A SURVEY OF INTERNET BANKING SYSTEMS ADOPTION BY INSTITUTIONAL CUSTOMERS IN KENYA

BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (MBA), SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI.

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DECLARATION

This project is my original work and has not been submitted for a degree in any University.

Signed _____ **Date** 2ND NOVEMBER 2007

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This research project has been submitted for examination with my approval as a University Supervisor

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DEDICATION

I dedicate this project to my wife Roselyne and our beloved son Brian for affording me time to study for MBA at the University of Nairobi

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Firstly, my acknowledgement goes to my supervisor Mr. Joel K. Lelei for his professional guidance and support provided to me to complete this project. Secondly, I acknowledge my immediate family as well as the many honest friends who cheered me on when I was almost thinking of giving up. Thirdly, I thank all my MBA lecturers and student colleagues who added value not only to my studies but life in general. May God bless all of them.

ABSTRACT

This study concerned adoption of Internet banking systems by institutional customers in Kenya. The study arises in the view of the fact that Internet banking has become important in transactional banking and has been adopted by institutions in Kenya. What needs to be known then is the extent of Internet banking adoption, the benefits of its use and the challenges faced in using these systems. It was in view of this that this study was conducted with the following objectives: to establish the extent of Internet banking systems adoption by institutional customers; to establish the benefits of using Internet banking systems and to establish the challenges faced by institutional customers using Internet banking systems.

To address the objectives, a survey was done targeting all firms quoted in the Nairobi Stock Exchange (NSE). Data collection was done using questionnaires. Of the 52 institutions targeted for the study, there were 47 fully completed questionnaires which represented 90.4% response rate. Data collected from the respondents were analyzed using various statistical tools and the results were found adequate to make inferences and generalization of the state of Internet banking adoption in Kenya.

Findings of the study indicated that most of the firms in Kenya have adopted Internet banking to a large extent with one or more banks where they hold their accounts. Most international and foreign owned firms had the needed infrastructure due to their head office support; hence they were utilizing Internet banking systems. Also the findings indicated that all foreign owned banks offered Internet banking systems to their institutional customers. There was consensus among the respondents that Internet banking had changed the way they did their banking and most of them had positive attitudes towards Internet banking systems.

The results show that most firms had benefited through the use of Internet banking systems. Some of the benefits include integration with Enterprise Resource Planning systems (ERPs), easier transaction reconciliation, access of Internet banking systems while traveling, frequency of calls to the banks had reduced and payments to suppliers had become easier and faster.

The study also found that Internet banking system adoption faced numerous challenges. Poor Internet connectivity, unreliable Internet service providers, lack of legal frame-work to support Internet banking and limited growth of ICT in the country were found to be the most challenging factors. Other major challenges were related to the lack of top management commitment in some firms, Internet technology being too expensive to implement, computer literacy levels and unreliable Internet Service Providers (ISPs).

In view of the above and in summary, it can be concluded that most of the corporates in Kenya have adopted Internet banking and have incorporated these systems in daily work processes. Most of the firms have found Internet banking useful in getting their account balances, for making key financial decisions, financial reconciliations and making payments to their various suppliers. Though they face a number of challenges as mentioned; the firms have tried their best in adopting Internet banking by having a positive attitude towards the new technology.

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LIST OF ABBREVIATIONS

ATM	Automated Teller Machine
CBK	Central Bank of Kenya
CNN	Cable New Network
CRM	Customer Relationship Management
EASSy	East and Southern African Submarine System
EFT	Electronic Funds Transfer
ERP	Enterprise Resource Planning
EDP	Electronic Data Processing
EDPAA	Electronic Data Processing Auditors Association
ICT	Information Communication Technology
IGA	Intergovernmental Assembly
IS	Information Systems
ISP	Internet Service Providers
KBA	Kenya Bankers Association
KRA	Kenya Revenue Authority
OCC	Office of the Comptroller of the Currency
NBFI	Non-bank Financial Institution
NSE	Nairobi Stock Exchange
RTGS	Real Time Gross Settlement System
TAM	Technology Acceptance Model
UTAUT	Unified Theory of Acceptance and Use of Technology

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CHAPTER 1 – INTRODUCTION

1.1 Background

The need to compete effectively and efficiently has led to institutional customers and banks to embrace the Internet technology to improve processes within the organization. One such way of improving these processes is the use of Internet banking systems. Internet banking is a subset of electronic banking. Internet banking can be defined as systems that enable bank customers to access accounts and general information on bank products and services. This can be through a personal computer (PC) or other intelligent device or could be any banking activity held on Internet, from promotion to sale (Mathias and Sahut, 1999).

Internet banking allows customers to perform a wide range of banking transactions electronically via the bank's Web site. This could include, for instance, account statement and balance inquiry, funds transfer, financial analysis, salary payments and customer queries. When first introduced, Internet banking was used mainly as an information presentation medium in which banks marketed their products and services on their Web sites. With the development of asynchronous technologies (such as e-mail, IBM's Lotus Workplace, Microsoft's SharePoint, eRoom and OpenText Livelink) and secured electronic transaction technologies, however, more banks have come to use Internet banking both as a transactional as well as an informational medium. As a result, registered Internet banking users can now perform common banking transactions such as writing checks, paying bills, transferring funds, printing statements, and inquiring about account balances. Internet banking has evolved into a "one stop service and information unit" that promises great benefits to both banks and consumers (Lagoutte, 1996).

Currently in Kenya, Internet banking use is picking up and several banks are involved. Major banks that offer Internet banking systems include Barclays Bank of Kenya, Commercial Bank of Africa, Bank of Africa, Kenya Commercial Bank, Standard Chartered Bank and Citibank (Citigroup) (Market Intelligence, 2005). Majority of these banks offer the Internet banking systems only to their retail customers, while others offer the systems to both retail and institutional customers. These institutional customers are also known as "Corporates" in the banking world.

1.2 Banking Sector in Kenya

A bank can be defined as a financial institution that accepts deposits and channels the money into lending activities. Banks may also issue bank notes, and lend money to customers on current account (called overdraft), accept term deposits and make term loans and provide other financial services. Nevertheless type of services offered by a bank depends upon the type of bank and the country. Joseph (1999) divided the types of banking activities into the following categories:

a) Taking deposits from their customers and issuing checking and savings accounts to individuals and Institutional customers (companies).
b) Extending loans to individuals and Institutional customers.
c) Cashing cheques.
d) Facilitating money transactions such as wire transfers and cashiers cheques.
e) Issuing credit cards, ATM cards, and debit cards.
f) Storing valuables particularly in a safe deposit box.

Banks may offer their services through several different channels:

a) ATM.
b) Mail.
c) Telephone.
d) Internet.

1.3 Institutional banking in Kenya

By December 2006, Kenya's banking environment consisted of a central bank (The Central Bank of Kenya), 43 commercial banks, 1 non-bank financial institution (Prime Capital and Credit Ltd), 1 building society (Family Finance Building Society) and 2 mortgage finance companies (HFCK and Savings and Loans Ltd). There are also 48 operational foreign exchange bureaus (Market Intelligence, 2006).

The Central Bank's objectives are: to formulate and implement monetary policy directed to achieving and maintaining stability in the general level of prices; to foster the liquidity solvency and proper functioning of a stable market based financial system; and to license

and supervise authorized dealers in the money market (Central Bank of Kenya, 2003). The commercial banks offer banking services like provision of loans, mortgages, and account services. The mortgage finance services offer mortgages to their customers while the foreign exchange bureaus offer currency exchange services.

The banking sector is generally divided into two clienteles; the retail banking and the institutional banking sectors. The retail banking deals with individual clients and is commonly referred to as the Personal banking sector. Retail banking service is offered by most of the banks operating in Kenya.

Institutional banking sector deals with companies or "corporates". Thus it is also known as "corporate banking". Some of these institutional customers include, Unilever, General Motors, Kenya Airways, East African breweries, Kenya Shell, Total and Mobil.

The institutional banking service is provided by 40% of the banks in Kenya. Citibank (Citigroup) is the only bank in Kenya that offers purely Institutional banking services without retail banking. Citibank is a foreign bank.

Institutional banking is quite a specialized field where services offered almost resemble the retail banking but are more tailored to the specific needs of Institutional customers. For example some banks in Kenya offer cash and cheques collections and delivery through firms such as Group 4 Securicor and Wells Fargo. These services aim at helping the Institutional customers who are cash intensive in their operations do their banking activities easily. Collecting cash by Securicor or Wells Fargo ensures that the money or cheques reach the bank more securely and with minimum delays. Banks in Kenya offering Institutional banking services also provide overnight investments to their Institutional customers with huge deposits of money (Market Intelligence, 2005).

1.4 Issues in Institutional banking and Internet use

In Kenya the Institutional banking business is becoming increasingly significant with most retail banks opening up to this business through their Institutional customers divisions

(Market Intelligence, 2006). The Kenyan Institutional banking industry has become increasingly competitive. This is because firstly, there has been conversion of several non-bank institutions into fully fledged banks. This has increased the total number of banks in the country offering Institutional banking business. Secondly, Kenya has been relatively stable after the 2002 general election. This has resulted in smaller foreign exchange spreads forcing banks to rely on core business activities to generate revenues (Market Intelligence, 2006).

To generate more revenues banks are now forming strategic alliances with other financial services providers such as insurance companies such as CFC bank with CFC Life for provision of insurance cover to institutional clientele. This means institutional customers can get better and competitive banking products. In addition, new products are introduced to the market and there is a new focus on the rural un-banked market. Kenya's corporate banking industry still has not fully reaped the benefits that come with ICT. However, new legislation governing the use of Internet banking, a new ICT infrastructure and new strategic directions will strongly contribute towards its growth.

Historically, banks and their clients in Kenya did not pay too much attention to the structuring of their banking needs and were happy with overdrafts from banks physically close to the company, feeling this would fulfill their needs. However, in today's environment when internal costs can greatly affect a company's competitiveness, ensuring the correct banking structure is key to success and achieving a competitive advantage. The extent to which the Institutional customers embrace Internet banking will be key in gaining a competitive advantage. It will improve their interaction with the banks and hence improve their work processes.

1.5 Benefits and Shortcomings of Internet banking

Internet banking offers the ability to automate business transactions and by so doing, allow more responsive provision of service to customers. Many banks have been quick to implement Internet capabilities; moreover, electronic service is becoming a viable option for interaction between financial service providers and their customers. Banks have

implemented Internet banking to offer their customers a variety of online services with more convenience for accessing information and making transactions (Lagoutte, 1996).

A number of benefits are expected with the use of Internet banking by Institutional customers. Firstly, Institutional customers will enjoy access to their account statements online and at any time of the day. Secondly, they will be able to transact online avoiding the need to physically go to the bank. Thirdly, they will be able to raise customer queries online and get instant feedback.

Regardless of the many benefits from use of Internet banking, there are some shortcomings. Firstly, Internet banking requires good infrastructure. This means to use Internet banking, banks and Institutional customers need to invest in the acquisition of proper supportive infrastructure, which is expensive. Secondly, security is another concern when using Internet banking. A lot of Institutional customers have questioned how safe the Internet systems are. This has led some to shy away from adopting Internet banking; this is due to risky nature of the Internet. Thirdly, legal requirement for the safe use of the Internet banking are lacking. This is due to the fact that the technology is fairly new (Burnham 1996). Kenya does not have laws covering the usage of Internet banking.

1.6 Studies on Internet banking

There have been various studies on Internet banking. Among these are studies on "Banking over the Internet" in the United States, that have attracted a great deal of attention in the banking and regulatory communities (Egland et al., 1997). These studies were carried out to find out the extent of using Internet banking system. Results form this studies showed that Internet banking was very popular in the United States.

Despite widespread interest in and concerns about Internet banking, there is little systematic information on how many banks offer banking over the Internet, and on the nature of the services offered. To address this deficiency, the Special Studies staff at the Office of the Comptroller of the Currency (OCC) in the US undertook a comprehensive review of Web sites of banks offering transactional Internet banking. This review showed that banks in the

US were offering Internet banking to their account holders, although there tended to be a bias towards retail account holders (Egland et al., 1997).

Several recent studies in the Europe, on Internet banking have noted that certain issues are critical. For instance, Lin and Arnett (2000) suggested that a major factor for the success of Internet banking system is the design of information interfaces and navigation that enable users to link to other websites.

There have been other studies related to Internet banking covering a range of research dimensions. Research on the adoption of Internet banking has also been active in the past few years. A significant part of this work has also focused on the process by which adoption occurs or on the demand aspect of diffusion (Brown, 1981).

A study on assessment of the status of Internet banking in the US, Japan and Europe was done. It was found out that majority of those embracing the new technology were retail customer, while the Institutional customers were slower in adopting the technology due to security concerns (Pyun et al., 2002). Gurau (2001) investigated Internet banking in Romania, and Waite and Harrison (2002) explored factors contributing to customer satisfaction and dissatisfaction with the online information provided by retail banks. Gurau found out that most of the retail customers were more attracted by the ease with which they could transact online, without even going to the bank.

In a study on the adoption of Internet banking in Australia, Sathye (1999) reported that security concerns and the lack of awareness stand out as the main reasons for the failure to adopt Internet banking by customers. Polatoglu and Ekin (2001) undertook a similar study on the acceptance of Internet banking services in Turkey. They found out that banks in Turkey were offering Internet banking to their retail client and only very few banks offered it to the Institutional customers. Another study examining the factors that affect the adoption of Internet banking in Malaysia was undertaken resulting in the same findings as in Turkey (Balaochandher et al, 2000).

In Kenya, Internet banking is fairly a newly emerging phenomenon. Thus not much research has been done on the subject. When Internet banking is mentioned, ICT comes into focus, because Internet banking is fully dependent on ICT. Studies undertaken in Kenya include those conducted to evaluate the level of usage of ICT in Kenyan firms by Nyambane, (1996). Nyambane found out that most firms in Kenya had adopted ICT and even had ICT departments. A survey of the causes of IS failure among microfinance institutions in Kenya by Ndulu, (2004). Ndulu's findings exposed factors underlying the failure of Information Systems among the microfinance institutions as financial constraints, unreliable telecommunications, and poor training of users as well as defective system development process among others.

Otieno, (2006) studied Internet Banking adoption among Commercial banks, who are the providers of the Internet banking systems using the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The study concerned Internet banking technology adoption among banks in Kenya. Otieno did not consider the clientele that use these Internet banking systems. The users include retail and Institutional customers. These form the end users of these systems. There is therefore the need to study the clientele in order to find out the extent of adoption of Internet banking.

1.7 Problem Statement

Internet banking services are crucial for long-term survival of banks in the world of electronic commerce. So banks are increasing adopting the Internet as a means of achieving competitive advantage in the market place (Burnham 1996). Internet is the fastest growing banking channel today, both in the fields of Institutional banking and retail banking (Temullo, 1997). Studies on Internet banking done by Otieno (2006) left out some clientele such as institutional banking, yet this forms a very significant client base for banks. This study concerns the adoption of Internet banking systems by institutional customers.

Using Internet banking systems means that the Institutional customers must have the proper infrastructure in place. Internet banking requires good Internet connectivity, fast personal computers, management support, user friendly designed user interface and the attitudes of the users must be positive in order to fully appreciate the systems. As these requirements are

expected to vary from one Institutional customer to another, variations in the extent of usage is expected.

Some Institutional customers are well endowed with the required infrastructure and these are expected to fully adopt the use of Internet banking systems hence they will reap maximum benefits, whereas those who do not have the proper infrastructure are not expected to adopt Internet banking fully, hence a few of these benefits will be realized. Thus, in addition to expected variations in extent of use of Internet banking, there would be an expected variation in benefits. Evidently, extent of usage and benefits in respect of Internet banking are limited by requirement constraints. These constraints pose a challenge and likewise are expected to vary from one customer to another as do resources.

In view of this, three questions arise and these are: to what extent are Institutional customers in Kenya using Internet banking systems? What are the benefits derived from adoption? What are the constraints faced in the use of Internet based banking systems by the Institutional customers in Kenya?

1.8 Objectives of the Study

This study concerns Internet banking systems adoption by institutional customers in Kenya. The specific objectives of the study are:

a) To establish the extent of Internet banking systems adoption by institutional customers.
b) To establish the benefits of using Internet banking systems.
c) To establish the challenges faced by institutional customers using Internet banking systems.

1.9 Importance of the Study

The findings of this study are expected to be of importance to a number of parties that include the following:

a) Government: The research findings may provide the government with invaluable insight when drafting legislation that will govern the use of ICT in banking in Kenya.

b) Central Bank of Kenya: The Central Bank of Kenya has a regulatory function over the banking industry in Kenya. As the regulator, the CBK may help in formulating policies related to Internet banking use and may use the findings of the research to that extent.

c) Academic and Researchers: The findings in this study may provide an insight and basis of further research by the academics and the researchers on Internet banking.

d) Kenya Bankers Association (KBA): The findings in this study will provide information to KBA on the extent to which its members have embraced Internet banking and possible constraints they are facing and may use the findings for formulating regulations and policies on Internet banking.

CHAPTER 2- LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature relating to of Internet banking adoption by Institutional customers. The chapter begins by introducing the concept of Internet banking and Institutional banking. It explores the Technology Acceptance Model (TAM) model in adopting Internet banking. The chapter also highlights the benefits and challenges of adopting Internet banking by Institutional customers.

2.2 Internet and Banking

Banks find that they have to constantly innovate and update to retain their demanding and discerning customers and to provide convenient, reliable, and expedient services. Driven by the challenge to expand and capture a larger share of the banking market. Some banks invest in more bricks and mortar to enlarge their geographical and market coverage. Others have considered a more revolutionary approach to deliver their banking services via a new medium which is the Internet (Kardaras and Papathanassiou, 2001).

This is expected as customers today are demanding much more from banking services. They want new levels of convenience and flexibility (Birch and Young 1997). This is in addition to powerful and easy to use financial management tools. They also want products and services that traditional retail banking could not offer. Internet banking has allowed banks and financial institutions to provide these services by exploiting an extensive public network infrastructure (Ternullo, 1997).

Banking is a highly information intensive activity that relies heavily on information in its dealings with customers. Information technology is used appropriately in acquiring, processing, and delivering the information to all relevant users.

IT is not only critical in the processing of information in banks; it provides a way for them to differentiate their products and services. Indeed, the emergence of Internet banking has

prompted many banks to rethink their IT strategies in order to stay competitive. The rapid diffusion of the Internet has made it become an alternative channel to provide banking services and products. The Internet is now being considered as a strategic weapon and will revolutionize the way banks operate, deliver, and compete against one another, especially when competitive advantages of traditional branch networks are eroding rapidly (Nehmzow, 1997).

In recent years it has become increasingly apparent that the Internet will become a critical service delivery channel between banks and Institutional customers. Many observers have discussed information benefits that web technology provides to business. Web technology can also offer the ability to automate business transactions, which may allow more responsive provision of service to customers (Greaves et al., 1999).

2.3 Internet Banking and Institutional customers

The banking sector is generally divided into two clienteles; the retail banking and the Institutional banking sectors. The retail banking deals with individual clients and is commonly referred to as the Personal banking sector, while the Institutional banking sector deals with companies, also known in the banking world as "corporate banking".

Institutional customers are continually asking for even faster and more-accurate execution of their requests, while at the same time demanding the introduction of new products. The primary concerns of Institutional customers are still in the field of credit and treasury products, but there is increasing demand for standard services such as payment transfers and electronic banking.

Many banks like Bank of New York, Barclays bank and Standard Chartered have been quick to implement Internet capabilities, and electronic service is becoming a viable option for interaction between financial service providers and their customers (Greaves et al., 1999). When banks provide service via the web for its Institutional customers, the customers demand support from banks, such as after sales service support for customer training in using the Internet banking system (Kardaras and Papathanassiou, 2001).

Many companies have succeeded in using web-based business to implement innovative new services for their customers. The new radical changes of services have led to superior offerings and provided significant economic benefits to their customers. As already discussed above, the most commonly cited benefit of the web is its value as an information source, offering accessibility, and sharing capabilities (Greaves et al, 1999).

The Institutional customers can use Internet banking for several purposes. Firstly, they could for funds transfer. This allows them to transfer money from the comfort of their offices, overcoming the need to physically go the bank. Secondly, Institutional customers use Internet banking for information inquiry and statements. They query the systems online to get information on their accounts and they can then use this information to reconcile their transactions. Thirdly, they use the Internet banking for bills payments. This involves paying their various suppliers through the use of these systems.

The banks use the power of the web to enhance information flow and provide an effective channel for responding to their institutional customer needs. This contribution allows banks to gather customer information more quickly, conduct faster analysis, respond in shorter time, and customize services or products according to customer needs (Klein and Quelch, 1997).

2.4 Users interaction with Internet banking systems

The growth in the use of the Internet as a distribution channel of products and services offered by banks has been phenomenal. As more and more financial institutions are finding ways to utilize Internet technologies to launch Internet banking services, an important issue is to understand attitude towards the use of Internet banking and how the attitude influences adoption.

As users encounter systems they form certain attitudes towards their use. These attitudes influence the extent and affect use of the systems. In general, perceived relative advantage of an innovation is positively related to its rate of adoption. Likewise, as Internet banking services allow customers to access their banking accounts from any location, at any time of the day, it provides tremendous advantage and convenience to users. It also gives customers

greater control over managing their finances, as they are able to check their accounts easily. In view of these advantages, it would thus be expected that individuals would perceive Internet banking as advantageous would also likely adopt the service (Tornatzky et al, 1982).

An innovation is more likely to be adopted when it is compatible with individuals' job responsibilities and value system. Internet banking has been viewed as a delivery channel that is compatible with the profile of the modern day banking customer, who is likely to be computer-literate and familiar with the Internet (The Straits Times, 1997). Therefore, it is expected that the more the individual uses the Internet, the more he or she perceives the Internet as compatible with his or her lifestyle and the more likely that the individual will adopt Internet banking.

The extent of using the Internet banking systems can be determined then by the way the institutional users perceive the usefulness of the system. This is best described by the application of Davis's TAM (Davis, 1989). TAM is one of the most widely-employed models of individual acceptance and use of technologies. TAM has four additional variables that are theoretically justified as having influence on "perceived usefulness" and "perceived ease of use". Davis (1989) defined perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance". Davis also defined perceived ease of use as "the degree to which a person believes that using a particular system would be free from effort".

TAM can be used to show how "perceived usefulness" and "perceived ease of use" affect the extent of usage of a system. Perceived usefulness is the extent to which an individual perceives that using a system will enhance his or her productivity and perceived ease of use is the extent to which using a system is free of effort (Davis et al. 1989). Attitude toward using technology is the affective reaction like or dislike to using a specific system (Davis et al. 1989). Subjective norm is the perception of the extent to which important others think that the individual should use the target system (Venkatesh and Davis 2000). Success of Internet banking use by institutional users will depend at least partly on acceptance of values that the systems offer to the users (Ajzen, 1985).

2.5 Application of TAM on extent of usage of Internet banking systems

TAM is an important contribution to understanding the use, behavior, and acceptance of new information systems. The model provides a theoretical basis of understanding how the use, behavior, and acceptance of Internet banking relates to the extent, benefits and challenges arising from the use of Internet banking by Institutional customers.

TAM posits that two variables, namely "perceived usefulness" and "perceived ease of use", are the primary constructs determining attitudes toward adopting IT, the intention to use the technology, and the actual usage. As shown in figure 2.1, "perceived usefulness" and "perceived ease of use" are the attitudes that determine the actual use of system.

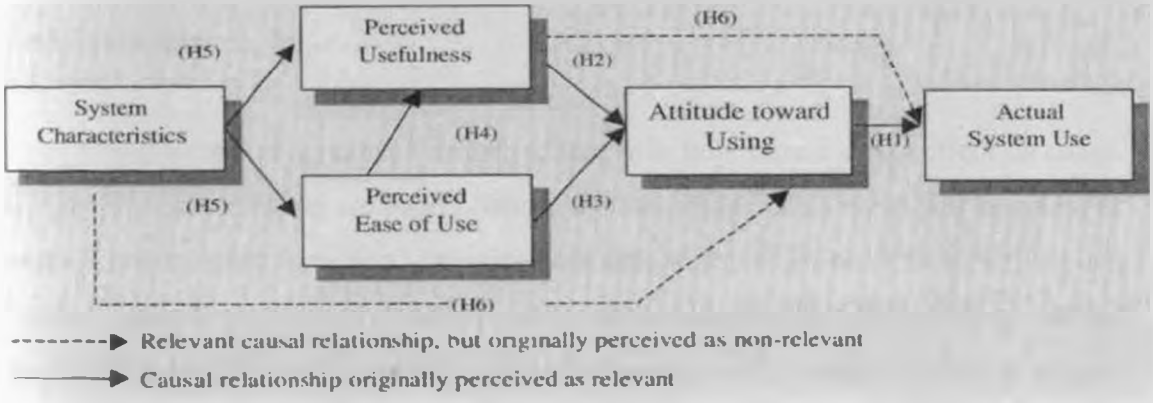


Figure 2.1 -Source: International Journal of Electronic Commerce (June 2000).

As users interact with automation of any business process, there is a perceived need to compare the new process to the existing manual process currently in use for accomplishing the same tasks. This comparison helps create evaluate whether the new process is useful or not and hence leads to the actual use. The use of the systems will lead to realization of benefits and encounter all possible challenges arising from the use. TAM has strong behavioral elements; they assume that when someone forms an intention to act, they will be free to act without limitation. In the real world there will be many constraints, such as limited ability, time constraints, environmental or organizational limits, or unconscious habits which will limit the freedom to act (Bagozzi et al., 1992).

2.6 Expansion of TAM

The "original" development of TAM was established with studies of fairly simple or unsophisticated IT tools (such as word processing, spreadsheet, and e-mail) in a typical business environment. The theoretical validity and empirical applicability of the model needs to be extended therefore, to institutional customer's different technologies, users, and organizational contexts. Indeed, many researchers have attempted to do so and have expanded or modified the original model to make it more complete theoretically. Taylor and Todd (1999), for example, extended TAM by integrating it with the theory of planned behavior to explain and predict the use of a computer resources center. Chau (1996) extended and modified TAM, respectively, in two different technology acceptance studies to evaluate the acceptance of different user groups in different organizational contexts. More recently, Venkatesh (2000) investigated the role of intrinsic motivation and emotion in user technology acceptance.

In cases where intention is poorly formed, attitude will thus have a direct effect on usage. This means that if intentions are poorly formed then the usage of a system will be minimal. Users of a system must form good intentions towards a system im order to effectively use the system. Moreover, Bagozzi (1989) found a similar direct effect between attitude and usage when behavior requires low to moderate effort to use the technology. This "attitude predicting usage" relationship is empirically supported (Al-Gahtani et al 1999). In reality, Internet banking would require a lot of effort to learn to use the technology. Therefore, it is theoretically justifiable that the "intention construct" be dropped in preference for measuring whether attitude has a direct effect on extent of usage.

2.7 Limitations of TAM

In studying the extent of Internet banking usage, it can be argued that the original TAM is insufficient because the technology setting of and the transaction environment in Internet banking are drastically different when compared with conventional IT and the typical business environment.

Instead of adopting a software package or tool (such as a word processing or e-mail software package) and a development methodology (such as CASE or object-oriented programming),

the context in Internet banking is to adopt a new technology environment. Prior to acceptance, users of Internet banking services need to grasp the contribution that adopting the technology environment will make their banking activities easier. In this regard, it is suggested the addition of a number of "external" variables to the model to provide a more comprehensive theoretical perspective of user technology acceptance in the context of Internet banking.

One of the criticisms of TAM has been that although it can effectively predict system acceptance, it is not particularly useful in providing explanations that can be used to design interventions that foster acceptance (Venkatesh and Davis, 2000). While it is widely recognized that perceived usefulness and perceived ease of use affect acceptance, until we better understand what determinants affect perceived usefulness and perceived ease of use, it will be difficult to provide actionable and practical guidance from TAM.

2.8 Benefits of Internet Banking for Institutional customers

As Kenyan banks decide to use Internet technology as a new self-service delivery channel, they have to enhance acceptance from Institutional customers. This does not seem to be merely a matter of getting Institutional customers to recognize benefits, but banks probably need to lower barriers to Internet banking adoption to provide actual benefits to Institutional customers (Commerce and Industry Magazine, 2005). Internet banking can provide many benefits such as:

a) Automation of business transactions

The Internet can offer the ability to automate business transactions between the bank and the Institutional customers. It allows more responsive provision of service to customers. Many companies in the financial services sector have been quick to implement Internet capabilities, and electronic service is becoming a viable option for interaction between financial service providers and their customers. Many banks have implemented Internet banking to offer their customers a variety of online services with more convenience for accessing information and making transactions. There are also transaction benefits, which can provide the firm with the ability to automate business functions via the Internet and

provide service to customers with lower costs, more responsiveness, and greater potential for customization (Greaves et al., 1999).

b) Cost reduction

Internet banking will lead to cost reductions, by reducing number of physical trips to the bank for Institutional customers. It also reduces the number of phone calls between the Institutional customers and their banks. This is due to the ability to get enough account information via the Internet. Evans and Wurster (1997) argued that businesses investment in web technology is driven by expectations that Internet technology should provide better opportunities to establish a distinctive strategic position compared to the previous generation of information technology and thus reduce cost of doing business. According to many observers, one of the major contributions of Internet-based service is the reduction in transaction costs as banks and Institutional customers can contact each other directly (Evans and Wurster, 1997).

c) Improved customer service

Internet banking can be used to improve customer service hence satisfaction for the customers. Self-service technologies have created a new reality. The effectiveness of customer interaction with technological interfaces is becoming a determinant factor in customer-client relationships. Identifying critical incidents of customer satisfaction and dissatisfaction with technology-based service encounters (Meuter et al, 2000). The provision of online query applications in Internet banking systems means the customer can interact with the bank online and hence is able to get feedback on queries logged online (Meuter et al. 2000).

Given that business-to-business transactions are the fastest growing segment of technology-driven services, suggestions have been advanced to investigate what drives business customer satisfaction or dissatisfaction with technology driven services. Customer service can improve by using web applications to identify and report problems more quickly, and allow more accurate diagnosis and faster responses to customers. Web applications such as customer relationship management (CRM) can gather data and analyze a customer database

for specific customer needs and wants so that customers can have immediate feedback on services or products available as requested (Meuter et al, 2000).

d) Better information quality

Internet banking adds quality to the information received by presenting the information in formats that are easily manipulated by the Institutional users of these systems. A good example is the presentation in excel format, which allows the user to easily reconcile the bank entries with just a few clicks. This cannot be compared to having the same information on a print out, forcing the user to manually calculate all the entries when reconciling the account. Quality information should be relevant, related to customer needs and interests so that it adds value for customers (Edmunds and Morris, 2000).

Banks have to focus on relevant information which responds to customer needs and attracts them to keep accessing the banks website as a quality information source. The informational benefit is also more valuable to customers if banks provide accurate information. Accuracy refers to how well the information represents the phenomenon it purports to describe. Quality information has to be timely, which means that up-to-date or current information must be provided by the banks to the Institutional users (Huang, 2000).

e) Information accessibility and sharing

Information is made easily accessible through the use of Internet banking. In addition, to making their websites most accessible, banks have to pay particular attention to creating flexible ways to disseminate information resources to their customers (Lederer et al, 2001). Information can be easily downloaded through the Internet into different formats, such as text, comma delimited, excel and adobe acrobat formats. This information is then easily shared among the users in the company. The information can be saved on the network or shared through email.

One of the major attractions in institutional customers' use of Internet banking is the ability to access information more easily. Accessibility to banks sites can create better levels of responsiveness to customers (Daugherty et al., 1995). Other than accessing information, information sharing should provide a selection of appropriate links or connections to other

websites that give more detailed information about related topics that are interesting for Institutional customers. The power of Internet banking shows that information can be easily put at the finger-tips of the Institutional users of the systems.

2.9 Challenges and Limitations of Internet banking for Institutional customers

While web-based services provide benefits, banks face a number of barriers to adoption of web-based service delivery. Customers may not accept web-based service for many reasons. These are discussed as follows:

a) Reputation of bank

Reputation of the bank is also important. Banks providing Internet banking must have experience in business functions, policy promises, and consistent support to customers in order to build reputations among their customers. Online customers are more likely to perceive problems related to loss of privacy, as the Internet channel is an open system that other people can access for information easily Reputation of the bank, especially in technology applications, is one of the major factors that affect customer adoption of new technology–based service delivery (Aladwani, 2001).

b) Reliability

Reliability of online transaction, customers perceive that risk is related to reliability and likelihood of system. Perceived risk can cause customers to reject new technology-based service delivery. Safety and documentation in making financial transactions are the major factors about which Institutional customers are concerned. These customers would also be worried that technology-based service delivery systems will not work as expected, and may lack confidence that problems could be solved quickly (Walker et al., 2002).

c) Legal factors

Legal support issues are key; customer protection is a major legal issue associated with using the Internet (Zugelder et al., 2000). With a lack of specific laws governing Internet banking, bank customers hesitate to use it (Larpsiri et al., 2002). For instance, in traditional payment, corporate customers prefer to issue a check or a transfer of money, which requires

authorized persons to approve before the amount is paid. Payment by Internet banking is made just by one click, which might create financial loss. Financial loss could derive from malfunctions of the system, operational errors, or unauthorized use. Problems may also rise from intermediation by non-bank institutes, such as hardware vendors or Internet service provider.

Currently in Kenya there is no legislation covering transactions done through the Internet. This is a key deterrent for Institutional customers who want to fully use Internet banking systems. Institutional customers need to have the law on their side in case of any disputes arising from such transactions with their banks (Otieno, 2006).

d) Resources

Implementing web technology as a business channel requires organizational ability and resources such as hardware and software to utilize web technology more efficiently. There is also need for knowledgeable personnel. The lack of experience and knowledge in using online business can inhibit adoption. Customer knowledge barrier may come from a lack of diffusion capability, and the lack of investment in training for internal employees (Chircu and Kauffman, 2000). Lack of resources can lead can prevent adoption or under utilization of Internet banking technology.

e) Security

Strong concern about security is one crucial factor related to unwillingness to adopt service via the Internet. Evidence from research about Internet banking also reveals that security is one of the most important future challenges for banks because of customer fears of higher risk in using the web as a channel for financial transactions (Gerrard and Cunningham, 2003).

Institutional users of online banking systems are concerned about security issues, according to a Bank Website Customer Survey and Analysis from Institutional customers Insight, a provider of competitive intelligence, analysis and consulting services (Gerrard and Cunningham, 2003).

In 2005, Institutional customers Insight surveyed more than 1100 online users of bank websites and more than 50% of respondents said they were very or extremely concerned about security issues relating to online banking.

Institutional customers Insight said increased media attention on existing online security problems had contributed to more than 50% of respondents saying their concern had increased in the past six months.

In addition, Institutional customers Insight said that privacy and security is top of the agenda for customers who use their bank's website for banking, especially those with a high net worth. It urged financial institutions to address their websites' security issues and educate customers publicly about the measures being taken to increase the security levels of their websites (CNN-Internet Business News, Nov 29, 2005).

f) Infrastructure

Poor information technology infrastructure can be a critical barrier to adoption of Internet banking. Slow Internet connectivity has been a problem in Kenya, due to lack of fibre connection to the outside world. All Internet connection is via satellite. This has so far been unreliable due to latency in the satellite connectivity technology. But all this is expected to change in the next 2 years. There is a planned multi-billion project to link 22 African countries using a super-fast internet and telephone network. Known as the EASSy (East and Southern African Submarine System) project, the plan is to create a telecommunications stream using fibre-optic cable laid under the Indian Ocean. As a project it is brilliant. By cutting connection times on the Internet, companies and governments would see their telecommunication costs drop significantly (Sunday Nation, 27th August 2006).

Apart from the benefits and limitations, other key factors that determine adoption of Internet banking are aggressive technology policy, compatibility of the Internet with organization culture and infrastructure, top management support.

An aggressive technology policy ensures that a country's ICT sector is covered in terms of policies on any new or upcoming technology. This will ensure that customers adopt new technology without fear of lack of policy to govern its use.

As organizations adopt new technology there is bound to be challenges if the new technology is not compatible with their existing culture and infrastructure. If the new system fits well within the infrastructure and culture of the organization, then the rate of adoption will be very high.

Top management in any organization will be key determinant in adoption of any new system. Their support is therefore important for successful adoption of a system. Since they are the decision makers they are likely to support any changes that they understand and fully know that the changes will bring benefits to the organization.

CHAPTER 3 – RESEARCH METHODOLOGY

3.1 Research Design

The study was undertaken to provide insights into and an understanding of the extent of Internet banking system use, the benefits of adopting the systems and the challenges faced in adopting the systems. The method adopted for the study was a survey involving companies quoted at the Nairobi stock exchange. The design is appropriate considering that not much is known in Kenya in respect of Internet banking systems adoption, to make it possible to do a more advanced research.

3.2 Population

The study was a census. A census was considered appropriate because the target population was manageable. The population of study consisted of all the companies quoted on the Nairobi Stock Exchange as of May 2007 (see Appendix C).

Respondents interviewed in these organizations were Finance Managers or those in equivalent positions and who handled Internet banking. These respondents were chosen because they are key decision makers in these organizations and are involved in any banking decisions hence they have the knowledge sought.

3.3 Data Collection Method

The data were collected by the researcher using questionnaires, which were administered through "drop and pick later" method. The questionnaire has four sections. Section A comprises questions which are demographic in nature. The questions seek to capture details about the organization and the respondents. Section B collects information on the extent of Internet banking systems use. Section C collects information on the benefits and respondent attitudes towards use of Internet banking systems. Section D deals with the challenges of adopting Internet banking systems.

3.4 Data Analysis and Presentation Method

Completed questionnaires were reviewed and edited for completeness and accuracy, coded, labeled and keyed into the computer for statistical analysis.

Data collected from Section A were analyzed using means, percentages and frequency distribution to give general overall picture about the organization and respondents.

Data collected from Section B were analyzed using means, percentages and frequency distribution to give extent of Internet banking systems adoption.

Data collected from Section C were analyzed using means, percentages and frequency distribution to bring out the benefits of using Internet banking systems.

Section D data were subjected to factor analysis, cross tabulation and means. Factor analysis is a statistical technique for classifying a large number of interrelated variables into a limited number of factors. The limited number of factors is derived such that the maximum amount of information available in the original variables is retained. The purpose of this analysis was not only to establish the challenges of Internet banking systems in use by institutional customers but to also bring out the key challenges.

CHAPTER 4– DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the results of the analysis and findings of the study. Out of the 52 institutions targeted in the study, there were 47 completed questionnaires representing a 90.4% response rate. The received questionnaires were all dully filled. Thus the study was based on data collected on 47 questionnaires. Considering that most the firms did not want to divulge company information and the comprehensive nature of the research instrument, the response was very good.

4.2 Respondents' demographics Factors

Demographic factors considered in the research included gender, age, position held and number of years worked. These factors are important as they may affect the adoption Internet of banking systems.

4.2.1Gender of respondents

Table 4.2.1 represents the gender. Females were 23% while males were 77% of the respondents.

Table 4.2.1 Gender of respondents

Gender	Frequency	Percent (%)
Male	36	77
Female	11	23
Total	47	100

4.2.2 Age of respondents

Table 4.2.2 represents the age of the respondents. Most of the respondents were between 31 and 45 years. This shows most of the respondents were in middle age. Those that were above 51 years or between 18 and 25 years old were very few.

Table 4.2.2 Age of respondents

Age	frequency	Percent (%)
18-25	2	4.3
26-30	5	10.6
31-35	10	21.3
36-40	12	25.5
41-45	10	21.3
45-50	5	10.6
51 and above	3	6.4
Total	47	100.0

4.2.3 Positions of respondents and Number of years worked

Table 4.2.3 represents the positions of the respondents tabulated against number of years they have worked in their firms. Majority of the finance managers (65%) had been working in the organization for more than 10 years. Most of the Management accountants had worked for more than 10 years (42%). 50% of the Finance Directors had worked for over 10 years and also most of the account clerks had worked for the same period. Overall all firms had experienced and knowledgeable work force in their finance departments. This was important for the study because the respondents were able to provide the knowledge sort in the adoption of Internet banking systems.

Table 4.2.3 Positions of respondents and Number of years worked

No. Yrs Worked	Total	Title / Position within firm				
		Finance Director	Finance Manager	Accounts Manager	Management Accountant	Accounts Clerk
Total	47	10	10	8	9	10
Below 5 yrs	10%	20%	25%	19%	28%	10%
5-10 yrs	40%	30%	20%	36%	30%	30%
Above 10 yrs	50%	50%	65%	45%	42%	60%

4.3 Company demographic information

The demographic characteristics of interest were age of the firm, number of employees, ownership structure, management composition, and use of ICT within the firm. The respondents gave information on when the firm was incorporated, firm's ownership structure, approximate number of employees, geographical coverage and the estimated

number of accounts held in the bank. These demographic characteristics were considered important because they helped in fully understanding how they affect the adoption of Internet banking systems.

4.3.1 Distribution of firm by age

Demographic information related to the age of the firms from the data is summarized in Table 4.3.1. The findings show that 44.7 % of the firms were above 10 years since their incorporation, 36.2% were between 5 and 10 years and 19.1% of the firms were below 5 years. This suggests that most of the firms have been in operation for a long time, hence may have had enough experience for the provision of the knowledge sought in Internet banking systems.

Table 4.3.1 Distribution of firm by age

Age of the firm	Frequency	Percent (%)
Below 5 years	9	19.1
5 - 10 years	17	36.2
Above 10 years	21	44.7
Total	47	100.0

4.3.2 Distribution of firms by number of employees

Organizations were also analyzed on the basis of the number of employees. Analysis showed that 63.8% of the firms had less than 500 employees while, while 21.3% had between 500 and 1,000 employees and 14.9% had more than 1000 employees. The analysis showed that the respondents were from all sizes of organizations and this was a good representation in terms of the organization sizes, Table 4.3.2 shows the frequency distribution of firms by the number of employees.

Table 4.3.2 **Distribution of firms by number of employees**

Number of Employees	Frequency	Percent (%)
Below 500	30	63.8
500 - 1000	10	21.3
above 1000	7	14.9
Total	47	100.0

4.3.3 Distribution by Ownership Structure

Table 4.3.3 shows the distribution of firms by ownership structure. The findings indicate that 80.9 % of the firms included in the survey were privately and publicly owned and 19.1 % were owned by the government and public. In theory, ownership structure would be a significant determinant of extent of Internet banking use with government and public owned companies being expected to embrace the new technology to improve their processes. Similarly, private and public owned firms would be more inclined to embrace Internet banking because of the head office support they get in terms of financing and technology.

Table 4.3.3 **Distribution by Ownership Structure**

Ownership	Frequency	Percent (%)
Both Private & Public	38	80.9
Both Government & Public	9	19.1
Total	47	100.0

4.3.4 Management of firms

Management of any organization is important and determines how successful a firm can be in carrying out its goals and objectives. It was therefore important that the management of the firms was considered in the study; hence data were collected in respect of management of the firms. The findings as shown in Table 4.3.4 indicate that majority of the firms

surveyed 66% had indigenous management, 19.1% had foreign management and 14.9% had mixed management.

Table 4.3.4 Management of firms

Management	Frequency	Percent (%)
Indigenous	31	66.0
Foreign	9	19.1
Mixed	7	14.9
Total	47	100.0

4.3.5 Distribution of firms having ICT departments

Responses were categorized in terms of whether the organization had an ICT department or not. Table 4.3.5 shows 93.6 % of the banks had IT departments indicating that ICT is now important. Having an IT department puts a firm in a position to easily adopt Internet banking. Only three organizations representing 6.4% of the respondents did not have an ICT department.

Table 4.3.5 Distribution of firms having ICT departments

ICT depts.	Frequency	Percent (%)
Yes	44	93.6
No	3	6.4
Total	47	100.0

4.3.6 ICT Budget

Responses were also categorized in terms of whether the organization had an ICT budget or not. Table 4.3.6 shows that 87.2 % of the banks had an ICT budget. This indicates that ICT is considered important and given that ICT provides a foundation for implementation of Internet banking within these firms. Only six organizations representing 12.8% of the respondents did not have an ICT budget.

Table 4.3.6 ICT Budget

ICT Budget	Frequency	Percent (%)
Yes	41	87.2
No	6	12.8
Total	47	100.0

4.3.7 Annual ICT budget as percentage of total company budget

Table 4.3.7 shows ICT budget as a percentage of the total company budget. The study findings indicate that 35 out the 47 firms had between 0-20%, 10 out of 47 of the firms had between 21-40% of ICT as a percentage of total company budget and only 2 out of the 47 firms have a budget between 41-60%. This shows that firms considered ICT as important and thus considered it in budgeting.

Table 4.3.7 Annual ICT budget as percentage of total company budget

ICT Budget as a % of total company budget	Frequency	Percent (%)
0-20%	35	74.5
21-40%	10	21.3
41-60%	2	4.2
61-80%	0	0
81-100%	0	0
Total	47	100.0

4.3.8 Category of bankers

Table 4.3.8 shows category of the firms' bankers. The findings indicate that 87.2 % of the firms included in the survey bank with foreign owned banks. Only 12.8% of the firms banked with local owned banks. This shows that foreign ownership influences the readiness to adopt Internet banking due to head office support and advances in ICT in the countries were the owners come from.

Table 4.3.8 Category of bankers

Firm category	Frequency	Percent (%)
Foreign Owned	41	87.2
Local Owned	6	12.8
Total	47	100.0

4.4 Extent of Internet banking systems adoption

Mean and standard deviations of the aspects of extent of Internet banking adoption were identified. The ratings used were on a scale of 1-5, where 1 was not at all, 3 was moderate extent and 5 was greatest extent. Table 4.4.1 lists the extent of Internet banking systems with the means and standard deviation. The application of Internet banking that were identified to great extent among the respondents included; Internet banking use for processing bank transactions (4.02), Internet banking use for reporting (4.03), Internet banking use for reconciliation with ERP systems (4.00), account statements (4.13), electronic bills payment (4.06) and generation of summary reports for bank transactions (4.12), funds transfer (4.08).

The applications considered as moderate extent included; Internet banking use to improve work processes (3.21), use of Internet banking outside the office (3.26), use of Internet banking for cheque book application (3.10), generation of letters of credit (3.20), customer service queries (3.32) and use of Internet banking for loan application (3.25).

It can be deduced, that most firms use Internet banking as a tool to assist them in doing all their bank transactions It can therefore be concluded that Internet banking has been widely adopted by most firms quoted at the NSE.

Table 4.4.1 Extent of Internet banking systems adoption

	Mean	Std. Deviation
Internet banking is used for processing bank transactions.	4.02	0.796
Internet banking is used in our dealing with all banks.	3.65	1.098
Internet banking is used all the time of the day.	3.91	0.866
Internet banking is used for reporting within our firm.	4.03	0.797
Internet banking is used for decision making in our organization.	3.50	1.212

Internet banking has been used to improve our work processes.	3.21	1.321
Internet banking is used outside the office.	3.26	1.377
Internet banking is used while travelling.	3.20	1.242
Internet banking is used to reconcile transactions on our ERP system.	4.00	1.250
Internet banking is used to import transactions from our ERP system.	3.65	1.132
Account statements and balance enquiry	4.13	0.651
Electronic bill payments	4.06	1.363
Funds transfer	4.08	1.193
Loan application	3.25	0.796
Financial planning and analysis	3.59	1.098
Generate summary reports of bank transactions	4.12	0.866
Cheque book application	3.10	0.797
Cheque cancellation	3.41	1.212
Generation of Letters of Credit	3.20	1.321
Real Time Gross settlement payments (RTGS)	3.41	1.377
Salary Payments	4.09	1.242
Tax Payments to KRA	3.74	1.250
Treasury Payments	3.50	1.132
Customer Service queries	3.32	0.651
Account statement reconciliation with your ERP systems	4.01	1.363

4.5. Internet Banking Systems benefits

Mean and standard deviations of the benefits of Internet banking systems within the firms' respondents were identified. The ratings used were, Strongly Disagree, Disagree, Indifferent, Agree and Strongly Agree. Table 4.5.1 lists the benefits of Internet banking systems with the means and standard deviations. The benefits that had strongly agree and agree amongst the respondents were; banking tasks could be accomplished easily with the use of Internet banking systems (4.06), banking has become easy (4.02), money transfer to other banks had become easier (4.07), sending money to suppliers had become easy (4.03), banking had become reliable (4.01), frequent calls to the bank have reduced (3.95), foreign exchange trading has become easier (3.85), increased efficiency in the work flow (3.96), improved customer service (3.82), better information quality (3.88) and reduced cost of banking (3.74).

The benefits of use that had agree included: paying of utility bills has become convenient (3.02), loan application has become easier (3.20) and Internet banking has reduced fraud in the organization (3.30).

It can be deduced that users of Internet banking systems strongly agree that the systems have been beneficial to their work processes.

Table 4.5.1 Internet Banking Systems benefits

	Mean	Std. Deviation
Our banking tasks are accomplished quickly using Internet banking.	4.06	0.798
Banking has become easy.	4.02	0.870
Our banking has become more reliable.	4.01	0.750
Transferring money to other banks has become easier.	4.07	0.980
Internet Banking Systems have made Foreign exchange trading convenient.	3.85	0.866
Our firm can now pay utility bills conveniently.	3.02	1.176
Sending money to our suppliers has become faster.	4.03	0.740
Frequent calls to the bank have reduced.	3.95	1.193
Internet banking has increased efficiency in our workflow.	3.96	1.132
Internet banking has reduced fraud in the organization.	3.30	1.175
Making loan application has become easier.	3.20	1.122
Internet banking has led to better information quality.	3.88	1.163
Internet banking has assisted in offering improved customer service	3.82	1.164
Internet banking has reduced the cost of banking.	3.74	1.098
Use of Internet banking has reduced the number of trips to the bank.	3.86	1.242

4.6 Attitudes towards Internet banking adoption

As users interact with ICT systems, they form certain attitudes which determine how they adopt the systems. This study aimed at establishing the attitudes that corporate Internet banking systems users have on the systems that they interact with. Table 4.6.1 lists the attitudes of users with the means and standard deviations.

The ratings used were, Strongly Disagree, Disagree, Indifferent, Agree and Strongly Agree. Attitudes that respondents strongly agreed with included; using Internet banking service was a good idea (4.02), given an option most respondents will use Internet banking (4.03), Internet banking was some how secure (3.30) and Internet banking being compatible with current work flows. The attitudes determined the eventual use Internet banking systems. All other attitudes had a moderate mean rating including use of Internet banking being difficult, Internet banking use being insecure and users would not be confident using Internet banking.

It can therefore be concluded from the research results that responses were positive and this may have led to the adoption, use and benefits to users of Internet banking systems.

Table 4.6.1 Attitudes toward Internet banking adoption

	Mean	Std. Deviation
Using Internet banking service is a good idea.	4.02	0.797
Using Internet banking is difficult.	3.01	1.178
Using Internet makes banking services insecure.	3.30	1.377
Use of Internet banking has few benefits.	3.03	1.267
I would not be confident using Internet banking service.	3.10	1.145
Given an option, I would wholly support the use of Internet banking in our firm.	4.03	0.851
Internet banking is not compatible with my current work flow in the organization.	3.26	1.257

4.7 Challenges faced in Internet banking adoption

This section addresses the third objective of the study, which is to establish the challenges faced by institutional customers using Internet banking systems. This study aimed at establishing the challenges that corporate Internet banking systems users face while using Internet banking systems. Table 4.7.1 lists the challenges of using Internet banking with the means and standard deviations.

The ratings used were, Strongly Disagree, Disagree, Indifferent, Agree and Strongly Agree. Challenges that respondents strongly agreed with included; computer literacy levels within the organization are a barrier in the use of the Internet banking systems (4.12), limited growth of the ICT (Information, Communication & Technology) sector in Kenya is inhibiting the use of Internet banking systems (4.10), existing banking laws do not cover Internet banking (4.03), there is no provision for handling dispute resolution with the bank in case of any issue arising from the use of Internet banking systems (4.04), current system support from the bank is not acceptable (3.96), poor country Internet connectivity hinders successful use of Internet banking systems within the organization (3.90), current organizational setup is a barrier to the use of the Internet banking systems (3.89), senior management commitment is lacking in the use of Internet banking systems in the firm (3.86), the technology is too expensive to implement for the organization (3.97), Internet banking system is not very secure (3.83), Internet service providers are not reliable (3.85) and prevalent human resource constraint when it comes to use of Internet banking (3.78).

The challenges of use that had agree included; poor IT infrastructure within the organization is a constraint in the use of the Internet banking systems (3.26), employees have negative attitude towards the use of the Internet banking systems (3.10), the organization does not support transacting outside the office (3.32), employee resistance is expected for fear of job cuts with the use of Internet banking (3.41).

This findings show that the challenges with more than a mean score of 3.5 to 4 were the ones which were prevalent among majority of the system users.

Table 4.7.1 Challenges faced in Internet banking adoption

	Mean	Std. Deviation
Computer literacy levels within the organization are a barrier in the use of the Internet banking systems.	4.12	0.797
Limited growth of the ICT (Information, Communication & Technology) sector in Kenya is inhibiting the use of Internet banking systems.	4.10	0.797
Current system support from the bank is not acceptable.	3.96	1.178
Poor country Internet connectivity hinders successful use of Internet Banking Systems within the organization.	3.90	1.377
Current organizational setup is a barrier to the use of the Internet banking systems.	3.89	1.267
Employees have negative attitude towards the use of the Internet banking systems.	3.10	1.145
Senior management commitment is lacking in the use of Internet banking systems in the firm.	3.86	0.851
Poor IT infrastructure within the organization is a constraint in the use of the Internet banking systems.	3.26	1.257
The organization does not support transacting outside the office e.g. when travelling or at home.	3.32	0.651
Employee resistance is expected for fear of job cuts with the use of Internet banking.	3.41	1.212
The technology is too expensive to implement for the organization.	3.97	1.363
Internet Banking system is not very secure.	3.83	1.193
Internet Service providers are not reliable	3.85	
The banks have inadequate back-up in case the Internet banking system is down.	3.10	0.797
The bank providing the system does not provide adequate customer data security.	3.02	1.242
The bank does not accept liability in case of any loss arising from	3.12	0.790

the use of Internet banking system.		
Existing banking laws do not cover Internet banking.	4.03	0.866
There is no provision for handling dispute resolution with the bank in case of any issue arising from the use of Internet banking systems.	4.04	1.363
Reputation of service providers is wanting.	3.03	0.651
There is a prevalent human resource constraint when it comes to use of Internet banking.	3.78	0.980

Factor analysis was also performed on the results of the extent to which different factors were a challenge to the successful adoption of Internet banking. Factor analysis is a technique applicable where there is a systematic interdependence among a set of observed or manifest variables and the researcher is interested in finding out something more fundamental or latent which creates commonality. Table 4.7.2 shows the list of variables that were considered for analysis.

Table 4.7.2 List of variables of challenges faced in Internet banking adoption

F1. Computer literacy levels within the organization are a barrier in the use of the Internet banking systems.
F2. Limited growth of the ICT (Information, Communication & Technology) sector in Kenya is inhibiting the use of Internet banking systems.
F3. Current system support from the bank is not acceptable.
F4. Poor country Internet connectivity hinders successful use of Internet Banking Systems within the organization.
F5. Current organizational setup is a barrier to the use of the Internet banking systems.
F6. Employees have negative attitude towards the use of the Internet banking systems.
F7. Senior management commitment is lacking in the use of Internet banking systems in the firm.
F8. Poor IT infrastructure within the organization is a constraint in the use of the Internet banking systems.

F9. The organization does not support transacting outside the office e.g. when travelling or at home.
F10. Employee resistance is expected for fear of job cuts with the use of Internet banking.
F11. The technology is too expensive to implement for the organization.
F12. Internet Banking system is not very secure.
F13. Internet Service providers are not reliable
F14. The banks have inadequate back-up in case the Internet banking system is down.
F15. The bank providing the system does not provide adequate customer data security.
F16. The bank does not accept liability in case of any loss arising from the use of Internet banking system.
F17. Existing banking laws do not cover Internet banking.
F18. There is no provision for handling dispute resolution with the bank in case of any issue arising from the use of Internet banking systems.
F19. Reputation of service providers is wanting.
F20. There is a prevalent human resource constraint when it comes to use of Internet banking.

4.7.1 Correlation Matrix

All respondents that were sampled out indicated the extent to which given factors had contributed to the hindrance of successful Internet banking adoption within their firms. Factor analysis grouped the challenges that are very similar to each other into more meaningful classes. By grouping variables with similar characteristics together, the result is a small number of variables that make it easy for the researcher to explain the observed variance in relation to the large number of variables. Correlation is a statistical procedure which is used to explain the relationship and the strength of such a relationship between variables.

This is achieved by providing a correlation matrix giving correlations between all pairs of data. The matrix is a rectangular array of elements set out by rows and columns. Existence of clusters of large correlation between subsets of the variables suggests that the variables measure aspects of the same underlying dimension.

Usually, the correlation matrix is reduced down to its component dimensions by looking for variables that correlate highly with a group of other variables outside that group. The correlation matrix as represented in Table 4.7.3 presents a highly positively correlation between variables thus showing a relationship between them.

Table 4.7.3 Correlation matrix

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16	F17	F18	F19	F20
F1	1	0.30	0.29	0.66	0.37	0.518	0.32	0.21	0.28	0.35	0.27	0.22	0.13	0.15	0.17	0.29	0.35	0.28	-0.07	0.21
F2	0.3	1	0.7	0.61	0.67	0.72	0.44	0.34	0.62	0.57	0.44	0.44	0.45	0.39	0.36	0.49	0.36	0.4	-0.05	0.31
F3	0.29	0.7	1	0.46	0.61	0.5	0.5	0.38	0.43	0.37	0.21	0.3	0.27	0.16	0.15	0.35	0.19	0.21	-0.25	0.13
F4	0.66	0.60	0.46	1	0.71	0.78	0.39	0.31	0.53	0.57	0.49	0.47	0.36	0.33	0.29	0.59	0.54	0.44	0.03	0.41
F5	0.37	0.66	0.61	0.71	1	0.83	0.46	0.47	0.63	0.56	0.39	0.57	0.32	0.36	0.22	0.51	0.35	0.42	0.06	0.37
F6	0.52	0.72	0.5	0.78	0.83	1	0.57	0.53	0.74	0.71	0.53	0.66	0.46	0.56	0.37	0.55	0.44	0.57	-0.02	0.44
F7	0.32	0.44	0.5	0.39	0.46	0.56	1	0.44	0.57	0.46	0.29	0.37	0.38	0.43	0.18	0.30	0.27	0.19	-0.16	0.4
F8	0.21	0.34	0.38	0.32	0.48	0.53	0.45	1	0.59	0.41	0.44	0.43	0.36	0.40	0.24	0.29	0.21	0.36	-0.16	0.39
F9	0.28	0.61	0.43	0.53	0.63	0.73	0.57	0.59	1	0.76	0.55	0.68	0.48	0.64	0.38	0.47	0.47	0.48	0.07	0.58
F10	0.35	0.57	0.37	0.57	0.56	0.70	0.46	0.40	0.76	1	0.42	0.47	0.39	0.50	0.33	0.46	0.48	0.42	0.15	0.46
F11	0.27	0.44	0.21	0.49	0.39	0.53	0.29	0.44	0.55	0.42	1	0.78	0.66	0.70	0.50	0.61	0.55	0.52	0.17	0.26
F12	0.22	0.43	0.3	0.47	0.57	0.65	0.37	0.42	0.68	0.47	0.78	1	0.68	0.78	0.60	0.73	0.68	0.68	0.09	0.35
F13	0.13	0.45	0.27	0.36	0.32	0.45	0.38	0.35	0.48	0.39	0.66	0.68	1	0.68	0.68	0.62	0.43	0.49	0.09	0.19
F14	0.15	0.39	0.16	0.33	0.37	0.56	0.43	0.40	0.64	0.5	0.70	0.79	0.68	1	0.51	0.66	0.58	0.59	-0.05	0.47
F15	0.17	0.36	0.15	0.29	0.22	0.37	0.18	0.24	0.38	0.33	0.50	0.6	0.69	0.51	1	0.69	0.53	0.72	-0.02	0.34
F16	0.29	0.49	0.36	0.6	0.52	0.55	0.31	0.29	0.47	0.47	0.61	0.74	0.62	0.66	0.69	1	0.75	0.75	-0.06	0.43
F17	0.35	0.36	0.19	0.54	0.35	0.43	0.27	0.21	0.47	0.48	0.54	0.68	0.43	0.58	0.52	0.74	1	0.7	0.10	0.51
F18	0.28	0.40	0.21	0.44	0.42	0.56	0.19	0.35	0.48	0.42	0.51	0.68	0.49	0.59	0.72	0.74	0.7	1	0.15	0.53
F19	-0.07	-0.05	-0.25	0.04	0.07	-0.02	-0.16	-0.16	0.07	0.16	0.17	0.1	0.1	-0.05	-0.02	-0.06	0.11	0.16	1	0.06
F20	0.21	0.30	0.13	0.41	0.37	0.43	0.4	0.38	0.58	0.46	0.25	0.35	0.19	0.46	0.33	0.43	0.51	0.53	0.05	1

Total Variance explained for identifying challenges of Internet banking system adoption.

Table 4.7.4 shows all the components extracted from the analysis along with their Eigen values, the percentage of variance attributed to each component and cumulative variance of the factor and previous factors. The first 4 factors were the only ones with Eigen values of greater than 1. The first factor, (computer literacy levels within the organization are a barrier in the use of the Internet banking systems) only accounts for 43.6 %, the second (limited

growth of the ICT sector in Kenya) accounts for 11.7%, the third, (current system support from the bank is not acceptable) accounts for 10.6% and the fourth,(poor country Internet connectivity hinders) accounts for 9.89% of the variance respectively. The four factors are therefore considered significant for the analysis.

Table 4.7.4 Total Variance explained for identifying challenges of Internet banking system adoption.

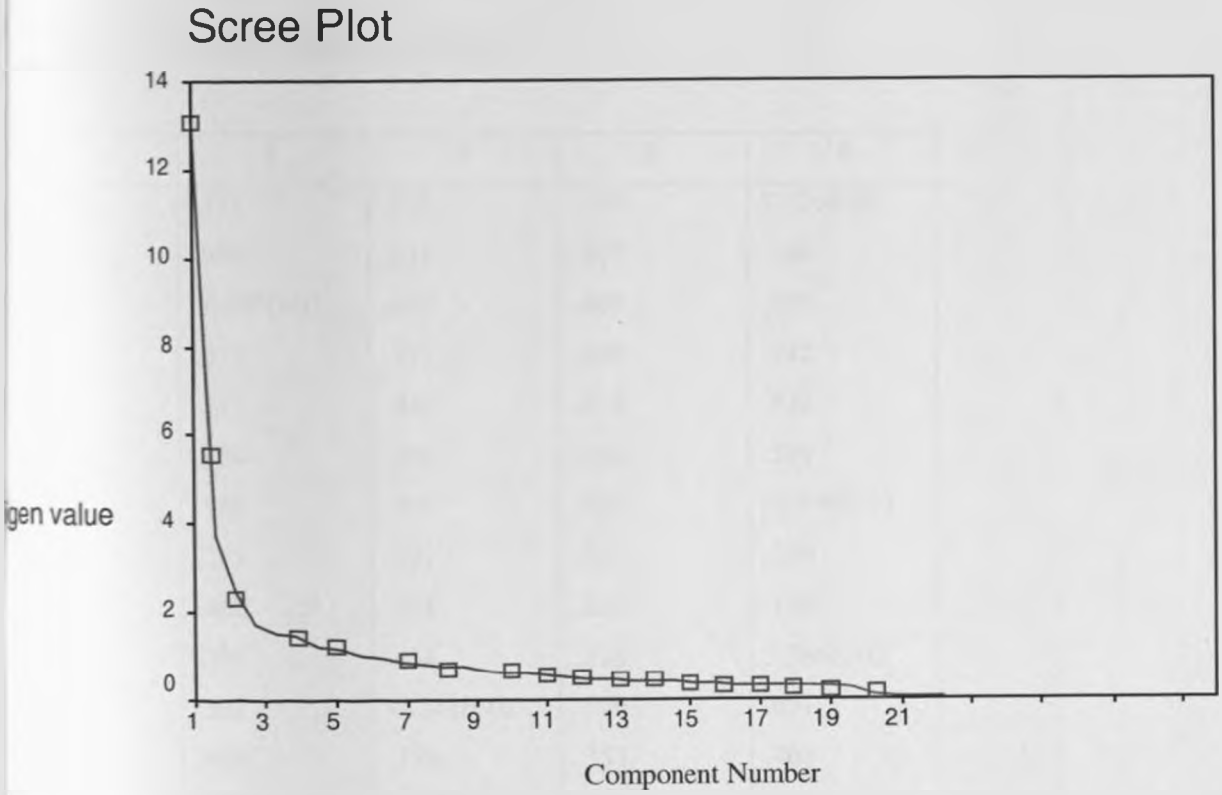
Component	Initial Eigen values			Extraction Sums of Square Loading			Rotation Sums of Squared loading		
	Total	% of variation	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.081	43.604	43.604	13.081	43.604	43.604	7.104	23.680	23.680
2	3.796	11.709	55.313	3.513	11.709	55.313	6.444	21.479	45.159
3	3.513	10.6130	65.926	2.139	7.130	62.443	4.753	15.843	61.002
4	2.139	9.888	75.814	1.466	4.888	67.331	1.899	6.329	67.331
5	1.466	4.117	79.931						
6	1.235	3.912	83.843						
7	1.174	2.115	85.475						
8	.534	2.100	87.441						
9	.403	1.970	88.811						
10	.288	1.860	89.411						
11	.242	1.756	91.167						
12	.178	1.623	92.790						
13	.158	1.544	94.334						
14	.143	1.459	95.692						
15	.121	1.268	96.960						
16	.092	1.091	98.051						
17	.035	.959	99.009						
18	.002	.882	99.891						
19	.001	.0109	100						
20	0	0	100						

The Scree Plot

Figure 4.7.1 is a graph of the Eigen values plotted against all factors. A scree plot helps us to know which factors to maintain and those to leave out as far as our model is concerned. The critical point is usually where the graph starts to flatten. As seen in the Figure 4.7.1, the graph starts to flatten after factor 4 Factor 4 has an Eigen value of more than 1 while factor 5 has an Eigen value of less than 1. We thus drop factor 5 but

consider factor 4. This is indeed a confirmation that only four factors are considered important in the analysis.

Figure 4.7.1 The Scree Plot



4.7.2 Rotated component matrix

Factor rotation procedure is aimed at reducing the number of factors on which the variables under investigation have high loadings. This does not change anything but makes the interpretation of the analysed data easier as shown in Table 4.7.5.

Table 4.7.5 Rotated component matrix

	1	2	3	4
F1	.121	.822	.180	2.126E-02
F2	.694	.111	.367	.190
F3	-6.675E-02	-626	.400	.259
F4	.317	.713	.408	.242
F5	.212	.832	.225	.472
F6	.368	.390	.316	.294
F7	.140	.366	.625	-5.608E-02
F8	.275	.327	.342	.256
F9	.408	.488	.226	.133
F10	.299	.454	.238	5.386E-02
F11	.335	-7.241E-02	.390	.657
F12	.404	.172	.357	.768
F13	.403	-5.38E-02	.395	-834
F14	.366	.262	.343	-.148
F15	.427	.104	-2.87E-02	.141
F16	.734	.160	.144	.147
F17	.778	.310	-3.45E-02	.336
F18	.827	.327	.367	.143
F19	.346	.450	.314	.123
F20	.333	.399	-4.466E-02	.174

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization.

4.7.3 Isolation of challenges for each factor

Isolation of challenges for each factor involves isolating each challenge that constitutes each factor based on the factor loadings. These are the correlation between the factors and the challenges encountered. Correlations are treated merely as generic "similarity measures", this shows that any factors with the same correlation are some how related. Most of the factors showed a correlation of 0.5. Table 4.7.6 shows the challenges for each factor based on a correlation of 0.5 for the isolation of the key challenges any factors that had a correlation of below 0.5 were not considered as major challenges to the adoption of Internet banking systems.

Table 4.7.6 Isolation of challenges

FACTOR	CHALLENGES/ VARIABLES
Factor 1	• The bank does not accept liability in case of any loss arising from the use of Internet banking system. • Limited growth of the ICT (Information, Communication & Technology) sector in Kenya is inhibiting the use of Internet banking systems. • Existing banking laws do not cover Internet banking. • There is no provision for handling dispute resolution with the bank in case of any issue arising from the use of Internet banking systems.
Factor 2	• Computer literacy levels within the organization are a barrier in the use of the Internet banking systems. • Current system support from the bank is not acceptable. • Poor country Internet connectivity hinders successful use of Internet Banking Systems within the organization. • Current organizational setup is a barrier to the use of the Internet banking systems.

Factor 3	• Senior management commitment is lacking in the use of Internet banking systems in the firm.
Factor 4	• The technology is too expensive to implement for the organization. • Internet banking system is not very secure. • Internet Service providers are not reliable

Factor 1 is where most of the challenges were classified. These challenges were those related the banks not accepting liability in case of any loss arising from the use of Internet banking system, existing banking laws do not cover Internet banking and lack of provision for handling dispute resolution with the bank in case of any issue arising from the use of Internet banking systems.

Factor 2 indicated challenges related to computer literacy levels within the organization are a barrier in the use of the Internet banking systems, limited growth of the ICT sector in Kenya is inhibiting the use of Internet banking systems, current system support from the bank is not acceptable, poor country Internet connectivity hinders successful use of Internet Banking Systems within the organization, current organizational setup is a barrier to the use of the Internet banking systems.

Factor 3 was related senior management commitment towards supporting the use of Internet banking systems in the firm.

Factor 4 challenges relate to technology being expensive to implement for the organization, Internet banking system not being very secure and Internet service providers not being reliable

4.8 Conclusions

The main aim of the study was to obtain and analyze data to reveal the adoption of Internet banking systems by institutional customers in Kenya and the main challenges that are faced in a bid towards successful adoption of these systems. This research provided a basis for more in-depth studies into the issue. Nevertheless, from the study some pertinent conclusions from the data gathered provided some insight into the extent to which Internet banking has been adopted in Kenya by firms and the challenges being experienced in the effort to successful adopt the systems.

The study found out that most of the institutions quoted in the Nairobi stock exchange use Internet banking systems with one or more of their bankers. The firms using Internet banking systems have also realized benefits like faster payments to their suppliers, integration with their ERP systems and online access to account statements. Most of the challenges faced were found to be relating to poor infrastructure, computer literacy, limited growth of ICT, and lack of legal frame work, senior management commitment to adoption of Internet banking and unreliable Internet service providers.

CHAPTER 5– CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter, study results are summarized, then conclusions arrived at from the research findings are discussed in light of the objectives of the study and finally, recommendations made. The study sought to identify the extent of Internet banking systems adoption by institutional customers in Kenya, current benefits, attitudes and challenges faced. Data from the completed questionnaires were analyzed and presented by the use of descriptive statistical measures such as graphs, charts and frequencies. Factor analysis was also done.

The results analyzed relate to 47 respondents out of entire population of 52 firms quoted in the Nairobi Stock exchange.

5.2 Summary

From the study findings it was found that most firms had adopted Internet banking although there are challenges that they face in their process of adoption. Internet banking systems extent of use and user attitudes toward these systems was extensively addressed in the research. The rate at which firms have adopted Internet banking show that the systems have very many benefits to the firms. Most of the firms have already started reaping the benefits associated with Internet banking use.

As per the study objectives, the study established the extent of adoption of Internet banking systems by institutional customers in Kenya and outlined the benefits and challenges firms face in adoption of the systems.

Extent of Internet banking systems adoption in Kenya may have grown fast as shown by the number of firms that are currently using them. Majority of the firms use Internet banking for account reporting, funds transfers, salary payments and reconciliation which is made possible by integration with their ERP systems.

The results the data highlight the positive attitudes that respondents have on Internet banking systems. These results show that attitudes can affect the adoption of Internet banking systems.

Findings of the study indicated that most of the firms quoted in the Nairobi stock exchange use Internet banking systems. Most international and foreign owned firms had Internet banking systems because they also tended to bank with International banks which have head office support and thus may have very good Internet banking systems.

In addition to this, Internet banking systems are still relatively new and an emerging phenomenon in Kenya, but most firms have adopted them and are reaping the benefits of using them. Lack of legal framework and poor infrastructure are some of the challenges to successful adoption of Internet banking systems. The support of top managements and government in the use of Internet banking systems was found to be critical for most of the challenges to be overcome.

5.3 Conclusion

In view of the above, this study gave a general view of the extent of Internet banking system adoption by institutional customers in Kenya, the benefits associated with the systems, as well as the major challenges that the firms face in their effort to successful Internet banking. From the study majority of the firms have adopted Internet banking system to the extent of using them in their daily banking functions. Others have done integration between their ERPs and Internet banking system. Internet banking systems adoption has faced a number of challenges like lack of proper ICT infrastructure, lack of top management support and low computer literacy levels. Nevertheless other firms have tried to make the best out of available resources.

5.4 Limitations of the study

Several limitations were encountered while undertaking this study. Some of the respondents and from the big firms were too busy and as a result the number of completed questionnaires was reduced. Time was also a constraining factor for this study. Due to the inadequate time

was not possible to get the more respondents to fill the remaining questionnaire. Also not much literature review was available to provide adequate basis for more advanced research.

5.5 Recommendation for further research

A case study on how the government can support the use of Internet banking systems in Kenya needs to be carried out. This will bring out the current situation and find out ways in which the government can assist in promoting the use of Internet banking systems in Kenya. The findings may be supplemented by interviewing the firms that are currently using the systems or from the main banks that offers these systems to their customers. Internet banking system use by retail customers will also be another important area of study to be considered for future studies. Since the study concentrated on the companies quoted in the Nairobi stock exchange other studies could be done on other companies operating in Kenya to see if the same conclusions will be drawn.

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Appendix A: Letter to the Respondents

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SCHOOL OF BUSINESS

Telephone: +254-2-318262
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Mathew Mulei
PO.Box 30711- 00100
Nairobi, Kenya

Dear Sir/Madam,

RE: A SURVEY OF INTERNET BANKING SYSTEMS ADOPTION BY INSTITUTIONAL CUSTOMERS IN KENYA.

I am a Postgraduate student undertaking a Master of Business Administration (MBA) degree at the School of Business, University if Nairobi. I am currently carrying out research on Internet banking systems adoption by Institutional customers in Kenya. This is a requirement to complete my MBA course project at the University of Nairobi.

I intend my approach to this survey to be both consultative and ensure that it is not disruptive to your already tight schedule of activities. I kindly request you to provide the required information by responding to the questions in the questionnaire. The information required is purely for academic purposes and will be treated in the strictest manner. Your name will not be mentioned in this research.

A copy of this research project will be made available to you upon request. I will appreciate your cooperation in this academic exercise. Thanking you in advance,

Yours faithfully,
Mathew Mulei
MBA Student.

Appendix B: Questionnaire

A Survey of Internet Banking Systems Adoption by Institutional customers in Kenya.

Thank you for taking the time to complete this questionnaire. Please ensure that you complete all questions by ticking all that apply and filling in the blanks where applicable.

Section A: DEMOGRAPHIC INFORMATION

Respondent's profile

1. Gender: Male [ ] Female [ ]
2. Age: ☐ 18 – 25 ☐ 26– 30 ☐ 31 – 35 ☐ 36 – 40
   ☐ 41 – 45 ☐ 45 – 50 ☐ 51 and above
3. Your title or Position you hold.....
4. How many years have you worked for the firm? .....

Company Profile

5. How many years has your firm been in existence? .....
6. What is the approximate number of employees in your organization? .....
7. How can you describe the ownership of your company?
   a) Both Private & Public [ ] b) Both Public& Government [ ]
8. How can you describe the management of your organization?
   a) Indigenous [ ] b) Foreign [ ] c) Mixed [ ]
9. Do you have an ICT department?
   a) Yes [ ] b) No [ ]
   If "NO" to the above, under what department does ICT fall?
   _____

10. Do you have an ICT budget?

a) Yes [ ] b) No [ ]

11. What is your annual ICT budget as a percentage of total company budget?

.....

12. Under what category do your Banker's fall?

a) Foreign owned Bank [ ] b) Local Owned Bank [ ]

13. Which of the listed services below do you use? (tick as appropriate)

a) Electronic Cheques [ ] e) Checking statements [ ]

b) Viewing transactions [ ] f) Electronic Funds Transfers [ ]

c) Inter-bank transfers [ ] g)Standing orders set ups [ ]

d) Direct debits [ ]

h) Others please specify

.....

.....

.....

.....

Section B: Extent of Internet Banking Systems adoption

The following statements relate to the extent of Internet banking use, please tick to show the extent they apply to **your organization**.

5-Greatest extent

4-Great extent

3-Moderate extent

2-Less extent

1-Not at all

I. Please ticket the appropriate box	**1**	**2**	**3**	**4**	**5**
1. Internet banking is used for processing bank transactions.					
2. Internet banking is used in our dealing with all banks.					
3. Internet banking is used all the time of the day.					
4. Internet banking is used for reporting within our firm.					
5. Internet banking is used for decision making in our organization.					
6. Internet banking has been used to improve our work processes.					
7. Internet banking is used outside the office.					
8. Internet banking is used while travelling.					
9. Internet banking is used to reconcile transactions on our ERP system.					
10. Internet banking is used to import transactions from our ERP system.					

11. Others please specify:

.....

.....

.....

.....

5-Greatest extent

4-Great extent

3-Moderate extent

2-Less extent

1-Not at all

Please indicate the extent to which your Organization uses the Internet to perform the following tasks.

12.Account statements and balance enquiry	**1**	**2**	**3**	**4**	**5**
13.Electronic bill payments					
14.Funds transfer					
15.Loan application					
16.Financial planning and analysis					
17.Generate summary reports of bank transactions					
18.Chequebook application					
19.Cheque cancellation					
20.Generation of Letters of Credit					
21. Real Time Gross settlement payments (RTGS)					
22. Salary Payments					
23. Tax Payments to KRA					
24. Treasury Payments					
25. Customer Service queries					
26. Account statement reconciliation with your ERP systems					

27. Please specify other uses.....

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Section C:

I. Internet Banking Systems benefits

The following statements indicate the benefits of using Internet banking. Please indicate by ticking to show the degree to which each applies to your firm.	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
1. Our banking tasks are accomplished quickly using Internet banking.					
2. Banking has become easy.					
3. Our banking has become more reliable.					
4. Transferring money to other banks has become easier.					
5. Internet Banking Systems have made Foreign exchange trading convenient.					
6. Our firm can now pay utility bills conveniently.					
7. Sending money to our suppliers has become faster.					
8. Frequent calls to the bank have reduced.					
9. Internet banking has increased efficiency in our workflow.					
10. Internet banking has reduced fraud in the organization.					
11. Making loan application has become easier.					

12. Internet banking has led to better information quality.					
13. Internet banking has assisted in offering improved customer service					
14. Internet banking has reduced the cost of banking.					
15. Use of Internet banking has reduced the number of trips to the bank.					

16. Please indicate any other benefits that have been realized because of the use of Internet banking in your organization:

a) ----------

b) ----------

c) ----------

d) ----------

e) ----------

f) ----------

g) ----------

h) ----------

II. Attitudes towards adoption

Please indicate your level of agreement or disagreement with the following statements	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
17. Using Internet banking service is a good idea.					
18. Using Internet banking is difficult.					
19. Using Internet makes banking services insecure.					
20. Use of Internet banking has few benefits.					
21. I would not be confident using Internet banking service.					
22. Given an option, I would wholly support the use of Internet banking in our firm.					
23. Internet banking is not compatible with my current work flow in the organization.					

24. Please specify any other reasons that will influence the way you feel about Internet banking Systems use in your firm:

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Section D: Challenges of the adoption of Internet Banking Systems

Please indicate by ticking as appropriate the degree to which the following challenges are applicable to your firm.	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
1. Computer literacy levels within the organization are a barrier in the use of the Internet banking systems.					
2. Limited growth of the ICT (Information, Communication & Technology) sector in Kenya is inhibiting the use of Internet banking systems.					
3. Current system support from the bank is not acceptable.					
4. Poor country Internet connectivity hinders successful use of Internet Banking Systems within the organization.					
5. Current organizational setup is a barrier to the use of the Internet banking systems.					
6. Employees have negative attitude towards the use of the Internet banking systems.					
7. Senior management commitment is lacking in the use of Internet banking systems in the firm.					
8. Poor IT infrastructure within the organization is a constraint in the use of the Internet banking systems.					
9. The organization does not support transacting outside the office e.g. when travelling or at home.					
10. Employee resistance is expected for fear of job cuts with the use of Internet banking.					
11. The technology is too expensive to implement for the organization.					
12. Internet Banking system is not very secure.					
13. Internet Service providers are not reliable					
14. The banks have inadequate back-up in case the Internet banking system is down.					
15. The bank providing the system does not provide					

adequate customer data security.					
16. The bank does not accept liability in case of any loss arising from the use of Internet banking system.					
17. Existing banking laws do not cover Internet banking.					
18. There is no provision for handling dispute resolution with the bank in case of any issue arising from the use of Internet banking systems.					
19. Reputation of service providers is wanting.					
20. There is a prevalent human resource constraint when it comes to use of Internet banking.					

21. Please specify any other challenges faced in the adoption of Internet banking systems.

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Appendix C:

LIST OF CORPORATES FROM NAIROBI STOCK EXCHANGE (May 2007).

1. East African Breweries Ltd
2. Bamburi Cement Company
3. Unilever Tea
4. Kakuzi
5. Rea Vipingo
6. Sasini Tea & Coffee Ltd
7. Car & General (K) Ltd
8. CMC Holdings Ltd
9. Hutchings Biemer Ltd
10. Kenya Airways Ltd
11. Marshalls (E.A.) Ltd
12. Unilever Kenya Ltd
13. TPS Eastern Africa (Serena Group)
14. Housing Finance Company
15. BOC Kenya Ltd
16. British American Tobacco
17. Kenya Power & Lighting Company
18. British American Insurance
19. CFC Life Insurance
20. Jubilee Holdings
21. Uchumi Supermarkets
22. Total Kenya
23. Scangroup Ltd
24. Jubilee Holdings Ltd
25. Kenya Oil Company
26. Athi River Mining Ltd
27. Kenya Orchards
28. Carbacid
29. Crown Berger
30. East African Cables
31. East Africa Portland Cement
32. Kenol
33. KenGen
34. Mumias Sugar
35. Olympia Capital Holdings
36. Sameer Africa Ltd
37. GlaxoSmithKline
38. Unga Group
39. A. Baumann
40. City Trust
41. Olympia Capital
42. Nation Media Group
43. Express
44. Williamson Tea
45. Kapchorua
46. Standard Group Ltd
47. KenGen Ltd.
48. Eveready EA Ltd
49. Pan Africa Insurance
50. ICDC Investments
51. Limuru Tea
52. Eaagads Ltd