FACTORS CONTRIBUTING TO THE ADOPTION OF INTERNET BANKING
IN COMMERCIAL BANK OF AFRICA, KENYA

BY

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A RESEARCH PROPOSAL SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION

DEPARTMENT OF BUSINESS ADMINISTRATION AND ECONOMICS

SCHOOL OF BUSINESS

MASENO UNIVERSITY

MAY, 2017
DECLARATION

I declare that this proposal is my original work and has not been exhibited or published in any way and has never been presented for any awards in any institution.

Name of Student .................... Reg. No ......................

Signature:

This thesis has been submitted for examination with any approval as the supervisor

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ABSTRACT

Internet banking has contributed greatly to commercial bank of Africa’s profits and has also resulted in increased deposits and customer base in the Bank. Canada is one of the world leaders of Internet Banking with a 65% adoption rate, followed by Netherlands (61%). United Kingdom and United states are at 52% and 45% respectively while Kenya is at below 40% adoption rate. Several studies have shown mixed relationships between various variables to internet banking but none has narrowed down to the factors influencing its adoption. The adoption rate is still very low despite the high rate of internet access and them that have adopted Internet banking rarely use it. As a result, long queues are still evident in the Kenyan banking halls. Therefore this study will establish the factors influencing adoption of internet banking in commercial bank of Africa. Specifically the study will establish the role of self-efficacy, security, technological advancement and complexity in adoption of internet banking. Independent variables will be Computer Self –efficacy, the complexity of the technology, security and technological advancement while dependent variable will be adoption of Internet banking. The study will be anchored on Rogers’s innovation diffusion theory. Descriptive survey research design will be used. The Target population will consist of 650 employees, 174 corporate customers and 4,176 retail customers. The sample size of 10 % on each category will be 65 employees, 17 corporate customers and 417 retail customers. Random sampling technique will be adopted. Primary data will be collected through structured questionnaires. Data analysis will be through descriptive analysis mean, mode standard deviation and inferential analysis regression will be used. The study will be significant to the Bank managers who will then decide whether it is worthwhile to substitute traditional banking with internet banking or not. In addition, to the researchers and academicians, the study may be used as a local reference on internet banking for future research.
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# Abbreviations & Acronyms

<table>
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<th>Abbr.</th>
<th>Description</th>
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<tbody>
<tr>
<td>ATM</td>
<td>Automated Teller Machine</td>
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<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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<td>IB</td>
<td>Internet Banking</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>MIS</td>
<td>Management Information Systems</td>
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<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<td>PC</td>
<td>Personal Computer</td>
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<td>TAM</td>
<td>Technology Acceptance Model</td>
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<td>TPB</td>
<td>Theory of Planned Behavior</td>
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<td>TRA</td>
<td>Theory of Reasoned Action</td>
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<td>CBA</td>
<td>Commercial Bank of Africa</td>
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SECTION ONE: INTRODUCTION

1.1 Background Information to the Study

Internet banking is defined as the provision of retail and small value banking products and services through electronic channels. Such products and services include deposit taking, lending, account management, provision of financial advice, electronic bill payment, and provision of other electronic payment products and services such as electronic money (Basel Committee Report on Banking Supervision 1998). According to Fincen, (2000) Internet banking which is also known as e-banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick and mortar institution. It is the use of electronic means to deliver banking services mainly through the internet. The term is also used to refer to ATMs, SMS banking, Self-service (PC) banking, POS banking (credit and debit cards), telephone banking, interactive TV, intranet, branchless banking, use of plastic money, mobile phone banking and electronic funds transfers.

Internet banking customers can perform their financial transactions electronically over the internet through their personal computers or laptops at a time convenient to them without restricted branch operating hours. A customer can perform at least the following transactions online; viewing of an account statement, history and balances, funds transfers between accounts, bill payments, ordering cheque books, managing investments and stock trading, downloading of bank statements, loan and credit card applications among others (Alsajjan and Dennis 2006).
Internet banking traces back in the late 1980s in the USA New York and was adopted by banks such as Citibank and chase Mahattan. In this, home banking services were provided through the use of Minitel – an online service that was accessible through telephone lines and enabled users to make online purchases, train reservations, check stock prices and search the telephone directory. The term online then became popular as it referred to the use of a terminal keyboard and monitor to access the banking system using a phone (De young 2001 a).

Almogbil (2005), notes that a common reason for the bank’s adoption of Internet baking is to maintain the bank’s competitive position and image. Hence, by the year 2000, 80% of US banks offered Internet banking. Some of these banks were Bank of America, Citigroup, JP Morgan Chase and Wells Fargo among others. In the UK, it was first conceptualized in 1983 in the bank of Scotland and it used a computer and keyboard which were connected to the telephone system and television set. It allowed an online viewing of bank statements, bank transfers and bill payment. Developing countries are also experiencing strong growth in IB.

Barwise (1997) estimates 60% readiness to transact online by retail banks. Sweden and Norway have penetration rates of 50% and 25% respectively. Spain, France and Portugal have internet usage of less than 20% with an adoption rate of less than 5 %. The difference is a lack of initiative by the banks to convert their offline customers to online (Bulghin 2001) and are not related with the countries’ economic development status (Centeno 2003). UK, Spain, France, Germany and Italy account for 77% growth. However, the greatest growth in IB is led by Turkey, Netherlands and Greece.
In Africa, South Africa was the first to adopt IB followed by Morocco which had a penetration rate of 55% and lastly Egypt whose penetration rate was 44%. However, Africa’s adoption of IB is 16% basically due to the fact that it falls in the third world countries where there is slow adoption of technology (Barwise 1997).

According to Khalfa et al; (2006), reasons for IB infrastructure investment include the promise of transaction cost reduction by limiting overheads associated with bank staff and bank branch costs and to also provide better services to customers who increasingly desire a 24 hour baking. Almobgil (2005) notes that a common reason for Bank’s adoption of IB is to maintain the Bank’s competitive position. Courtier and Gilpatric (1999) recommended that banks and financial companies must survey customer’s requirements on a regular basis in order to understand the factors that can affect the adoption of IB.

There have been a number of studies related to IB but covering a range of research dimensions. For instance, Pyun et al (2002) in the US, Gurau (2002) in Romania, Balachander et al (2000) in Malaysia, Potaglu and Ekin (2001) in Turkey. All these focused on related studies on Internet Banking. Jun Wu (2005) in South Africa and Dhekra (2009) in Tunisia explored the extent of adoption of IB. Potaglu and Ekin (2012), Suganthi et al (2012) focused on the benefits of IB while Gerrard and Cunningham (2011) focused on innovations in IB. None of the studies focused on factors such as self-efficacy, security technological changes. Therefore there is limited literature on factors contributing to the adoption of internet banking in Kenya.
This study focuses on the factors that contribute to the adoption of IB in Kenya with a case study of CBA. The factors are Computer self-efficacy, security, technological advancement and complexity.

1.1.1 The Kenyan Banking Industry

The rapid development of the internet has changed the way companies relate to their clients including in the banking business (June & Cai, 2001). Since the Internet is still largely used as a shopping media, banking service providers have to predict the acceptance of the internet by the clients and understand why the usage of this media still prevails now (Manzano et al, 2009). Clients prefer the Internet because they do not have to meet the vendor or seller personally and to also endure the behavior of other clients (Walker & Johnson, 2006). A strong banking industry is important in every country and can have a significant effect in supporting economic development through efficient financial services (Salehi and Azary, 2008). These revolutionary developments in Information and Communication Technology (ICT) will transform the Banking industry. In Kenya, majority of banks have introduced Internet Banking, Mobile banking and other e-banking facilities to enhance delivery channels to their customers. While IB is a fast and convenient mode of conducting banking business, it is yet to gain acceptance among customers due to fears of apprehension in it. Like many other developing countries, IB is still at its nascent stage (Nyangosi, 2011). Not many banks have adopted it but majority have at least one or two technology based delivery channels. The non-adoption of IB by banks has been attributed to impaired non availability of infrastructure and legislation to support it (Nyangosi, 2011). Major indicator of IB in Kenya is the presence of ATM banking. According to a survey conducted by financial sector deepening Kenya in
association with CBK, only those banks that are able to adapt to the changing environment and adopt new ideas and ways of doing business can be guaranteed survival.

The Central Bank notes that advancement in Information and Communications Technology (ICT) in the banking industry has enhanced efficiency and improved customer service. This is reflected particularly in the increased use of ATM cards resulting from broadening of ATM network, including additional ATM machines and a wider network of merchants that accept payment through credit/debit cards. Internet banking is still at its infancy and more in terms of utilization is expected in this sector (Manjau, 2009).

Some of the hindrances in the adoption of Internet Banking in Kenya are lack of trust in the technology as opposed to physically visiting a financial Institution, Poor Customer’s attitude and perceived risk towards the services (Mayer, 1995). In addition, the customers complain that reversing a transaction or stopping a payment after discovering mistake or even requesting for a refund is never possible (Ayrga, 2011). Customers have also reported that there is no real need for mobile internet-based banking services because it is associated with e-banking fraud where only a username and password stand between your money and a fraudster (Luarn & Lin, 2005).

1.1.2 Commercial Bank of Africa

CBA is the largest privately owned bank in East Arica and has been in operation for the last 50 years. It was founded in Tanzania after which branches were then set up in Kenya and Uganda respectively. However, in 2011, CBA began its drive towards innovation in
the banking space, pushing its product team to pioneer new developments that cater to a wider local audience. To date CBA has been first to market with full digital banking channels first with M-pesa and M-shwari products, the first US dollar Credit card in Kenya, the first 105% mortgage offering and the first foreign currency based mortgage provider.

Its mission is to enhance the wealth and fulfilment of life for its customers while its vision is to be a respected and significant financial services business partner in Africa. CBA has carried out its mandate effectively through expansion of its outreach and development of products and services that meet the expectations of its customer. With CBA’s internet banking, the following services are accessible, viewing of customer information such as account balances, transaction details, loan details, downloading of statements, payment transactions from one’s accounts to another account in CBA or in local and International banks, Customer Service Requests such as Bankers cheques, stop payments, opening of accounts online, deposit initiation, and also cheque book request. The CBA Newsletter (2011) stipulates that internet banking has been and continues to be the core focus of CBA’s operations and directions since 1990. This is mainly because it offers a unique opportunity to CBA to reach a higher number of their target customers without necessarily increasing the bank’s physical branches and it also enhances its product offering through innovation. In addition, it has offered CBA the potential to reduce operating costs and to also improve the quality of management information thus making it more profitable.

Some of the factors influencing the adoption of Internet banking in CBA includes: computer self-efficacy- CBA undertakes to train its customers regularly on the Basic
computing skills thus enabling them to access Internet banking. Lichstein and Williamson’s study (2006) pointed out that a person’s Internet self-efficiency such as internet skill, will affect the decision whether or not to adopt Internet Banking. Internet users express their confidence in their ability to use the internet.

Complexity- This is the degree to which an innovation is perceived as easy to understand and use. If an innovation is perceived as complex, adoption will be less likely. Customers will reject an innovation if it is very complex and not user friendly. Cooper and Zmund (2007) report points the ease of use of innovative products or services as one of the three important characteristics for adoption from the customer’s perspective. For example, the user friendliness of the domain names, navigation tools and the graphical user interface. CBA’s internet Banking is easy to interact with basically due to the training taken through the customers by the CBA staff.

Security-this is the first and foremost requirement of Internet banking as the internet is inherently insecure. According to Hutchinson, while it is acknowledged that banks have an excellent record concerning security of customer information, survey indicates that internet users are weary about privacy issues including transparency, collection, use and disclosure of their personal information (Madu and Madu 2010). CBA’s internet Banking is very secure. It is usually accessed through a soft token which one downloads on their PC. The soft token is a security application that is used to authorize access to CBA Internet Banking services. It allows one to generate a onetime password which is needed to log in to the Internet Banking platform. According to CBA’s Newsletter 2013, the introduction of the token app not only increases enhanced protection but it also
increases the mobility in accessing the internet banking services. This gives one more convenience and it also improves one’s experience online.

Technological advancement- from the customer’s perspective, this is their realization of their anywhere, anytime, anyway banking (Balwinder et al 2011).

1.2 Statement of the Problem

Banking in the country is beset by long queues, energy exacting and time consuming in addition to being costly. It thus defeats the purpose of customer service to see the hard time that customers go through in accessing banking services around the end of the month when most salaries are paid through the banks. As a result, customers prefer to keep money outside the banking system to avoid the ordeal meted out to them by the banks. In eliminating time and space and distance constraints, customizing products and services, effecting payment and cross selling, the internet stands out as the biggest digital platform for business that leverage technology. CBA has adopted IB as a strategy to fulfil the rapidly changing customer’s needs and preferences, competitive forces and product differentiation, enhancement of customer relationship management and also as a pressure to reduce transactional and operation costs and pass the benefits to the customer. IB at CBA offers a unique opportunity to reach a higher number of the target customers without necessarily increasing physical branches and enhancing the product offering through innovation. In Kenya, IB is a new industry. Customer acceptance and use of IB is still small. There’s limited understanding of factors influencing the Kenyan bank customers to adopt IB. An understanding of how computer self-efficacy, complexity and security of a technology in addition to technological advancement influence the adoption
of IB can allow banks to create solutions and plans to attract customers to use IB. From the customer’s point of view, the decision to use IB is normally influenced by convenience and efficiency. IB users do not have to queue in the bank or be constrained by the banks opening hours. Lower costs and better rates on loans and deposits are also used by banks to lure customers into using IB. In addition, better access to information, speed of payment of transactions and a complete control over one’s account also attracts customers. Despite the IB advantages, customers are still very shy from using it due to lack of computer knowledge and skills, lack of computer and internet access and also security reasons appear to be the most prominent barriers in delivering the services to the bank. However, computer illiteracy among the majority is still very high.

To date, very little research has been done in Kenya on factors influencing the bank’s customers in adopting IB thus creating need for a study of this nature. Previous studies done in Kenya on IB include (Musa, 2004) - who carried out a study on the responses by commercial banks operating in Kenya to changes in the environment with a major focus on National Bank of Kenya; Maina (2006) - determined the key success factors in the banking industry and especially the commercial banks in Kenya; Gachiri (2008) - investigated the extent and challenges of application of ICT in marketing among commercial banks in Kenya.

As seen, the research narrowing down to the factors influencing the adoption of Internet Banking and especially in Commercial Bank of Africa has been minimal.
1.3 Study Objectives

1.3.1 Broad Objective
The main aim of the study is to establish the factors contributing to the adoption of Internet banking in Commercial Bank of Africa, Kenya.

1.3.2 Specific Objectives
The study will be guided by the following objectives:

I. To establish how Computer Self Efficacy has led to the Adoption of Internet banking in CBA.

II. To identify how Security of IB platform has contributed to the adoption of IB in CBA.

III. To examine Technological Advancement and its Influence on IB adoption.

IV. To investigate the link between Complexity and the adoption of IB in CBA.

1.4 Research Questions

I. How has Computer Self Efficacy influenced the adoption of IB?

II. What is the link between Security and the adoption of IB in CBA?

III. How does Technological advancement affect the adoption of IB in CBA?

IV. What is the link between complexity and the adoption of IB in CBA?

1.5 Scope of the Study
The conceptual scope of this study lies in establishing the factors affecting the adoption of internet banking in commercial banks in Kenya. This study thus will look at the effect of computer self-efficacy, security, complexity and technological advancement on the adoption of internet banking in CBA, Kenya. As of the contextual scope, this study
targets 5000 individuals from which 650 are CBA employees, 110 are CBA corporate customers and 4,330 are CBA retail customers. These customers will be sampled from CBA’s Wabera branch which is located in Nairobi City center and will act as a representation of the other branches within the Bank. The research will be conducted for duration of three months and will focus on the time from 2000 since this is the time most of the banks were introducing Internet banking and there was a lot of resistance to uptake.

1.6 Significance of this study

To managers: The findings of the study will help management of commercial banks understand the factors influencing the adoption of internet banking among commercial banks in Kenya. As a result, the management will then decide whether it is worthwhile to substitute traditional banking for internet banking or not.

To the banking industry: This is especially to decision makers involved in implementation of electronic services delivery strategies for their banks.

To researchers and academicians: Being that there are limited studies that link internet banking with profitability, the outcome of this study will be invaluable empirical study and also act as local reference on internet banking for future research.

The findings of this study will provide information and advice on the possible opportunities that research institutions can use to expand the reach, availability, and impact of information and knowledge of internet banking for the development of the upcoming commercial banks.
1.7 Conceptual Framework

A conceptual framework is a figure that shows the relationship between the dependent variable and the independent variable. In this study the dependent variable is internet banking adoption while the independent variables are computer self-efficacy, complexity, security and technological advancement. A conceptual framework has been drawn to show the relationship between the dependent variable and the independent variables as shown below.

![Conceptual Framework Diagram]

Source: Commercial Bank of Africa, 2012
Computer self-efficacy, complexity, security and technological advancement are the independent variables and they influence the adoption of Internet banking in commercial bank of Africa.

Computer self-efficacy/ a person’s internet self-efficiency increases the adoption of internet banking. In addition, user friendliness of an innovation also promotes the adoption of internet banking. People tend to reject an innovation if it is perceived as complex. The security of the internet banking platform will also influence the adoption.
SECTION TWO: LITERATURE REVIEW

2.1 Introduction

This section presents and also discusses the literature relating to the adoption of Internet banking. It looks at the theoretical literature, extent of internet banking sector, factors influencing the adoption of Internet Banking, internet banking and bank performance, research gap, conceptual framework and operationalization of variables.

2.2 Theoretical Literature

2.2.1 Rogers Innovation Diffusion Theory

Diffusion of innovations theory seeks to explain how, why and at what rate new ideas and technology is spread through cultures. Diffusion is defined as the process in which an innovation is communicated through certain channels over time among the members of a social system. Hence, diffusion of innovation theory focuses on explaining how new ideas and concepts gain widespread adoption. This is especially significant in consumer markets in terms of attempting to forecast demand and market growth (Valente, 1983). Only a few studies have investigated diffusion of innovation within the retail banking sector. According to Rogers 1995, diffusion is a process via which an innovation is communicated through certain channels over time among members of a social system. This theory espouses that there are four main elements that influence the spread of a new idea. These are: The innovation-this is perceived as an idea, practice or object that is perceived as new by an individual or other unit of adoption. Individuals experience 5 stages of accepting an innovation which include knowledge /awareness on the existence of the new innovation, persuasion to accept the innovation for example through
marketing and advertising channels, decision making to reject or accept the innovation by the targeted individuals which may be done freely and voluntarily, implementation of the innovation in which the individual determines its usefulness and thus may research for further information about it and the confirmation that the said innovation in deed offers a unified solution to the gap at hand. Secondly is the Communication channel-this is the means by which messages get from one unit to the other. In addition, Time – this is the innovation – decision process required. Moreover, the Social system-this is a set of inter-related units engaged in a joint problem solving in order to achieve a unified goal. This can also be said to be the body being targeted by the new innovation at hand.

Rogers’ Diffusion of Innovation Theory (Rogers, 2005) seeks to explain how new ideas or innovations are adopted, and this theory proposes that there are five attributes of an innovation that affect adoption. They form the basis of this study as they directly affect the rate at which IB will be adopted. These are: Relative Advantage - This the degree to which an innovation is perceived as being better than the idea it supersedes (Rogers, 1983). Rogers' theory suggests that innovations that have a clear, unambiguous advantage over the previous approach will be more easily adopted and implemented. Current research evidence indicates that if a potential user sees no relative advantage in using the innovation, it will not be adopted (Greenhalgh et al, 2011). Gerrard and Cunningham (2003) identify a perceived relative advantage as being a significant factor driving the adoption of IB. Potential adopter want to know the degree to which a new idea is better than an existing practice. Hence, relative advantage is often the content of network messages with regard to an innovation. There are a number of sub-dimensions of relative advantage such as profitability, decrease in discomfort, time saving and effort
Agarwal and Prasad (1998) found that relative usefulness of an innovation is positively related to its adoption. Hence, the way people perceive the usefulness of IB could directly affect its rate of adoption. Individuals may be motivated to use IB due to its time saving capability. This is because with IB, consumers do not have to physically visit a Bank and can undertake their banking transactions at the comfort of their offices or homes. This saves on their time and effort. In a survey conducted on computer banking, 79% indicated that convenience was very important in their decision to use computer banking while 71% said that time saving was very important (Fox, 2002). Another survey conducted in Finland showed that IB users do not hunger for traditional banking as it is considered time consuming due to the long queues associated with it. IB users are not eager to queue in the banking halls (Karjaluoto, et al, 2002). According to Khalfan, et al (2006), IB infrastructure has the promise of transaction cost reduction by limiting overheads associated with bank staff and bank branch costs and to provide better services to customers who increasingly desire a 24 hour banking. It is thus evident that the IB advantages outweigh the traditional modes of banking and this consequently will influence its rate of adoption in the country. For example the possibility of performing transactions at any time of the day from any location with internet access would be a real advantage to people who have extremely tight schedules. Secondly, compatibility - This the degree to which an innovation fits with the existing values, past experiences, and needs of potential adopters. This is a measure of the values and beliefs of consumers, the ideas they have adopted in the past and the ability of an innovation to meet their needs. Black et al (2001) concludes that past experiences and the values of consumers in the UK appear to have a significant impact on their willingness to adopt IB. An innovation can be
compatible or incompatible with socio-cultural values and beliefs; with previously introduced ideas; or with client needs for innovation (Rogers, 1983). There is strong direct research evidence suggesting that the more compatible the innovation is, the greater the likelihood of adoption (Greenhalgh et al, 2011). The term compatibility refers to the fact that an innovation is more likely to be adopted when it is compatible with an individual’s job responsibilities and value system (Agarwal and Prasad, 1998). Bradley and Stewart (2003) discovered that the perceived compatibility of IB is a key driver in the adoption of IB. The individuals who are comfortable with the internet are more positive about IB. Research by Sugathi, et al. (2001) reported that in the Malaysian context, a personal relationship between customers and bankers transcends many boundaries especially so in the rural areas. About 90% of the Malaysian respondents valued human tellers very highly. Georgiades and Dowsland (2000) reveal that lack of personal contact and face anonymity are seen as disadvantages as it is viewed as impersonal. In turkey, due to low level of email usage and a preference of over the counter transactions, IB is not very popular as it does not suit their way of living and working (Polatoglu and Ekin, 2001). Most bank customers still opt for personal interaction in undertaking their bank transactions and this is mainly through the personal touch of officers and managers which consequently adds value to transaction. Therefore, individuals who use the Internet frequently are more likely to perceive IB as being compatible with their lifestyles and therefore more likely to adopt it. In addition, complexity - This the degree to which an innovation is perceived as difficult to understand and use. As such, adoption will be less likely if the innovation is perceived as being complex or difficult to use (Rogers, 1983). Furthermore, Rogers suggested that new innovations may be categorized on a
complexity-simplicity continuum with a qualification that the meaning (and therefore the relevance) of the innovation may not be clearly understood by potential adopters. When key players perceive innovations as being simple to use, the innovations will be more easily adopted (Greenhalgh et al, 2011). Consumers will reject an innovation if it is very complex and not user friendly. Research conducted in Estonia (Kerem, 2001) states that the most important factors in starting to use IB are first and foremost better access to services (convenience), better prices and a high level of privacy. Self-service over office service was also of above average importance. Cooper and Z mund (1997) report ease of use of innovative products and services as one of the most important characteristics for the adoption of IB from the consumer’s perspective. For example the user-friendliness of domain names, navigation tools and the graphical user interface are important determinants of the user friendliness of a web page design. Therefore, an individual is less likely to adopt a new technology if this requires a high level of technical skills. Conversely, the adoption of IB is likely to occur if the IB processes are simplified and made user friendly. Moreover, trial ability - This the degree to which an innovation may be experimented with on a limited basis. Because new innovations require investing time, energy and resources, innovations that can be tried before being fully implemented are more readily adopted. Triability is positively correlated with the rate of adoption. The more an innovation is tried, the faster its adoption is. This is mainly applicable to financial institutions that have not incorporated IB. The ease of trial ability of the IB will increase its adoption of the same in their systems. Lastly, observability - This the degree to which the results of an innovation are visible to the adopters. If there are observable
positive outcomes from the implementation of the innovation then the innovation is more adoptable.

Internet banking being a new innovation among commercial banks, the above stages of adoption has been observed in that most consumers have adopted though there are still some financial institutions which are unwilling to incorporate it. It is vital to note that opinion leaders play a vital role in influencing the adoption of an innovation such as internet banking. This is mainly due to their social status in the social system at hand.

Some of the strengths of the Rogers’ theory of innovation are it has been used in the reviewing of thousands of studies as it integrates a vast amount of empirical research thus providing an insightful perspective. It is also very practical in nature in addition to providing practical guide for information campaigns in the United States and other places.

However, Rogers’s theory of innovation has been criticized as shown below,

First, the communication process involved in Roger’s theory of innovation is basically a one way flow of information. In this, the receiver of the message has minimal chance of dialogue since the sender of the message aims at solely persuading the receiver to adopt an innovation. As such, it is linear and source dominated as it sees communication process from the point of view of the elite who has decided to diffuse information or an innovation.

In addition, it does not take into account an individual’s resources or social support to adopt the new innovation.
Thirdly, Roger’s theory also underestimates the power of media. They mainly create awareness of the new innovations. It assigns a very central role to different types of people critical to the diffusion process. The theory simply says that the media influence innovators or early adopters who influence opinion leaders who in turn influence everyone else. Rogers failed to realize that the media can also be used to provide a basis for group discussions led by change agents. Lastly, the theory stimulates adoption by groups that do not want the innovation. To illustrate this, a campaign to get Georgia farm wives to use can vegetables was initially judged as a great success until it was found that very few women were using the vegetables. Most did not know the recipes for cooking canned vegetables, and those who tried found out that family members didn’t like the taste.

2.2.2 Technology Acceptance Model (TAM)

This is a model designed to predict the acceptance of computers and factors relating to it (Widyarini, 2005). Davis (1993) defines TAM as a model established to analyze and understand the factors that influence the acceptance of the utilization of computer technology. It aims to explain and estimate the factors that influence the acceptance of users to a technology in an organization. TAM explains the cause and effect relationship between conviction and behavior, purpose or need and the actual usage by users of an information system.

According to Davis (1989), there are two chief concepts in users acceptance namely perceived ease of use and perceived usefulness. Perceived ease of use is defined as the degree of a person’s conviction that the usage of an information system technology is
easy and does not demand hard effort. Perceived usefulness is the degree that the usage of an information system could raise performance. The usage of IB is determined by a person’s perception and attitude which forms the person’s behavior in using IB. According to Davis (1993), both perceived ease of use and perceived usefulness has a direct influence toward using which then influences the actual usage. A user uses technology if he/she believes that the technology is beneficial and easy to use and he/she will then use the technology continuously. Perceived ease of use and perceived usefulness directly influences the actual usage without the interference of attitude towards using. Chau and Lai (2003) propose that the ease of use of IB has a relationship with ability and willingness. Davis (1989), propose that besides ease of use, benefit is also a factor which influences the acceptance of a system. If clients refuse to adopt/accept the new system, the system would not bring maximum benefits for the banks. Perceived ease of use and perceived usefulness have an influence on attitude toward using IB which then influences the actual usage. David (1993), Chau &Lai (2003), Medyawatti et. al (2011) discovered that the perceived ease of use had a positive and significant relationship with attitude towards IB. This ease of use will thus motivate clients to explore its features and details system functions (Kusuma &Susilowati,2007). A favorable attitude will then be established and clients will be willing to spend much time to navigate in the cyber world to perform their banking activities. Medyawati et al (2011), stated that ease of use of IB will attract clients to use the technology more frequently. For instance the user friendliness of the domain names, navigation tools and the graphical user interphase are important determinants of the user-friendliness of a webpage design. If a technology requires a high level of technical skills, then it will be less likely to be
adopted and vice versa. This applies to IB in Kenya. In his study, Sthye (1999), found that 40% individual respondents and 48% company respondents mastered the use of the internet but did not use IB because they considered it as difficult to apply. Hence, ease of use influence the use of IB. Yussof et.al (2009), in a study on the use of e-library stated that when they considered e-library easy to use, they preferred to use the technology to find the information they needed to improve on the quality of their assignments.

The measurements of usefulness of a technology is based on the frequency of usage and the variety of the applications applied. Jahangir&Begum (2008), discovered that there was a positive and significant relationship between usefulness and attitudes towards IB. a person’s positive attitude towards Internet media will then urge him/her to optimize the effectiveness or usage of internet(Widyarini,2005). Chau&Lai (2003), revealed the importance of providing useful services for clients by IB. Financial institutions need formulation of strategies which will create positive perceptions of the usefulness of the services of IB which will in turn positively influence users to adopt a technology. The usefulness of IB is a usefulness obtained or expected by clients to help carrying out their tasks& works. For instance, one can perform banking transactions at the comfort of their offices or homes without visiting a bank and thus saving on time and energy.

An advantage of using the TAM is that it has been used in many empirical researches and the tools used with the model have proved to be quality and to consequently yield positive result. Its limitations include it has not been tested in a working environment but only amongst students. It measures a self-reported use thus making it difficult to measure rigorously as it involves problems.
2.3 Factors Influencing the Adoption of Internet Banking

Internet banking technology is gaining widespread adoption in the banking industry across developed countries. The case, however, is different in less developed nations, which despite recently acknowledging the benefits of Internet banking technology in improving banking services, have not adopted and integrated this innovation within its banking delivery strategy. Instead, they continue to deliver most of their banking services and products using traditional banking delivery channels, notably paper-based branch networks (Birch and Young, 2007). This section discusses the factors that affect the adoption of Internet banking. The factors discussed were computer self-efficacy, complexity, security and technological advancement.

2.3.1 Computer Self-Efficacy

Any new technology is usually picked up by the early adopters who have Internet access and knowledge about the facilities such as those provided by a bank on the Internet (Prasad and Arumbaka, 2009). However, some consumers do not know how to become an Internet banking user, and some consumers do not have the required PC skills and facilities needed to do Internet banking (Prasad and Arumbaka, 2009).

Kim, Widows, and Yilmazer (2009) note that some consumers have more ability to use banking technology and computer software for managing money than other consumers. Customers with increased computation ability may adopt Internet banking more easily.
and their ability may also improve their efficiency in the use of Internet banking. In addition, they may need to invest less time and money to learn Internet banking (Kim et al., 2009). Customers who have no experience and skill in the use of banking technology and computer software may not recognize the benefits of Internet banking. However, these customers may hesitate to adopt Internet banking as they need to invest more time and money to learn Internet banking (Kim et al., 2009).

Several researchers have discussed about the virtual requirement of computer ownership and operational skills for Internet adoption. For example, Centeno (2011) notes that Internet banking requires that the user must have a minimum level of Internet skills. This may explain why some older customers are hampered by a lack of computer skills and the need to be educated on basic Internet functions required to conduct online banking (Al-Alawi, 2009).

Black, Lockett, Winklhofer, and Ennew’s (2012) study reveal that the adoption of Internet banking depends on the compatibility of the new channel with the individual’s personality, computer skills, and the opportunity to try the service offered. Gerrard and Cunningham (2011) found that consumers who are non-adopters of Internet banking could be differentiated by their low (or poor) computation proficiency and computer skills. In Lichtenstein and Williamson’s study (2006), the authors pointed out that a person’s Internet self-efficiency, such as Internet skill, will affect the decision whether or not to adopt Internet banking. Internet users generally expressed confidence in their ability to use the Internet – a confidence acquired from multiple positive experiences and acquired familiarity with the Internet channel (Lichtenstein and Williamson, 2006). The
results show that the non-user of Internet banking services have lower Internet skills, lack of access, and lack of experience (Lichtenstein and Williamson, 2006).

Furthermore, Polatogu and Ekin (2012) reached a similar conclusion with Lichtenstein and Williamson (2006). The authors show that the consumers’ knowledge and skills about the Internet and Internet banking are important to the adoption of Internet banking. If the knowledge and skills about the Internet and Internet banking are low, the adoption rate will be low. The more knowledge and skills a consumer possesses about Internet banking, the easier it is for the consumer to utilize Internet banking (Polatogu and Ekin, 2012).

In general, prior research has suggested a positive relationship between experience with computing technology and a variety of outcomes such as an effect towards computers and computer usage. It was assumed that the familiarity with software may increase one’s belief in his/her capability to use software. Siddharth (2007) found that experience was strongly and significantly correlated with self-efficacy and concluded that individuals’ computer self-efficacy perception and outcome expectations can be changed when they evaluate their experiences. It was also found that individuals’ prior experiences and their past interaction with systems can form their self-efficacy and their confidence to use advanced technology.

2.3.2 Complexity

Complexity is defined as the degree to which an innovation is perceived as easy to understand and use. Adoption will be less likely if the innovation is perceived as being complex or difficult to use (Rogers, 1983). Complexity can be considered as the exact
opposite of ease of use in the technology acceptance model, which has been found to
directly impact the adoption of the Internet (Leaderer, et al., 2009:270).

Customers will reject an innovation if it is very complex and not user friendly. In this
context, Cooper and Zmud (2007) report ease of use of innovative products or services as
one of the three important characteristics for adoption from the customer's perspective.
For example, the user-friendliness of domain names, navigation tools and the graphical
user interface are important determinants of the user-friendliness of a web page design.

Research by Davis (1989) has found that perceived complexity is associated with the
adoption of electronic technologies. Research conducted in Estonia (Kerem, 2012) states
that the most important factors in starting to use internet banking are first and foremost
better access to the services (convenience), better prices and a high-level of privacy.
Better service (i.e. preferring self-service over office-service) was also of above average
importance. Therefore the adoption of internet banking is likely to be increased when
customers consider using internet banking processes to be easy. Therefore an individual
is far less likely to adopt a new technology if this requires a high level of technical skills.
Conversely the adoption of internet banking is far more likely to occur if the internet
banking processes are simplified and are user friendly.

2.3.3 Security

One of the challenges of Internet banking includes security. According to Hutchinson,
while it is acknowledged that banks have an excellent record concerning security of
customer information, surveys indicate that Internet users are weary about privacy issues
including transparency, collection, use and disclosure of their personal information
This concern primarily relates to authentication. Security is first and foremost a requirement of Internet banking as the Internet is inherently insecure. Securing the process in Internet banking involves authenticating both customer and banker and protecting the information to be transmitted from interception. This authentication can be done using user ID and passwords. Banks should take effective steps for the interests of customers from data tampering and hacking. Software failures can also destroy entire portions of a network and bring huge losses. In e-banking system there are many ways in which private information may be accessed by attackers. And this information could be used to make fraudulent transactions that could lead to loss of money.

Hartman, et al. (2000) point out that security is a major concern wherever online transactions take place. They suggest that Internet-based service providers must implement access control, authentication procedures, encryption, firewalls, audit trails and virus protection to secure their online services. Another survey conducted by Cranor and Laurie (2009) found that 81% of Internet users are concerned about threats to their privacy while online. An empirical study found that consumers are often reluctant to share personal information for fear that their financial life will become an open book to the Internet universe (Bestavros, 2000).

Security has been widely recognized as one of the main obstacles to the adoption of internet banking. Many studies suggest that banks must first convince their customers that internet banking and transactions are secure before customers will show a willingness to use internet banking. Consequently the adoption of internet banking is likely to increase when the risk of using internet banking is low.
2.3.4 Technological Advancement

The tremendous development in technology and the aggressive blend of information technology has brought about a phenomenal shift in banking operations the world over (Minjoon and Shaohan 2012). For the banks, technology has not only emerged as a strategic resource for achieving higher efficiency, control of operations, productivity and profitability, but a means for survival. From customers’ perspective, it is the realization of their anywhere, anytime, anyway banking dream (Balwinder et al., 2011).

Consequently, the banks have been compelled to embrace technology, recognizing that this will enable them to meet the increasing customer expectation, and also equip them to gain a firm stand in the highly competitive banking environment (Siddharth 2007). This is cognizant of the fact that the increasing competitive pressures in the banking industry leads banks to seek ever-greater productivity and efficiency improvements to sustain profitability. Technology development in Kenya is frequently viewed as the key element in the formulae for productivity and profitability from the 2000s and beyond. It is likely to be the key factor driving change within the banking sector for the foreseeable future.

2.4 Internet Banking and Bank Performance

A few empirical studies exist in the literature, which have examined the relative performance of banks offering Internet banking services. Egland et al. (1998) was the first important study, which estimated the number of US banks offering Internet banking and analyzed the structure and performance characteristics of these banks. It found no evidence of major differences in the performance of the group of banks offering Internet
banking activities compared to those that do not offer such services in terms of profitability, efficiency or credit quality. However, transactional Internet banks differed from other banks primarily by size.

In contrast to the results of Egland et al. (1998), Furst et al. (2000) found 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. An exception to the superior performance of Internet banks was the de novo (new start-ups) Internet banks, which were less profitable and less efficient than non-Internet de novos. The authors concluded that Internet banking was too small a factor to have affected banks’ profitability. 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 delivery channel. Similar to the results of Furst et al., this study also found that de novo click and mortar banks performed significantly worse than de novo brick and mortar banks.

Using information drawn from banks in Italy, Hasan et al. (2002) found that the Internet banking institutions were performing significantly better than the non-Internet groups. Additionally, the risk variables associated with the Internet group continued to be lower relative to the non-Internet group. The asset-liability variables revealed that on average the banks in this Internet group were larger and had significantly higher trading and investment activities and less dependent on retail deposits (both demand and saving deposits) relative to the non-Internet group. The only category where the Internet group showed a lower performance was the non-interest expense category. It found a significant
and positive link between offering of Internet banking activities and banks’ profitability
and a negative but marginally significant association between the adoption of Internet
banking and bank risk levels particularly due to increased diversification.

Hernando and Nieto (2005) examined the performance of multichannel banks in Spain
between 1994 and 2002. The study found higher profitability for multichannel banks
through increased commission income, increased brokerage fees and (eventual)
reductions in staffing levels and concluded that the Internet channel was a complement to
physical banking channels. In contrast to earlier studies, the multichannel banks in Spain
relied more on typical banking business (lending, deposit taking and securities trading).
The adoption of the Internet as a delivery channel had a positive impact on banks’
profitability after one and a half years of adoption. It was explained by the lower
overhead expenses and in particular, staff and IT costs after the same period.

Sathye (2005) investigated the impact of the introduction of transactional Internet
banking on performance and risk profile of major credit unions in Australia. Similar to
the results of Sullivan (2000), the Internet banking variable didn’t show a significant
association with the performance as well as with operating risk variable. Thus, Internet
banking didn’t prove to be a performance enhancing tool in the context of major credit
unions in Australia. It neither reduced nor enhanced risk profile.

DeYoung et al. (2006) observed the change in financial performance of Internet
community banks in U.S. during 1999-2001. The results found that Internet adoption
improved community banks’ profitability, particularly through increased revenues from
deposit service charges. Internet adoption was also associated with movements of
deposits from checking accounts to money market deposit accounts, increased use of brokered deposits and higher average wage rates for bank employees. It found little evidence of changes in loan portfolio mix. The findings suggested that Internet adoption was associated with an economically and statistically significant improvement in bank profitability.

DeYoung (2001) analyzed systematically the financial performance of pure-play Internet banks in U.S. The study found relatively lower profits at the Internet-only institutions than the branching banks, caused in part by high labor costs, low fee based revenues and difficulty in generating deposit funding. However, consistent with the standard Internet banking model, the results indicated that Internet-only banks tended to grow faster than traditional branching banks. Internet-only banks have access to deeper scale economies than branching banks and because of this, they are likely to become more financially competitive over time as they grow larger. Delgado et al. (2004 and 2006) found similar results for Internet-only banks in the EU. Nevertheless, the magnitude of technology based scale economies found in Delgado et al. (2004 and 2006) was substantially larger than that estimated by DeYoung studies.

The evidence of the impact of the adoption of Internet as a delivery channel on financial performance is mixed at both sides of the Atlantic. Nevertheless, the latest studies seem to find positive relationship with profitability. It can be argued that as the intensity and experience in the usage of Internet increases, the financial performance of multichannel banks is likely to improve. In Indian context, many publications throw light over the importance of Internet banking and also its prospects for the Indian banking industry. However these studies don’t depict any empirical relationship between banks’
profitability and Internet banking. The purpose of this paper is to study the same correlation applicable in Kenyan context.

2.5 Research Gap

Most of the studies covered in the literature will be conducted in the developed countries whose strategic approach, financial footing, level of technological advancement and bank clientele differs from that of Kenya. Therefore, there exists a research gap on the factors influencing adoption of internet banking in commercial banks in Kenya. This study therefore seeks to fill this gap by investigating the factors influencing adoption of internet banking in Kenya.
3.0: RESEARCH METHODOLOGY

3.1 Research Design

The study will adopt descriptive research design. According to Cooper and Schindler (2003), a descriptive study is concerned with finding out the what, where and how of a phenomenon. In addition, descriptive research design is a scientific method that involves observing and describing the behaviour of a subject without influencing it in anyway (Gill&Johnson, 2010). The main focus of this study is quantitative. However some qualitative approach will be used in order to gain a better understanding and possibly enable a better and more insightful interpretation of the results from the quantitative study.

According to Cooper and Schidler (2003), a descriptive study is concerned with finding out the what, where and how a phenomenon.

3.2 Study Area

The study area will be Nairobi City, the capital of Kenya. It is located at coordinates 1.28°S 36.82°E at altitude of 1,724 m (5,656 ft) with a population of 3,038,553 (GoK,
2009) covering an area of 684 km$^2$. It is a commercial and industrial hub. The city and its surrounding area form the Nairobi County. The city was founded as a railway camp in 1899. It is so big that it is considered as one of the biggest in the whole of Africa. Dubbed as the Green City in the Sun, Nairobi is a bustling metropolitan with many protected nature reserves found within the city. Surrounded by several expanding villa suburbs on the outskirts, the urban city center is home of thousands of Kenyan manufacturing firms and headquarters of over 100 major international companies and organizations. Nairobi is surrounded by the mountains such as Mt. Kenya on the North and Mt. Kilimanjaro in the SouthEast. It is located adjacent to the eastern edge of the Rift Valley, making it vulnerable to occasional earthquakes and minor tremors. The Ngong Hills are the most prominent geographical feature of the city, which look like knuckles of the back of hands facing the sky.

3.3 The Population

Target population as defined by Kothari (2006) is a universal set of the study of all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the result. A population refers to an entire group of individuals, events or objects having a common observable characteristic (Mugenda and Mugenda, 1999). The research population will be 5,000 which will comprise of 650 CBA employees, 110 corporate customers and 4,330 retail customers (see Table 3.1).
### Table 3.1: Target Population

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBA Employees</td>
<td>650</td>
<td>13</td>
</tr>
<tr>
<td>CBA Corporate customers</td>
<td>174</td>
<td>3.48</td>
</tr>
<tr>
<td>CBA Retail Customers</td>
<td>4,176</td>
<td>83.52</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,000</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>


### 3.4 Sampling Technique

The term sample refers to a segment of the larger population selected for research to represent the population as a whole (Kothari, 2008). Sample size is the number of items, objects or individuals selected for study to represent the population as a whole.

According to Mugenda and Mugenda (2001), to ensure that the sample accurately represents the population, the researcher is required to clearly define the characteristics of the population, to determine the required sample size and then choose the best method of selecting members of the sample from the larger population (approximately 10% of the total population).
Table 3.2: Sample Size

<table>
<thead>
<tr>
<th>Customer Category</th>
<th>Total</th>
<th>Sample size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>650</td>
<td>65</td>
<td>10</td>
</tr>
<tr>
<td>Corporate Customers</td>
<td>174</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Retail Customers</td>
<td>4,176</td>
<td>418</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,000</strong></td>
<td><strong>500</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>


3.5 Data Collection

This study will use primary data through questionnaires that will be issued to the customers during banking hours (see appendix I) and to the employees of CBA Ltd (see appendix II). The questionnaires will have both open and close ended questions. The structured questions will be used in an effort to conserve time and money as well as to facilitate an easier analysis as they will be in immediate usable form; while the unstructured questions will be used to encourage respondents to give an in-depth and felt response without feeling held back in revealing of any information.

The researcher will exercise care and control to ensure all questionnaires issued to the respondents are received and to achieve this, the researcher will maintain a register of questionnaires, which will be issued and consequently received.
3.6 Reliability of the Research Instruments

Reliability is the consistency of a set of measurement items (Cronbach, 1951). The researcher will use the most common internal consistency measure known as Cronbach’s alpha (α). It indicates the extent to which a set of test items can be treated as measuring a single latent variable (Cronbach, 1951). The recommended value of 0.7 will be used as a cut-off of reliabilities.

3.7 Data Analysis

Data analysis will be by the use of descriptive statistic which include mean, mode, standard deviation kurtosis, while inferential statistics will be analyzed using regression analysis. The information will then be displayed by use of bar charts, graphs and pie charts and in prose-form. The regression analysis model to be adopted in this study is as shown below:

\[ Y_S = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + \epsilon \]

Where, 

- \( B_1 \ldots B_4 \) = regression coefficient of four variables; 
- \( Y_S \) = adoption of internet banking; 
- \( B_0 \) = constant (coefficient of intercept) 
- \( X_1 \) = computer self-efficacy; 
- \( X_2 \) = Complexity; 
- \( X_3 \) = Security, 
- \( X_4 \) = Technological advancement and \( \epsilon \) is the error term.

Some of the assumptions of the equation are:

1) Normality- this establishes the Normal distribution of the population being researched on.

2) There is a need for independent observation.

3) There is also homogeneity of variances.
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APPENDICES

Appendix I: Questionnaire for Bank Employees

The questionnaire below has been set in relation to the objectives of the study. Please answer all the questions. Any issue that may need any clarification will be discussed when the researcher calls to pick the completed questionnaire.

Respondent details

1. Sex
   - F [ ]
   - M [ ]

2. Education (highest level achieved)
   - Diploma [ ]
   - PhD [ ]
   - Bachelors Degree [ ]
   - Masters Degree [ ]

5. Years with current employer
   - 1-5 years [ ]
   - 6-10 [ ]
   - 11-15 [ ]
   - 16-20 [ ]
   - Over 20 years [ ]

6. Years in present position
   - 1-2 years [ ]
   - 3-4 [ ]
   - 5-6 [ ]
   - Over 6 years [ ]

SECTION B: EXTENT TO WHICH INTERNET BANKING HAS BEEN ADOPTED

7. Does your organization have internet banking system in place? Yes [ ] No [ ]
8. What forms of the following e-banking services does the bank offer? Tick as appropriate


SECTION C: FACTORS AFFECTING THE ADOPTION OF INTERNET BANKING

9. To what extent do you agree with the following statements related to Computer Self-Efficacy? Where 5= strongly agree, 4 = Agree, 3= Neutral, 2 = Disagree, 1 = strongly Disagree.

<table>
<thead>
<tr>
<th>Computer Self-Efficacy</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Some consumers do not know how to become an Internet banking user</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Some consumers do not have the required PC skills and facilities needed to do Internet banking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Customers with increased computation ability may adopt Internet banking more easily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Familiarity with software may increase a one’s belief in his/her capability to use internet banking software</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complexity

14. Customers will reject an innovation if it is very complex and not
user friendly

15. The user-friendliness of domain names, navigation tools and the graphical user interface are important determinants of the user-friendliness of a web page design.

16. An individual is far less likely to adopt a new technology if this requires a high level of technical skills

Security

17. Internet users are weary about privacy issues including transparency, collection, use and disclosure of their personal information

18. Security is a major concern wherever online transactions take place

19. Customers are often reluctant to share personal information for fear that their financial life will become an open book to the Internet universe

20. Banks must first convince their customers that internet banking and transactions are secure before customers will show a willingness to use internet banking.

Technological advancement

21. Development in technology and the aggressive blend of information
technology determine the adoption of Internet banking

SECTION D: EFFECT OF INTERNET BANKING ON PERFORMANCE

22. To what extent has the introduction of internet banking eased banking transaction?

<table>
<thead>
<tr>
<th>Very great extent</th>
<th>Great extent</th>
<th>Moderate extent</th>
<th>Little extent</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. Internet banking has improved the bank’s effectiveness and efficiency?

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

24. To what extent has internet banking improved the following aspects of performance in your organization? Use a scale of 1 to 5 where 5 is to a very great extent, 4 is to a great extent, 3 is moderately extent, 2 is to a little extent and 1 is to no extent.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>25. Revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Profitability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Customer Relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Customer Satisfaction</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>29. Assets growth</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>30. Market share</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

31. How can you assess the overall performance of the Bank as a result of the adoption of internet banking system?
Excellent [ ] Very Good [ ] Fair [ ] Poor [ ]

32. What ways do you think internet banking can be enhanced in your organization?

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

END OF QUESTIONNAIRE

*Thank you for taking your time to fill it.*
Appendix II: Questionnaire for Customers

The questionnaire below has been set in relation to the objectives of the study. Please answer all the questions.

SECTION A: RESPONDENT DETAILS

1. Sex
   F [ ] M [ ]

2. Age
   Less than 20 years old [ ]
   20-30 years old [ ]
   30-40 years old [ ]
   40-50 years old [ ]
   Older than 50 years old [ ]

3. Education (highest level achieved)
   High School [ ] College [ ]
   Bachelors [ ] Masters or more [ ]

4. Do you use internet banking services
   Yes [ ] No [ ]

1. What forms of the following e-banking services does the bank offer? Tick as appropriate
2. To what extent do you agree with the following statements? Use a scale where 5 = strongly agree, 4 = agree, 3 = Neutral, 2 = Disagree and 1 = strongly disagree.

<table>
<thead>
<tr>
<th>Computer self-efficacy</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. I am Well Conversant with IB and I found it a User-friendly system.</td>
<td></td>
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<td>4. I know how to become an Internet banking user</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Security</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. I am weary about privacy issues including transparency, collection, use and disclosure of my personal information</td>
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<tr>
<td>6. Security is a major concern wherever online transactions take place</td>
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<td>7. I fear that their financial life will become an open book to the Internet universe</td>
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<td>8. Internet banking and transactions are secure</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Technological Advancement</th>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>9. IB allows Easier Maintenance of transaction activities.</td>
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</tbody>
</table>
10. IB offers better rates and charges

11. IB has made it easier to deposit/ withdrawing cash.

<table>
<thead>
<tr>
<th>Complexity</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>5</th>
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</thead>
</table>

12. IB is more convenient than Branch Banking

14. IB transactions can be done faster than branch banking

15. I know how to use Internet Banking.

*Thank you for taking part in the study!*