

**A SURVEY ON THE ADOPTION OF ONLINE CREDIT OPERATIONS BY
COMMERCIAL BANKS IN KENYA.**

BY

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DECLARATION


This management research project is my original work and has not been presented for a degree in any other University.

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ABSTRACT

The proliferation and rapid advancements in technology based systems especially those related to the Internet have lead to fundamental changes in how organizations interact with customers. It was found that this trend is well established by commercial banks in Kenya, whereby banks have increasingly invested in technology to better secure their future in the electronic age. The aim of the study was to find out the extent of adoption of online credit operations by commercial banks in Kenya, the benefits to be realized, and the factors hindering adoption of online credit operations by commercial banks in Kenya.

A survey was conducted on the adoption of online credit operations by commercial banks in Kenya. A structured questionnaire was used to collect primary data and 36 responses were received from credit, marketing and ICT staff from the banks which was used to analyze the data. Data from all sections was analyzed using statistical software Statistical Package for Social Sciences (SPSS). Frequencies, means, percentages and standard deviations were used in data analysis and data presented inform of tables.

The results showed that, a majority of the respondents were from the large and medium size banks. Bank products/services that were seen to be widely accessible online being: electronic money transfer, cash deposit and withdrawals, inter account funds transfer, sms banking, request and receipt of bank statements. It was noted that online credit operations has not been adopted by commercial banks operating in Kenya. The challenges hindering it's adoption were identified to be: the high cost of acquiring computers and their maintenance, high cost of acquiring or having access to Internet, lack of knowledge about the current trends, lack of adequate security for over the Internet transactions and illiteracy among bank customers were the major factors identified to be hindering the adoption of online credit operations in Kenya. Unlike the findings in other developed countries, lack of top management support did not have a great impact on the adoption of online credit operations in Kenya.

The empirical evidence also confirmed a number of benefits enjoyed by banks and customers as a result of adoption of online credit operations. The benefits included:

Reduction in paper work; time saving; reduction in time required for loan application, approval, and disbursement of funds; and improved service delivery. However it was noted that adoption of online credit operations may not significantly lead to reduction in branch networks per bank and reduction in the number of credit staff per branch.

The empirical findings suggest that online credit operations has not been widely adopted in Kenyan banking industry. Its adoption would yield such benefits as reduction in paper work, time saving and lead to improved customer service. Further the evidence also reinforced the argument that security concerns, high cost of acquiring and maintaining computers and inadequate availability/accessibility of Internet are some of the major factors hindering the adoption of online operations.

Adoption of online credit operations by banks and their customers requires a lot of flexibility, a positive attitude towards change, and massive investment to enhance security for over the Internet transaction. Kenyan government should consider a further reduction in taxes on computers and there accessories. This would help to reduce the cost of acquiring computers, and their maintenance which is currently considered to be prohibitive. Although there has been some improvement in access to Internet due to its accessibility over the mobile phones, the government should consider providing computers, electricity and Internet connections to the most remote parts of the country to ensure equitable economic development.

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LIST OF ACRONYMS

ABC	African Banking Corporation
B2C	Business to Consumer E-commerce
AMFI	Association of Microfinance Institutions
ATM	Automatic Teller Machine
CBK	Central Bank of Kenya
DC	Documentary letters of credit
E-Lending	Electronic / online lending
EDI	Electronic Data Interchange
ICT	Information Communication Technology
IT	Information Technology
LAN	Local Area Network
LC	Letters of credit
MFIs	Micro Finance Institutions
PCs	Personal Computers
PoS	Point of Sale
SACCOs	Savings And Credit Co-operatives
SMS	Short Messages
SMEs	Small and Medium Enterprises
TQM	Total Quality Management
WAN	Wide Area Network

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

The proliferation and rapid advances in technology-based systems, especially those related to the Internet, have led to fundamental changes in how companies interact with customers (Baure *et al.* 2005). The banking industry has been on the lead in this increasing trend of investing in technology and automating various operations to avail banking services to their customers within the shortest distance and time possible. This challenging business environment in the financial and commercial banking industry in Kenya has resulted in more pressure on commercial banks to develop and utilize alternative delivery channels. This has led to the trend towards adoption of online credit operations by commercial banks in Kenya. This was aimed at improving service delivery, minimize operational cost, and time previously wasted by customers travelling to visit their bankers, improve customer perceptions, and encourage customer loyalty and retention (Parasuraman *et al* 2005).

Credit operations in banks generally refer to the provision of loans to banks customers while online credit operations refers to provision of loans products and services to banks customers over the Internet. However, Daniel (1999) defines it as the provision of information or services by a firm or bank to its customers via computer, telephone or television. A more developed service is one that provides the customers with the opportunity to gain access to their account, apply for loans and other services online, get them executed online, and buy products online via electronic means such as television, telephone or automated teller machines (ATMs) (Daniel, 1999).

The current trend in credit operations by commercial banks is provision of loan facilities to customers with or without bank accounts. Banks availability and use of credit facilitates the exchange of goods and services and the production processes. This has made such services of great importance in modern economies. In the process of providing

credit facilities to their customers, commercial banks charge their borrowers enough fee to cover for its costs and generate profit for its owners to ensure institutional sustainability.

By adopting online credit operations, banks make credit facilities easily available to their customers. Credit operations in most commercial banks account for almost 80 percent of the banks operating income (Central Bank of Kenya Monthly Economic Review, September, 2007). Much of commercial banks income is generated from loans application fee, maintenance fee, and interest charged by the banks.

Credit operations by commercial banks and other formal and informal financial institutions play an important role in the economic development of any country. They are a source of funds to individuals, organizations, and governments who need funds to meet their financial obligations. The Kenyan government has been a beneficiary of the commercial banks credit operations. The government has been borrowing from the banks through treasury bills and bonds to meet its budget deficit, and in turn the banks benefit from the interest earned by lending to the government.

In the last two years, there has been increased demand for credit products by bank customers leading to congestions in the banking halls (www.centralbank.go.ke), time wastage queuing, and also overworked credit staff in most commercial banks in Kenya. In order for banks to cope with the increasing challenges in their credit operations, the current trend is the move towards adopting Online Credit Operations/E-loaning/e-financing. This technology has reached a stage where practical application is possible in Kenya and other developing countries (Muganda, 2001). A combination of technology platforms, standards, legislation, and adoption trends are converging to provide real solutions for reducing production costs and optimizing staff resources (Ibbotson and Moran, 2003).

Today, a combination of electronically generated and mechanically imaged paper-based loan documents are the best strategy for most lenders. With the current rise in unemployment and more people turning to self employment, the need for bigger credit

facilities for capital has risen. This means that there are more transactions carried out in the banks credit department which is a challenge to manual operating systems. Therefore adopting online credit operation is of great advantage to dealing with increased demands to handle more credit operations (Ibbotson and Moran , 2003).

There are studies that have been done by researchers on the banking Industry in Kenya. A study was done on Total Quality management Practice in Kenya commercial banks (Githaiga 2003); Adoption and usage of automatic teller machines services installed by banks in Nairobi (Onyango, 2004). In his study Onyango noted that there was some resistance to change by customers from the traditional manual systems of cash deposit and withdrawal to use of Automatic Teller Machines (ATMs). He found out that resistance to change was one of the factors hindering effective use of ATMs in Kenya.

Other studies have been done in developed and developing countries of the world. Zheng (2005) conducted a study on the adoption of virtual banking in China. He aimed at identifying factors affecting/hindering the adoption of electronic banking/ e-banking. [Some of the major factors were identified to be: Security concern, Internet availability and accessibility, customers convenience, awareness, attitude towards change for both banks and their customers, high cost of computers, and limited access to Internet services. This are the factors hindering the adoption of online credit operation in Kenya's banking industry.

Globally, online operations in other areas such as cash deposit, withdrawals, electronic cash transfers among others have lead to customers' convenience in accessing banks products and services. It has been perceived to lead to reduction in operating costs since most of the tasks are automated and less credit staff is required. This helps organizations to reduce some of their operating costs, like cost of purchasing stationery. It also helps to reduce selling and advertising cost while increasing sales volume.

The online operations potential clientele can obtain credit information from the banks website. Again, one does not necessarily have to appear physically in the bank to obtain

the loan. It has been suggested that online operations lead to improved communications between the bank and the outside world whereby customers and the public can post their complaints and suggestions on the banks website. This leads to better customer orientation and service (Parasuraman *et al*, 2005; Baldock, 1997).

Limited understanding of the online credit operations in Kenyan banks and the benefits derived from the adoption of this technology are also factors that have hinder adoption of online credit operations. Thus, there is a need for a researcher to gain understanding of the extent of adoption, the benefits, and challenges experienced while trying to adopt this new technology.

1.2 GENERAL BANKS OPERATIONS

Most commercial banks now provide “one-stop shopping” for the typical retail customer, corporates and the government. Commercial banks perform a number of activities which include, taking deposits and making payments, provision of credit/loan facilities, transferring money across branches, banks and across nations globally. Other services include, Provision of bank guarantees, letters of credit, foreign exchange services, banks also act as financial consultants providing credit and other forms of financial, investment and tax advice to their customers.

Mobilization of savings offer savers and borrowers the opportunities for economic and social development. Due to the advancement in ICT, some banks have found new ways of funds transfer with K-Rep Bank, Equity bank among others are working in conjunction with Celtel, Safaricom and Packetstream, and some supermarkets like Nakumatt. They have also developed simple and convenient ways of money transfer services using community payphones, Mpesa, Sokotele and over the counter withdrawals and payments of utility bills. There is international money transfer services carried out by most commercial banks using SWIFT CODES provided to banks (www.equitybank.co.ke).

1.3 ICT IN BANKING AND ONLINE CREDIT OPERATIONS

Online operations in Kenyan banking industry are steadily growing as a result of vast improvements in ICT. With the current trend, Kenyan banks are increasingly seeking to provide general banking facilities online. Internet banking is slowly and steadily gaining ground. Banks have set up websites which publish corporate information and allow customers to carry out some form of transactions though limited in most cases. Despite the growing focus on Internet banking, all banks are not moving at the same pace. Some still have only informational websites. The initial advances that have been made in electronic banking are steps in the right direction and could be motivator in the adoption of more advanced technologies.

Online credit operations has not been fully embraced by banks in Kenya and this is evident from the long waiting lines in the banking hall(s) and specifically credit sections. Customers wait considerably to pick loan application forms from the credit officers, fill the forms and queue back waiting for the loans to be approved leading to congestion. There is also lack of adequate information about banks products and services in the banks websites. Customers are forced to physically walk into the banking halls to get information again translating into long queues at the enquires desks. Most banks websites do not have a customized page where customers can fill in loan application forms and submit them online for approval by the credit officers.

Online credit operations has significant advantages and organizations are adopting it as a means of expanding markets, improving customer service, reducing costs, and enhancing productivity (Wenninger, 2000). Online operations make intermediation possible by eliminating the middleman (Turban et al., 2004). Other efficiencies include reduced inventory and round the clock access to banks products and services at a minimal cost. Online operations enable higher customization (Choi and Whinston, 2000) allowing organizations to improve customer service. A vital benefit of online operations to banks and other organizations is access to global markets which enables businesses to expand their reach (Senn, 2000).

According to Guardia (2001) banks can implement online operations by ensuring full utilization of electronic commerce, working together with other organizations in payment and communication systems, ensuring that the necessary infrastructure for ecommerce is available, and also ensuring that they have the necessary infrastructure to deliver services via ecommerce. Banks have increasingly sought to provide general banking facilities online. They have also set up websites that carry corporate information and allow customers to carry out some form of transaction though limited in most cases.

The main obstacles perceived to hinder adoption of online credit operations in banks in developing countries are: lack of adequate communication infrastructure; lack of top management support; inadequate ICT training and knowledge; complex and rigid organizational structures for both customers and bank staff; lack of technical know-how; security concerns; Low internet usage; and clients' unwillingness to break from the tradition of human interaction between the customers and the operators (Onyango 2004).

1.4 BACKGROUND OF BANKING INDUSTRY IN KENYA

Commercial banking system in Kenya begun in 1890s with the National Bank of India which opened a branch in Mombasa. Later, in early 1900 the Standard and Barclays banks opened branches in Mombasa, Nairobi and Kisumu. The main function of the commercial bank system during those early years was to finance multinational trade (www.centralbank.go.ke). As of June 2007, there were 45 financial institutions, comprising of 42 commercial banks, 2 mortgage finance companies. There were 95 forex bureaus and one non-bank financial institution. Family Finance Building Society was the only remaining building society and converted its operations to a commercial bank with effect from April 30th 2007 (Central bank of Kenya report 2006/2007).

Most of the commercial banks in Kenya are publicly owned enterprises with a majority of the share holders being the locals. Some banks are quoted in the Nairobi stock exchange to give more Kenyans the opportunity to buy their shares. There are a few banks that are owned by foreign investors like the African Banking Corporation (ABC) which is a

family business, Bank of India owned by the Asian investors in Kenya which was the first bank in Kenya. It commenced its operations at Mombasa City in the early 19th century.

Today, business organizations especially those in the banking industry operate in a complex and competitive environment characterized by changing conditions and highly unpredictable economic climate. Information and Communication Technology (ICT) is at the centre of this global change curve (Muganda, 2001). The application of information and communication technology concepts, techniques, policies, and the implementation strategies to banking services has become a subject of fundamental importance. They have indeed become prerequisites for local and global competitiveness.

The banking industry in Kenya has been undergoing major dramatic changes in order to ensure that banks are able to adapt to the changing environment. Most of the changes relate to the external environment with which organizations have to interact. The emergence of major forces such as intense competition, customer awareness, technological advancements and product/service proliferation has posed a lot of challenges to organization traditional practices. There has been continuous improvements in existing banking products and services and also introduction of new products to cater for some market segments like the sharia friendly account for the Muslims. This is a market segment that had been neglected by some banks like national bank among others. There has been increased flexibility in making some operational areas like loans approval whereby customers can now get loans in a day or hours decision.

The survival and growth of organizations in an increasingly turbulent environment depends on the effective utilization of the most modern information communication technology (ICT) and also the adoption of total quality management (TQM). These ensure continuous (KAIZEN) improvement of their products, services and systems (Onyango, 2004).

1.5 STATEMENT OF THE PROBLEM

Online credit operations are proving to be important for economic development in developing and developed countries. In Kenyan commercial banking industry, credit operations account for almost eighty percent (80%) of the banks operating income. Although there are several benefits to banks and customers as a result of adopting online credit operations, this technology is yet to be fully accepted and embraced in Kenya. It is for this reason that the researcher carried out a study on adoption of online credit operations by commercial banks in Kenya. Further, in view of the fact that this technology is not fully accepted, one may question if there are major benefits enjoyed and may seek to find out factors hindering adoption of online credit operations in the commercial banking industry in Kenya.

From the literature review, it is evident that some studies have been carried out on banking in Kenya and other developed countries of the world. For Example, Zheng (2003) carried out a study on adoption of virtual banking in China. The aim of the study was to identify factors affecting the adoption of electronic banking/e-banking. However, there are no studies that have been done on the adoption of online credit operations by commercial banks in Kenya, hence the need for this study.

This study sought to answer the following research questions: To what extent has online credit operations been adopted by banks in Kenyan? How are the banks and customers likely to benefit as a result of adopting this technology? What are the Challenges hindering adoption of online credit operations?

1.6 RESEARCH OBJECTIVES

- (a) To determine the extent of adoption of online credit operations in commercial banks in Kenya .
- (b) To determine the benefits gained by banks and customers by adopting online credit operations.
- (c) To establish factors hindering the adoption of online credit operations in Kenya.

1.7 IMPORTANCE OF THE STUDY

- (a) The findings will be important to academics and researchers as a basis for further research.
- (b) Findings can be used by banks and other organizations to appreciate and perhaps employ online operations and realize its benefits.
- (c) Findings can be used by the central bank and the government of Kenya in policy formulation to control and regulate the operations of the commercial banks and other financial bodies operating in Kenya.

CHAPTER TWO: LITERATURE REVIEW

2.1 BANKS CREDIT OPERATIONS

The current trend in credit operations by commercial banks is the provision of loan facilities to customers and non customers of banks. Banks availability and use of credit facilitates the exchange of goods, services and the production processes (<http://en.wikipedia.org>). These have become very important in financial service delivery in modern economies. One can hardly visualize a modern economy that works without credit. In the process of providing credit facilities to their customers, commercial banks charge their borrowers enough to cover its costs and generate a profit for its owners to ensure institutional sustainability (Scott and Koch, 2006).

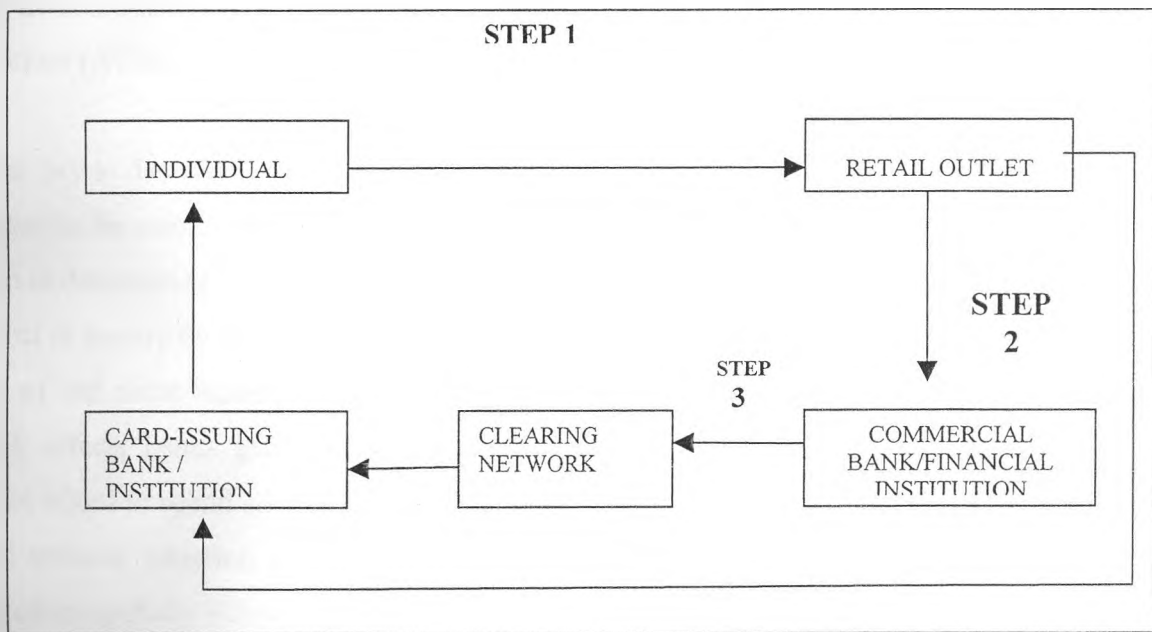
Agriculture/farming is one of the major economic activity in Kenya and a major contributor to the countries gross domestic product. This has forced the Kenyan government to work in conjunction with commercial banks to ensure adequate funds are allocated for provision of agricultural loans during their planning. Provision of agricultural credit through the mainstream commercial banks has increased slightly following the recent innovative products associated (www.equitybank.co.ke) with retail banking such as loans to tea, poultry, and dairy farmers. There has been reduced bureaucracy, excess liquidity as investment opportunities are thinned following reduction of government/treasury bills which was estimated to contribute fifty percent of the bank's income. However, the commercial bank's contribution to agricultural sector remains insignificant. This is so because most farmers in the remote areas of the country receive credit services from cooperatives and other informal sources like shylocks, self help groups, merry-go-rounds and community associations.

There are other modern forms of lending by commercial banks like Credit card lending which is part of credit operations for commercial banks. It involves issuing plastic cards to qualifying customers (Scott and Koch, 2006). Although some banks issue cards with their own logo and support the cards with their own marketing efforts, most operate as franchises of Master card or Visa cards (www.centralbank.go.ke). All cards prominently display the Master card and Visa cards logos with the issuing bank's name. The primary

advantage of membership is that an individual bank's card is accepted nationally and internationally (Scott and Koch, 2006). While banks in Kenya have been pushing customers to use debit cards, they have not been aggressive in developing alternatives like smart cards, which is currently dominated by foreign competitors.

Credit cards are attractive because they provide higher risk-adjusted returns than other types of loans. The credit card issuers earn income from charging card holders fees, charging interest on outstanding loan balances, and discounting the charges that sellers accept on purchase. Figure 2.1 illustrates the process involved in the use of credit card.

FIGURE 2.1 CREDIT CARD TRANSACTION PROCESS



Adapted from Scott and Koch, 2006 pg 420

As shown in Figure 2.1, the first step in the use of a credit card for a transaction is when the card holder gives the card to the seller after carrying out some business transaction or credit purchases for goods and services. After accepting the card the seller inserts it into an electronic component like a computer to record the credit transaction/purchase. The seller then deposits the purchase slip or electronically transmits the purchase data to buyers local bank. In the third step, the seller's local bank forwards the transaction

information to clearing network which routes the data to the bank that issued the credit card to the individual (buyer / customer). Finally, the card issuing bank sends the individual an itemized bill for all the credit purchases and the individual is required to settle their dues within the specified and agreed period of time.

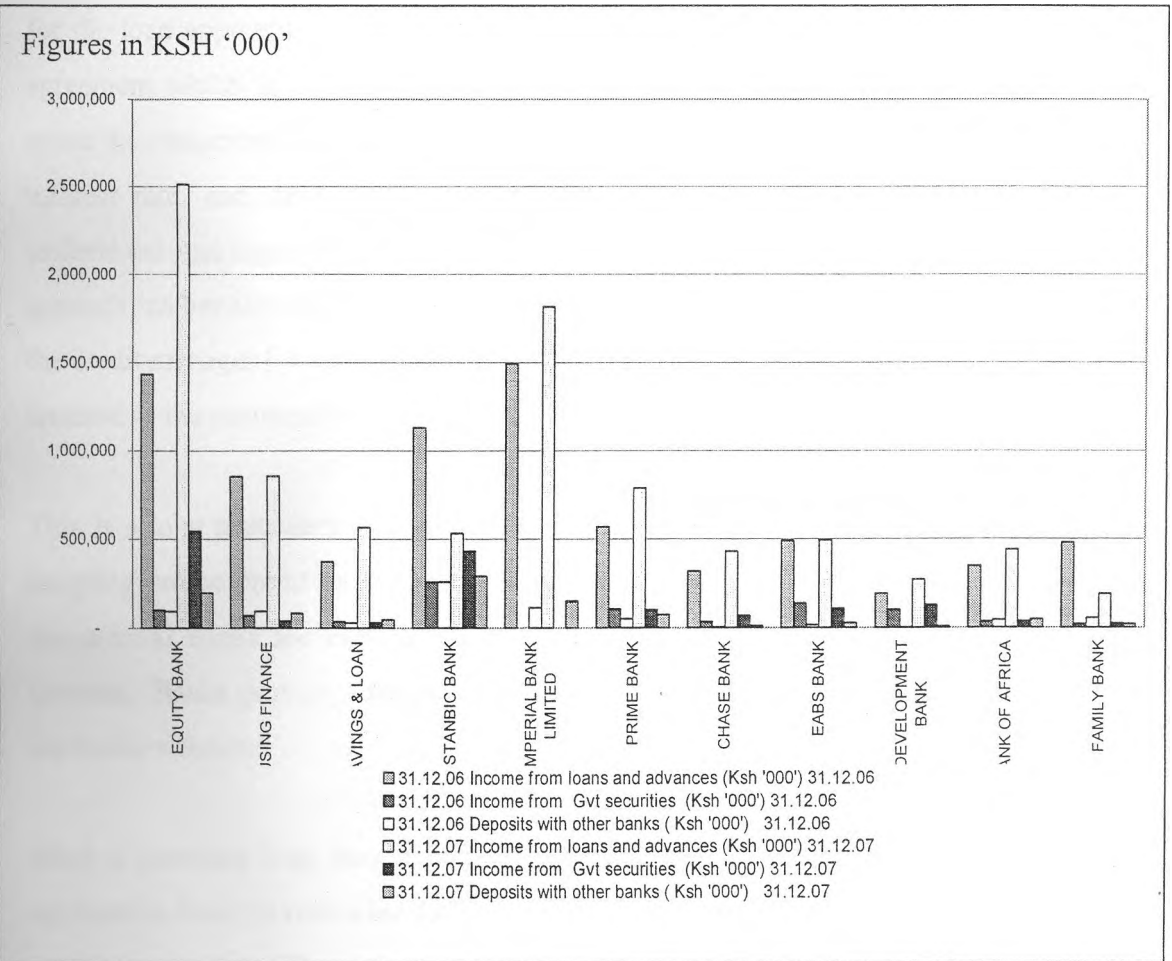
Banks throughout the world are investing in technologies that promote debit cards, smartcards, and prepaid cards. Debit cards are widely available and have recently taken over the Kenyan economy as the most commonly used as a means for transaction (Scott and Koch, 2006) When an individual uses a debit card, his/her balance(s) at the bank is immediately debited i.e. funds are instantaneously transferred from card user's account to the account of the seller. Banks prefer customers using debit cards over checks because they have lower transaction processing costs compared with checks and automated teller machines (ATMs) unnecessary (Scott and Koch, 2006).

In the day to day credit operations, banks have to determine an appropriate approach to be used in the management of credit operations, and appropriate steps and measures to be taken in determining of the characteristics of "good" borrower. This has always been the subject of inquiry by various lenders both in domestic and international financial markets. Cost of bad debts incurred from non-payers and slow payers is a major source of loss which affects banks profitability and consequently their value. Lending institutions cannot afford to spend a lot of time to scrutinize the application of each applicant and the trend towards adoption of online financing by commercial banks and other lending institutions globally (Ehsan, 1989).

As illustrated in Figure 2.2, much of commercial banks income is derived from interests paid lending individual and cooperate borrowers. The borrower uses the funds for domestic purposes as well as investment purposes. The government also borrower from commercial banks to finance its budgetary deficits and to ensure smooth operation in all its institutions. On the other hand, commercial banks earn income from lending to the government. Interest from government securities is another major source of operating income for commercial banks.

Banks and financial institutions borrow from each other to meet the controlling bodies' requirements like overnight borrowing among banks to meet the Central Bank's required minimum balance to be maintained by these institutions at the end of the day. This is clearly demonstrated in Figure 2.2 income from loans and advances for most banks in the financial year 2006 and 2007 contributed almost eighty percent (80%) of total operating income for most banks. This demonstrates why credit operations in commercial banks are of great importance in an economy.

FIGURE 2.2 A COMPARISON OF COMMERCIAL BANKS OPERATING INCOME GENERATED FROM CREDIT OPERATIONS.



Data Compiled from Daily Nation dated March 8th, 11th, 12th, 14th, 21st, 28th. 2008.

2.2 LOAN APPLICATION PROCESS

Most of the commercial banks in Kenya require customers seeking loan financing to have an active savings or current account with the bank. When a customer is in need of a bank loan, he/she is required to physically present himself/herself to the bank and specifically to the branch where they have an account. The customer usually has to queue for hours in the banking hall to inquire from credit officer if loan services are available and if he/she qualifies for them before he/she can be issued with a loan application form.

After receiving the loan application form, the customer fills in the blank spaces provided in it and may have to queue again to hand in the form to the credit officer and then waits for the loan approval. After the loan is approved, the credit officer prepares a letter of agreement which is a binding contract between the bank and the customer. It clearly states the customers' name, age, account number, postal address, type of loan applied for, interest rate, and the amount of money applied for. After the customer has read understood, and signed the letter, the credit officer opens a loan account for the customer, appends his/her signature on the loan application forms and forwards the documents to the credit manager (s) for approval. After the approval by the credit manager(s) funds are credited to the customer's bank account (www.wikipedia.org).

This is a long procedure whose complexity and cost of operation can be minimized by adopting online credit operations (www.centralbank.go.ke). Online credit operations in commercial banks are carried out by connecting the banks information system to the Internet. Banks provide adequate information about their products and services through the banks website.

After a customer logs into a bank's website, a customized page containing the loan application form (s) is availed to the customer by selection of the appropriate fields. The customer can then fill out the form online. The system is set in such a manner that all mandatory fields must be filled out before one can move to the next field. This helps to ensure that customers submit fully completed forms. Once the form is fully filled out, it

is sent to the bank's credit section over the Internet. The credit Officer responsible acts on the loan application immediately and sends a feedback/results notification to the customer on the success or failure of the application. If the application was successful a contract letter is prepared and sent to the customer before the funds can be credited to the customers account.

2.3 APPLICATION OF ICT IN BANKING OPERATIONS

One of the most significant implications of technological advances in the banking sector is the possibility of delivering banking services through electronic channels (Ong Hway-Boon, 2003). E-channels provide alternatives for faster delivery of banking services to a wider scope of customers. Nowadays, e-channels are gaining increasing popularity in delivering banking services where by bank branches alone are no longer sufficient to cater for banking services of today's sophisticated customer (s). The provision of banking services through electronic channels (e-channels) namely ATMs, PC banking, and phone banking has provided an alternative means to acquire banking services more conveniently (Ong Hway-Boon, 2003).

Technological advancements have introduced new ways of running operations, new products and services and lead to acquisition of new market share locally and abroad. Most banks are now using ATMs, which allow people to withdraw and deposit cash as well as obtain account balances around the clock (Onyango, 2004).

In the current financial system, there is intense competition, growing customer financial sophistication, need to improve profits to cover the increasing costs, and inflation and expansion. These factors have gradually brought about the need for banks and other financial institutions to use the most modern technology in some of their operational functions. Although with some initial reluctance, banks in industrial and industrially developing countries are now adopting sophisticated tools to take care of customers' needs. In these countries, e-finance is now beginning to thrive as a diffused delivery channel for many financial services. This is because; it yields many advantages in terms

of speed of delivery, precision and cost. Developing Countries are thus becoming progressively aware of the need to catch up on the latest technologies, not only to follow trends but also to enable their businesses to compete.

There are various forms of ICT utilized in banking with the main aim of improving operations while maintaining low operational costs and hence improved profitability. ATM or the automatic teller machines, is the most commonly used electronic distribution channel (Dewan and Kraemer, 2000) that enables bank customers to conduct their banking transactions (deposits, withdrawal or balance enquiry) 24-hours a day.

Phone banking is the second delivery channel that provides services such as account balance enquiry, instructions to issue bankers cheques and give standing instructions; while Home banking and office banking is the third form of e-banking. PC banking could be done via Web-based or Internet. By using a personal computer that is equipped with a modem and loaded with the necessary software, consumers can access many banking services at home or office. PC banking allows customers to check account balances, credit card activity, and transfer funds and pay bills. A fourth e-channel that is currently available in some of the leading world economies is the banking kiosk (also known as banking booth or virtual kiosk). Banking kiosk is basically the integration of phone banking, ATM and PC-based banking services, where customers are able to access their account either by telephone, ATM, or computer terminal.

Banking services through the Internet are limited due to security concerns and technological problems. For successful delivery of financial services through the Internet, Zheng (2005) discovered that financial institutions have to satisfy a vast range of complex customers, deal with competition from new entrants in the financial market, and constantly improve their services to maintain market share in the World Wide Web.

2.4 FACTORS INFLUENCING ADOPTION OF ONLINE OPERATIONS

Different researchers and scholars have identified different factors that can influence of hinder the adoption of online operations. Tornatzky and Fleischer (1990) identified three

different categories of factors Organizational, Technological and Environmental factors which influence the technological innovation decision.

2.4.1 ENVIRONMENTAL FACTORS

Researchers have identified the following common environmental factors relating to IT adoption (and specifically the adoption of Internet technologies): pressure from competitors, customers or suppliers, the role of government (incentives); partners' alliances; technological infrastructure, technology consultants; image of Internet technology; and users' expectations (Aguila-Obra and Padilla-Melendez, 2006). Pressure from external bodies that do business with the banks is of great importance in influencing the banks towards adopting the latest technology. This will help to retain customer and other valuable stakeholders in business. Banks ICT advisers are also vital in influencing technological changes. This is so because they are perceived to contain necessary information in ensuring more efficient operations and are also very informed of the current trends in the industry world wide.

2.4.2 TECHNOLOGICAL FACTORS

Technological factors include complexity, compatibility, relative advantage, ease of use and usefulness. The technological factors are related to barriers to technology adoption and its perceived benefits. The perceived benefits for managers could be direct, such as cost savings and income generation, or indirect, such as potential opportunities in new markets, marketing, or publicity. Thus, when adopting an innovation, organizations must perceive the positive effects of the adoption and its potential value before starting the process.

The availability of employees with competency for producing new ideas is important for ecommerce adoption. Organizational competency refers to the availability of employees with adequate experience and exposure to information and communication technology and other skills (such as business strategy) that are needed to adequately staff ecommerce

projects (Molla and Licker, 2005). The management's level of understanding and its support for using IT to achieve organizational objectives may influence the adoption of IT innovation. Thus, an understanding of required technology for online operations and organizations business models can facilitate the adoption of online credit operations.

ICT capability refers to the level of ICT resources and personnel IT knowledge of an organization (Aghaunor and Fotoh, 2006). Access to adequate equipment in the organization is a major determinant of the adoption of new technologies. An organization's ability to appreciate an innovation, assimilate it, and apply it to new ways is largely a result of the firms preexisting knowledge in areas relating to the intended innovation. Adoption of online operations generally requires organizations to possess a set of IT-related skills and knowledge (Turban et al., 2004) such as telecommunication knowledge, IT security knowledge, and Internet application environment.

Perceived benefits refer to the extent of Shareholders and management's and customers recognition of the relative advantage of adopting ecommerce to the organization. Perceived benefits is an important factor in adopting of new innovations (Lacovou et al., 1995). Rogers (1995) defined relative advantage as the extent to which an innovation is perceived as better than the idea it supersedes or its nearest alternative. Relative advantage can be measured in financial terms. However, social status, comfort, and satisfaction are important factors as well. The amount of objective advantages of an innovation has a great effect, what affects adoption of an innovation is whether the innovation is viewed as advantageous. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption will be (Rogers, 1995). This view is supported by Lacovou et al. (1995); they found that perceived benefits have a positive effect on the likelihood of EDI adoption.

The higher the appreciation of the benefits of ecommerce by shareholders management, and customers the more likely they are to set aside organizational resources necessary to adopt and implement online operations.

Perceived complexity refers to the degree to which an innovation is perceived as difficult to understand and use. New ideas that are simpler to understand are adopted faster than those requiring the adopter to develop new skills and understanding (Rogers, 1995). Rogers (1995) state that the complexity of a technology has a major effect on the adoption decision, and complexity is a strong inhibitor of intent to adopt innovation.

Market e-readiness refers to “the assessment that an organization’s business partners such as customers and suppliers allow an electronic conduct of business” (Molla and Licker, 2005). For ecommerce to thrive sellers and buyers have to be willing to exchange goods and services for money online (Turban, 2004). Thus, an organization considering adoption may first examine the willingness of its existing customers and suppliers to do business online or the likelihood of generating new business online.

2.4.3 ORGANIZATIONAL FACTORS

The organizational factors that have been mostly cited in literature include: IT users’ community, organizational structure, firm’s processes, firm size, technological capabilities of the organization’s members, the technological and financial resources available, the culture of the organization; process of selecting and implementing the IT, management backing and support for the project, and the project leader (Aguila-Obra, and Padilla, 2006).

According to Tolbert and Zukar (1983), innovation of IT would be more likely if the political environment within an organization has norms favoring the change. Thus, adopting online credit operations will depend on whether support from top management is available. Top management support has been identified as crucial in the acquisition and diffusion of innovation. Top management consists of individuals with power and authority to make strategic decisions, who can develop a clear-cut operations vision and strategy while at the same time sending signals to different parts of the organization about the importance of online operations.

Adoption of online operations can influence an organization's competitive position as well as its business relationships. Therefore, it is important that top management need to get involved in order to gain a good understanding of the issues surrounding online operations and mobilize organizational stakeholders (Epstein, 2004).

2.5 BENEFITS OF HAVING ONLINE CREDIT OPERATIONS

The Internet environment is increasingly being seen as a means to provide a new platform for global business and will potentially shift business strategies for most banks and other organizations (Muganda, 2001). Many people regard the changes afforded by the new digital technologies to be so significant that the phrase "new" or "digital economy" is now heavily used. This new technology is changing the way we think about business in general (Muganda 2001). It is affecting valuation, investment, product supply chains, business linkages, regulations, and accountability.

Online credit operation is perceived to be revolutionizing the traditional business supply chain. There has been disappearance of the middleman in business dealings and changes to the ownership of the supply chain. Using digital technologies such as e-commerce and the Internet makes it possible for the entire supply chain to be managed (but not necessarily owned) by one firm.

With online credit operations, there is wide availability of banks products and services over the Internet for customers to chose. Customers face a dilemma of choice. Leading authors on the subject of "digital" or "new" economy support the notion of unparalleled customer demand for wide product availability and service (Zheng, 2005). The Internet offers consumers an unparalleled information source and vast product range to choose from, something that was not possible before the advent of this technology. Another important element of consumer satisfaction with banks and firms in the B2C sector is the speed of product delivery. Consumers expect faster turn around times with the advent of online ordering.

Online operations enable banks to offer Electronic Funds Transfer (EFT) services. EFT systems use a variety of information technologies to capture and process money and credit transfers among banks and businesses and their customers. EFT systems allow customers or businesses to use credit cards or debit cards for instant transactions. This helps to eliminate time and money used while travelling to the bank to make a transaction.

Technology has been increasingly employed in service delivery and quality to reduce cost of operations and to standardize service offerings. Adoption of online operations leads to instantaneous response to customers' queries and concerns. With online credit operations a customer can log in to a banks website from any location in the country or over the glob. He/she can obtain any necessary information about the type of loan or any other service he/she would like to request for without necessarily having to visit a banks branch physically (Parasuraman *et al*, 2005). Having online operations helps organisations reduce the operational cost due to minimal bank personnel required per branch, reduced in the cost of stationary, paper work, and time for both the customers and bank.

When a bank has online operations, there may be no need for it to have many physical branches all over the country. Banks staff work from any location and customers do not necessarily have to walk into a banking hall to receive bank services. By automating banks products and services, banks are also able to reduce service time from when a requests for a service is made to when the actual service is delivered to him/her because machines have minimal errors and are faster than manual systems and also minimal errors are made. This helps to save time and costs for both the customers and banks.

2.6 DISADVANTAGES OF ONLINE CREDIT OPERATIONS

As much as there are advantages of online credit operations, there are some disadvantages of adopting this technology. Adopting on line credit operations in the banking sector will lead to reduction in the banks physical branches resulting to reduced number of bank staff required. This leads to retrenchments and increase in the unemployment, a factor that hurts the economy (Zheng, 2005).

Internet is the backbone of online operations. Internet is a global network of computers linked through telephone networks or setlight. Failure in Internet connection can lead to massive losses by the banks emanating from loss of business during the time when customers can not carry out transactions, to legal matters in case of fraud. A failure in Internet connection can lead to delays in response to customer's requests leading to inefficiencies in service/product delivery.

2.7 FACTORS / CHALLENGES HINDERING ADOPTION OF ONLINE CREDIT OPERATIONS

In the year 2001, Agbooda studied the impact of ICT in banking operations in Lagos Nigeria (Agboola, 2001). He found out that the adoption of ICT in banking has tremendously improved the service of some banks to their customers in Lagos. Further studies were also conducted in china by Zheng (2005) on the adoption of virtual banking in China with an aim of identifying the factors affecting the adoption of electronic banking/ e-banking. Zheng (2005) identified some of the major factors which are: Security concern, Internet availability and accessibility in the developing countries, Customers convenience, awareness, attitude towards change for both banks and their customers, high cost of computers and limited access to Internet services.

These are/may be some of the factors hindering the adoption of online credit operation in Kenyan banking industry. The research is aimed at gathering relevant information using a structured questionnaire to help obtain primary data from bank staff specifically those in Credit, Marketing and IT departments. According to the 2004 Pew Internet and American Life Project, approximately 53 million Americans are banking online. However, many Web users do not trust online financial institutions to protect their accounts. Phishing scams (an attempt to criminally and fraudulently acquire sensitive information), identity theft, and other forms of online fraud have become part of the popular mainstream culture. The sensational nature of such cases has made many online banking users and potential users more aware of the negative aspects than the positive.

While a number of industry and governmental forces are combining their efforts to fight Internet fraud, financial institutions continue to invest heavily in online services (Ong Hway-Boon, 2003). The benefits are too great to turn back, despite worries about security. Online banking is expected to continue to grow and become more profitable for financial institutions, particularly as the Internet matures and subsequent generations become more technologically literate (Ong Hway-Boon, 2003).

2.8 SUMMARY AND CONCLUSION

The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness. Online credit operations paves way for ease and free access to banks products and services in spite of customer's location in the glob (Zheng, 2005). It also helps reduce time and unnecessary costs incurred by banks and customers when manual systems and procedures are heavily relied on.

Although there are many benefits to banks and customers from the adoption of online credit operations, this new technology is yet to be fully accepted and embraced in our Kenyan context (Muganda, 2001). Lack of top managements support, inadequate ICT training and knowledge, complex and rigid organizational structures, for both customers and bank staff, lack of technical know-how, security concerns, low Internet usage and clients' unwillingness to break from the tradition of human interaction between the customers and the operators are perceived to be the factors hindering adoption of online credit operations. Although similar studies have been done in developed countries of the world, the on-transferability of the findings is not the only reason for the necessity of this study but also limited understanding of the extent of adoption of online credit operations in Kenyan banks and the benefits derived from adoption of this technology as well as the factors hindering adoption of online credit operations.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 RESEARCH DESIGN

The study was a survey on the adoption of online credit operations by commercial banks in Kenya. A survey was most preferred for this study because online credit operations in the banking industry in Kenya has not been adequately studied. It was perceived that while using this method, the researcher would be able to collect adequate information under all categories of the banks as shown in Appendix III that can be used to generalize the findings of the study.

3.1 POPULATION AND SAMPLING

The population for this study comprised of banks staff specifically those in credit, IT, and marketing departments in the various banks. Judgmental sampling technique was used to ensure that five respondents were chosen from each bank and also that the chosen respondents belonged to one of the target groups. Credit, IT, and marketing staff were most preferred for this study because they have some knowledge of the banks credit products/services and also the credit operations procedures and requirements that are followed by their bank. The respondents selected were those based in Nairobi because it is where most banks have their head offices and at least one branch is located in Nairobi.

3.2 DATA COLLECTION

Data was collected using a self-administered questionnaire which was divided into four sections as shown in Appendix II. Drop and pick later method was used in administering the questionnaire(s).

Section A sought for data on respondents' demographics and general bank products. Section B sought for data on the extent of adoption of online credit operations. Section C sought for data on the benefits of having online credit operations and lastly Section D gathered information on factors/challenges faced in adopting online operations.

3.3 DATA ANALYSIS

Data was fed into the statistical software SPSS which was used for the data analysis. The analysis for the first section of the questionnaire involved the calculation of percentages and frequency tables were used to present the data for this section. The analysis for the second section which was aimed at capturing information on the extent of adoption of online credit operations involved calculation of means and standard deviations and data was presented using tables. In Section C means and standard deviations were calculated using SPSS and data presented using a table. In Section D percentages were calculated and both frequencies and percentages presented using a table. Frequencies and percentages were also calculated, present in table(s) and used to interpret data in the open ended questions.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

The survey results are presented in four main sections namely: Demographic characteristics of respondents and general banks products/services, extent of adoption of online credit operations, benefits derived from adoption of online credit operations and challenges facing adoption of online credit operations by commercial banks in Kenya.

4.1 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS AND GENERAL BANKS OPERATIONS.

Tables 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5 and 4.1.6 contain information on respondents demographics (Gender, Age, and Years of service), banks that were represented in the study and general bank products/services provided online.

TABLE 4.1.1 Respondents Gender

GENDER	FREQUENCY	PERCENTAGE
Men	22	61.10%
Women	11	30.60%
Unclassified	3	8.30%
TOTAL	36	100.00%

Data source: Primary data

As shown in Table 4.1.1 “Respondents gender”, the majority of the respondents were men (61.1%), while women had a low representation of 30.6%. The total number of responses was 36 which was considered a large sample in this case and was used to make generalizations for the study.

TABLE 4.1.2 Respondents Age

AGE	FREQUENCY	PERCENTAGE
26-35 Yrs	24	66.70%
18-25 Yrs	7	19.40%
36-35 Yrs	2	5.60%
Under 18 Yrs	1	2.80%
Over 55	1	2.80%
Unclassified	1	2.80%
TOTAL	36	100.00%

Data source: Primary data

As shown in Table 4.1.2, a majority of the respondents fall in the age group 26 to 35 years, while those over 55 years of age forming the minority.

TABLE 4.1.3 Banks Represented

NAME OF THE BANK	FREQUENCY	PERCENTAGE
Kenya Commercial Bank (K.C.B)	8	22.20%
Co-operative Bank of Kenya	6	16.70%
Family Bank	4	11.10%
NIC Bank	4	11.10%
Eco Bank	3	8.30%
National Bank of Kenya	3	8.30%
African Banking Corporation (ABC)	2	5.60%
Consolidated Bank of Kenya	2	5.60%
Transnational Bank	2	5.60%
Equity Bank	1	2.80%
Un classified	1	2.80%
TOTAL	36	100.00%

Data source: Primary data

From Table 4.1.3 above it is clear that a majority of the responses came from the large banks (61.1%), medium size banks had a response rate of 24% while the small banks had the lowest response rate of 11.2% . See Appendix III for banks classifications.

TABLE 4.1.4 Years of Service (Banking)

YEARS	FREQUENCY	PERCENTAGE
1-5 Yrs	14	38.90%
Less than one year	13	36.10%
6-10 Yrs	4	11.10%
Over 15 Yrs	4	11.10%
11-15 Yrs	1	2.80%
TOTAL	36	100.00%

Data source: Primary data

It was found out that most of the respondents have been in the banking industry for a reasonable period of time. The empirical results indicated that 38.9% have been in the industry for a period ranging between one to five years and thus were presumed to have adequate knowledge on credit operations and general banks operations, rules and

procedures. Those who have been in the industry for over ten years were the minority with a representation of 2.80%. Results also indicated that banks are recruiting new employees due to expansion in branch networks and this is portrayed by the high response rate of 36.10% of the respondents who have been in the industry for a period not exceeding one year.

TABLE 4.1.5 Accessibility and Usage of Banks Network in Service Delivery

	FREQUENCY	PERCENTAGE (%)
Daily	13	36.10%
Hourly	11	30.60%
Once per week	4	11.10%
None	4	11.10%
Once per month	3	8.30%
TOTAL	35	100.00%

Data source: Primary data

Findings from the study revealed that most bankers have access and are able to offer online services on daily basis 60.70%, and only 3% of them were able to access the facilities only once per month.

TABLE 4.1.6 General Bank Products/Services Provided Online

PRODUCT / SERVICE DESCRIPTION	FREQUENCY	PERCENTAGE
Electronic money transfer	24	66.70%
Cash deposit and withdrawal	21	58.30%
Debit cards	15	41.70%
Visa cards	15	41.70%
Credit cards	14	38.90%
Bankers cheques	9	25.00%
Treasury bills and bonds	8	22.20%
Letters of Credit/Trade finance	6	16.70%
Travelers cheques	4	11.10%

Data source: Primary data

For “general bank products/services provided online”, it was found that electronic money transfer is the service that is widely provided online with a response rate of 66.70%, together with cash deposit and withdrawal (58.30%). Travelers cheques and letter dos credit/trade finance were identified to be the products/services that are not adequately offered online.

TABLE 4.1.7 Other operations carried out online

DESCRIPTION	FREQUENCY	PERCENTAGE
Sms Banking	5	13.90%
Bank statement and inter a/c funds transfer	4	11.10%
Deposit and balance enquiry	2	5.60%
Email communication	1	2.80%
Customer service	1	2.80%

Data source: Primary data

SMS banking was identified as another area where online operations has been adopted by banks in Kenya. Customers can carry out bank transactions using their phones without necessarily having to appear physically in the banking hall. Customers are also able to obtain bank statements online, carry out inter account funds transfer within the same bank if one has more that one bank account, and also the ability to communicate with their bankers over the e-mail.

4.2 EXTENT OF ADOPTION OF ONLINE CREDIT OPERATIONS

This section sought to capture data on the extent to which online credit operations has been adopted and applies in loan application, approval, disbursement of funds and loan repayment.

TABLE 4.2.1 Extent of adoption of online credit operations

DESCRIPTION	MEAN	STANDARD DEV.
Loan repayment	2.8610	1.6414
Credit cards	2.7880	1.5960
Bank overdraft	2.6670	1.4060
Salary advance	2.4290	1.5580
Letters of credit	2.3100	1.3391
Treasury bills/bonds	2.2500	1.4560
Working capital	2.2250	1.3834
Educational loans	2.1820	1.4675
Agricultural loans	2.0320	1.3034
Emergency loans	2.0290	1.2715
Corporate bonds	1.9640	1.3188
Medical loans	1.9060	1.3280
Average score	2.3030	

Data source: Primary data

From the Table 4.2.1 it was clear that online operations has not been adopted by banks in the loan application process, approval of the loans, and disbursement of funds and also in the loan repayment process. Having standard deviations of values ranging between 1.275 and 1.6414 this then implied that the respondents were not in close agreement in terms of their responses and thus they varied widely from one person to another. A mean of 2.303 on the five point likert scale questions indicated that responses indicate that online credit operations has only been adopted by banks to a very small extent.

4.3 BENEFITS OF ONLINE CREDIT OPERATIONS

There are various perceived benefits to banks and customers that can be enjoyed as a result of adopting online credit operations. These are captured in Table 4.3.1.

TABLE 4.3.1 Benefits of online credit operations

	MEANS	STD DEV.
Reduction in paper work	4.3330	1.17108
Time Saving	4.3330	1.01419
Ease in carrying out E-banking	4.3330	1.09545
Reduction in time to obtain loan	4.1667	1.11822
Convenience in making bank transactions	4.1389	1.07312
Improved customer service	4.0556	1.19390
Improved product/service delivery	4.0286	1.24819
Reduction in operational costs	4.0286	1.20014
Enhanced information sharing	4.0278	1.29804
Instantaneous response to customers requests	3.9722	1.27584
Improved delivery speed	3.9714	1.12422
Increased availability of customers information	3.9167	1.22766
Instantaneous submission of loan applications	3.8611	1.35547
Improved document circulation	3.8571	1.16677
Reduction of throughput time	3.8286	1.17538
Reduction in time spent filling application Forms	3.7780	1.24467
Minimal physical interaction btn bank staff and customers	3.6000	1.35470
Easy in loan approval	3.3889	1.24849
Reduction in advertising fees	3.3611	1.33423
Minimal time spent scrutinizing loan application forms	3.3056	1.21466
Few errors in data entry	3.2500	1.12960
Reduction in no. of credit staff per branch	3.0286	1.38236
Reduction in bank branches	2.3429	1.32716

Data source: Primary data

Under this dimension, the most highly rated perceived benefits achieved relate to reduction in paperwork, time saving, ease in carrying out E-banking, reduction in time to obtain loan, convenience in making banks transactions, improved customer service, improved product/service delivery and reduction in operational costs. They have means of 4.333, 4.333, 4.333, 4.166, 4.138, 4.055, and respectively 4.028. All the standard deviations have a value of less than two. A standard deviation of one implies that data was widely dispersed and that the responses received greatly varied from on respondent to another. This may be perceived to be influenced by banks classification and the level

of technology adopted. This indicated that responses were not in close agreement with regard to their responses to the questions.

However reduction in the number of bank branches, and credit staff per branch, few errors in data entry have been lowly rated as some of the benefits of adopting online credit operations in Kenya. This means that, even if online operations were adopted, banks may not necessarily lay off some of the credit staff they have, and close down some branches as ways of minimizing their operational costs.

4.4 FACTORS HINDERING THE ADOPTION OF ONLINE CREDIT OPERATIONS

There were various factors perceived to hinder the adoption of online credit operations. These factors may differ from one country to another. Table 4.4.1 presented factors hindering adoption of online operations in developing countries have an impact in developing and less developed countries.

TABLE 4.4.1 Challenges facing the adoption of online credit operations

FACTORS	INITIAL	EXTRACTION	PERCENTAGES
High cost of purchasing computers	1.000	0.934	93.4%
High cost of computer maintenance	1.000	0.926	92.6%
High cost of Internet	1.000	0.907	90.7%
Lack of clear understandable instructions	1.000	0.877	87.7%
Lack of knowledge about current trends	1.000	0.846	84.6%
Slow response by banks to customers requests	1.000	0.845	84.5%
Lack of customers confidence to be compensated by banks for losses incurred	1.000	0.814	81.4%
Customers unwillingness to adopt new technologies	1.000	0.800	80.0%
Unwillingness to adopt new technologies	1.000	0.796	79.6%
Need for physical interaction b/n service provider and customers	1.000	0.795	79.5%
Lack of top management support	1.000	0.795	79.5%
In accessibility of banks networks by customers	1.000	0.770	77.0%
Inadequate security for over the Internet transactions	1.000	0.766	76.6%
Limited or controlled access to Internet	1.000	0.757	75.7%
Banks reliability in correcting erroneous transactions	1.000	0.689	68.9%

Data source: Primary data

The highly rated factors were: High cost of acquiring computers, high cost of computer maintenance, and high cost of Internet with 93.4%, 92.6% and 90.7% respectively. Unlike the findings from some developed and other developing countries, lack of top management support was not factored as a major factor.

TABLE 4.4.2 Other Comments On Challenges facing adoption of online credit operations.

	FREQUENCY	PERCENTAGES
Hacking of Internet and lack of confidentiality	2	5.60%
Illiteracy among bank customers	2	5.60%
Time and resource wastage by bank staff	1	2.80%
Inability to determine borrowers character	1	2.80%
Missing system	30	83.30%
TOTAL	36	100.00%

Data source: Primary data

There were other factors that were provided by the respondents in the open ended question that influence/hinder the adoption of online credit operations by commercial banks and their customers in Kenya. These were: Insecurity for over the Internet transaction due to hacking and lack of confidentiality, illiteracy among bank customers, time wastage by bank staff chatting over the Internet, and inability to determine a borrowers character which is vital in lending to determine ones ability to repay the loan plus interest.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY AND CONCLUSION

The researcher carried out a study on adoption of online credit operations by commercial banks in Kenya. She aimed at determining the extent of adoption of online credit operations in commercial banks in Kenya, the benefits enjoyed as a result of having online operations and the factors hindering the adoption of online credit operations by commercial banks in Kenya.

The findings indicated that online credit operations have only been adopted to a small extent by commercial banks in Kenya. This online technology has been employed in credit operations, loan repayment, cash deposit and withdrawal, electronic funds transfer among other operational areas. The researcher identified some benefits enjoyed by customers and banks as a result of having online credit operations. They were noted to be: reduction in paper work, time saving, ease in carrying out bank transactions and reduction in throughput time (from when a loan is applied for to when funds are released). The empirical evidence confirms a number of challenges faced in adoption of online operations to be: security concerns, high cost of purchasing computers and their maintainace, high cost of accessing Internet and high level of illiteracy among bank customers.

The empirical findings expressed in Chapter Four suggest that online credit operations has not been widely adopted in Kenyan banking industry. Its adoption is perceived to yield such benefits as reduction in paper work, time saving and lead to improved customer service. Further the evidence also reinforces the argument that security concerns, high cost of acquiring and maintaining computers and inadequate availability/accessibility of Internet are some of the major factors hindering the adoption of online operations.

5.2 RECOMMENDATIONS

Adoption of online operations is of great benefit to both service organizations, service providers and their customers. Adoption of online credit operations by banks and their customers requires a lot of flexibility, a positive attitude towards change, and massive investment to enhance security for over the Internet transaction. This would help to ensure banks websites are secure enough for customers to trust in them and boost their confidence to transact online. Lack of clear understandable instructions to customers on banks website has been one of the major factors hindering the adoption of online credit operations. This could be avoided through customer involvement when developing banks website. This would help to ensure a clear customized page is available on banks website for ease in loan application.

There are other operational areas where online operations can be applied in Kenya. This technology can be applied to integrate the operations of Kenya revenue authorities with those of the Immigration department. It would help to minimize cost of acquiring some documents like Passports, Personal identification numbers, driving license, Identification cards and ensure they are all merged into one document and hence reduction in cumbersome procedures and time wasted when one has to acquire each document separately. Online flight booking has been adopted by some air line companies in Kenya like the Kenya airways. Customers now book their flights online without having to go to an air travel agent. There is also online learning /e-learning whereby students do not necessarily have to go in for a class on can take their studied from home or office.

The high cost of acquiring computers and there maintenance, inaccessibility to Internet or high cost of accessing the Internet has been on of the major factors hindering adoption of online operations in Kenya. The Kenyan government should consider a further reduction in the cost of computers and their accessories. This would help to reduce the cost of acquiring computers, and there maintenance which is currently considered to be prohibitive. Although there has been some improvement in access to Internet due to its accessibility over the mobile phones, the government should consider providing

computers, electricity and Internet connections to the most remote parts of the country to ensure equitable economic development. Banks have also been slow in responding to customers requests made online. This has lead to luck of customers' confidence in online banking and other service delivery. This can be reversed by ensuring instantaneous response to online requests.

5.3 LIMITATIONS OF THE STUDY

As in any research project, this research had limitations. Resource and time constraints were major limitations for this study. It was difficult to access information on the current trends, literature on banks online and credit operations, banks performance and classification from the banks, central bank and even the Kenya school of Monetary studies. The study largely confined itself to banks with branches in Nairobi due to limited time to carry out the study a few responses were received from the small banks. The researcher was unable to collect data from some banks due to lack of corporation.

The researcher used referrals to identify respondents for the study which was very challenging and taxing to the researcher and at times it did not yield positive results leading to disappointments. There were no similar studies that have been carried out in Kenya on the adoption of online credit operations and hence a limitation on the amount of literature that was available to the researcher under the area. This was basically due confidentiality whereby some bank staff felt that they could not give some basic information about all their credit operations.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

The study sought to identify the extent of adoption of online credit operations by commercial Banks in Kenya. Similar studies can be conducted in other sectors of the economy like the education sector where one may seek to identify the extent of adoption of E-learning in the institutions of higher learning. Future research can also aim at improving this study by examining the adoption of ICT in other operational areas in the commercial banking industry in Kenya and the relationship between the level of technology employed by an organization and the capital base of the firm or firms ownership.

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APPENDIX I: LETTER OF INTRODUCTION

University of Nairobi,
Department of Management Science,
School of Business,
P.O BOX 30197-NAIROBI

August, 2008

Dear Respondent,

RE: A STUDY ON “ADOPTION OF ONLINE CREDIT OPERATIONS IN BANKS IN KENYA.”

Good Morning/Afternoon/Evening.

I am studying for MBA degree at the University of Nairobi, School of Business, Department of Management Science studying for Masters in business administration degree. I am undertaking a study on “Adoption of Online credit operations in banks in Kenya.”

The research is intended to generate information that will be used in understanding online credit operations adoption in the Kenyan banking industry, the benefits of adoption of online credit operations and the challenges faced while adopting online credit operations.

You have been selected to be part of the respondent for the study. Kindly find time and answer the questions in the attached questionnaire to the best of your knowledge.

The information you provide will be treated in confidence and shall be used for academic purposes only in this research.

Thank you in advance

Yours Sincerely

Esther

Esther

APPENDIX II: QUESTIONNAIRE

SECTION A: PERSONAL

Please answer by ticking in the appropriate box.

- 1) Gender: Male Female
- 2) Age: Under 18 18-25 26-35 36 -55 over 55
- 3) Name of your bank _____
- 4) Years banking.
Less than one year 1-5Yrs 6-10Yrs 11-15 Yrs Over 15Yrs
- 5) How often do you access or offer/provide bank services to customers online?
Hourly Daily Once per week Once per month None
- 6) General Bank Products and services. Tick in the box against the statements where you feel service / Product is available online.
 - Cash deposit and withdrawal
 - Bankers cheques
 - Debit cards
 - Credit cards
 - Visa cards
 - Letters of credit/Trade Finance
 - Bank guarantees
 - Electronic Money transfer Services
 - Treasury bills and bounds
 - Corporate bounds
 - Travelers cheques

Please specify other operational areas where online operations is applied in banks.

SECTION B: This section seeks to examine the extent of adoption of online credit operations.

Tick against each statement (only once) to indicate the extent to which the application approval and disbursement of funds for following credit products and services take place online.

	BANKS CREDIT OPERATIONS	No Extent at all	Small extent	Moderate extent	Large Extent	Very Large Extent
	Scale 1-5	1	2	3	4	5
1	Medical loans					
2	Educational loans					
3	Emergency loans					
4	Salary advance					
5	Agricultural loans					
6	Bank overdraft					
7	Working capital loans					
8	Treasury bills and bonds					
9	Corporate bonds					
10	Letters of credit					
11	Credit cards					
12	Loan repayment					

Others specify _____

SECTION C: This section will seek to address the perceived benefits of online credit operations.

Please tick against each question (only once) to indicate the extent to which online credit operations will lead to the following benefits.

	SUMMARY OF BENEFITS	No Extent at all	Small extent	Moderate extent	Large Extent	Very Large Extent
	Scale 1-5	1	2	3	4	5
1	Reduction in time to obtain information on loans					
2	Reduction of time spent in filling in loan application forms					
3	Instantaneous submission of loans application					
4	Minimize time spent in scrutinizing loan applications					
5	Reduction of time spent from time application is submitted to receipt of feedback on success/failure of application					
6	Improved customer service					
7	Improved products and services					
8	Minimized human conduct between customers and bank staff					
9	Ease in loans approval					
10	Increased availability of customer information					
11	Increased information sharing					
12	Instant Response to customers requests					
13	Reduction in operational cost					
14	Reduction in paper work					
15	Time saving					
16	Improved delivery speed					
17	Reduction in advertising fees					
18	Decrease in number of bank Branches					
19	Reduced number of credit staff in each banks branch					
20	Convenient way making bank transactions					
21	Fewer errors in data entry					
22	Improved document circulation					
23	Ease of performing e-banking transaction					

Any other comments you may have on the benefits of adopting online credit operations by commercial banks. _____

SECTION D: This section will capture information on the challenges faced while adopting online credit operations

Please tick against each question only once to indicate your perception about the level of influence of the following factors towards adoption of online credit operations.

	Challenges Facing Adoption Of Online Banking Operations	No Extent at all	Small extent	Moderate extent	Large Extent	Very Large Extent
	Scale 1-5	1	2	3	4	5
1	Inaccessibility of banks networks					
2	Limited / controlled access to Internet					
3	Un Willingness to adopt new technology					
4	Lack of knowledge about the current trends					
5	High Cost of purchasing computers					
6	High Cost of Internet connection					
7	High Cost of maintaining computers					
8	Banks reliability in correcting Erogenous Transactions					
9	Lack of customers confidence in the bank to compensate them for losses due to security					
10	Slow response by banks to customers queries					
11	Lack of Clear and understandable instruction					
12	Lack of top management support					
13	Customers unwillingness to adopt new Technologies.					
14	In adequate Security of Internet transaction					
15	Need for physical interaction between customers and service provider					

Specify any other comments you may have on challenges facing adoption of online credit operations. _____

THANK YOU FOR YOUR CORPORATION

APPENDIX III: COMMERCIAL BANKS CLASSIFICATION

1. SMALL BANKS (TOTAL ASSETS LESS THAN KSH 5,000,000,000).

Credit Bank Limited
Consolidated bank of Kenya
Dubai Bank of Kenya
Equitorial Commercial Bank Ltd
Middle East
Oriental Commercial Bank
Paramount Bank
Transnational Bank
Victoria commercial Bank

2. MEDIUM SIZED BANKS (TOTAL ASSETS GREATER THAN KSH 5,000,000,001 TO 15, 000,000,000).

African Banking Corporation (ABC)
Bank of Africa Kenya Ltd
Bank of India
Chase Bank
Development Bank
EcoBank Kenya Limited
Family Bank
Fina Bank
Habib Bank
Imperial Bank
K-Rep bank
S&L Kenya Limited

3. LARGE BANKS (TOTAL ASSETS GREATER THAN 15, 000,000,001)

Barclays Bank of Kenya.

City Bank

CFC Stanbic bank Limited

Cooperative Bank of Kenya

Diamond Trust Bank

Equity Bank

I & M Bank limited

Kenya Commercial Bank

National Bank of Kenya

NIC Bank

Prime Bank

Standard Chartered Bank of Kenya