011) on internet banking adoption in India revealed that perceived usefulness, perceived ease of use and perceived risk were the most important factors that influence the adoption of online banking and also help to make strategy formulation process. Findings from the research study suggested longitudinal study in the future which will help to identify the research model in different time periods and make comparisons and thus provide more views into the phenomenon of the adoption of online banking. Malhotra and Singh (2010) conducted an investigation on the most impacting factors of internet banking service in India. The results showed that private and foreign banks have performed well in offering wider services of internet banking in comparison to public sector banks. Further findings showed that size of the bank, experience of the bank in offering internet banking, financing pattern and ownership of the bank are found to be significant determinants affecting the extent of internet banking services. This research helped to fill the gaps in knowledge about the internet banking landscape in India. The findings were expected to be of great use to the government, regulators, commercial banks, and other financial institutions like cooperative banks planning to offer internet banking, bank customers and researchers.

According to a research study conducted by Yaghoubi and Bahmani (2010), factors which affected adoption of internet Banking services in Isfahan province of Iran included intention to use internet banking which were strongly affected and influenced by perceived behavioral control and perceived usefulness. The research
study provided an integrated technology acceptance model and theory of planned behavior as adoption models that confirmed their robustness towards online banking adoption. A study by Egland et al., (1998) revealed that banks in all size categories offering internet banking were generally more profitable and tended to rely less heavily on traditional banking activities in comparison to non-internet banks. A study by Sullivan (2000) found that click and mortar banks in the 10th Federal Reserve District incurred somewhat higher operating expenses but offset these expenses with somewhat higher fee income. On average, this study found no systematic evidence that banks were either helped or harmed by offering the internet banking delivery channel.

2.10 Research Gap
The reviewed literature discussed factors affecting internet banking services and none on consumer perceived risk and adoption of internet banking in Kenya. Therefore the purpose of this study was to examine perceptions of customers towards internet banking in Kenya.

2.11 Chapter Summary
This chapter discussed theoretical as well as empirical literature. It discussed adoption and use of internet banking in the global banking environment, adoption of internet banking in developing countries, development of internet banking, internet banking services, challenges facing adoption and use of internet banking, application of internet banking, advantages of internet banking, mobile banking in Kenya, impact of internet banking, consumer internet banking model, empirical literature and research gap.
CHAPTER THREE
RESEARCH METHODOLOGY

This chapter focused on the methodology that was used to collect data. It dealt with research design, area of study, target population, sampling techniques, sample size, data collection instruments, research instruments, validity, reliability, data collection procedures, data analysis, ethical considerations, and chapter summary.

3.1 Research Design

Quantitative research design and descriptive research design was used in this study. This is because the study used questionnaires to collect data from the respondents. Quantitative research design is an approach for testing objective theories by examining the relationship among variables (Creswell, 2014). These variables, in turn, can be measured typically on instruments, so that numbered data can be analyzed using statistical procedures. The study employed descriptive survey research design study because it provided numeric descriptions of the population and described events as they were (Oso & Onen, 2009).

3.2 Area of Study

The study was carried out in Nairobi County at Chase bank, I&M bank and Kenya commercial bank branches. Nairobi is the capital city of Kenya which is technologically developed with most banks having their head offices in the capital. The principal factors for choosing the three banks were that the banks are leading financial institutions and are largely established in Nairobi with many branches than in any other town. Chase bank was selected because it is the most dynamic financial institution in Kenya and offers products such as internet banking to customers (Banking survey, 2014). I&M bank was chosen for the study because it is a leading bank in East Africa and has worn many wards including the best internet banking
award in 2015 (I&M Banking Awards, 2015). Kenya commercial bank was selected because it is one of the largest and oldest banks in Kenya with many branches spread across east Africa. The study focused on consumer perceived risk of internet banking in Kenya.

3.3 Target Population
Population refers to all the subjects you want to study. The target population of this study was all bank customers of the three selected banks in Kenya. Since it required time and resources to compile data from the entire population, there was need for purposive sampling through a survey of three banks namely; Chase bank, I&M bank and Kenya commercial bank customers.

3.4 Sampling and Sampling Techniques
3.4.1 Sampling Techniques
Sampling is choosing which subjects to measure in a research project (Garson, 2012). According to Orodho and Kombo (2012), a sampling technique is defined as the procedure that a researcher uses to gather things, places or people to study. Purposive sampling was used in this study through a survey of Chase bank, I&M bank and Kenya commercial bank. This is because the three selected financial institutions are leading banks in Kenya and provide internet banking services. Purposive sampling is selecting a sample on the basis of a researcher’s knowledge of the population, its elements, and the nature of the researcher’s aims (Babbie, 1990). In purposive sampling, individual characteristics are selected to answer necessary questions about a certain matter or product (MacNealy, 1999). The researcher is then able to select participants based on internal knowledge of said characteristic. According to Babbie (1990), this method is useful if a researcher wants to study a small subset of a larger
population in which many members of the subset are easily identified but the enumeration of all is nearly impossible.

3.5 Sample Size

A sample is a subset of a population (Lohr, 2010). A sample should be of the required size in order to have the required degree of accuracy in the results as well as to be able to identify any significant difference or association that may be present in the study population (Israel, 2009). In total 150 respondents were randomly selected from the three banks for purposes of data collection through the use of lead people. This is because quantitative and descriptive study needs hundreds of subjects to give acceptable confidence intervals (Hopkins, 2002).

Table 3.1: Sample Size (Researcher, 2016)

<table>
<thead>
<tr>
<th>BANK</th>
<th>SAMPLE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chase bank</td>
<td>50</td>
</tr>
<tr>
<td>I&amp;M bank</td>
<td>50</td>
</tr>
<tr>
<td>Kenya Commercial bank</td>
<td>50</td>
</tr>
<tr>
<td>TOTAL</td>
<td>150</td>
</tr>
<tr>
<td>%</td>
<td>100</td>
</tr>
</tbody>
</table>

3.6 Data Collection Methods

Questionnaires were used to collect data in this study. Primary data was obtained from the questionnaires. Nordin (2009) recommends use of questionnaires because of time saving and confidentiality. The study used both closed-ended and open-ended type of
questions. Questionnaires were also used because the study was quantitative whose main purpose was to get detailed information from the respondents.

3.7 Research Instruments

According to Creswell (2011) research instruments are the means by which primary data are collected. Research measurements are tools designed to obtain data on a topic of interest from research subjects. The researcher used questionnaires to conduct the study. The questionnaires contained both open-ended and closed-ended type of questions. The questionnaire was validated by avoiding inconsistencies that may occur through wording mistakes, and ambiguities. The questionnaire was pre-tested by two native English speakers. Sekaran and Bougie (2010) highlights that a pre-test is essential because wording problems significantly influence accuracy and that if there are errors in the questionnaire they are corrected before the actual study is carried out.

3.7.1 Pilot Study

Pilot test was conducted to test validity and reliability of research instruments using Standard chartered Bank and Bank of Africa which were randomly selected. In the pilot study the respondents answered the questionnaire quite well and where there were issues, the questionnaire was corrected. The pilot study helped to redefine the questionnaire for data collection purposes.

3.7.2 Validity

Validity is the accuracy and meaningfulness of inferences, which are based on the research. It is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study (Bryman, 2008). In order to ascertain content and face validity, the questionnaires were presented to experts for test and measurement who matched all the items of the questionnaire with the research
questions to ascertain whether the instrument actually measured what was captured on
the research questions. The advice from the experts was used to construct the
questionnaires to ensure that all research questions were covered.

3.7.3 Reliability
Reliability describes the repeatability and consistency of a test (Venkatesh et al.,
2013). To ensure reliability of the instruments the researcher conducted a pilot study
in Standard Chartered bank and Bank of Africa in Nairobi city before the actual study.
The main purpose of the pilot study was to check suitability and the clarity of the
questions on the questionnaires, relevance of the information that was being sought,
the language used and the content validity from the responses that were given.

3.8 Data Collection Procedures
The researcher personally visited the sampled banks and made prior arrangements
with the bank managers on an appropriate day and time for the distribution of
questionnaires to the relationship officers. The researcher then identified five
relationship officers in each of the selected banks and requested them to distribute
questionnaires to their clients on his behalf. Each relationship officer was given ten
questionnaires to distribute to respondents. Respondents were requested to fill in the
questionnaires. The researcher kept contact with the relationship officers and once the
questionnaires were returned, the researcher picked them for data analysis.

3.9 Data Analysis
According to Kombo and Tromp (2011), data analysis procedure includes the process
of packaging the collected information, putting in order and structuring its main
components in a way that the findings can be easily and effectively communicated.
Questions from the questionnaires were analyzed using Microsoft Excel 2007 and presented the findings in tables and figures. Finally data was analyzed using research objectives and research questions of the study and highlighting various thematic areas.

3.10 Ethical Considerations

Ethical concern in the academic community is an extensive, complicated, and controversial topic that warrants deep and thoughtful discussion (Wet, 2010). To ensure that the researcher adheres to ethical considerations, the researcher undertook various measures to prevent any harm to the respondents by ensuring that the research did not have a negative effect on the respondents. Therefore the researcher asked only professional questions. The researcher used the supplied information for only study purposes. The researcher never named any respondents during the research and the subsequent report. The respondents were requested to fill the questionnaires and were not threatened or coerced to fill them. The researcher sought permission for research study from the bank management before conducting the research initiative. The researcher cited all reference that was used. Finally the researcher will avail the information at request incase a copy is needed.

3.11 Chapter Summary

This chapter focused on the methodology used to collect data. It dealt with research design, area of study, target population, sampling techniques, sample size, data collection instruments, research instruments, validity, reliability, data collection procedures, data analysis, and ethical considerations.
CHAPTER FOUR
DATA PRESENTATION, ANALYSIS, RESULTS AND DISCUSSIONS

This chapter presents the results of the study that examined consumer perceived risk and adoption of internet banking in Kenya. This chapter generally focuses on data presentation, data analysis, results and discussions of the study. The study used questionnaires to obtain data and information. The analyzed results are presented in form of charts and tables. This chapter therefore addressed response rate, background information of respondents, adoption of internet banking, perceptions regarding adoption of internet banking, extent of use of internet banking services, challenges encountered by respondents in using internet banking and possible solutions to the challenges of internet banking.

4.1 Response Rate
The study utilized questionnaires with open-ended and closed-ended type of questions to collect data from the respondents. Table 4.1 pg 49 shows the response rate from the three selected banks. Out of the 150 questionnaires that were administered to respondents, 132 were collected representing 88% response rate. Kenya commercial bank recorded the highest response rate with 92% compared with Chase bank which recorded 88% and I&M bank recorded 84%.
Table 4.1: Response Rate (Researcher, 2016)

<table>
<thead>
<tr>
<th>BANKS</th>
<th>RESPONDENTS DISTRIBUTED</th>
<th>RETURNED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chase Bank</td>
<td>50</td>
<td>44</td>
</tr>
<tr>
<td>I&amp;M Bank</td>
<td>50</td>
<td>42</td>
</tr>
<tr>
<td>Kenya Commercial Bank</td>
<td>50</td>
<td>46</td>
</tr>
<tr>
<td>TOTAL</td>
<td>150</td>
<td>132</td>
</tr>
<tr>
<td>%</td>
<td>100</td>
<td>88</td>
</tr>
</tbody>
</table>

4.2 Background Information of the Respondents

This study sought to establish background information of the respondents based on education level, gender, and age.

4.2.1 Educational Level

The study sought to establish the education level of respondents who use internet banking services. Figure 4.1 pg 50 shows that 16% of the respondents who use internet banking attained certificate in secondary education, 32% were diploma holders, 41% were bachelor’s degree holders, and 7% had a master’s degree while another 4% had a Phd degree. The findings therefore show that majority of the respondents who use internet banking consists of diploma and bachelor’s degree holders with a 32% and 41% respectively. The level of education plays an important role in consumer adoption and use of information systems (Al-Ashban & Burney, 2001). This implies that education level has a significant influence on the use of online banking (Al-Somali et al., 2009).
4.2.2 Gender

The study sought to find out the gender of the target respondents involved in the study. The findings in Figure 4.2 pg 51 established that 56% of the respondents were male as compared to 44% of the respondents who were female. Thus, the findings indicate that majority of the respondents were male. Male perceptions regarding internet banking is associated with high levels of accessibility and self-efficacy while for women internet banking is important for 24/7 home access (Lichtenstin & Williamson, 2006).
4.2.3 Age

The study intended to determine the age of the target respondents involved in the study. The findings in Figure 4.3 pg 52 illustrates that 5% of the respondents were under 21 years, 56% between 21-30 years, 32% were between 31-40 years, 7% of the respondents were above 41 years. Thus, the findings indicate that 56% constitute majority of the respondents aged between 21-30 years old and 32% aged between 31-40 years of age. This implies that majority of the respondents were early to mid-aged consumers. These results are consistent with the research study of Akinci et al., (2004) whose findings show that age is an important factor that influences use of internet banking and that mid-aged consumers are more likely to use internet banking than young or older consumers.
4.3 Adoption of Internet Banking

The findings on Figure 4.4 pg 53 illustrates that 56% of the respondents had used internet banking compared to 44% of the respondents who stated otherwise. The findings indicate that majority of the respondent’s use internet banking. From figure 4.5 pg 53 a fraction of the respondents who constitute 8% of the respondents reported that they used internet banking once in three months, 35% used internet banking monthly, 32% weekly and 24% daily. Since the onset of internet banking in Kenya in early 2000, the number of online users is still very low. However from the findings of this study, there is a noticeable increase of internet banking. This could be attributed to the fact that banks have continued to intensify marketing as well as equipping banks with advanced internet banking technologies.

![Figure 4.3: Age (Researcher, 2016)](image-url)
4.3.2 Duration of Use of Internet Banking

Figure 4.5 pg 53 illustrates that 14% of the respondents have been using internet banking quarterly, 22% have used it between 4-6 months, 24% used it between 7-11 months, and 40% have been using it over one year. Thus the findings indicate that majority of the respondents have been using internet banking for more than one year.
4.3.3 Frequency of using Internet Banking

The study intended to determine the frequency of using internet banking by the respondents involved in the study. The findings on Figure 4.6 pg 54 illustrates that 24% of the respondents used internet banking daily, 32% weekly, 35% monthly and 8% used once in three months. Thus, the findings indicate that majority of the respondents used internet banking monthly.

![Pie Chart showing frequency of use of Internet Banking]

**Figure 4.6: Frequency of Use of Internet Banking (Researcher, 2016)**

4.3.4 Perceptions regarding adoption of Internet Banking

The study sought to assess the views of the respondents regarding usefulness, ease of use, attitudes, intention to use and information security based on a 5-point Likert scale of 1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral (N), 4=Agree (A), 5=Strongly Agree (SA).
### Table 4.2: Usefulness (Researcher, 2016)

<table>
<thead>
<tr>
<th>USEFULNESS</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Enables me accomplish tasks quickly</td>
<td>6</td>
<td>1</td>
<td>6</td>
<td>21</td>
<td>40</td>
</tr>
<tr>
<td>2 Easier to carry out my tasks</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>22</td>
<td>42</td>
</tr>
<tr>
<td>3 Useful banking practice</td>
<td>5</td>
<td>5</td>
<td>28</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>4 Advantageous</td>
<td>5</td>
<td>6</td>
<td>22</td>
<td>43</td>
<td></td>
</tr>
</tbody>
</table>

#### 4.3.5 Usefulness of Internet Banking

This question sought to understand customer’s perceptions regarding usefulness of internet banking. From table 4.2 pg 55, findings established that a majority of the respondents strongly agreed that internet banking would enable them to accomplish their tasks quickly with a mode of 40. Secondly in regard to whether internet banking makes it easy to carry out tasks, most respondents strongly agreed with a mode of 42. As to whether internet banking is a useful banking practice, a mode of 36 strongly agreed to this statement. Another mode of 43 strongly agreed that internet banking is advantageous. Thus findings generally indicate that majority of the respondents found internet banking to be useful. Perceived usefulness is a major factor that affects attitude toward acceptance of information systems (Yusoff et al., 2009). Therefore the findings on perceived usefulness are consistent with the findings in literature review that when consumers feel that a particular information system is perceived useful, their resulting level of usage will be higher (Yusoff et al., 2009).
4.3.6 Ease of Use of Internet Banking

Table 4.3: Ease of Use (Researcher, 2016)

<table>
<thead>
<tr>
<th>EASE OF USE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Clear and understandable</td>
<td>6</td>
<td>3</td>
<td>29</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>2 Easy to become skillful</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>3 Internet banking services are easy to use</td>
<td>3</td>
<td>6</td>
<td>30</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

This question aimed to understand how customer perception of the ease of use of internet banking influences their willingness to use internet banking. Table 4.3 pg 56 shows that 32 of the respondents which represent a mode of 32 strongly agree that internet banking is clear and understandable. A mode of 34 of the respondents strongly agreed that it is easy to become skilled through the use of internet banking and finally, a mode of 31 of the respondents strongly agreed that use of internet banking is easy with a response rate mode of 31. Thus the results of the findings indicate that use of internet banking is easy. Hence this result is in consistent with earlier literature review, which suggests that ease of use has a positive influence on the adoption of internet banking (Cheung, et al., 2000).

4.3.7 Attitudes towards Internet Banking

Table 4.4: Attitudes (Researcher, 2016)

<table>
<thead>
<tr>
<th>ATTITUDES</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Use of internet banking is a good idea</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td>26</td>
<td>33</td>
</tr>
<tr>
<td>2 Using internet banking is pleasant</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>3 Desirable to use internet banking</td>
<td>6</td>
<td>2</td>
<td>7</td>
<td>25</td>
<td>34</td>
</tr>
<tr>
<td>4 Use of internet banking is a wise idea</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>28</td>
<td>35</td>
</tr>
</tbody>
</table>
This question intended to understand the respondent’s attitudes towards use of internet banking. Table 4.4 pg. 56 indicates that majority of the respondents strongly agreed that using internet banking is a good idea with a response mode of 33. Other respondents strongly agreed to the statement that using internet banking is pleasant with a response mode of 31. The statement that internet banking is desirable attracted a response mode of 34 who strongly agreed to the statement. Lastly a response mode of 35 strongly agreed that using internet banking is a wise idea. Thus findings show that generally internet banking is a good idea. An individual’s attitude is a kind of perceived behavioral control, where a high degree of perceived control will influence behavior intention which results to actual behavior (Tung et al., 2007).

4.3.8 Intention to Use Internet Banking

Table 4.5: Intention to Use (Researcher, 2016)

<table>
<thead>
<tr>
<th>INTENTION TO USE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Internet banking for my banking needs</td>
<td>10</td>
<td>4</td>
<td>14</td>
<td>32</td>
<td>58</td>
</tr>
<tr>
<td>2 Use of internet banking</td>
<td>11</td>
<td>2</td>
<td>19</td>
<td>38</td>
<td>45</td>
</tr>
<tr>
<td>3 Internet banking for banking transactions</td>
<td>10</td>
<td>3</td>
<td>18</td>
<td>33</td>
<td>48</td>
</tr>
</tbody>
</table>

Finding on the results on intention to use internet banking services shows more response rate than 56% of the respondents who use internet banking as illustrated in figure 4.5 pg. 57. This is because part of the 44% of the respondents who said they don’t use internet banking expressed their views concerning using internet banking in the future. A total of 118 respondents participated in this question representing 89.4% of the entire population who participated in this study. The data show that existing users and non-users intended to use internet banking for banking needs in the future with a mode of 58, handling banking transactions with a mode of 45 and transactions
at a mode of 48. Thus the findings indicate that most respondents both users and non-users preferred to use internet banking in the future. The intention to use internet banking is influenced by perceived web security and quality website. Perceived web security threatens the user from using a website. Ensuring web security is more complicated than ensuring internet security in general (Garfinkel & Simson, 2002).

4.3.9 Information Security in Internet Banking

<table>
<thead>
<tr>
<th>INFORMATION SECURITY</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Secure sending information</td>
<td>18</td>
<td>35</td>
<td>1</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>2 Secure sending sensitive information</td>
<td>25</td>
<td>38</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>3 Safe to provide personal information</td>
<td>16</td>
<td>34</td>
<td>8</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>4 Safe place to transmit information</td>
<td>10</td>
<td>40</td>
<td>6</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

The study aimed to determine whether internet banking environment could lead to the utilization of internet banking services and the findings are presented in Table 4.6 pg. 58. First, majority of respondents generally disagreed that sending sensitive information is secure with a mode of 38 while a mode of 35 of the respondents disagreed that internet banking is a secure means of sending information. A mode of 34 of the respondents disagreed that internet banking is a safe place to send personal sensitive information while a mode of 40 respondents disagreed that internet banking is generally a safe place to transmit sensitive information. Thus the findings indicate that most respondents generally expressed concerns that internet banking is not a safe place to transmit sensitive information. Perceived security is related with issues that threaten the user from using internet banking (Garfinkel & Simson, 2002). Transactions executed through the internet call for a substantial amount of trust. If this
trust fails in a business carried over the internet, consumers will abstain from online transactions (Kim et al., 2011). The results of this study is consistent with findings in literature which show that customers are highly worried about security and privacy of personal information hinders them from adopting an information system (Ribbink et al., 2004).

4.4 Extent of Use of Internet Banking Services

The study intended to determine the extent of use of internet banking from the respondents involved in the study. The findings on figure 4.7 pg 59 illustrates that 25% of the respondents used internet banking for viewing balance inquiries, 23% of the respondents used internet banking for withdrawals, 22% have used for deposits, 14% for account to account transfers, 12% for bill payments, 4% for insurance payments. Other Internet banking product and service that was suggested is purchase of goods and services at 1%. Thus the findings indicate that most preferred products and services are balance inquiries, withdrawals and deposits.

![Pie chart showing extent of use of internet banking services](image)

**Figure 4.7: Extent of use of Internet Banking Services (Researcher, 2016)**
Table 4.7: Challenges of Using Internet Banking (Researcher, 2016)

<table>
<thead>
<tr>
<th>CHALLENGES</th>
<th>RESPONSES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow network connection</td>
<td>43</td>
<td>57.5</td>
</tr>
<tr>
<td>Network failure</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Poorly designed websites</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Unavailability of services during website maintenance</td>
<td>13</td>
<td>17.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>74</td>
<td>100</td>
</tr>
</tbody>
</table>

4.5 Challenges Facing Use of Internet Banking Services

The study sought to establish the challenges that respondents encountered when using internet banking. 43 of the respondents representing 57.5% reported that they had a problem of slow network connection, 11 of the respondents representing 15% indicated that they encountered network failure. Another 7 respondents who represented 10% indicated that the bank website was poorly designed. Finally 13 of the respondents who represented 17.5% indicated that there was no service during website maintenance. The findings of the study showed that majority of the respondents cited slow network connection as a major problem followed by unavailability of services during website maintenance as indicated in table 4.7 pg. 60. Internet is slow when there are many users online (Chou, 2003). This leads to waste of time waiting for the network to respond in order to perform an online activity. This causes frustration resulting from the failure to conduct internet banking transactions in time. This can trigger worries among users who are in a hurry to complete an online transaction yet they are unable to read the content of an online service due to internet failure and most of the times incurring losses (Chou, 2003). Poorly designed websites
frustrates users (Wen et al., 2001). Consumers find poorly designed websites complicated to operate and this renders unlikelihood of use of the website. The outcome is costly for the organization using the system, and harms the reputation of the company which developed the system (Nielsen, 1994). Website maintenance often disrupts smooth running of online users especially bank customers who wish to perform online transactions. Website maintenance is doing all the things needed to make sure a website runs smoothly and according to plan (Diffily, 2001). From the findings on this question, the challenges encountered when using internet banking are consistent with the literature review.

4.6 Possible solutions to the challenges

Slow network connection can frustrate consumers while using internet banking. Internet service providers should adopt and use up-to-date internet infrastructure mechanisms to ensure that internet connection and network failure is reduced significantly. Banks should ensure that they develop quality websites. A website should always be as simple as possible to allow fast and easy interaction with the customers. Banks should offer alternative solutions to internet banking users during website maintenance.

4.7 Chapter Summary

This chapter addressed response rate, background information of respondents, adoption of internet banking, extent of use of internet banking services, perceptions regarding adoption of internet banking, challenges encountered by respondents in using internet banking and possible solutions to the challenges of internet banking.
This chapter provided a discussion on the findings of the research as compared to the findings in the literature review, the summary of the study and recommendations on consumer perceived risk in adoption and use of internet banking among bank customers. The research concluded on the basis of the discussion of the research objectives. The purpose of this study was to examine consumer perceived risk and adoption of internet banking in Kenya with reference to three selected banks in Nairobi County. The objectives of the study were to; Examine factors that influence adoption of internet banking in the three selected banks, determine the extent of use of internet banking services by customers in the three selected banks, find out challenges facing use of internet banking by customers in the three selected banks, find out solutions to the challenges that hinder adoption of internet banking services by customers in the three selected banks

5.1 Summary of the Findings

5.1.1 Adoption and Use of Internet Banking

From this study, the factors that influence adoption and use of internet banking services are discussed in this section. Findings on education level indicate that most respondents were qualified with a diploma or degree which represented 36% and 39% respectively. Secondly, findings on gender indicated that both male and female use internet banking with majority being male with 56% and female 44%. Findings on age indicated that age is an influential factor in the use of internet banking with early to mid-aged customers being the majority who used internet banking services. A possible conclusion may be that most internet banking users are educated young to
mid-aged people who find it easy to carry out banking transactions over the internet than going to the banking halls.

The findings on the usefulness from table 4.2 pg. 55 indicate that majority of the respondents agreed that internet banking enables them to accomplish their tasks quickly with a response rate at a mode of 40. A mode of 42 respondents suggested that internet banking makes it easy to carry out their tasks. As to whether internet banking is a useful practice, a mode 36 responses strongly agreed to the statement and another 43 strongly agreed that internet banking is advantageous. Thus the findings generally indicated that majority of the respondents found internet banking to be useful.

From the findings on ease of use of internet banking from table 4.3 pg. 56 the respondents indicate that a mode of 32 strongly agreed that internet banking services are clear and understandable. A mode of 34 of the respondents strongly agreed that it is easy to become skillful through the use of internet banking. Finally, a mode of 31 of the respondents strongly agreed that use of internet banking is easy with a response rate 31. Thus the results of the findings indicate that use of internet banking services is easy to use.

The findings on attitudes of the respondents towards the use of internet banking table 4.4 pg. 56 indicated that majority strongly agreed that using internet banking is a good idea with a response mode of 33. Other respondents strongly agreed to the statement that using internet banking is pleasant with a mode of 31. The statement that internet banking is desirable attracted a response mode of 34 who strongly agreed to the statement. Lastly a response mode of 35 strongly agreed that using internet banking is a wise idea. A possible conclusion is that using internet banking is a good idea.
The findings on intention to use internet banking table 4.5 pg. 57 indicated that existing bank customers who use internet banking strongly agreed that they would use internet banking for their banking needs and for handling their banking transactions. Bank customers who did not use internet banking also expressed their affirmative response that they would love to use internet banking in the future. A mode of 58 of the respondents strongly agreed that they will use internet banking for their banking needs, another mode of 45 of the respondents strongly agreed that they will use internet banking for their banking transactions while a mode of 48 of the respondents strongly agreed that they see themselves using internet banking in the future for their banking transactions. A possible conclusion is that existing internet banking users as well as those who do not use internet banking services intends to use internet banking services.

The findings on information security from table 4.6 pg. 58 indicated a response mode of 35 disagreed that sending sensitive information across internet banking is secure. A mode of 38 of the respondents indicated that internet banking is not a secure means through which to send sensitive information. A mode of 34 of the respondents disagreed that they will feel totally safe providing sensitive information about themselves over internet banking. A mode of 40 of the respondents disagreed that internet banking is a safe place to transmit sensitive information. Thus a possible conclusion is that sending personal sensitive information over internet banking is unsecure.

5.1.2 Extent of use of Internet Banking Services

Findings on figure 4.7 pg. 59 on the extent of use of internet banking indicated that majority of the respondents use internet banking for inquiries at 25%, deposits at 22%, withdrawals at 23%. Others indicated they used internet banking for bills
payment at 12%, insurance at 4% and account to account transfers at 14%. 1% of the respondents indicated that they used internet banking for purchase of goods and services. Thus a possible conclusion is that majority of the respondents use internet banking for inquiries, deposits and withdrawals.

5.1.3 Challenges facing the use of Internet Banking

Challenges encountered when using internet banking include: slow network connection, network failure, poorly designed websites, no service during website maintenance, and forgotten password. Findings in table 4.7 pg 60 indicated that 43 of the respondents cited that slow network connection was a major problem. Other problems mentioned were; unavailability of services during website maintenance with a response mode of 13 representing 17.5%, network failure recorded a mode of 11 representing 15% and another 7 respondent’s representing 10% cited poorly designed websites. Thus a possible conclusion is that the greatest problem for internet banking users is slow network connection followed by unavailability of services over internet banking during website maintenance.

5.1.4 Possible Solutions to the Challenges that hinder Internet Banking

Slow network connection can frustrate consumers while using internet banking. Internet service providers should adopt and use up-to-date internet infrastructure mechanisms to ensure that internet connection and network failure is reduced significantly. This can be achieved through the adoption of current optic fiber network technology. Banks should ensure that they develop quality websites. A website should always be as simple as possible to allow fast and easy interaction with the customers. Banks should offer alternative solutions to internet banking users during website maintenance.
5.2 Recommendations

Internet banking is a fact of life for the banking industry and its role is likely to continue to grow in the foreseeable future. During this period of uncertainty and opportunity, bank managers would do well to benchmark their online operations against the best performing rivals in their core markets. Continuous improvement and adaptation are the only means to ensure that banks are not left behind as the competitive landscape continues to shift. Since internet banking eliminates time and place constraints. This study recommends continued use of internet banking services as a delivery channel that saves time and reduces operational costs.

Relative advantages of internet banking are very important. Banks thus face a challenge in demonstrating that using the internet as a service channel will be worthwhile for the potential user and that functionality will be delivered. There is a need to further enhance mechanical resources within the structure of the main internal framework. That is to say, if internet banking becomes popular, there would be problems generated by the influx of banking transactions being made at the same time. Banks need to look into better equipping of their systems with more powerful and advanced computer technologies. Banking institutions should also exploit the possibility of providing service customization for every customer, based on individual preferences and differences. Such differentiated banking services, as compared to traditional banking methods, serves to increase the levels of user-friendliness of banking service and more importantly, customer loyalty. Through the exploitation of direct internet banking services, banks should also improve their relationship with customers through responsive, online internet service, training and support. Banking institutions should also promote the use of other similar electronic banking services
such as home banking, telephone banking and mobile banking. Such exposure to similar technology and electronic services can increase the customer’s familiarity and potential acceptance of internet banking services. Emphasis should also be on user friendly technology such as web-browsers like Internet Explorer, Mozilla firefox as well as user friendly bank websites. All this has the potential to improve the customer reception of internet banking services.

Complexity of internet banking is another key factor that influences the adoption of internet banking. Easy to use internet banking is important for all customers. Banks should aim to make their internet banking as simple and easy to use as possible so that customers do not perceive it as being complicated or difficult to use. It provides insights for developers to design an internet banking system interface, websites, processes, and programs and for banks to formulate strategies in offering services. Websites should be user-friendly with clear instructions for users. The use of illustrations is advised and will be embraced by all levels of users. Banks should install security features such as encryption devices, which safeguard sensitive information.

Internet connectivity is an important influence on the potential customers as well as usage intentions and thus a key factor for banking institutions and internet service providers. Internet service providers are a number of companies that provide end-user access to the internet. In a competitive market, internet service providers tend to reduce usage prices and thus enhancing availability on different services and improve on the quality. There is need for banks and internet service providers to ensure that there are more people who can access to the internet and who are actually interested in
and are already conducting commercial transactions over the internet, particularly
World Wide Web. To ensure that there is an increase to the existing base of customer
access to the internet technologies; internet service providers could reduce
subscription rates to internet services so as to encourage popular use. Banking
institutions should promote the use of similar internet banking technologies such as
mobile banking. Such exposure to similar technologies could increase customer’s
familiarity and potential acceptance of internet banking. Vehement marketing
promotions should be undertaken to advertise the usefulness and added value of the
internet banking services. Factors to be considered include high performance, low
costs and accessibility should be emphasized to the potential customers through focus
on specific customer segments.

Risk perceptions by potential adopters are negatively related to the adoption of
internet banking. Therefore, banks providing internet banking should actively address
these negative perceptions. To boost confidence and enhance the efficacy of using
internet banking services, demonstrations via video presentations could be made at
bank branches to showcase the user-friendliness of such services. In order to
overcome consumers’ negative perceptions about internet banking safety, banks
should promote the positives of the service, such as convenience and cost-
effectiveness, and should begin a marketing campaign that makes internet banking the
new buzz word. These initiatives will help customers familiarize themselves with the
bank and its internet banking services. New technology, like all things that are
unfamiliar, requires initiation. This is an important criterion in helping Customers
select a bank that offers internet banking. There can be substantial marketing
advantages for banks offering internet banking services.
Consumers of all ages can be targeted. An important feature in promoting internet banking is the emphasis on lower charges for online transactions as a key benefit. Promotions could be held at branches, offering prizes to customers who sign up and use the online facility. Banks offering internet banking should launch campaigns to direct awareness to potential adopters. Issues such as fear of the lack of privacy and security, together with relative advantages of using internet banking should be highlighted to alleviate fears and educate potential customers to the advantages. Awareness should be created about the differences in traditional and internet banking charges through advertisements on radio, television and newspapers.

Consumer fears of information security risks transacting over the internet is one of the major inhibitors to the successful implementation of internet banking. Banking institutions should ensure that their internet banking systems have an uncompromised level of security features built-in, by way of back office systems security, operational and procedural security, and transactional security. Such precautions are important in affirming consumer confidence in using the internet for internet banking activities.

This question discussed the extent of use of internet banking services. For the banks wishing to launch their internet banking services, the type of products and services offered through internet banking should basically include those frequently used by their clients as well as services requiring few interactions with bank staff. These services include checking account balances and inquiries, deposits, withdrawals, account transfers, bill payments, and funds transfer to other banks. Majority of respondents in the study use internet banking for balance inquiries, deposits and withdrawals. Banks have the capacity to offer many creative banking services through
the internet to their customers. It is however wise to make these services available online one phase at a time. Customers who use smart phones can access internet banking services on their phones so long as they are connected to the internet. Banks should therefore develop mobile applications that run on various Smartphones to promote popular use of internet banking.

5.3 Suggestions for Further Research

5.3.1 Needs Assessment

The current study assessed consumer perceived risk of internet banking in Kenya with reference to three selected banks in Nairobi County. The study recommends that future researchers can carry out a study on internet banking in other banks such as Bank of Africa, Equity bank, Standard Chartered Bank, and Barclays Bank in other towns and compare the similarities or differences of the results. The following areas could also be considered for future research: The study on the adoption of internet banking services in Kenya can be extended to corporate customers. Comparison can then be made between individual customers and corporate customers in terms of the factors influencing their adoption decisions, the criteria for selecting an internet banking service, and the types of products and services perceived to be useful. The number of respondents could be increased in a national study in order to extrapolate the conclusions to incorporate the general population.

5.3.2 Wider Study

This study was conducted to assess consumer perceived risk of internet banking in Kenya. As such, there is still room for further investigation into the adoption and use of internet banking services. Following are some recommendations for future studies. Future studies should be carried out on non-internet users to investigate their adoption intentions of such services. Future studies should incorporate this measure once the
number of internet banking customers has reached a critical mass. In this way, a more comprehensive investigation of internet banking intentions and usage behavior can be conducted. The study on consumer perceived risk and adoption of internet banking services in Kenya can be extended to corporate customers. Comparison can then be made between individual customers and corporate customers in terms of their adoption decisions, the criteria for selecting an internet banking service, and the types of products and services perceived to be useful.
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APPENDIX I
INTRODUCTION LETTER

Dear Sir/Madam,

RE: ADOPTION AND USE OF INTERNET BANKING

My name is Daniel Okari Orucho. I am a student at Kisii University-Nairobi campus studying masters in Information Systems. I am conducting a study on the adoption and use of Internet Banking by customers at your preferred bank. The findings of this research study will be used for academic purposes only and will not reflect your name. Please complete the questionnaire truthfully to the best of your knowledge. Thank you very much.

Your contribution, cooperation and response are highly appreciated.

Yours faithfully,

Daniel Okari Orucho

Phone Number: 0717541878
APPENDIX II

QUESTIONNAIRE FOR CUSTOMERS

INSTRUCTIONS

Please respond by ticking (√) against your preferred response for questions with options. For questions that require suggestions or comments, please use the provided space.

Background Information

1. Highest education level ..............................................................
2. Gender ..............................................................................................
3. Age
   a) Below 21
   b) 21-30
   c) 31-40
   d) 41 and above

ADOPTION AND USE OF INTERNET BANKING

4. Do you use internet banking?
   a) Yes
   b) No

5. How long have you been using internet banking?
   a) 3 months
   b) 4-6 months
   c) 7-11 months
   d) Over 1 year

6. How often do you use internet banking? ........................................

7. Do you encounter any problem when using internet banking?
   a) Yes
   b) No

8. If your answer is Yes in question 7 above please specify which problems you encounter when using internet banking...........................................
9. For which purpose do you use internet banking for?
   a) Enquiry
   b) Deposits
   c) Bills
   d) Withdrawals
   e) Insurance
   f) Account to account transfers
   e) Any other purpose? Please explain……………………………

10. To what extent do you agree or disagree with the following statements in relation to internet banking services. Use the following scale of: Strongly Disagree=1, Disagree = 2, Neutral =3, Agree =4, Strongly Agree =5

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td><strong>USEFULNESS</strong></td>
<td></td>
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<tr>
<td>1 Internet Banking enables me to accomplish my tasks more quickly</td>
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<tr>
<td>2 Internet banking makes it easier for me to carry out my tasks</td>
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<td>3 I find Internet Banking useful</td>
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<td>4 I find Internet Banking to be advantageous</td>
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<tr>
<td><strong>EASE OF USE</strong></td>
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<tr>
<td>1 Using the Internet Banking service is easy for me</td>
<td></td>
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<tr>
<td>2 I find my interaction with the use of the Internet Banking services clear and understandable</td>
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<tr>
<td>3 It is easy for me to become skilful through the use of Internet Banking services</td>
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<tr>
<td>4 I find the use of Internet Banking services easy</td>
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<tr>
<td><strong>ATTITUDES</strong></td>
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</tr>
<tr>
<td>1 Using Internet Banking is a good idea</td>
<td></td>
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<tr>
<td>2 I would feel that using Internet Banking is pleasant</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>3 In my opinion, it would be desirable to use Internet Banking</td>
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<tr>
<td>4 In my view, using Internet Banking is a wise idea</td>
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<tr>
<td><strong>INTENTION TO USE</strong></td>
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</tr>
<tr>
<td>1 I would use the Internet Banking for my banking needs.</td>
<td></td>
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</tbody>
</table>
Using the Internet Banking for handling my banking transactions is something I would do.

I would see myself using the Internet Banking for handling my banking transactions.

<table>
<thead>
<tr>
<th>INFORMATION SECURITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I would feel secure sending sensitive information across Internet banking.</td>
</tr>
<tr>
<td>2. The Internet Banking is a secure means through which to send sensitive information.</td>
</tr>
<tr>
<td>3. I would feel totally safe providing sensitive information about myself over the Internet Banking.</td>
</tr>
<tr>
<td>4. Overall, the Internet Banking is a safe place to transmit sensitive information.</td>
</tr>
</tbody>
</table>
APPENDIX III
SUPPORTING DOCUMENTS

THE CENTRAL BANK OF KENYA ACT, 1966

No. 15 of 1966

Date of Assent: 24th March 1966

Date of Commencement: By Notice

An Act of Parliament to establish the Central Bank of Kenya and to provide for the operation thereof; to establish the currency of Kenya and for matters connected therewith and related thereto

ENACTED by the Parliament of Kenya as follows:-

1. This Act may be cited as the Central Bank of Kenya Act. 1966 and shall come into operation on such day as the Minister may by notice in the Gazette appoint: Provided that the Minister may, by the same or different notices in the Gazette, appoint different days on which any of the provisions of this Act shall come into operation.

THE CONSTITUTION OF KENYA 2010

231.(1) There is established the Central Bank of Kenya.
(2) The Central Bank of Kenya shall be responsible for formulating monetary policy, promoting price stability, issuing currency and performing other functions conferred on it by an Act of Parliament.
(3) The Central Bank of Kenya shall not be under the direction or control of any person or authority in the exercise of its powers or in the performance of its functions.
(4) Notes and coins issued by the Central Bank of Kenya may bear images that depict or symbolise Kenya or an aspect of Kenya but shall not bear the portrait of any individual.
Figure 5.1: Banking Industry Market Structure in Kenya (BSAR, 2013)

COMMERCIAL BANKS IN KENYA

1. African Banking Corporation Limited
2. Bank of Africa Kenya Limited
3. Bank of Baroda (K) Limited
4. Bank of India
5. Barclays Bank of Kenya Limited
6. CFC Stanbic Bank Limited
7. Charterhouse Bank Limited
8. Chase Bank (K) Limited
9. Citibank N.A Kenya
10. Commercial Bank of Africa Limited
11. Consolidated Bank of Kenya Limited
13. Credit Bank Limited
15. Diamond Trust Bank Kenya Limited
16. Dubai Bank Kenya Limited
17. Ecobank Kenya Limited
18. Equatorial Commercial Bank Limited
19. Equity Bank Limited
20. Family Bank Limited
21. Fidelity Commercial Bank Limited
22. Guaranty Trust Bank (K) Limited
23. First Community Bank Limited
24. Giro Commercial Bank Limited
25. Guardian Bank Limited
27. Habib Bank A.G Zurich
28. Habib Bank Limited
29. Imperial Bank Limited
30. I & M Bank Limited
31. Jamii Bora Bank Limited
32. Kenya Commercial Bank Limited
33. K-Rep Bank Limited
34. Middle East Bank (K) Limited
35. National Bank of Kenya Limited
36. NIC Bank Limited
37. Oriental Commercial Bank Limited
38. Paramount Universal Bank Limited
39. Prime Bank Limited
40. Standard Chartered Bank Kenya Limited
41. Trans-National Bank Limited
42. UBA Kenya Bank Limited
43. Victoria Commercial Bank Limited

**B. Non-Banks Financial Institutions (NBFIs)**

Housing Finance Company Limited

**C: Kenya Bankers Association**

Kenya Bankers Association

**D: Microfinance Banks**

Century Microfinance Bank Limited
Faulu Microfinance Bank Limited
Kenya Women Microfinance Bank Limited
Rafiki Microfinance Bank Limited
Remu Microfinance Bank Limited
SMEP Microfinance Bank Limited
Sumac Microfinance Bank Limited
U & I Microfinance Bank Limited
UWEZO Microfinance Bank Limited

**E. Authorized representative offices of foreign institutions in Kenya**

HDFC Bank Limited
Nedbank Limited

The Hong Kong and Shanghai Banking Corporation (HSBC)
FirstRand Bank Limited

Bank of China Limited

Bank of Kigali Limited

Central Bank of India
RESEARCH PERMIT

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two (2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit (including its cancellation) without notice.

Serial No. A 6620

CONDITIONS: see back page
THIS IS TO CERTIFY THAT:
MR. DANIEL OKARI ORUCHE
of KIBI UNIVERSITY, 44311-100
NAIROBI, has been permitted to conduct
research in Nairobi County

on the topic: ADOPTION AND USE OF
INTERNET BANKING IN KENYA: A
SURVEY OF THREE BANKS IN NAIROBI
COUNTY

for the period ending:
10th September, 2016

Applicant's
Signature

[Signature]

Permit No: NACOSTI/P/15/23627/7900
Date of Issue: 16th September, 2015
Fee: Received: Ksh 1,000

Director General
National Commission for Science, Technology & Innovation
RESEARCH AUTHORIZATION

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

NACOSTI/P/15/23627/7900

Daniel Okari Oruchu
Kisii University
P.O. Box 402 - 40800
KISII.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Adoption and use of internet banking in Kenya: A survey of three Banks in Nairobi County” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for a period ending 16th September, 2016.

You are advised to report to the Chief Executive Officers of selected Banks, the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

DR. S. K. LANGAT, OGW
FOR: DIRECTOR GENERAL/CEO

Copy to:

The Chief Executive Officers
Selected Banks.

The County Commissioner
Nairobi County.