FACTORS AFFECTING THE USE OF E-BANKING SERVICES IN KENYA: A CASE OF CO-OPERATIVE BANK CUSTOMERS IN NAIROBI.

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APRIL, 2011
DECLARATION

This research project is my original work and has never been presented for a degree award in any other university.

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Date: 06.05.2011
DEDICATION

I would like to dedicate this project to my parents whose love for education encouraged and saw me through the educational system to university level.

I would also wish to dedicate this research project to my beloved family members. Their prayers and support was a great encouragement to me in the entire research process.
ACKNOWLEDGEMENT

I would like to acknowledge with gratitude my supervisor Mr. D. K. Ngaba for his tireless assistance and supervision during my research work and preparation of the project. I also acknowledge my classmates for the support with ideas that contributed to the success of this project.

I would also like to thank the librarians at the Kenyatta University Library for their support with the books used for literature review and other valuable information that they provided to aid in the completion of this project.

Above all, I thank God Almighty for taking me through my studies and the entire research work.
Abstract

Advances in electronic banking technology have created novel ways of handling daily banking affairs, especially via the e-banking channels. Adoption of e-banking especially use of branchless banking system has made it possible for customers to carry out banking transactions through SMS banking, Internet banking, EFTs, Home banking among others. Despite the numerous advantages of e-banking, the service has not been put into full use by most users (Central Bank of Kenya CBK, 2008). Even though most of the customers are informed of the option of E-banking, most of them still prefer going to the banks and being served via the counter yet E-banking is meant to make banking much easier for them. This has led to congestions in the banking halls making banks to employ more staff yet the banks have invested heavily in E-banking services. This study therefore sought to establish the factors that affect the use of E-banking services by bank customers in Kenya. This was achieved through a case study of co-operative bank customers in Nairobi region.

The design of the study was descriptive design. The target population included all customers of Co-operative Bank of Kenya located within Nairobi. Questionnaires were used to collect primary data. The data was analyzed with the aid of Statistical Package for Social Sciences (SPSS) whereby descriptive statistics such as frequency distributions and percentages as well as inferential statistics such as ANOVA test and Multiple Linear Regression Analysis were utilized. The findings were presented using frequency tables, bar graphs, pie charts among others.

The study established that the bank (Cooperative bank) lacked good branch connections needed for effective access to E-banking services. In addition, the slow usage of E-banking services was attributed to the poor state of infrastructure/interconnectivity in the banks. The study recommends that the bank invest heavily on the improvement of E-banking technology and network reliability. The bank needs to work closely with the Ministry of Information and Technology to improve information and technology infrastructure and interconnectivity. The bank should put more emphasis in enhancing the branch connections to make them reliable hence effective in the access to E-banking services.
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<tbody>
<tr>
<td>ATM</td>
<td>Automated Teller Machine</td>
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<tr>
<td>BFI</td>
<td>Banking and Financial Industry</td>
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<td>CBA</td>
<td>Commercial Bank of Africa</td>
</tr>
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<td>CBK</td>
<td>Central Bank of Kenya</td>
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<td>CO-OP</td>
<td>Co-operative Bank of Kenya</td>
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<td>E-Banking</td>
<td>Electronic Banking</td>
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<td>EDI</td>
<td>Electronic Data Interchange</td>
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<td>EFT</td>
<td>Electronic Fund Transfers</td>
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<td>HTTP</td>
<td>Hyper Text Transfer Protocol</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>ID</td>
<td>Identification</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>Kenswitch</td>
<td>Kenya Switch</td>
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<td>KEPSS</td>
<td>Kenya Electronic Payment and Settlement System</td>
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<tr>
<td>KPLC</td>
<td>Kenya Power and Lightening Company</td>
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<td>KWS</td>
<td>Kenya Wildlife services</td>
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<td>PC</td>
<td>Personal Computers</td>
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<td>RTGS</td>
<td>Real Time Gross Settlement</td>
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<td>SMEs</td>
<td>Small and Medium Enterprises</td>
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<td>SMS</td>
<td>Short Message Structures</td>
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<td>USB</td>
<td>Universal Service Bus</td>
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Definition of Terms

E-banking
This is the process where a customer can instantly carry out banking transactions without visiting a bank.

Perceived Ease of Use (PEU)
This is defined as the degree to which an individual believes that using a particular system would be free of physical and mental efforts.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Over the past four decades the commercial world has witnessed the emergence of electronic money exchanges. The first electronic exchanges were mutual exchanges between institutions such as banks and business firms and were known as Electronic Fund Transfers (EFT). Electronic Data Interchange (EDI) which is a standard format for exchanging business data originated in the 1970s and was the next step towards electronic transacting (Bosch et al, 2006:618). Advances in electronic banking technology have created novel ways of handling daily banking affairs, especially via the e-banking channels. The acceptance of e-banking services has been rapid in many parts of the world. Since the mid-1990s, there has been a fundamental shift in banking delivery channels toward using Electronic banking (e-banking) service channels such as ATMs, credit cards, smart cards, M-banking and other online banking services especially in developed countries. During the past few years, e-banking acceptance globally has been rapid. In fact, by 2003 over 55 percent of the private banking customers were using e-banking services (The Banker’s Association, 2003; Mukherjee and Nath, 2003). In general, Europe has been and still is the leader in e-banking technology adoption and usage (Schneider, 2001). By comparison, at the end of 2000 only roughly 20 percent of the US banks offered e-banking services and only 20 percent of US private banking customers used e-banking services (Sheshunoff, 2000; Orr, 2001). By the end of 2002 about 120 largest US banks offered e-banking services (Pyun et al., 2002). Although in recent years this number has grown rapidly, there is some evidence supporting the opposite of e-banking usage by customers. The American Banker (2000) reported that one-third of consumers who had signed up for e-banking had stopped using it due to unsatisfactory customer service or the complexity of using the service. While consumers may be willing to adopt e-banking technologies, they also want assurance that problems will be resolved and that some transactions will remain personal (Goldfarb, 2001; Financial Technology Bulletin, 2000).
Robinson (2000) for instance found that half of the people that have tried e-banking, such as online banking services were not willing to continue being active users of these services. E-banking services such as use of plastic cards like ATMs, credit cards and other online banking services' adoption has remained low in developing countries as compared to developed countries like USA and Europe. The banks are currently encouraging the use of e-banking so as to gain competitive advantage and increase effectiveness and efficiency in service delivery.

According to Nyagosi (2008), Electronic banking involves customers performing banking transactions electronically without visiting a bank. There are various forms of electronic banking. These includes: personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking. Banks play a primary role in the economic development of a country. Because of many changes in the economic environment and policies pursued by governments, banks have also been forced to evolve. Likewise, the ever changing customer's needs and preferences have necessitated the need for E-banking because customers need quick and high quality services which they are currently not receiving. Many banks, in recognizing this problem, have therefore embarked in the implementation of E-banking systems as a response to their customer's needs and preferences. Through E-banking, customers can instantly carry out banking transactions without visiting a bank. Technological innovation hugely offers banks the potential to significantly reduce operating costs while making banking more profitable (ABA Banking Journal, 2001).

The Kenyan banks have been rolling out and embraced e-banking facilities through introduction of branchless banking systems; mobile SMS and telephone banking, EFTs and plastic money among others. E-banking has been associated with improvements in process efficiencies, cost savings, quick service and increased profitability. This is in line with the Central Bank of Kenya Act that provides that the bank shall promote smooth operations of payments, clearing and settlement systems (Central Bank of Kenya CBK, 2003). As at December 2007, Kenya had a total of 45 bank institutions with 34 being locally owned. In addition to these banks, most banks have partnership with two organizations providing e-banking outsourcing services namely Pesa – Point and Kenswitch where customers can have access to e-banking
services from their widely spread ATMs (Nyangusi, 2008). All these are efforts by commercial banks to enhance efficiency in service delivery as well as reduce congestion in the banking halls.

According to Commercial Bank of Africa, (2008), most banks in Kenya have made significant milestones in embracing the use of Information and Communication Technology (ICT) in their service provision aiming at improving the quality and efficiency in service delivery. In order to decongest banking halls and enhance efficient payment systems, Central Banks introduced the Kenya Electronic Payment and Settlement System (KEPSS) that facilitates the inter-bank financial data transfers in 2009.

A Co-operative is an association of persons who have come together with a common purpose of pooling their resources together for mutual economic and social benefit. Co-operative Bank of Kenya was first registered as a Co-operative Society on the 19th June 1965 with the aim of mobilizing financial resources and providing banking services to the co-operative movement. However, it could not perform these operations because it was not registered under the Banking Act. The Bank then applied for a banking licence to operate under the Banking Act, which was granted later on in 1968. Since then, the bank has maintains a robust growth in profitability posted good financial performance. The Bank was the first to launch SACCO Link, a robust IT system that integrates the banking systems of SACCOs with those of the Bank, to enable the members of SACCOs access to banking services from the service outlets of the Bank. Through its impressive performance, the bank listed its shares in the Nairobi Stock Exchange on 22nd December 2008. This marked a major milestone for the bank giving it higher competitive power in the competitive banking environment (Co-operative Bank of Kenya, 2008).

Co-operative Bank of Kenya was chosen as the target bank for this study because it is among the first local banks to incorporate the current technological practices in its banking business. E- Banking in Co-operative bank was introduced in the year 2004. In a short period, the bank has rolled out several new banking products making use of new trends. The one of the recent e-banking product is branded as 'M-Banking', which is an acronym for mobile banking. Other unique e-banking services adopted by Co-operative banks include; Direct Debit which refers to a written agreement between
two entities namely an Originator and a Payer and Co-operative Net (Fontis) which is an electronic banking system providing the customers with privileges to practice home-banking. However their adoption and usage by most customers still remains low (Co-operative Bank of Kenya, 2008).

1.2 Statement of the Problem

Adoption of e-banking especially use of branchless banking system has made it possible for customers to access their cash through SMS banking, Internet banking, EFTs, Home banking among others. The most recent progress in e-banking is the introduction of the M-Payment service, (M-Pesa) which is the first mobile payment service in the world that allows users withdraw cash from ATMs, buy goods and pay bills (Safaricom, 2008). Despite the numerous advantages of e-banking, the service has not been adopted by most users (Central Bank of Kenya CBK, 2008). There have been numerous concerns regarding the reliability of E-banking services being introduced in the banking institutions. Even though most of the customers are informed of the option of E-banking, most of them still prefer going to the banks and being served via the counter yet E-banking is meant to make banking much easier for them. This has led to congestion in the banking halls making banks to employ more staff yet the banks have invested heavily in E-banking services. Despite the fact that customers are constantly seeking quick and high quality bank services, they hardly use the E-banking services introduced by the banks. Instead they prefer sticking to the old routes that they are more familiar with. This study therefore sought to establish the factors that affect the use of E-banking services by bank customers in Kenya. This was achieved through a case study of co-operative bank customers in Nairobi.

1.3 Objectives of the Study

1.3.1 Broad Objective

The broad objective of this study was to establish the factors affecting the use of e-banking services in Kenya with reference to Co-operative Bank of Kenya customers in Nairobi.
1.3.2 Specific Objectives

1. To establish the extent to which Competency in the use of E-banking facilities affects the use of E-banking services in Kenya.
2. To assess how the perceived ease of use by customers affects the use of E-banking services in Kenya.
3. To establish the extent to which Security and privacy concerns affects the use of E-banking services in Kenya.
4. To establish how technological/ network reliability affect the use of E-banking services in Kenya.
5. To come up with policy recommendations and suggestions aimed at enhancing and increasing the use of E-banking services in Kenyan banks.

1.4 Research Questions

1. How does competency in the use of E-banking facilities affect the use of E-banking services in Kenya?
2. How does the perceived ease of use by customers affect the use of E-banking services in Kenya?
3. To what extent do Security and privacy concerns affect the use of E-banking services in Kenya?
4. How does technological/ network reliability affect the use of E-banking services in Kenya?
5. What are the policy recommendations that can be made to enhance and increase the use of E-banking services in Kenyan banks?

1.5 Significance of the Study

The findings of this study will provide information to policy makers like the government ministry such as ministry of finance in regard to policy regulations, formulation and implementation in the banking industry.

This study will also be of importance to Commercial Banks and other stakeholders such as central bank of Kenya, Kenya Bankers Association among others in ensuring fast adoption and use of e-banking technologies in the banking industry. Finally, the
study will be significant to the researchers and academicians who have an interest in studying the banking industry in Kenya. They will find the results of this study a useful background for their subsequent researches.

1.6 Scope of the Study

The study was based in Nairobi region. The study targeted coop bank customers since they are the beneficiaries and users of the e-banking services. Nairobi region was divided into 4 key regions namely; CBD, Nairobi North, Eastlands, Westlands, Representative samples of respondents were drawn from each of the specified regions and provide the needed information on the E-banking services usage in the region.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the related literature on the subject under study presented by various researchers, scholars, analysts and authors. The review has covered the various issues related to the subject of interest. The researcher has drawn materials from several sources which are closely related to the theme and the objectives of the study.

2.2 Global View and Trends of E-Banking Services

The Electronic banking has been around for some time but in form of Automatic Teller Machines (ATMs) and telephone transactions. More recently, it has been transformed by the Internet and mobile technologies, the new delivery channels for banking services with benefits to both customers and banks. Access is fast, convenient, and available around the clock, whatever the customer's location. Additionally through Electronic banking, the banks are able to provide services more efficiently and at substantially lower costs. For example, a typical customer transaction costing about $1 in a traditional "brick and mortar" bank branch or $0.60 through a phone call costs only about $0.02 online (Crane, 1996).

According to Klingebiel (2002), Internet banking and mobile technology for example have revolutionized traditional e-banking services. Banks increasingly operate websites through which customers are able not only to inquire about account balances and interest and exchange rates but also to conduct a range of transactions. Unfortunately, data on Internet banking are scarce in the literature, however Internet banking is particularly widespread in Austria, Korea, the Scandinavian countries, Singapore, Spain, and Switzerland, where more than 75 percent of all banks offer such services as shown in figure 2.1. The Scandinavian countries have the largest number of Internet users, with up to one-third of bank customers in Finland and Sweden taking advantage of e-banking (Chen, 2002).
In the United States, Internet banking is still concentrated in the largest banks. In mid-2001, 44 percent of national banks maintained transactional websites, almost double the number in the third quarter of 1999. These banks account for over 90 percent of national banking system assets. The larger banks tend to offer a wider array of electronic banking services, including loan applications and brokerage services. While most U.S. consumers have accounts with banks that offer Internet services, only about 6 percent of them use these services. (Chen, 2002)

To date, most banks have combined the new electronic delivery channels with traditional brick and mortar branches ("brick and click" banks), but a small number have emerged that offer their products and services predominantly, or only, through electronic distribution channels. These "virtual" or Internet-only banks do not have a branch network but might have a physical presence, for example, an administrative office or non-bank facilities like kiosks or automatic teller machines. The United States has about 30 virtual banks; Asia had 2, launched in 2000 and 2001; and the
European Union had several—either as separately licensed entities or as subsidiaries or branches of brick and mortar banks (Chen, 2002).

There are several ways to open and fund an electronic banking account in the United States. Customers who have existing accounts at brick-and-mortar banks and want to begin using electronic banking services may simply ask their institution for the software needed for PC banking or obtain a password for Internet banking. Either approach requires minimal paperwork. Once they have joined the system, customers have electronic access to all of their accounts at the bank. New customers can establish an account either by completing a PC banking application form and mailing it to an institution offering such a service or by accessing a bank’s web site and applying online for Internet banking. In either instance, the customer can fund the new online account with a check, wire transfer, or other form of remittance. No physical interface between the customer and the institution is required (Bosch et al, 2006).

The E-banking trend has emerged from the traditional use of Automatic Teller Machines (ATMs) and fixed telephone transactions which has been followed by Internet banking which has seen the emergence of personal computer (PC) banking, virtual banking, online banking, home banking, and remote electronic banking. Currently there is mobile technology commonly known as (M-banking) which involves the use of mobile phone to do banking transactions. This has been possible through banks partnering with the mobile phone companies (like Safaricom) to do banking transactions (Safaricom 2008).

2.2.1 E-Banking Systems

According to Klingebiel, (2002), Electronic banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. Electronic banking is usually done in following forms: ATMs, personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone bank. PC banking and Internet or online banking is the most frequently used designations. It should be noted, however, that the terms used to describe the various types of electronic banking are often used interchangeably. PC banking is a form of online banking that enables customers to execute bank transactions from a PC via a modem.
In most PC banking ventures, the bank offers the customer a proprietary financial software program that allows the customer to perform financial transactions from his or her home computer. The customer then dials into the bank with his or her modem, downloads data, and runs the programs that are resident on the customer’s computer. Currently, many banks offer PC banking systems that allow customers to obtain account balances and credit card statements, pay bills, and transfer funds between accounts (Crane, 1996).

Internet banking, sometimes called online banking, is an outgrowth of PC banking. Internet banking uses the Internet as the delivery channel by which to conduct banking activity, for example, transferring funds, paying bills, viewing checking and savings account balances, paying mortgages, and purchasing financial instruments and certificates of deposit. An Internet banking customer accesses his or her accounts from a browser—software that runs Internet banking programs resident on the bank’s World Wide Web server, not on the user’s PC. Net Banker defines a “true Internet bank” as one that provides account balances and some transactional capabilities to retail customers over the World Wide Web. Internet banks are also known as virtual, cyber, net, interactive, or web banks (Nyangosi, 2008).

To date, more banks have established an advertising presence on the Internet—primarily in the form of informational or interactive websites—than have created transactional web sites. However, a number of Banks that do not yet offer transactional Internet banking services have indicated on their websites that they will offer such banking activities in the future. However, most banks offering Internet banking combine their services with traditional brick-and-mortar mode of bank service delivery (Klingebiel, 2002).

Banks analysts view E-banking as a means of retaining increasingly sophisticated customers, developing new customer base, and capturing greater share of depositors’ assets. A typical Internet bank site specifies the types of transactions offered and provides information about account security (Commercial Bank of Africa, 2008). Since e-banking generally has lower operational and transactional costs than do traditional brick-and-mortar banking, banks are able to offer their services at a lower cost.
E-banking especially Internet banking is not limited to a physical site; some Internet banks exist without physical branches, for example, Tele bank (Arlington, Virginia) and Bank net (UK). Further, in some cases, web banks are not restricted to conducting transactions within national borders and have the ability to make transactions involving large amounts of assets instantaneously. According to industry analysts, electronic banking provides a variety of attractive possibilities for remote account access, including: Availability of inquiry and transaction services around the clock; worldwide connectivity; Easy access to transaction data, both recent and historical; and direct customer control of international movement of funds without intermediation of financial institutions in customer’s jurisdiction (Crane, 1996).

According to Harpgood (2000), the electronic payment systems exist in a variety of forms, which can be divided into consumer activated and non-consumer activated systems. Non consumer-activated payment systems exist for non-consumer transactions, here it is the bank which selects and activates the system. Consumer activated payment systems encompasses transactions involving personal account holders as opposed to corporate account holders. This involves the use of Internet to pay consumer bills, such as electronic cash, internet payment products and electronic bill payment services such as Mobile banking, use of Storage devises, such as stored value cards, which are used to transfer funds from a consumer to a merchant at the point of sale among others (Kilonzo, 2005).

2.3 Competency in the use of E-Banking Facilities

The amount of information consumers have about E-banking and their ability to effectively use e-banking equipment has an impact on their willingness to adopt and use the service. According to Sathye (1999) while the use of e-banking services is fairly new experience to many people, low awareness is a major factor in causing people not to adopt e-banking services. In an empirical study of Australian consumers Sathye (1999) found that consumers were unaware about the possibilities, advantages/disadvantages involved with online banking.

Proper Training is crucial for competency to be achieved. Cherrington (1995) describes training as the process that enables people to acquire new knowledge, learn new skills, and perform behaviors in a new way. It refers to the acquisition of specific
skills and knowledge. The author further concedes that training programs attempt to teach trainees how to perform particular activities or a specific job. Training is a learning experience in that it seeks a relatively permanent change in an individual that will improve his/her ability to perform a certain task (De Cenzo & Robbins 1994:255). Training especially training geared towards technological Competencies does not occur automatically or overnight, so a series of targeted interventions must be made. These may include workshops, training sessions, peer reviews and joint planning and implementation, as well as experts’ visits and involvements. They should be designed according to the existing needs. To be successful, the interventions must have a target group and should continue over a significant period of time (Kliger and Tweraser, 2001).

In principle, training needs are identified through analysis and assessments of target groups needs. In the analysis, the customers’ skills are improved so that they are better able to use e-banking services. Training is usually driven by the future business strategy (explicit or implicit) and the corresponding requirements (Rothwell, 2001). To create and maintain a training program, the organization must make adequate provision for the expense of training in its annual budget and develop a training plan (Rothwell, 2001).

Usage of any digital technology requires inputs of manpower skills. Armstrong (2003) defines manpower skills as intellectual capital, which consists of stocks and flows of knowledge available to an organization. These can be regarded as intangible resources which together with tangible resources (money and physical assets), comprise the market or total value of business. Armstrong (2003) further conceptualizes workers as embodying a set of skills, which can be rented out to employers. For an employer the benefits of the decision to invest in human capital are expected improvements on performance, productivity, flexibility and capacity to innovate. This study hypothesizes that most customers in Kenya have generally failed to adopt to use e-banking services due to the lack of proper skill and knowledge of e-banking technologies. According to Parker (2004), the technology is relatively complex and requires skilled manpower that is unlikely to be possessed by most users.

Most bank customers do not have adequate ICT and IS knowledge thus if an institution installs e-banking systems such as internet banking, online banking, ATMs
among others, it becomes an impediment to access and usage, rather than a facilitation. Competency in IT include; computer awareness, competency with software applications and programming ability (Kay, 1990). Lack of competency in computer literacy de-motivates users. There are four types of computer users: the emergent user, the progressive user, the high user, and the dependent user. Each definition describes a different set of behaviours such as range of software use, frequency of use and reliance on use. Blass and Davis (2003) reported a number of competence based reasons for high e-technology user dropout rates in most institutions. It seems that computer experience and computer literacy play a key role in determining the success of e-technology users and thus the computer skills of potential users must be taken into account. Research on computer literacy basically focuses on whether users possess the necessary computer skills. The computer literacy level seeks to measure the degree of proficiency of learners in basic computer oriented operations. This can be measured using questions that seek out ability to use basic computer application packages such as Microsoft Word, and graphic and spreadsheet packages (Teo and Gay, 2006).

According to OECD (2004), the most important long-term constraint on ICT investment and ICT-led growth in developing countries is likely to be the shortage of human capital. Most developing countries suffer from a shortfall of ICT-related skills, which acts as a substantial constraint throughout the economy. The result of inadequate human capital is too little understanding of ICTs; too little awareness of e-technologies opportunities amongst entrepreneurs; too little relevant content and too few relevant applications; too few trainers able to pass on the e-technology skills; too little computer literacy; too few trained computer programmers and maintenance personnel. In Kenya, the challenge to growth of human capital in e-technology related disciplines has been due to slow upgrading of educational attainment and poor government’s commitment in ensuring that ICT capability is incorporated in various educational strategies at all levels.

2.4 Perceived Ease of Use

According to Zwick, (2002), technological developments and computerization inventions have led to automation of major tasks that were usually undertaken
manually in most organizations. In addition, technological inventions have been perceived to challenge the traditional management hierarchy and change both the location and the nature of decision making. The effectiveness and success of E-technological systems depend not only on the technology itself, but also on the ways in which the users are introduced to the concept. The support of customers in introduction of new innovations is highly dependent on the type of innovation as well as the customers' perception to the inventions to be introduced (Zwick, 2002).

E-banking developments in the banking industry have changed the users' behaviours and their view on modern technology. However, most researchers have not addressed the state of perception and acceptance of e-banking services in the banking industry. A study in a Thai University showed that, attitude, motive, interest, expectation and past experience has a positive effect on acceptance of technology, and its ease in usage greatly effects its adoption. The perceived ease of use and technological adoption can be explained by Technology Acceptance Model (TAM) which was developed by Davis in 1989.

2.4.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a theoretical model that explains how users come to accept and use a technology. Original TAM was proposed by Davis. This model adopts well established causal chain of beliefs attitude, intention actual behavior, which was developed from the theory of reasoned action by social psychologists. In Davis's study, two important constructs are identified; perceived usefulness and perceived ease of use. The perceived usefulness (PU) is defined as the degree to which an individual believes that using a particular system/technology would enhance his/her performance (Davis, Foxall and Pallister, 2002). The perceived ease of use (PEU) is defined as the degree to which an individual believes that using a particular system would be free of physical and mental efforts. These perceptions predict attitudes toward the system/technology adoption. Then the attitude develops the intentions to use and the intentions cause actual system usage. In many recent studies regarding technology, TAM is adopted extensively. TAM was adopted and showed that it contributes to the prediction of individual usage of technology (Fishbein and Ajzen, 1989).
TAM assumes that perceived usefulness and perceived ease of use (the degree to which a person believes that using a particular system would be free of effort) with the influence of pre-existing external variables being the primary determinants for adoption of a new technology. Perceived ease of use has a direct effect on perceived usefulness and both determine the consumer’s attitude toward use, which leads to behavioural intention to use the system and actual use of the system (Davis et al., 2002; Lu et al. 2003).

The findings of most of the studies can be summarized by saying that in order for e-banking adoption to succeed, it must gain user acceptability, the system/program must be secure (both in reality and consumer perception), convenient, easy to use and be offered at little or no additional cost to the consumer (Antovski and Gusev 2003).

2.5 Security and Privacy Concerns

The importance of security and privacy to customers cannot be over-emphasized. These are considered very critical by customers before adopting and using any technology. E-banking customers have expressed concerns over the security and privacy of their financial information in online environments (Federal Deposit Insurance Corporation, 2001). The importance of security and privacy to the acceptance of online banking has been noted in many banking studies (Sathye, 1999; Hamlet and Strube, 2000; Tan and Teo, 2000; Polatoglu and Ekin, 2001; Black et al., 2002; Giglio, 2002; Howcroft et al., 2002). To be more precise, privacy and security were found to be significant obstacles to the adoption of online banking in Australia (Sathye, 1999). Roboff and Charles (1998) found that people have a weak understanding of online banking security risks although they are aware of the risks. Furthermore, they found that consumers often rely that their bank is more concerned about privacy issues and protect them. Finally they argue that although consumers’ confidence in their bank was strong, their confidence in technology was weak (see also Howcroft et al., 2002).

As the amount of products and services offered via the Internet grows rapidly, consumers are more and more concerned about security and privacy issues. Generally speaking, many consumers are unwilling to give private information over the
telephone or the Internet, for example credit card information (Hoffman and Novak, 1998). According to many studies (such as Westin and Maurici, 1998; Cranor et al., 1999) privacy issues have proven important barriers to the use of online services. Basically, consumers are not willing to accept that they do not have full control over their own behaviours. They want to master their own acts and to know the causes and consequences of their own and others’ acts (Baronas and Louis, 1988). Users want to control what kind of data is collected, for what purposes, how long data is recorded for, how and for what purposes their data is processed (Kobsa, 2001; Kobsa, 2002). Gathering and recording user data without consumers’ awareness concerns them (DePallo, 2000).

All the banks using the E-banking services have terms and conditions that govern respective rights and obligations of the users of e-banking services. These are usually signed when one registers as a user having read, understood and agreed to the given conditions. All products and services provided by the bank are subject to the banks own terms and conditions since the nature of their service may demand a digression from universal guidelines. By signing or agreeing to satisfy the agreement given, the user is required to satisfy stated requirements within the document (Co-operative Bank, 2008). Security and IT experts usually test and advise on security of an organization’s systems. This in turn provides secure e-banking services that address the problem of uptake of e-banking since all transactional sites are protected while at the same time protecting the privacy of the user. Firewalls and intrusion detection systems are used to protect e-banking servers hence prevention of fraud cases. Access to any information regarding a user’s account is confidential and is restricted to authorized personnel only. This complies with international professionalism and ethical standards. The right to amend the terms and conditions is reserved by the bank and when amends are made, users are always informed (Co-operative Bank, 2008).

Information about a user is not disclosed to any third parties whether a joint account holder; unless with the user’s written consent indicating that the information be disclosed to that specific third party. However, information may be disclosed to a third party following a legal obligation or any other duty to do with the bank. This may include disclosing information to other branches of the similar bank, a governmental authority with jurisdiction to supervise the user’s bank, any financial
institution with which the client’s bank has dealings with among others (CFC Bank, 2008). These security and privacy measures are put in place to ensure the users of the services are well protected. There is however need to ensure that the users are aware of all the security and privacy measures put in place to change their perception on the use of E-banking systems.

Electronic money schemes may be attractive to money launderers if the systems offer liberal balance and transaction limits, and provide for limited audit trail for these transactions. Application of money laundering rules may be inappropriate for some forms of payments over the Internet because some of the funds transferred can be conducted remotely, and banks may face increased difficulties in applying traditional methods to prevent and detect criminal activity. Another legal risk involves customer disclosures and privacy protection, as some customers who have not been adequately informed about their rights and obligations may bring legal action against the bank (Schaechter, 2002).

Electronic banking carries heightened legal risks for banks. Banks can potentially expand the geographical scope of their services faster through electronic banking than through traditional banks. In some cases, however, they might not be fully versed in a jurisdiction's local laws and regulations before they begin to offer services there, either with a license or without a license if one is not required. When a license is not required, a virtual bank—lacking contact with its host country supervisor—may find it even more difficult to stay abreast of regulatory changes. As a consequence, virtual banks could unknowingly violate customer protection laws, including on data collection and privacy, and regulations on soliciting. In doing so, they expose themselves to losses through lawsuits or crimes that are not prosecuted because of jurisdictional disputes (Kilonzo, 2005).

2.6 Technological/ Network Reliability

Technological infrastructure refers to the availability of important network features which are necessary for connection to the internet. Chieochan et al (2002:6) point out that there is relatively little technological infrastructure in developing countries compared to developed countries and therefore the initial investment required for the introduction of information technology in developing countries will tend to be high
leading to a low IT adoption rate. However, during the past decade, commercial banks have witnessed dramatic change in information and telecommunications technologies (ICT). For instance, the use of electronic communication, such as electronic bill paying, home banking, and internet transaction, has been altering the relationship of business-to-business (B2B) and business-to-customer (B2C). The marketing accessibility of financial institutions is extended and increased to remote areas or countries via the new telecommunications technology. Hence, the role of reliable technology becomes more important in the banking industry (Duncombe and Heeks, 2005). Internet banking has led to creation of wider customer base due to wider area covered and lower cost of delivering essential service (Internet Banking Comptroller’s Handbook, 1999).

Electronic banking is made possible by use of technological infrastructure and networks to distribute the service from one point to another. Proper and reliable network is crucial to ensure customer satisfaction with e-banking services. Using the technological networks, Electronic banking makes it easier for customers to compare banks’ services and products which increases competition among banks, and allows banks to penetrate new markets and thus expand their geographical reach/scope. Through the use of networks, Electronic banking gives an opportunity for countries with underdeveloped financial systems to leapfrog developmental stages. Customers in such countries can access services more easily from banks abroad and through wireless communication systems, which are developing more rapidly than traditional "wired" communication networks (Crane, 1996).

It is important for banking institutions to have reliable network of infrastructure to deal with the operational risks that face the banks. Operational risk arises from the potential for loss due to significant deficiencies in the system’s reliability and integrity. Banks that offer financial products and services through the Internet must be able to meet their customers’ expectations. Customers who do business over the Internet are likely to have little tolerance for errors or omissions from financial institutions that do not have sophisticated internal controls to manage their Internet banking business. Attacks or intrusion on banks’ computer and network systems are a major concern. Studies have shown that systems are more vulnerable to internal
attacks than external, because internal system users have knowledge of the system and access (Schaechter, 2002).

It is important that proper infrastructure and a reliable enabling environment be in place for the bank to effectively encourage the use of e-banking services. In Kenya, The Kenya Power and Lighting Company is in the process of enhancing rural electrification program to make electricity available to both rural and urban areas to enhance the uptake of e-products and services. There is the emphasis on the establishment of good infrastructure and networking to assist the private sector to generate productive employment in small towns and market centers. This will facilitate efficient movement of goods and services hence establishing capable links countrywide and regionally (CBK 2003, pp.15-20). On the other hand, the Central Bank of Kenya is playing a role in the development of a comprehensive legal framework for all facets of the payment system operations. There is also the identification and documentation of National Information and Communication Technology policies for the amenities application that may help in cost reduction. Despite the advancement being made to better the infrastructure, the possibility of many consumers taking up on e-banking is not definite. This is because many Kenyans might have a negative attitude towards e-banking based on their fear of overspending. More so, this may be further enhanced by negative publicity on e-banking (BCS, 2007).

2.7 Conceptual Framework

Figure 2.2 below shows a diagrammatic representation of the variables of the study. The model shows the dependent and independent variables. The conceptual model shows that the use of E-banking services (which is the dependent variable) is mainly dependent on: Competency in the use of E-banking facilities, Perceived ease of use, Security and privacy concerns and Technological/ Network reliability. These are the independent variables of the study.
2.8 Summary of the Review

The recent development of banking in Kenya reveals that the banking sector is undergoing a revolution on the adoption of e-technology in the industry. These include an integrated local and foreign Cheque clearing system, Cheque book facilities, the introduction of the shared Automated Teller Machines which will enable customers to withdraw cash, make deposits, transfer funds from one account to another, and pay bills and providing twenty-four hour banking services; this will also be connected with international payment networks such as VISA and Master Card. There’s also Real Time Gross Settlement (RTGS) system which is being implemented (CBK, 2003, pp.12-13). All these advances in technology developments will only be useful if they gain full appreciation and acceptance by the users. It is however worth noting that even with all these modern payment technologies developed; many Kenyans are still reluctant to embrace e-banking services. In fact, many consumers are unwilling to let go of the use of cash for carry. No study has been done in Kenya to assess the factors affecting the use of E-banking services in Kenya. This poses a knowledge gap which this study sought to fill. It was therefore necessary to assess the
factors affecting the usage of these E-banking technologies to ensure effective adoption and acceptance by the users.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter details the methodology that was adopted in conducting the research. The key issues addressed by the chapter included; research design, target population, sampling strategy, instrumentation, data collection procedures and data processing and analysis.

3.2 Research Design

This research adopted a descriptive research design. Kothari (2004) defines a descriptive research design as the design that involves describing the characteristics of a particular individual/group through the use of appropriate data collection instruments. It involves measurement, classification, analysis and interpretation of data collected. This design was chosen because it helped the researcher to assess the situation as it exists at present in the banking industry. This design enabled the researcher to clearly define the study population and enable accurate measurement of study variables already mentioned in the conceptual framework.

3.3 Target Population

Ngechu (2006) defines a target population as a well defined / specified set of people, group of things, households, firms, services which are being investigated. Keya (1999) further stated that a target population consists of all the cases of individual or things or elements that fit a research specification. The study was based in Nairobi. The target population for this study included all Co-operatives banks customers located within Nairobi region. The study focused on the customers since they are the main users E-banking services in the banks.

3.4 Sampling Strategy

According to Orodho (2002) sampling involves selecting a given number of subjects from a defined population so as to represent the entire population.
made about the sample should also be true of the population. In this study, Sampling design adopted was; Cluster and simple random sampling techniques. Cluster sampling was used to group the target population into categories or clusters based on their geographical location. Four geographical regions/ zones were identified namely; Central Business District, Eastlands, Nairobi North and Westlands. From each cluster, individual representative respondents were drawn through simple random technique. This ensured that all the customers in each of the clusters have equal probability/chances of being selected in the study. This helped to eliminate the biasness.

3.5 Sample size

According to Kothari (2003), an optimum sample is the one that fulfils the requirements of efficiency, representativeness, reliability and flexibility. Thomas, (2001) posits that the minimum sample of a given population should be greater than 30 respondents in a descriptive study. Since the number of Co-operative Bank of Kenya customers is high, the researcher sampled a total of 30 respondents using simple random sampling from each of the four identified regions namely; Central Business District, Eastlands, Nairobi North, Westlands. This gave a sample size of 120 respondents as shown in table 3.1.

<table>
<thead>
<tr>
<th>Categories /Clusters</th>
<th>Sample Size from each region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Business District</td>
<td>30</td>
</tr>
<tr>
<td>Eastlands</td>
<td>30</td>
</tr>
<tr>
<td>Nairobi North</td>
<td>30</td>
</tr>
<tr>
<td>Westlands</td>
<td>30</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>120</strong></td>
</tr>
</tbody>
</table>

Source: (Researcher, 2011)
3.6 Data Collection Instruments

The study made use of primary data which was collected using questionnaires. The questionnaires had both open and close-ended questions (See appendix 2). The researcher ensured that an enabling environment for communication existed during the period of questionnaires administration to the respondents and clarified any issue that was not clear to the respondents.

3.7 Data Collection Procedure

A research introductory letter from Kenyatta University detailing the purpose of the study was obtained as well as permission to carry out research from the coop bank customer. The researcher personally gave the questionnaires to the customers who came to the bank and allow them to fill as they wait to be served on the queues then the researcher collected the questionnaires immediately after the customers had fully filled them up. In addition, customers at the ATM queues were also targeted. They gave information on their experiences with the use of e-banking services based on the questions in the questionnaires. The customers were assured of complete confidentiality in the information that they render. This made them feel more comfortable giving out valid and accurate information.

3.8 Pilot Testing

Piloting is testing of the instruments by trying them in the field. To enhance validity and reliability of the instruments, a pilot study was conducted with customers of a few selected Co-operative Bank Branches. The ones selected for piloting did not take part in the actual study. The purpose of pre-testing was to assess the clarity of the questionnaire items. Those items found to be inadequate or vague were either discarded or modified to improve the quality of the research instruments. The results of the pilot study were used to check for validity and reliability of the research instruments.

3.9 Data Processing and Analysis

Once collected, the data was edited, coded, and tabulated. The data was analyzed quantitatively through the use of descriptive statistics such as frequencies and percentages. In addition, inferential statistics were utilized which included ANOVA
test and Multiple Linear Regressions Analysis. This was done with the aid of Statistical Package for Social Sciences (SPSS). A five-point Likert scale was used to analyse the level of agreement or disagreement of the various statement presented to the respondents in the questionnaire such as the perceived ease of use of E-banking questions. In addition, the qualitative data from open ended sections of the questionnaires were analysed in a systematic manner in order to obtain some meaningful conclusions and recommendations by way of establishing patterns, trends and relationships from the obtained information. The research findings were presented using frequency distribution tables, percentages, pie charts and bar graphs among others.

The multiple linear regression model adopted in this study was as follows;

**Equation 3.1: A Multiple Linear Regression Model One**

\[ Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \ldots \ldots \ldots + \beta_n X_n + \varepsilon \]

Where: Y - Use of E-Banking Services (Dependent variable)

\( x_{1-n} \) - independent variables whereby (\( x_1 \) = Competency in the use of E-banking facilities; \( x_2 \) = Perceived ease of use, \( x_3 \) = Security and privacy concerns, \( x_4 \) = Technological/Network reliability)

\( \alpha_0 \) - alpha coefficient/constant

\( \beta_{1-n} \) - Régression coefficients

\( \varepsilon \) - error term.
CHAPTER FOUR

RESEARCH FINDINGS

4.1 Introduction

This study sought to establish the factors affecting the use of e-banking services in Kenya with reference to Co-operative Bank of Kenya customers in Nairobi. This chapter contains the data analysis, results and the interpretations. The analysis was done using SPSS (Version 16). A total of one hundred and twenty customers were sampled. The study achieved 100% response rate since all administered questionnaires were all received back fully filled. The findings are presented in frequency tables, percentages, pie charts and bar graphs. The results were as presented below.

4.2 Demographic Information

The respondents were asked to provide their background information and the results were as shown in table 4.1.

Table 4.1: Demographic Information

<table>
<thead>
<tr>
<th>Demographic Information</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of the Respondents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBD</td>
<td>30</td>
<td>25.0</td>
</tr>
<tr>
<td>Nairobi north</td>
<td>30</td>
<td>25.0</td>
</tr>
<tr>
<td>Eastlands</td>
<td>30</td>
<td>25.0</td>
</tr>
<tr>
<td>Westlands</td>
<td>30</td>
<td>25.0</td>
</tr>
<tr>
<td>Gender of the respondents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>85</td>
<td>70.8</td>
</tr>
<tr>
<td>Female</td>
<td>35</td>
<td>29.2</td>
</tr>
<tr>
<td>Age bracket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 21 Years</td>
<td>31</td>
<td>25.8</td>
</tr>
<tr>
<td>21 to 29 years</td>
<td>44</td>
<td>36.7</td>
</tr>
<tr>
<td>30 to 40 years</td>
<td>29</td>
<td>24.2</td>
</tr>
<tr>
<td>above 40 years</td>
<td>16</td>
<td>13.3</td>
</tr>
<tr>
<td>Highest level of education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>8</td>
<td>6.7</td>
</tr>
<tr>
<td>Secondary</td>
<td>34</td>
<td>28.3</td>
</tr>
<tr>
<td>Tertiary college</td>
<td>49</td>
<td>40.8</td>
</tr>
<tr>
<td>University</td>
<td>29</td>
<td>24.2</td>
</tr>
<tr>
<td>Duration of being a customer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than a year</td>
<td>16</td>
<td>13.3</td>
</tr>
<tr>
<td>1 to 2 years</td>
<td>35</td>
<td>29.2</td>
</tr>
<tr>
<td>3 to 5 years</td>
<td>46</td>
<td>38.3</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>15</td>
<td>12.5</td>
</tr>
<tr>
<td>Above 10 years</td>
<td>8</td>
<td>6.7</td>
</tr>
<tr>
<td>Overall Total (N)</td>
<td>120</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)
The study gathered responses from four regions in Nairobi namely; CBD, Nairobi north, Eastlands and Westlands with each region accounting for 25% of the respondents. This was consistent with the targeted sample size. This shows that the study attained 100% response rate since all the target customers responded adequately.

In addition, the findings in table 4.1 shows the distribution of the respondents sampled in term of; gender, age bracket, highest level of education and duration of being a customer. The table shows that majority of the respondents (70.8%) were male while 29.2% were female. The findings further show that majority of the respondents were within the Age bracket of 21 to 29 years as accounted by 36.7% with the highest level of education of most respondents being tertiary college as accounted by 40.8%. Additionally, the findings shown that most respondents have been customers' pf coop bank for between 3 to 5 years as accounted by 38.3%. This information is shown in table 4.1.

4.3 Competency in the use of E-Banking Facilities

The first objective of the study sought to establish the extent to which competency in the use of E-Banking Facilities affects the use of E-banking services in Kenya.

4.3.1 E-banking Services used by Customers

The study sought to establish the E-banking services that were frequently used by customers. Through multiple response analysis, the study established that the most frequently used e-banking service was ATMs and M-Banking as accounted by 64.2% and 44.2%. Other E-banking services which included; Internet banking, home banking and direct debit accounted for 8.3%, 7.5% and 1.7% as shown in table 4.2. This shows that ATMs and M-Banking services were the most frequently used E-banking services by most customers,
Table 4.2: E-banking Services used by Customers

<table>
<thead>
<tr>
<th>E-banking Services</th>
<th>Frequency</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATMs</td>
<td>77</td>
<td>64.2%</td>
</tr>
<tr>
<td>M-Banking</td>
<td>53</td>
<td>44.2%</td>
</tr>
<tr>
<td>Internet Banking</td>
<td>10</td>
<td>8.3%</td>
</tr>
<tr>
<td>Home Banking</td>
<td>9</td>
<td>7.5%</td>
</tr>
<tr>
<td>Direct Debit</td>
<td>2</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)

4.3.2 Competencies in the use of E-banking Services

Figure 4.1 shows the respondents' level of competencies in using e-banking services.

Figure 4.1: Competencies in using E-banking

![Competency in E-banking Use](image)

Source: (Field Data, 2011)

The findings in figure 4.1 show that most customers were competent in the use of E-Banking services as accounted by 43.3% (competent and very competent) cumulative responses. This shows that most customers were competent in the use of e-banking services such as ATMs, Internet banking, M-banking among others.
4.3.3 Need for Further Training in the use of E-banking

The findings in table 4.3 show that most respondents required more training on the use of E-banking Facilities as accounted by 36.7% and 43.3% very great extent and great extent responses respectively. This shows that despite the fact that most customers perceived themselves to be competent in using the E-banking services; they required additional training in the handling and use of E-banking facilities.

Table 4.3: Need for Further Training in E-banking use

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Great Extent</td>
<td>44</td>
</tr>
<tr>
<td>Great Extent</td>
<td>52</td>
</tr>
<tr>
<td>Less Extent</td>
<td>9</td>
</tr>
<tr>
<td>No more training needed</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)

4.4 Perceived Ease of Use

The second objective of the study sought to assess how the perceived ease of use by customers affects the use of E-banking services in Kenya.

4.4.1 Users’ Perceptions on E-banking Ease of Use

The respondents were presented with statements which they were expected to rate the extent to which they agreed or disagreed with the stated statements on the use of e-banking services. A five point likert scale comprising of strongly agree, agree, neutral, disagree, strongly disagree was used and the results are as shown in table 4.4.
<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I prefer physical banking hall than e-banking services</td>
<td>21.3%</td>
<td>33.6%</td>
<td>13.5%</td>
<td>19.1%</td>
<td>11.5%</td>
</tr>
<tr>
<td>E-banking make me lack touch the bank</td>
<td>24.1%</td>
<td>31.0%</td>
<td>9.2%</td>
<td>16.1%</td>
<td>19.5%</td>
</tr>
<tr>
<td>I usually have fear of physical harm when using e-banking services</td>
<td>22.7%</td>
<td>25.8%</td>
<td>21.6%</td>
<td>13.4%</td>
<td>16.5%</td>
</tr>
<tr>
<td>The e-banking facilities are inadequate from my bank</td>
<td>12.5%</td>
<td>16.1%</td>
<td>13.6%</td>
<td>38.4%</td>
<td>19.3%</td>
</tr>
<tr>
<td>E-banking requires a lot of mental efforts to use</td>
<td>16.9%</td>
<td>37.7%</td>
<td>9.6%</td>
<td>24.1%</td>
<td>11.7%</td>
</tr>
<tr>
<td>E-banking services are very expensive for ordinary citizen</td>
<td>27.4%</td>
<td>27.9%</td>
<td>14.0%</td>
<td>19.8%</td>
<td>10.9%</td>
</tr>
</tbody>
</table>

**Source: (Field Data, 2011)**

The findings show that most of the respondents agreed to the fact that they prefer physical banking hall than e-banking services, E-banking make them lack touch the bank, they usually have fear of physical harm when using e-banking services, E-banking requires a lot of mental efforts to use and E-banking services are very expensive for ordinary citizen as accounted by 54.9%, 55.1%, 28.6%, 54.6% and 55.3% strongly agree and agree cumulative responses.

In addition, most of the respondents disagreed to the fact that e-banking facilities are inadequate from the bank as accounted by 57.7% strongly disagree and disagree cumulative responses as shown in table 4.4.

This show that most customers perceive the e-banking service as follows; they prefer physical banking hall than e-banking services, E-banking make them lack touch with
their bank, they usually have fear of physical harm when using e-banking services, E-banking requires a lot of mental efforts to use and E-banking services are very expensive for ordinary citizen.

4.5 Security and Privacy Concerns

The third objective sought to establish the extent to which Security and privacy concerns affects the use of E-banking services in Kenya.

4.5.1 Security and Confidentiality Concerns

The respondents were asked to state whether they perceived the use of E-banking to be a security threat to them as a user and whether the use of E-banking services would bring a breach of confidentiality of information from their account. The findings are as shown in table 4.5.

<table>
<thead>
<tr>
<th>Table 4.5: Security and confidentiality concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>E-banking poses a security threat to the users</td>
</tr>
<tr>
<td>Breach of confidentiality through E-banking use</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)

Table 4.5 show that more than half of the respondents (58.3%) perceived the use of E-banking to be a security threat to them. In addition, majority of the respondents (86.7%) perceived the use of E-banking services would bring a breach of confidentiality of information from their account. This shows that most customers have security and privacy concerns which limit them from using the e-banking services.
4.5.2 Adequacy of adherence to security and privacy concerns

The findings in figure 4.2 show that majority of the respondents rated the adequacy of adherence to security and privacy concerns policies with their bank as inadequate as accounted by 75% very inadequate and inadequate cumulative responses. This shows that security and privacy policies were not adequately adherence to by the banks.

Figure 4.2: Adequacy of Adherence to Security and Privacy Concerns

<table>
<thead>
<tr>
<th>Adequacy of adherence to security/privacy concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Adequate</td>
</tr>
<tr>
<td>4.2%</td>
</tr>
<tr>
<td>Adequate</td>
</tr>
<tr>
<td>20.8%</td>
</tr>
<tr>
<td>Very inadequate</td>
</tr>
<tr>
<td>20.8%</td>
</tr>
<tr>
<td>Inadequate</td>
</tr>
<tr>
<td>54.2%</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)

4.5.3 Adequate Security and Privacy in E-banking use

The respondents rated the extent to which they agreed or disagreed with the fact that lack of adequate Security and privacy issues have hindered them from using e-banking services. The findings in figure 4.3 show that most respondents agreed with the fact that lack of adequate security and privacy issues have hindered them from using e-banking services as accounted by 54.1% strongly agree and agree cumulative responses. This shows that Security and privacy concerns were key issues that hindered the use of e-banking services among the customers.
4.6 Technological/ Network Reliability

The fourth objective sought to establish how technological/ network reliability affect the use of E-banking services in Kenya.

4.6.1 Bank’s Branch Connections for Effective E-banking Services Access

The study sought to establish whether the bank had good branch connections needed for effective access to E-banking services. According to majority of the respondents (59.2%), the bank did not have good branch connections needed for effective access to E-banking services as shown in table 4.6.
Table 4.6: Bank Branch Connections for E-Banking Use

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>49</td>
<td>40.8</td>
</tr>
<tr>
<td>No</td>
<td>71</td>
<td>59.2</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)

4.6.2 Reliability of Banks Network Access

The findings in figure 4.4 show that the bank had reliable network access to E-banking services according to majority of the respondents (55%). This shows that the bank had put in place proper network for access of E-banking services.

Figure 4.4: Reliability of banks network access
4.6.3 State of infrastructure/interconnectivity

The findings in table 4.7 show that majority of the respondents attributed the slow usage of E-banking services to the poor state of infrastructure/interconnectivity in the banks as accounted by 55%. This shows that the bank need to improve on the E-banking infrastructure/interconnectivity for optimal use by customers.

Table 4.7: State of Infrastructure/Inter-connectivity

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>66</td>
<td>55.0</td>
</tr>
<tr>
<td>No</td>
<td>54</td>
<td>45.0</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)

4.6.4 Adequacy of the existing e-banking equipments/facilities

The respondents rated the adequacy of the existing e-banking equipments/facilities at the bank. The findings in figure 4.5 show that more than half of the respondents (53.3%) rated the existing E-banking equipments/facilities as inadequate. This emphasize the need for the bank to increase E-banking equipments/facilities such as ATMs and other facilities.
4.7 Use of E-Banking Services

The study sought to assess the effect of the various variables/factors on the Use of E-Banking Services. To assess this, a multiple linear regression model was developed and adopted in the study. However ANOVA Test was computed to test for the significance of the model adopted in the study as discussed below.

4.7.1 ANOVA Test

ANOVA Test was computed as the preliminary test for multiple linear regression model adopted in the study. This was used to show the significance of the regression model adopted in the study. Table 4.8 shows the results of the ANOVA test computed. The results of the ANOVA test shows a F-statistic of 5.766 which was significant at 0.05 (p<0.05). The test was done at 95% confidence interval. This means that the model adopted in the study was significant and the variables tested fitted the model well hence the variables tested (Competency in IT usage, Perceived...
ease of use, Security and privacy concerns and Technological/ Network reliability) explains 95% of the variations of dependent variable.

Table 4.8: ANOVA Test

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean Square</th>
<th>df</th>
<th>F-statistics</th>
<th>Sig. (P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA Test</td>
<td>1.229</td>
<td>4</td>
<td>5.766</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)

4.7.2 Multiple Linear Regression Analysis

The study sought to assess the effect of the various independent variables on the dependent variable. To achieve this, a multiple linear regression analysis was performed to test and explain the casual relationships between variables. The multiple linear regression model was composed of both the dependent and independent variables. The dependent variable of the study was use of E-Banking services while the independent variables were; Competency in IT usage, Perceived ease of use, Security and privacy concerns and Technological/ Network reliability.

The multiple linear regression model for the study was as follows;

Equation 4.1: A Multiple Linear Regression Model One

\[ Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots + \beta_n X_n + \varepsilon \]

Where: \( Y \) – Use of E-Banking Services (Dependent variable)

\( X_{1-n} \) - independent variables whereby (\( X_1 \)= Competency in IT usage; \( X_2 \)= Perceived ease of use, \( X_3 \)= Security and privacy concerns, \( X_4 \)= Technological/ Network reliability)

\( \alpha_0 \) - alpha coefficient/constant

\( \beta_{1-n} \) – Regression coefficients

\( \varepsilon \) – error term.
Table 4.9: Multiple Linear Regression Analysis

<table>
<thead>
<tr>
<th></th>
<th>Beta Coefficients</th>
<th>T-statistics</th>
<th>Sig. (P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td>4.717</td>
<td>.000</td>
</tr>
<tr>
<td>competency in IT</td>
<td>-0.089</td>
<td>-0.831</td>
<td>.409</td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>-0.092</td>
<td>-0.765</td>
<td>.447</td>
</tr>
<tr>
<td>Security and privacy concerns</td>
<td>-0.255</td>
<td>-2.260</td>
<td>.027*</td>
</tr>
<tr>
<td>Technological /Network Reliability</td>
<td>0.336</td>
<td>2.906</td>
<td>.005*</td>
</tr>
</tbody>
</table>

* Indicate significance at 0.05 (P-values < 0.05): Dependent Variable: Use of E-banking services
• H₀: The independent variables have no significant effects on the dependent variable.
• H₁: The independent variables have significant effects on the dependent variable

Source: (Field Data, 2011)

The significant variables were therefore extracted by applying the t-test to the independent variables at the 0.05 (5%) level of significance. The findings in table 4.9 show that security and privacy concerns and technological network reliability were statistically significant at 0.05 (5%) level of significance while competency in IT and perceived ease of use were not statistically significant at 5%. The non-significant variables were therefore removed from the model since there had no significant effect on the dependent variable. Therefore the new regression model appears as shown below.

Equation 4.2: A Multiple Linear Regression Model Two

\[ Y = \alpha_0 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Equation 4.2 shows that security and privacy concerns and technological network reliability were the most significant factors that affected the use of E-banking services. From this equation, it can be argued that the use of E-banking services is mainly influenced by these two factors. Therefore the management of coop banks needs to put more effort in addressing issues related to security and privacy concerns and technological/ network reliability as key factors since they play a crucial role in the use of E-banking services among customers of cooperative bank in Nairobi.
4.7. Overall Level of Satisfaction with the E-banking Services

The study sought to establish the overall level of satisfaction of customers with the E-banking services. The findings show that more than half of the customers (57.5%) were overall satisfied with the e-banking services of the bank. This is shown in figure 4.6.

**Figure 4.6: Overall Level of Satisfaction with the E-Banking Services**

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very unsatisfied</td>
<td>2.5%</td>
</tr>
<tr>
<td>Unsatisfied</td>
<td>20.8%</td>
</tr>
<tr>
<td>Not able to rate</td>
<td>7.5%</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>11.7%</td>
</tr>
<tr>
<td>Satisfied</td>
<td>57.5%</td>
</tr>
</tbody>
</table>

Source: (Field Data, 2011)
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction
This chapter presents the conclusions and recommendations of the entire project. The main issues presented in this chapter include; the summary of the findings, conclusions, recommendations and suggestions for further research.

5.2 Summary of the Findings
The aim of this study was to establish the factors affecting the use of E-banking services in Kenya with reference to Co-operative Bank of Kenya customers in Nairobi.

5.2.1 Competency in the use of E-Banking Facilities
The first objective of the study sought to establish the extent to which competency in the use of E-Banking Facilities affects the use of E-banking services in Kenya. To achieve this, the study sought to establish the E-banking services that were frequently used by customers. The study established that the most frequently used E-banking service was ATMs (64.2%) and M-Banking (44.2%). The finding further showed that most customers were competent in the use of E-Banking services (43.3%) such as ATMs, Internet banking, M-banking among others. However, the findings showed that most respondents required more training on the use of E-banking Facilities 80%. This shows that despite the fact that most customers perceived themselves to be competent in the use of E-banking services, they required additional training in the handling and use of E-banking facilities.

5.2.2 Perceived Ease of Use
The second objective of the study sought to assess how the perceived ease of use affects the use of E-banking services customers in Kenya. The findings show that most customers preferred physical banking hall than E-banking services. The customers acknowledged that E-banking services make them lack touch with their
bank while others had fear of physical harm when using e-banking services. Additionally, most customer perceived E-banking services to require a lot of mental efforts during use while others perceived E-banking services to be very expensive for ordinary citizen. All these perceptions contribute to customers' decision to adopt and use E-banking services.

5.2.3 Security and Privacy concerns

The third objective sought to establish the extent to which Security and privacy concerns affects the use of E-banking services in Kenya. The findings showed that most customers (58.3%) were for the opinion that the use of E-banking poses a security threat to them. Others viewed the use of E-banking services as likely to bring a breach of confidentiality of information from their account. This shows that most customers have security and privacy concerns which limit them from using the e-banking services. In terms of the bank’s adherence to security and privacy concerns policies, the study showed that most customers rated this as inadequate (75%). This shows that security and privacy policies were not adequately adhered to by the bank. In addition, most respondents agreed with the fact that lack of adequate security and privacy issues have hindered them from using e-banking services (54.1%). This shows that Security and privacy concerns were key issues that hindered the use of e-banking services among the customers.

5.2.3 Technological/ Network Reliability

The fourth objective sought to establish how technological/ network reliability affect the use of E-banking services in Kenya. To achieve this, the study sought to establish whether the bank had good branch connections needed for effective access to E-banking services. The findings shown that according to majority of the customers (59.2%), the bank did not have good branch connections needed for effective access to E-banking services. However, most customers rated the bank reliability of network access to E-banking services as reliable (55%). This shows that the bank had put in place proper network for access of E-banking services but did not have good branch connections needed for effective access to E-banking services. In addition, majority of the customers attributed the slow usage of E-banking services to the poor state of infrastructure/interconnectivity in the banks (55%). This shows that the bank need to
improve on the E-banking infrastructure/interconnectivity for optimal use by customers. The findings further show that most customers rated the adequacy of the existing e-banking equipments/facilities as inadequate (53.3%). This emphasizes the need for the bank to increase E-banking equipments/facilities such as ATMs and other facilities.

The study sought to assess the effect of the various independent variables on the dependent variable. To achieve this, a multiple linear regression analysis was performed to test and explain the casual relationships between variables. The multiple linear regression model was composed of both the dependent and independent variables. The dependent variable of the study was use of E-Banking services while the independent variables were; Competency in IT usage, Perceived ease of use, Security and privacy concerns and Technological/Network reliability. Through multiple linear regression analysis, the study established that the most significant variables were security/privacy concerns and technological network reliability (p<0.05). This means that the bank should put more emphasis in improving security/privacy concerns and technological network reliability to increase the uptake and use of use of E-Banking services among the customers.

5.3 Conclusion

The purpose of this study was to establish the factors affecting the use of E-banking services in Kenya with reference to Co-operative Bank of Kenya customers in Nairobi. The study showed that most customers were competent in the use of E-banking facilities however, despite the fact that most customers perceived themselves to be competent in the use of E-banking services; they required additional training in the handling and use of E-banking facilities.

The study showed that security concern was a major issue that affected use of E-banking services. The use of E-banking services was viewed by customers as likely to bring a breach of confidentiality of information from their account. This limited the use of E-banking services.
In terms of technological/network reliability, the study established the lack of good branch connections needed for effective access to E-banking services. However, the bank had a reliable network access to E-banking services. This shows that the bank had put in place proper network for access of E-banking services but did not have good branch connections needed for effective access to E-banking services. In addition, the slow usage of E-banking services was attributed to the poor state of infrastructure/interconnectivity in the banks.

Overall, the study showed that the most significant factors that affected E-Banking services were security/privacy concerns and technological network reliability. This means that the bank should put more emphasis in improving security/privacy concerns and technological network reliability to increase the uptake and use of E-Banking services among the customers.

5.4 Recommendations

The study recommends as follows;

1. The banks need to put more effort in training and improving the competencies of the customers in the use of E-banking services. This can be done by assigning well competent staff to ATM machines and other E-banking points to help educate increase customers' competencies on the various options available in the use of the E-banking services. This study showed that despite the fact that most customers perceived themselves to be competent in the use of E-banking services; they required additional training in the handling and use of E-banking facilities.

2. The management of the bank needs to invest heavily on the improvement of E-banking technological and network reliability. The bank needs to work closely with the ministry on information and technology to improve information and technology infrastructure and interconnectivity. The bank should put more emphasis in enhancing the branch connections to make them reliable hence effective in the access to E-banking services.

3. Security concern was a major issue that affected use of E-banking services. The bank should therefore seek to address security and privacy issues so as to guarantee customer security of their account when using E-banking
services. Issues of breach of confidentiality of information from customers account should be addressed so as to increase user confidence when using the E-banking services.

5.5 Suggestions for Further Research

This study targeted customer of coop bank in Nairobi region, therefore future studies can be extended to cover other banks in Nairobi and other towns and cities in the country for comparison purposes to assess if similar factors apply to other banks and regions of the country.

Further studies can also be conducted in other industries and sectors such education institutions which use E-services such as E-learning to ascertain whether similar factors influence the use of these services.
REFERENCES


Federal Deposit Insurance Corporation (2001). *New rights to privacy: you now hold the key to how much information financial institutions can share*. FDIC Consumer News, 11 July.


Appendix One: Questionnaire Cover Letter

Dear Respondent;

I am a postgraduate student at Kenyatta University. As part of the partial fulfilment of the course, I am conducting a research on: "The factors affecting the use of e-banking services in Kenya. A case of Co-operative Bank of Kenya customers in Nairobi". For this reason I would appreciate if you would kindly spare a few minutes of your time to fill in the blanks in the attached list of questions to the best of your knowledge as they apply to you.

The information in this questionnaire will be treated as strictly confidential and in no instance will your name be mentioned in this research. Also, the information will not be used for any other purpose other than for this research.

Your assistance in facilitating the same will be highly appreciated. A copy of this research paper will be available to you upon request.

Thank you in advance.

Yours Faithfully

Kabiru Jane Wanjiku

MBA student
Appendix Two: Questionnaire for Bank Customers

Serial No..........................

This questionnaire is meant to collect information on: *The factors affecting the use of e-banking services in Kenya. A case of Co-operative Bank of Kenya customers in Nairobi.* Kindly answer the questions by writing a brief statement or ticking in the boxes provided as will be applicable. The information you give will be treated as strictly confidential and at no time will your name be mentioned in this study.

**SECTION ONE: DEMOGRAPHIC INFORMATION**

Section A: Demographic Information

1. Region/location of the respondents..........................

   1) CBD
   2) Nairobi North
   3) Eastlands
   4) Westlands

2. Gender of the respondents?

   1) Male
   2) Female

3. What is your age bracket?

   1) Below 21 years
   2) 21-29 years
   3) 30-40 years
   4) Above 40 years
4. What is your highest level of education?
   1) Primary
   2) Secondary
   3) Tertiary college
   4) University
   5) Other (specify)

5. For how long have you been a customer of this bank? (In years)
   1) Less than one year
   2) 1-2 years
   3) 3-5 years
   4) 6-10 years
   5) Above 10 years

Section B: Competency in IT usage

6. Which of the following E-banking services do you usually use?
   a) ATMs
   b) M-banking (phone banking)
   c) Internet Banking
   d) Home banking
   e) Remote electronic banking
   f) Direct Debit
   g) Others (specify)
7. How do you rate your competencies in using the E-banking services such as ATMs, Internet banking, M-banking among others?

1) very competent
2) competent
3) Fairly
4) Incompetent
5) Very Incompetent

8. To what extent do you think you require more training on using E-banking Facilities?

1) very great extent
2) great extent
3) less extent
4) No more training needed

Section C: Perceived Ease of Use

9. To what extent would you agree or disagree with the following as to affect your use of e-banking services. Tick as follows: 1=Strongly agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly disagree.

<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>a) I prefer physical banking hall than e-banking services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) E-banking make me lack touch the bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) I usually have fear of physical harm when using e-banking services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) The e-banking facilities are inadequate from my bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) E-banking requires a lot of mental efforts to use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) E-banking services are very expensive for ordinary citizen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section D: Security and Privacy Concerns

10. Do you perceive the use of E-banking to be a security threat to you as a user?
   1) Yes  
   2) No  

11. If yes, in what ways?


12. Do you fear that use of E-banking services would bring a breach of confidentiality of information from your account?
   1) Yes  
   2) No  

13. Give reasons for your answer above.


14. How would you rate the adequacy of adherence to security and privacy concerns policies with your bank?
   1) Very adequate  
   2) Adequate  
   3) Inadequate  
   4) Very inadequate  
   5) Not able to rate
15. To what extent would you agree, or disagree with the fact that lack of adequate
Security and privacy issues have hindered you from using e-banking services?

1) Strongly agree □
2) Agree □
3) Neutral □
4) Disagree □
5) Strongly disagree □

Section E: Technological/ Network Reliability

16. Based on your experience with E-banking services, does your Bank have good
bank’s branch connections needed for effective access to E-banking services?

1) Yes □
2) No □

17. How would you rate the reliability of banks network access?

1) Very reliable □
2) Reliable □
3) Not reliable at all □
4) Not able to rate □

18. In your opinion, would you attribute the slow usage of E-banking services to the
poor state of infrastructure/interconnectivity?

1) Yes □
2) No □
19. How would you rate the adequacy of the existing e-banking equipments/facilities at your bank?

1) Very adequate
2) Adequate
3) Inadequate
4) Very inadequate
5) Not able to rate

Section F: Use of E-Banking Services

20. How often do you use the E-banking services

1) Daily
2) Weekly
3) Monthly
4) Occassionaly
5) Not able to rate

21. How would you describe your experience when using E-banking facilities/equipments?

1) Easy to use
2) Difficult to use
3) Time consuming
4) Not able to rate
5) Others(specify)..........................
22. How would you rate your overall level of satisfaction with the e-banking services at your branch?

1) Very satisfied
2) Satisfied
3) Unsatisfied
4) Very unsatisfied
5) Not able to rate

23. Do you ever experience challenges/problems when using E-banking services?

1) Yes
2) No

24. If yes above, what challenges do you face?

________________________________________________________________________

________________________________________________________________________

25. What recommendations would you make to enhance fast adoption and usage of e-Banking services in Kenya?

________________________________________________________________________

THANK YOU FOR YOUR RESPONSES

KENYATTA UNIVERSITY LIBRARY
NYERI CAMPUS