FACTORS INFLUENCING ADOPTION OF PAPERLESS BANKING: A CASE OF WEST POKOT COUNTY, KENYA

BY

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A Research Report Submitted In Partial Fulfilment Of The Requirements For The Award Of The Degree Of Master Of Arts In Project Planning And Management Of The University Of Nairobi

2015
DECLARATION

This research is my original work and has not been presented to any other university.

Signed…………………………………….. Date…………………….

GLENN AVUGWI CHAKAVA
L50/61921/2013

This research has been presented for examination with my approval as the University Supervisor.

Signed…………………………………….. Date…………………….

MR. PATRICK SIMIYU
LECTURER,
UNIVERSITY OF NAIROBI.
DEDICATION

This research project is dedicated to my daughter for whom I work so hard.
ACKNOWLEDGEMENT

I would like to acknowledge my Supervisor, Mr Patrick Simiyu whom I am greatly indebted for his technical advice, guidance and for making references available materials during the writing of this research. Special thanks to the University of Nairobi lecturers and staff: Dr. Koringura the resident lecturer and Mrs Antonina for their support, direction and encouragement. I cannot forget the support from my colleagues Sigei, Galia and Bett at Barclays’ for standing in for me so that I could have the time to pursue my academic endeavours. Special thanks to the three ladies in my life my Mother my Wife and my Daughter for their support and prayers. Lastly my gratitude goes to the M.A Project Planning and Management classmates for their comradeship.
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ABBREVIATIONS AND ACRONYMS

ATM- Automated Teller Machine
CBK- Central Bank of Kenya
CRB- Credit Reference Bureau
DTM- Deposit Taking Micro-finance Institution
EMV-Euro, MasterCard and Visa
GDP- Gross Domestic Product
GSM- Global System for Mobile communication
ICT- Information Communication Technology
MFC- Mortgage Finance Company
NSSF- National Social Security Fund
PC- Personal Computer
POS- Point of Sale
SME- Small and Medium size Enterprise
SMS- Short Message Services.
TV- Television
ABSTRACT

A remarkable increase in the use of electronic commerce has been witnessed in recent times, research has followed the same pattern especially in investigating factors influencing the adoption and effectiveness of e-commerce in retail businesses. However, little has been done to establish these factors in Paperless Banking in developing countries as compared to the traditional over-the-counter service. Statistics obtained on number of over the counter transactions in these banks in the past one month indicated that indeed, over the counter transactions are still preferred by many clients. The question that is raised then is why? The purpose of this research was to establish how technological factors influence service delivery and customer adoption of paperless banking in Kapenguria town West Pokot County. To investigate the extent that social factors limit adoption of paperless banking in Kapenguria town of West Pokot county, To establish the level banking infrastructure and how it influences adoption of paperless banking in Kapenguria town West Pokot County. To establish the effect of geographical barriers on adoption of paperless banking processes in West Pokot County, Kenya. The Theory of Reasoned Action, (TRA) which was developed to better understand relationships between attitudes, intentions and behaviours (Fishbein, 1967) was used in the theoretical framework. This is one of the most important theories that are used to explain human behaviours. The study was conducted using cross-sectional design in which the researcher collected data at one point in a time and analysed it instead of following the target population in order to analyse changes in behaviour over a long period of time. The target population was 500 correspondents drawn from banking customers in three commercial banks in West Pokot County. A sample size of 222 correspondents was used. Data was collected through questionnaires; closed-ended semi structured interviews and cross referenced against supporting records. Data analysis technique was by content analysis method. Data was analysed in chapter four and represented in tables. Summary, conclusions and recommendations were made in chapter five. The study findings showed a great influence of Paperless Banking services on customer service delivery. The study suggests to the banks should give high priority to customer service delivery and consider paperless banking as a key driver towards successful implementation of customer service delivery. Recommendations include the following: Banks to continually and aggressively create awareness to realize benefits of Paperless Banking to both staff and their customers, which in turn improves customer service delivery. To the government, for Electronic transactions, which utilize the PIN, the PIN must be recognized by the Court as being key and crucial to such transaction and there must be a method of upholding its validity in a transaction. This assures users of security while using Paperless Banking services. Also, banks need to regularly carry out customer surveys so as to understand their customer needs and develop Paperless Banking services with customer driven strategies.
CHAPTER ONE
INTRODUCTION

1.1. Background of the Study

According to the Central Bank of Kenya annual report as at 31st December 2012, the banking sector consisted of the Central Bank of Kenya, as the regulatory authority, 44 banking institutions (43 commercial banks and 1 mortgage finance company -MFC), 5 representative offices of foreign banks, 8 Deposit-Taking Microfinance Institutions (DTMs), 2 Credit Reference Bureaus (CRBs) and 112 Forex Bureaus. Out of the 44 banking institutions, 31 locally owned banks comprise 3 with public shareholding and 28 privately owned while 13 are foreign owned. The 8 DTMs, 2 CRBs and 112 forex bureaus are privately owned. The foreign owned financial institutions comprise of 9 locally incorporated foreign banks and 4 branches of foreign incorporated banks. As indicated in the CBK reports, local banks dominate Kenyan banking sector in terms of numbers, and account for 66.6% of the sectors total net assets, while foreign owned banks account for 33.4%. Banks in Kenya have exponentially embraced the use of information and Communication Technologies both in their service provision and as a strategy to ensure their survival. They have invested huge amounts in implementing the self and virtual banking services with the objective of improving quality of customer service.

Paperless banking refers to the use of electronic and telecommunication networks to deliver a wide range of value added products and services to bank customers (Steven, 2002). The use of information technology in banking operations is called electronic banking. Ovia, (2001). Paperless banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution,
(FinCen, 2000). Paperless banking became popular in the 1980s and it referred to the use of a terminal such as a keyboard and monitor to access the banking system using a phone line and desktop. This approach relies on automated machines controlled by the user who inputs instructions of the customer and the output is worked out in the systems (David Hoyle, 2002). Today’s service environment is extremely dynamic as a result of rapid technological innovations, increased awareness and demands that banks serve their customers efficiently and at the most competitive cost. Information and Communication Technology (ICT) is at the centre of this global change curve of Electronic Banking System in Kenya today. However, little research has been done in investigating factors influencing the adoption and effectiveness of paperless banking (Paperless Banking) in developing countries and particularly in rural remote locations like West Pokot County in Kenya.

Entire cash flow of most banks is linked to Information Systems hence Kalakota and Winston (2009) arguably indicated that e-payment systems are becoming central to business process innovation, as companies look for ways to serve customers faster and at lower cost. In line with this there are many evident advantages of an electronic mode of transfer compared to the conventional clearing house, because banks are increasingly turning to technology for managing their payments (Kumar2009). Some of the value attributes include secure payments, cost cutting, payment on due date and easier cash management compared to conventional systems. They have invested huge amounts of money, in implementing the self-banking services with the objective of improving the quality of customer service.

The development of Paperless Banking services is expected to decongest banking halls and reduce the incidences of long queues in banking halls. ICT –based financial services
have made a significant contribution in reducing the cost of offering financial services (CBK 2009). Despite the stated benefits that paperless banking offers consumers, studies done in the US show that the adoption of these forms of banking has been limited and, in many cases, has fallen short of expectations (Bielski, 2003; Wade, 2003). While all of the top 50 largest banks in the US offered Internet banking by 2002 and approximately 91% of US households had a bank account (Kolodinsky, 2004) only 17% of consumers adopted online banking. At the time, analysts estimated that this online banking penetration would not exceed 30% of all bank households by 2007 (Babej, 2003). This prediction appears to have been realized. An American Bankers Association survey in the summer of 2007 found that only 23% of U.S. consumers use online banking as their primary banking method (Fisher, 2007). Prior research on online banking adoption has principally used survey methods to attribute social and technical dimensions such as attitudes toward new technology, awareness, access and usability to the variation in Internet banking adoption and usage (Karjaluoto, et al., 2001; Gerrard and Cummingham, 2003; Lee, et al., 2004; Lee et al., 2003; Lichtenstein and Williamson, 2006; and Tan and Teo, 2000).

Globally, Africa and other developing countries, e-commerce adoption has been inhibited by the quality, availability and the cost of accessing telecommunication GSM infrastructures (Humphrey et al., 2003). Other issues include lack of skilled staff; low internet penetration, low bank account, and lack of timely delivery of physical goods also hinder the growth of Paperless Banking. Commercial banking in Ghana predates colonial times. The literature indicates that the Bank of British West Africa (BBWA) now called Standard Chartered Bank Ghana Limited was the nation’s first commercial bank. It was followed by Barclays Bank Ghana Limited, then subsequently the Bank of Ghana and the Ghana
Commercial Bank (Woldie et al., 2008). Currently there are 28 banks operating in the Ghanaian banking industry has over 856 bank branches (Ghana Banking Survey, 2011). Most of these banks have adopted new and innovative ways to improve service delivery in a bid to combat competition. One significant means of achieving competitive advantage has been the adoption of Paperless Banking services, (Abor, 2004). The first major cash card, called the ‘Sika 5 Card’ was a product of Social Security Bank, which was introduced in May 1997 (Abor, 2004). As at today, in addition to ATMs, most of the banks have implemented internet banking, telephone banking, SMS alerts among others to deploy banking services to the customers. Anecdotal evidence however, indicates that the adoption of these electronic services is below expectation in Ghana.

Report on Paperless Banking system in Nigeria reveals that e-payment machinery, especially the card technology is presently enjoying the highest popularity in Nigeria banking market. According to Interswitch statistics, Nigeria has 30 million ATM card holders who conduct over 100 million transactions on the machines every month. Nigeria's 24 banks operate over 9,000 ATM machines across the country’s 36 states and Federal Capital Territory. Also to enhance effective security measure, banks have since early this year been upgrading their ATM cards from the magnetic stripe to the Euro-Visa-Master(EMV) card standard, popularly known as Verve Card (www.businessdayonline.com). This latter technological device is more fraud resistant because all the data of the customer are recorded on the chip. The union of technology and finance has recorded huge success and has impacted on financial transactions. Paperless Banking system has become the main technology-driven revolution in conducting financial transactions.
However, banks have made huge investments in telecommunication and electronic systems, users have also been validated to accept Paperless Banking system as useful and easy to use (Adesina and Ayo, 2010).

The Information and Communication Technologies (ICT) sector holds high promises for small island economies, like Mauritius. From a mono-crop economy, based on sugar production, Mauritius has over the years, diversified its economy to manufacturing and services. To date, the services sector contributes to around 68 percent of GDP. The ICT Sector has been contributing a 6 percent of GDP in 2009 and it had been projected that the sector will contribute up to 8 percent of GDP by 2011. The Information Development Index 6 for Mauritius has improved from 3.30 in 2008 to 3.44 in 2009. This was a direct effect as a result of improvements of ICT infrastructure and access. In 2008, there were nine internet service providers and 67.5 percent of households with computer had access to Internet. The tariff for internet connection per minute using dial up access (off peak time) was Rs 0.27 in 2009. In 2009, the number of internet subscribers attained 286,000, which is an increase of 43.4% relative to 199,500 in 2008. The number of Mauritians using internet banking was 131,628 in June 2010, representing a 21 percent rise relative to December 2009.

A number of studies have been carried out relating to issues in the wider context of Paperless Banking (Balachandher et al., 2000; Suganthi et al., 2001; Padachi et al., 2008), particularly in relation to the rationales and benefits of internet banking, customer loyalty and service quality.

The payment industry in Kenya has over the last few years been transformed with the new wave of IT advancements. Currently the use of cash has been replaced by digital cash and digital wallets. It can be rightly said that this is the fourth stage of evolution after Barter,
Currency, Paper money (Cheques) and now digital cash. From the reports of Central Bank of Kenya (CBK), Kenyan banks have exponentially embraced the use of information and communication technologies in the provision of banking services which has enhanced the application of e-payments. The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concern to all banks and indeed a prerequisite for local and global competitiveness banking. The advancement in technology has played an important role in improving service delivery standards in the banking industry. In its simplest form, Automated Teller Machines (ATMs) and deposit machines now allow consumers carry out banking transactions beyond banking hours. (CBK annual report, 2012)

The term Paperless banking is also used to refer to ATMs, telephone banking, use of plastic money, mobile phone banking and electronic funds transfers. Electronic Banking offers different online services like balance enquiry, request for cheque books, recording stop payment instructions, balance transfer instructions, account opening and other form of transitional Banking services. With online banking, individuals can check their account balances and make payments without having to go to the banking halls. This is gradually creating a cashless society where consumers no longer have to pay for all their purchases with hard cash. For example: bank customers can pay for airline tickets and subscribe to initial public offerings by transferring the money directly from their accounts, or pay for various goods and services by electronic transfers of credit to the sellers bank account. Paperless Banking has made banking transactions easier around the World and it is fast gaining acceptance in Kenya. Virtually almost all Banks in Kenya have Electronic Banking. Paperless Banking’s greatest promise is timelier, more valuable information accessible to more people,
at reduced cost of information access (DeYoung, 2005). Common embodiments of Paperless Banking include the following: Mobile/SMS Banking, Telephone Banking, Electronic funds transfers, Self Service (PC) Banking, POS Banking (Credit and Debit cards), ATMs, Interactive TV and Branchless Banking. In Kenya, for example, we have M-Shwari which is offered by Commercial Bank of Africa in conjunction with Safaricom Kenya Limited. M-Shwari is the revolutionary new banking product for M-PESA customers that allow one to save and borrow money through the phone while earning interest on money saved. With M-Shwari, one is entitled to affordable emergency loans. This is a paperless banking service offered through M-PESA that will enable a customer open and operate an M-Shwari bank account through a mobile phone, through M-PESA, without having to visit any bank to fill out bank account opening forms. It provides the ability to move money in and out of an M-Shwari savings account to an M-PESA account at no charge. It also gives an opportunity to save as little as Ksh.1 and earns interest on the saving balance and the cash is moved into the savings account using a handset via the M-PESA Menu.

Another form of Paperless Banking in Kenya is Eazzy 247 offered by Equity Bank of Kenya. This is a mobile banking service that allows one to access bank services using a mobile phone. Eazzy 247 access is available through all the mobile telephone companies namely, Safaricom, Orange, YU, Airtel & MTN. Equity Bank of Kenya limited also has M-KESHO which is a Bank Account enabling sending of money/Funds transfer between the bank account (M-KESHO) & MPESA system (Deposit & Withdrawal). There is also Straight to Bank (S2B) offered by Standard Chartered Bank of Kenya which allows one-stop online Banking and Cash management solution. With S2B, customers enjoy control and convenience of managing their own cash flow without having to step out of their doors. SME Straight 2
Bank is a cash management solution which uses online banking as a platform to give you more convenience by performing the following tasks online: Checking balances, Payroll, Direct Debits, Direct Credits, Payments of Utilities, taxes (URA), NSSF, Telegraphic transfers. In Kenya, there is also the Hello Money offered by Barclays Bank of Kenya among other forms of electronic banking offered by commercial banks in Kenya (CBK annual report, 2012) Online services started in New York in 1981 when four of the city’s major banks (Citibank, choose Manhattan, chemical and manufactures turnovers’) offered home banking services using the videotext system. As banks have adopted to use of information systems, they have become more dependent on them and this has resulted in emerging paperless technologies such as M-pesa, Pesapal, Bit-coins and ATM banking amongst others (Nickels, McHugh, 2006).

1.2 Statement of the problem

In Kenya, various financial institutions are increasingly adopting Paperless Banking through mobile phone to provide financial services, not only to those without access to traditional banks but also to the banked population. Yet relatively little scholarly research explores the use of these payments systems (Donner and Tellez, 2008), Even less attention has been paid to the social, economic, and cultural contexts surrounding the use of these systems. One of the pivotal factors in facilitating customer satisfaction in paperless banking is the ability to deliver secure, efficient and effective services. West Pokot County is located on the north rift area of western Kenya. Its largest town is Kapenguria. The county has a population of approximately 512,690 (2009 census) and an area of 8,418.2 km², the County is largely rural with the main economic activity carried out by local communities being farming and pastoralist.
Residents of West Pokot County who have embraced electronic banking have benefited immensely and this is evidenced by the rate at which the service has spread throughout the county. This raises unique questions that this study attempts to answer since little has been done to establish the factors influencing the adoption of Paperless Banking. Questions are also raised which help understand this trend such as are customers satisfied by the services offered by the e-banking channels offered by banks as compared to the traditional over-the-counter service? Paperless banking systems most utilised in West Pokot include ATM banking, telephone banking and internet banking however the most successful form of financial e-banking service is M-pesa which is provided by Safaricom Ltd. Little has been done to establish these factors influencing observed trends in developing countries, how do system failures concern and affects quality customer service delivery while at the same time balancing benefits derived from narrowing of distances covered in search of banking, accessibility to banking and security specifically for other unique challenges that affect service adoption by banking customers in West Pokot.

*Table 1.1 County subdivisions of West Pokot and their population as in 2009 census*

<table>
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<tr>
<th>Authority</th>
<th>Type</th>
<th>Population*</th>
<th>Urban pop.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kapenguria</td>
<td>Municipality</td>
<td>56,019</td>
<td>12,984</td>
</tr>
<tr>
<td>Chepareria</td>
<td>Town</td>
<td>8,212</td>
<td>901</td>
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<tr>
<td>Pokot</td>
<td>County</td>
<td>243,855</td>
<td>0</td>
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<tr>
<td><strong>Total</strong></td>
<td>-</td>
<td><strong>308,086</strong></td>
<td><strong>13,885</strong></td>
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* 1999 census. Sources
### Table 1.2 Administrative divisions of West Pokot

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<th>Urban pop.*</th>
<th>Headquarters</th>
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<td>Alale</td>
<td>29,679</td>
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<tr>
<td>Chepareria</td>
<td>68,518</td>
<td>900</td>
<td>Chepareria</td>
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<tr>
<td>Chesegon</td>
<td>21,343</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Kacheliba</td>
<td>20,151</td>
<td>0</td>
<td></td>
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<tr>
<td>Kapenguria</td>
<td>62,746</td>
<td>12,438</td>
<td>Kapenguria</td>
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<tr>
<td>Kasei</td>
<td>9,879</td>
<td>0</td>
<td></td>
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<tr>
<td>Kongelai</td>
<td>20,018</td>
<td>0</td>
<td>Kongelai</td>
</tr>
<tr>
<td>Lelan</td>
<td>32,931</td>
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<td></td>
</tr>
<tr>
<td>Sigor</td>
<td>42,821</td>
<td>0</td>
<td>Sigor</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>308,086</strong></td>
<td><strong>13,338</strong></td>
<td><strong>-</strong></td>
</tr>
</tbody>
</table>

* 1999 census. Sources
1.3 Objectives of the Study

Objectives of the study was

1. To establish how innovations in technology have influenced service delivery and customer adoption of paperless banking in Kapenguria town West Pokot County.
2. To determine the Socio-economic factors that have influenced service delivery and their rank of importance in adoption of paperless banking in Kapenguria town of West Pokot county, Kenya.
3. To establish the extent to which poorly developed infrastructure has influenced adoption of paperless banking in Kapenguria town West Pokot County.
4. To establish the significance of distance and geographical barriers on adoption of paperless banking processes.

1.4 Research Questions

1. How have advances in innovations in technology influenced adoption of paperless banking in Kapenguria Town of West Pokot County?
2. To what extent does cost and demand for efficient services been influence by availability of alternatives and marketing in Kapenguria Town of West Pokot County?
3. How has availability of electricity and communication infrastructure affect adoption paperless banking services?
4. How has distance and network accessibility influenced adoption of paperless banking in Kapenguria Town of West Pokot County?
1.5 Significance of the Study

The study seeks to identify solutions to common paperless banking challenges; In addition, it assists players in the paperless banking industry to understand the factors influencing and challenges affecting banking adoption hence enable them to come up with better services than the existing ones and assist researchers and students of information technology in gaining understanding of the current trends in mobile technologies and their impact. This study will also add to the foundation of knowledge being laid for research in mobile banking technologies. The study will also contribute to the body of knowledge and to additional information in the banking industry. Scholars and Academicicians will also benefit from this research work since it will suggest possible solutions and strategies to the problems in electronic banking and have thorough knowledge of electronic banking. Policy makers will use the study for reference and research based on findings of study. Thus, the study will bring out the differences arising from different environmental and organizational factors unique to the bank relevant for successful Paperless Banking.

1.6 Basic assumptions

1. One of the fundamental assumptions of this study was that customers and banking staff involved shall provide unbiased responses.

2. This study also assumes that paperless banking has influenced service delivery significantly and this has translated to a considerable change in customer satisfaction.

3. Last but not least is that the effectiveness of paperless banking on service delivery and customer satisfactions is researchable.
1.7 Limitation of the Study

1. The study will encounter challenges related to cost and time constraints that was mitigated by alterations to sample size and research design so as to maintain validity and reliability.

2. Data and records on paperless banking from West Pokot are not readily available thereby limiting literature to collaborate and build the study upon. This was mitigated by testing and retesting information so as to ensure accuracy.

3. Respondents are usually not willing to give full information due to the sensitive nature of financial information. Validity of the research was maintained by crosschecking against records were available to ensure reliability.

1.8 Delimitations of the Study

This study purely addresses the social adaptation aspect of paperless banking and does not consider economic considerations that influence the determination by financial institutions as well as users to adopt the service. As the data has shown; most financial intuitions are concerned about their balance sheets at the end of the financial period while customers are more concerned by efficiency, simplicity and availability of the service as opposed to the cost. The study will only use respondents from a limited number of customers and banking staff leaving out other people who may have relevant information.

1.9 Definition of significant terms

1.9.1. Factors: anything that contributes to the status of paperless banking adoption, they include the following:

1. Attitude towards change: Rogers (2013) points out that people react differently to innovation based on their perceived risk of that innovation. In the social aspect of
economic transactions factor there is a long list of social or contextual influences on Paperless banking use. Both macro-level cultural factors and micro-level, locally-negotiated norms in families and among peers particularly about money are at play.

2. Demand: Availability of alternatives and existing payment mechanisms may also affect mobile banking adoption. A large proportion of the volume of mobile banking transactions may reflect existing transactional relationships, shifted over to new channels.

3. Conceptualizing refers to how comfortable people are with electronic money. Donner and Tellez (2008) argue that people coming to banking for the first time via the mobile handset require a command of abstract concepts about invisible or virtual money.

4. Cost: Can be looked at in terms of the price of the service and affordability, ongoing costs as well as cost of the handset. Cost of service refers to how much the customer incurs to access the service and to do the actual transactions. According to Rosenberg (2010), customer adoption is influenced not only by absolute prices but by the way a service is priced.

5. Convenience: Mobile banking offers a convenience like no other service as it means banking anywhere anytime. This convenience is what may attract customers to adopt mobile banking.

6. Technological factors include service availability and reliability, security and privacy concerns, ease of use, network coverage, handset operability and availability of the service on different mobile networks.
7. Marketing strategies: Refers to excitement and the image created by marketers about mobile banking utilization, which makes them believe it is fashionable. Communicability of the product benefits and promotional effort are also factors which should be considered when developing marketing strategies if persuasion is to be achieved. In addition, different categories of adopters require different marketing strategies (Rogers, 2013).

1.9.2. Adoption - in paperless banking is the increase in the use of mobile or electronic devices to any type of activity offered to a customer before, during and after purchase, designed to enhance customer satisfaction thus meeting the customer needs, in this study it can be defined as an activity that entails two key components; need and satisfaction. It is intangible therefore it cannot be stored and does not result in ownership. Service delivery is consumed at the point of need and consists of a single activity.

1.9.3. Paperless Banking – Paperless banking is a form of banking technology which utilises data processing technology referred to as information systems, this transactions are termed as paperless banking because they require minimal paper use and third party human involvement. Some of the common forms of paperless banking used in Kapenguria include ATMs, telephone banking, use of plastic money, mobile phone banking and electronic funds transfers. Electronic Banking offers different online services like balance enquiry, request for cheque books, recording stop payment instructions, balance transfer instructions, account opening and other form of transitional Banking services. With online banking, individuals can check their account balances and make payments without having to go to the banking halls.
1.10 Organisation of the study

The study is organised in five chapters. In chapter one, the main title is introduction which is a beginning section that states the background of study explaining what about of a particular topic is placed. Problem statement is focus on the attention of the problem solving team. Research objective is writing about the purpose of this research. In significance of study, I shifted from the particular to the general, and presented the importance of the study from target beneficiaries to the people in the community, to the people in the region and nation. Chapter two is literature review, which reviews and introduces the previous journals related age, income, education, gender, convenience, perceived ease of use, reliability, saving time and cost, service or service quality and trust. I focused on how these independent variables influenced consumers' service delivery in banking industry.

There was be an overview of some journals about consumers' adoption toward paperless banking that were presented and used to examine the relationship between independent and dependent variables, the conceptual framework, knowledge gaps and summary of the literature review. Chapter three is about research methodology used in the study, research design, target population, sampling procedure, sample size, research tools, data collection procedure, data analysis technique and operational definition of variables. This study investigated the effect of the paperless banking on adoption of banking services. It focused on Kapenguria town West Pokot County.

The effect of paperless banking on adoption of banking services was studied by analysing the response from Residents, Agents, employees of financial institutions and publicly released data on bank services. This study tries to explain how paperless banking has
enabled the customers to adopt alternative channels when carrying out their daily banking transactions, and how traditional banking compares modern paperless banking in Kapenguria when we determine inclusivity and ability to reach the masses who do not necessarily reside within town. The banking transactions that are majorly considered in this study are depositing cash into savings accounts, making payments, withdrawing cash, transferring money, applying for loans and opening of accounts by customers. This study also seeks to quantify the economic as well as social benefits brought about by reduction of cost and time that could otherwise have been spent in travelling to the bank. There are also the qualitative benefits of improving the quality of adoption of banking services through time saving and its efficiency in adoption of banking services to the customers, our study uses only the sample population of interviewed customers in Kapenguria town and its environs.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter considered the review of related literature on influence of paperless banking services on customer service delivery in both international and national arena. More so, it reviewed: the theoretical framework, role of internet, role of people resources (bank employees) as well as the conceptual framework. It relied on literature gathered from various authors of text books, referred journals, magazines and internet. It will also provide a critical review and missing knowledge gap upon which the research sought to add value.

2.2 Concept of Paperless Banking Services

Globally, Africa and other developing countries, e-commerce adoption has been inhibited by the quality, availability and the cost of accessing telecommunication infrastructures (Humphrey et al., 2003). Other issues include lack of skilled staff; low internet penetration, low bank account, and lack of timely delivery of physical goods also hinder the growth of Paperless Banking. Commercial banking in Ghana predates colonial times. The literature indicates that the Bank of British West Africa (BBWA) now called Standard Chartered Bank Ghana Limited was the nation’s first commercial bank. It was followed by Barclays Bank Ghana Limited, then subsequently the Bank of Ghana and the Ghana Commercial Bank (Woldie et al., 2008). Currently there are 28 banks operating in the Ghanaian banking industry has over 856 bank branches (Ghana Banking Survey, 2011). Most of these banks have adopted new and innovative ways to improve service delivery in a bid to
combat competition. One significant means of achieving competitive advantage has been the adoption of Paperless Banking services, (Abor, 2004). The Information and Communication Technologies (ICT) sector holds high promises for small island economies, like Mauritius. From a monocrop economy, based on sugar production, Mauritius has over the years, diversified its economy to manufacturing and services. To date, the services sector contributes to around 68 percent of GDP. The ICT sector has been contributing a 6 percent of GDP in 2009 and it had been projected that the sector will contribute up to 8 percent of GDP by 2011. The Information Development Index for Mauritius has improved from 3.30 in 2008 to 3.44 in 2009. This was a direct effect as a result of improvements of ICT infrastructure and access. In 2008, there were nine internet service providers and 67.5 percent of households with computer had access to Internet. The tariff for internet connection per minute using dial up access (off peak time) was Rs 0.27 in 2009.

In 2009, the number of internet subscribers reached 286,000, which is an increase of 43.4% relative to 199,500 in 2008. The number of Mauritian using internet banking was 131,628 in June 2010, representing a 21 percent rise relative to December 2009. A number of studies have been carried out relating to issues in the wider context of Paperless Banking (Balachandher et al., 2000; Suganthi et al., 2001; Padachi et al., 2008), particularly in relation to the rationales and benefits of internet banking, customer loyalty and service quality. Continuous technology development, particularly information technology revolution of the last two decades of the 20th century has forced the banks to embrace Paperless Banking as a strategy for their sustainable growth in an expanded competitive environment. The internet has changed the operations of many businesses, and has been becoming a powerful channel for business marketing and communication (American Banker, 2000). The banking has
followed this trend in recent years, and sometimes called Paperless Banking referring to all banking transactions now completing through Internet applications (Fugazy 2000). Electronic banking is defined by Barron’s Dictionary (2006) as a form of banking where funds are transferred through an exchange of electronic signals between financial institutions, rather than an exchange of cash, checks, or other negotiable instruments. No doubt in the future, the banking environment was more paperless and will overcome traditional barriers of distance and geographic boundaries. While Paperless Banking has grown rapidly, there is not enough evidence of its acceptance amongst customers. Robinson (2000).

Kenyan banks have exponentially embraced the use of information and communication technologies in their service provision. They have invested huge amounts of money in implementing the self and virtual banking services with the objective of improving the quality of customer service. By definition, Paperless Banking varies amongst researchers partially because electronic banking refers to several types of services through which a bank customer can request information and carry out most retail banking services via computer, television or mobile phone (Daniel 1999; Sathye, 1999). Burr (1996) describes Paperless Banking as an electronic connection between the bank and customer in order to prepare, manage and control financial transactions. On the other hand, Leow, Hock Bee (1999) state that the terms PC banking, online banking, internet banking, telephone banking or mobile banking refer to a number of ways in which customer can access their banks without having to be physically present at the bank branch. The Kenyan banking industry has been expanding branch networking amid the introduction of branchless banking system, which include the use of EFTs, ATM cards, Computer banking etc. The annual reports of CBK clearly indicate that, branch network has been slowly expanding since 2002. By the end of December 2006, Kenya
had a total branch network of 575, as compared to 486 branches in the period ended December 2002.

Information and Communication Technology (ICT) is at the centre of paperless banking system in Kenya today (Steven, 2002). Banking industry in Kenya cannot ignore information systems because they play a critical impact in current banking system, they point out that the entire cash flow of most banks are linked to information system. 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 banking (Connel and Saleh, 2004). The advancement in Technology has played an important role in improving service delivery standards in the Banking industry. In its simplest form, Automated Teller Machines (ATMs) and deposit machines now allow consumers carry out banking transactions beyond banking hours. Kenya’s banking Industry moved a milestone by introducing Real Time Gross and Settlement system (RTGS) which was renamed Kenya Electronic Payment and Settlement system (KEPSS). This has facilitated the inter-bank financial data transfer.

The development of Paperless Banking services is expected to decongest banking halls and reduce the incidences of long queues in banking halls. Digital-based financial services have made a significant contribution in covering the cost of offering financial services. Several factors have contributed to adoption of paperless banking services in West Pokot some of which are the subject of this study. At least in the realm of cashless marketplaces, Kenya has pioneered along the cutting edge since the 2007 launch of M-Pesa
the M is for "mobile"; *pesa* is Swahili for "money." What was originally conceived as an efficient method to send money from urban centres back to rural hometowns but has been rapidly adopted by Kenyans as a way to store cash and make payments for bills, services and even get micro-loans, but what's been most surprising given M-Pesa's success is that 19 million of Kenya's 44 million people subscribe, including more than two-thirds of the adult population, and a quarter of the country's economy flows through the mobile-money service. (www.Safaricom.co.ke)

Within one year of launching a mobile Paperless Banking platform, Central Bank of Kenya noted that cash transfers were becoming less frequent and customers were increasingly using the system as a de facto savings account. Mobile banking is a convenience and new physical banking service which is to attain more potential customers as it allows bankers to deliver banking services to a wider segment of customers through electronic and interactive communication channels (Goi, 2005). The more satisfied customers with IT-based services, the greater they would rate this combined service dimension which had a direct positive effect on perceived service quality and customer satisfaction (Faye, Walter and Injazz, 2002).

### 2.3 Innovations in Technology and Paperless Banking Service Delivery

In Kenya, majority of banks have introduced internet banking, mobile banking and other Paperless Banking facilities, to enhance delivery channels to their customers. It is however, important that the introduction of these products be accompanied with programs to broaden consumer horizon by enhancing their knowledge in the new and more innovative way of conducting banking business. For example, while Internet banking is fast and convenient mode of conducting banking transactions, this is yet to gain acceptance among
banking consumers, due to fears of apprehension in this mode of banking. Electronic banking depends on providing customers, partners, and employees with access to information, in a way that is controlled and secure (Soludo, 2005).

Technology must provide security to meet the challenges encountered by Paperless Banking. In recent years, and taking advantage of new information technologies, two groups of new payment methods, referred to generically as electronic money (e-money), have been developed and introduced: smart cards and software-based products to make payments over the Internet. Until now, the most revolutionary systems of e-money are still at their infancy, and there is debate concerning the degree of adoption that could take place in the coming years (Soludo, 2005). In the meantime, we are witnessing the introduction of mixed products that coexist with some incipient experiences of pure digital cash. Pre-paid cards can serve as a payment mechanism by loading and storing monetary value in the chip embedded in the card. The value loaded in the card can later be used to pay for goods and services. The introduction of smart cards seeks to replace cash in most of the small transactions for which hard cash is currently used. The introduction of this new payment mechanism will go through different stages. Initially, consumer habits must change. Once reasonable acceptance is attained, point-of-sale terminals would spread rapidly. According to Connel and Saleh (2004)

They may adopt this new payment instrument because of its greater convenience. For the instrument to gain acceptance, it should have some of the following characteristics: anonymity, security (reliable authentication procedures, or solutions to compensate users in case of loss, theft or malfunction), liquidity (subject to wide acceptability), low transaction costs (from paper handling and clearing), speed (time saving in transactions, faster balance
updating). Businesses: Suppliers of goods and services could benefit from the use of pre-paid cards because of lower costs of handling cash and no interest lost on cash holdings. Also, substantial savings result from the transition of credit card to smart card payments: while credit cards require connection to a remote machine each time a payment is made, with smart cards all payments are processed jointly at the end of the business day. Card issuers: Both consumers and merchants was willing to pay for smart cards because of its many conveniences. Until the competitive pressure reduces the extra profits, smart cards can be a good business to entrepreneurs introducing new schemes. Like many other developing countries, Paperless Banking in Kenya is at its nascent stages. Not many banks have embraced Paperless Banking but majority have at least one or two technology based delivery channels.

2.4 Paperless Transactions and Customer Service Delivery

An electronic fund transfer, EFT for short, is basically any sale, withdrawal, transfer of moneys between accounts, and payment initiatives performed electronically. A banking customer, for instance, can make an electronic funds transfer when she deposits a pay cheque. Similarly, a business owner can make an EFT when she withdraws a cash advance from an automatic teller machine to fund discretionary business expenses. In order for an EFT be completed, a complex suite of communications must take place between the merchant or business and the issuer's account. If a credit card machine is offline, for instance, a customer may still make a delayed electronic fund transfer via a process known as the preauthorization. In this situation, a merchant first vets the banking card via fraud lists and other methods and then debits the account. Later, when the merchant hooks up to an online system, he can finish the transaction via a process known as settlement. Some banking watchdogs have raised
concerns over the security of electronic fund transfer mechanisms. Making an EFT banking transfer on an unsecured line, for instance, can lead to the dispensation of critical personal information or banking account data to unrecognized or inappropriate third parties. Fraud and unethical conduct seems to be running rampant throughout the corporate world.

A recent survey in South Africa estimated that white collar crime is costing the country R80 billion a year. The use of computer technology is a significant factor in the commission of fraud and one of the common electronic frauds is the misuse of electronic funds transfer (EFT). Globally, transactions on EFT systems are subject to high risk and exposure to fraudulent activities. Financial gain is one of the key motivations behind frauds, other than the desire to master the EFT process, the thrill of the deed, intellectual challenge and employee revenge. The simplicity of modifying a basic text file to obtain large payments is an inducement to commit fraud. By fraudulent alteration of EFT, an individual could steal large sums of money, indeed, the computerized nature of modern EFT banking has made it difficult for even veteran banking account patrols to identify and stop certain types of fraud. This isn't to say that using EFT banking initiatives isn't safe; however, the smart banking customer examines her reports regularly to look for inaccuracies. EFTs are a more secure and efficient means of transferring money than, for example, cheques, which are easily lost, stolen and/or altered. However, for EFTs to be effective, the proper controls need to be in place. Many users of EFT systems simply do not understand how such systems operate or the risks to which they are exposed.

Controls need to exist at the intermediary stages wherever information is passed, stored or processed. Any unauthorised alteration of data (fraud) or even a data input error
produces (if not immediately detected or corrected) an alteration of a customer's account balances; hence, preventing unauthorised alteration is vital for these systems. By simply altering payment instructions such as bank account details or payment amounts, employees with access to EFT systems can and do steal very large sums of money. According to Katariina (2006), the rising character of the internet as a service channel has eliminated the locus of power from service providers to consumers, and therefore, cooperation with and learning from consumers as well as adaptation to their individual and dynamic necessities have become crucial. This paper also investigates the seven dimensions of internet banking service (IBS), such as convenience, security, status, auxiliary features, personal finances, investment, and exploration. These dimensions of IBS have been investigated to enhance our knowledge of consumers' perceptions and opinions about IBS. Meadows and Dibb (1998) stated that a well-planned segmentation permits banks to better understand and serve their customers in the expandable competitive environment in which security issues of banking in general are the main determinant (Alfansi and Sargeant, 2000). Due to the ease of use customer will prefer e-services to front office services because the service quality is better and use of these IBS ensures that they have additional time to spend with their families, friends and hobbies.

2.5 Paperless Banking and Customer Satisfaction

In today’s global market, the competitive advantage lies in delivering high quality service to the customers. The need to achieve customer satisfaction lies in its ability to deliver better quality products to the customers, (Bateson, 1977). Therefore, customer satisfaction is considered as a pre-requisite for customer retention, loyalty and convenience which ultimately helps in realizing the goals of profitability, market share, growth, return on investment,
productivity etc., (Booms and Bitner, 1990). Service quality is one of the highly debatable topics in marketing theory, (Carman &langeard, 1980). In order to judge the link between two, a deep study of both concepts is required. Nexhmi and Curtin (2005), state that main factors of customers perceive quality of Paperless Banking are help-line support, convenience, security, efficiency, low cost and customization through testing and measurement.

The factor that drives business satisfaction or dissatisfaction with technology-driven services is suggested by Meuter and his colleagues (2000). Zeithaml & Parasuranam (200, 486) defines the gap called as provider gap i.e. (Not Delivering to Service Standards) as a discrepancy between development of customer-driven service standards and actual service performance by company employees. High-quality service is not a certainty, not even when the guidelines and quality standards exist within the company. Standards and guidelines need still appropriate recourses, i.e. people, system and technology. The employees must be measured and compensated based on the performance against the set standards. Even the most accurate standards on customer reflections are useless, if the company do not encourage and require their personnel to follow the standards. The provider gap can be narrowed only by ensuring that all the resources in the company can achieve the standards. (Zeithaml & Parasuranam, 2000, 486.) Zeithaml and Parasuranam (2000, 486 - 487) have identified many reasons that cause the gap. The employees might not be aware of the role and responsibilities they are to have and perform in the company. Additionally, the employees might also experience a conflict between customer and company management. Also having the wrong employees hired to customer service, inadequate technology in use, inappropriate compensation and recognition, and lack of empowerment and teamwork are some of the
reasons leading to provider gap. Avoiding this gap requires expertise from the company’s human resource practices. Correct people must be hired to the customer service and employees must get enough and correct training in order to be able to serve customers professionally. Employees should get constructive feedback on their work performance and their working motivation must be looked after by the company.

2.6 Theoretical Framework

Daniel (1999) in his study on provision of electronic banking in UK described electronic banking as the provision of banking services to customers through Internet technology. Other authors (Daniel, 1999; Karjaluoto, 2002a) found out that banks have the choice to offer their banking services through various electronic distribution channels technologies such as Internet technology, video banking technology, telephone banking technology, personal computer technology. The study of Karjaluoto (2002a) further found that Internet technology is the main electronic distribution channel in the banking industry. A combination of conceptual tools from the economic, service and technology field has resulted into the Theory of Reasoned Action, (TRA) which was developed to better understand relationships between attitudes, intentions and behaviours (Fishbein, 1967). This is one of the most important theories that are used to explain human behaviours (Pedersen, 2005).

Behavioural intention to use technology is explained by people's attitudes toward that behaviour and subjective norms. Intensified competition and deregulation has led many services and retail businesses to seek profitable ways to differentiate them; one strategy that has been related to success in these businesses is the delivery of high service quality (Rudie and Wansley 1985). So service quality has become a significant research topic in past decade
due to high revenues, increased cross sell ratios, higher customer retention, purchasing
behaviours (Cronin and Taylor 1994) and expanded market share. The significance of
customer service in the banking sector came to force to compete in a market driven
environment. The service sector as a whole is very heterogeneous and what is heterogeneous
may hold true for one service and may not hold for another service sector. Due to this
differentiation, services in this industry could not be standardized, moreover these services are
intangible in nature which could not be compared or seen. The concept of customer
satisfaction and service quality is interrelated with each other. As customers become more
sophisticated, therefore, it becomes essential to consider the use of technology to respond to
their continuously change. Banking is an industry highly which is highly involved with the
customers.

Customers in developing economies seem to keep the “technological factors” of
services as the yardstick in differentiating good & bad services and the human factor – the
employees seem to play lesser role in discriminating the quality of service for banks. The
variation in services offered by the banks develops the excellence for service quality. Banking
is no longer regarded as a business dealing with money transaction alone, but it also seem as
business related to information on financial transaction (Padwal 1995). As electronic banking
is becoming more prevalent, so is the level of customer service delivery thus the level of
customer satisfaction is also changing the scenario of technological environment.
Informational technology in form of Paperless Banking plays a significant role in providing
better services at lower cost. Increased satisfaction in turn increases the mutual understanding,
customer retention and a bond of trust between customer and bank. The banks which are
providing these services to customers are more reputed in the eyes of customers. As the
customer satisfaction is the function of customer expectation level and service quality level provided by the organization, Paperless Banking plays a pivotal role in giving satisfaction to the customers because Paperless Banking fills the gap between the expected and perceived service quality. So in order to fill this gap, banks should find ways of making electronic services more accessible and by allowing the customer to verify the accuracy of the Paperless Banking transactions.

2.7 Conceptual Framework

The conceptual framework for this study is provided in figure 1 below. Relationship between dependent and independent variables was depicted as the framework provided Paperless Banking factors that were capable of influencing customer service delivery in the banking industry. Independent variables include: influence of information communication and technology, influence of mobile devices, influence of electronic banking services and influence of bank employees is shown. A government policy is the moderating variable while cost & fees, convenience, privacy, trust, simplicity and reliability include the intervening variables. The dependent variable was customer service delivery, which was influenced by the independent variables.
Figure 1: Conceptual Framework Model

Independent variables’

- Technological Innovations such as new systems, electronic gadgets.
- Paperless Banking systems

- Socio-economic factors such as demand, attitude towards change, Social aspect of transacting, security, marketing, cost

- Distance and geographical phytures which affect convenience, availability of network, reliability.

- Infrastructure Limitations such as availability of electrical power for paperless banking devices.

Intervening factors

- Moderating variables such as Gender, Age, Education, government policy etc

Dependent variable

- Customer satisfaction resulting in increased Paperless Banking Adoption
CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter provides information on what factors were considered when determining the most appropriate research design, target population, sample size and sampling process. It also attempts to justify the selected research instruments’ their availability and reliability as this topic is fairly new and related surveys are very few if any.

3.2 Research design

The study used descriptive survey in which data is collected from respondents using a questionnaire and collaborated by interviewing and through observation methods; data obtained from the above instruments’ was be compared against records obtained from paperless Banking sector workers and banking statements where available, this was then subjected to a statistical evaluation using Pearson’s product/ moment to determine the correlation between the research variables. Borg & Gall(1998) defined validity as the degree to which an instrument tests what it wants to measure, validity was maintained by caring out a parallel study to appraise accuracy of respondent’s answers to the items in the questionnaire.

3.3 Target population

According to Mugenda and Mugenda (1999), a population is a complete set of individuals, cases or objects with some common observable characteristics. The research study targeted registered users of paperless banking services in Makutano and Kapenguria
town centres. I also focused primarily on Bank employees to do my research. According to Best and Kahn (2002) the ideal sample should be large enough to serve as adequate representation of the population about which to generalize and small enough for the selected to be economical. The target population is 500 correspondents.

3.4 Sampling Design

A sample is a small population selected for observation (Best and Kahn 2002). To determine the respondent sample size, the Yamane (1967) formula was used thus:

\[ n = \frac{N}{1 + Ne^2} \]

Where:
- \( n \) = required responses
- \( N \) = Sample size (responses required)
- \( e \) = sampling error limit
- \( 1 \) = Designates the probability of the event occurring

Placing the formula for West Pokot County Survey yielded a sample size of:

\[ n = \frac{500}{1 + 500*0.05^2} \]

\[ n = 222.222 \]

\[ n = 222 \]

Quantitative approach was applied during the collection of data using questionnaires consisting of Likert scales and closed-ended questions, randomly distributed to the identified respondents offices and branches; through identified contact persons. The first section, Section A, of the questionnaire consisted of questions targeted at customers of paperless banking with demographics (general information about the respondents) which comprised of
age, gender, education and source of influence to sign up for paperless banking for those who
had registered. Section B was the parallel survey which dealt with by employees of paperless
banking service provides and their take on the factors which supported the adoption of
Paperless Banking and how important they were in influencing the respondents to sign up,
and this data was collected using the importance scale. The third section styled Section C
deals with questions dealt with challenges faced by Paperless Banking organisations which
are clients and users of the services.

3.5 Research Instrument

The study used questionnaires as the main research instruments. Wierssam (1986)
asserted that the most suitable instrument for a descriptive research such as this one is a
questionnaire. Questionnaires were targeted at the relevant respondents and this are

1. Paperless banking customers (Main survey)
2. Employees of paperless banking organisations(Parallels survey)
3. Institutions and business firms

The first section will establish general information of the respondent while the second
section will utilise a summated rating method whereby questions with structured options
which are scored and allocated arbitrary weights consisting of integers.

3.5.1 Instrument validity; the validity was appraised using a parallel study; this
involved another instrument to retest respondent responses in a parallel but smaller sample
which did not involve the primary respondents (Customers) in general, two data collection
assistants were trained to help in the administration of the instrument.
3.5.2 Instrument reliability; Observation and interviews was used to collaborate information obtained on questionnaires, reliability will also be confirmed by testing and retesting responses in the samples. To compliment questionnaires, interviews were used as well as existing available records were used to getting first-hand information and reduce ambiguity in responses. The researcher used both structured and semi-structured interviews.

3.6 Data Collection

Before collection, permission was sought from all organisations involved. The researchers then distribute questionnaires to relevant respondents with a brief introduction of the nature of the research; confidentiality was assured and only ID numbers were required in order retest and ascertain that questionnaires are filled only by the registered paperless banking customers. After giving out questionnaires, a list of the respondents IDs who reported to be users of paperless banking was prepared and copies of the main questionnaire was produced. However, the respondents were given sufficient time allowance to answer the questionnaire. The questionnaires gathered will contained all needed data for the study and was organized, summarized, analysed and easy to interpret.

3.7 Data Analysis Techniques

The study used descriptive statistics. Each research question was analysed using frequencies and/or percentages, this involved uncovering the underlying structures, extracting variables, detecting anomalies and testing any underlying assumptions. Responses from all questions were crosschecked against available records to confirm incomplete details were necessary and facilitate processing for analysis. Quantitative research involves coding responses into categorical variables followed by application of a method of analysis (Kombo and Tromp, 2006). The questionnaires were evaluated for errors before subjecting the
responses to analysis. The study also involved confirming on statements and also took into consideration provided comments and experiences verify what was practically happening in the field. The findings of the study were analysed using content analysis method. Mugenda and Mugenda, 2002; referred to this method as a systematic qualitative description of the objective or units of study (categorical variables) and found that they determine the intensity with which certain themes or phrases have been used. This survey therefore involved detailed categorised description of the items that characterized the sample. The results were interpreted using frequency with which the items appeared as a measure of importance, attention or emphasis. The specific classification system used to record the information for this research is designated into content analysis which determines the frequency and trends with which concepts of the objectives are measured. This was then be interpreted as a measure of direction or bias regarding objectives. Pie charts and presenting data on a table give a visual display of individual units about which descriptive and explanatory statements are made from the sampled content.
CHAPTER FOUR
DATA PRESENTATION ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter consists of empirical data presentation and discussion presented under the respondents’ demographics, the services being offered under Paperless Banking and how frequently they are used by bank customers, factors positively affecting or supporting Paperless Banking adoption by customers of the top five banks and the challenges facing both the users of these services as well as hindering those who have not yet signed up.

4.1.1 Response Rate

This study had a sample size of 200 respondents. Out of these, 132 responses were obtained. This represents a 66% response rate.

4.2 Respondents Demographics

The researcher requested the respondents to provide their personal details which included age, gender, education level, income level, registration status and cause of registration.

4.2.1 Respondents’ Gender

<table>
<thead>
<tr>
<th>Respondent Characteristic</th>
<th>f</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>68</td>
<td>51.51%</td>
</tr>
<tr>
<td>Female</td>
<td>64</td>
<td>48.48%</td>
</tr>
</tbody>
</table>

Source: Author (2014)

According to the findings 48.8% of the respondents indicated that they were male while 51.5% indicated that they were female. This shows that majority of the respondents were female.
4.2.2 Respondents’ Age

The researcher provided age brackets and requested the respondents to select the bracket they belonged to. The results are as shown in Table 3 below:

Table 3: Respondents’ Age

<table>
<thead>
<tr>
<th>Respondent Characteristic</th>
<th>$f$</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 and below</td>
<td>26</td>
<td>19.7%</td>
</tr>
<tr>
<td>25 – 34</td>
<td>65</td>
<td>42.24%</td>
</tr>
<tr>
<td>34 – 44</td>
<td>35</td>
<td>26.5%</td>
</tr>
<tr>
<td>44 and above</td>
<td>6</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Source: Author (2014)

According to the findings 26 of the respondents indicated that they were below 25 years, 65 were aged between 25 and 34 years, 25 were aged between 35 and 44 years and 6 were aged above 45. We can therefore conclude that most of the respondents were within the economically active population between 25 and 44 years.

4.2.3 Respondents’ Educational Level

The respondents were also requested to indicate their educational level and the responses were as shown in Table 4 below:
Table 4: Respondents Education Level

<table>
<thead>
<tr>
<th>Respondent Characteristic</th>
<th>( f )</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Education</td>
<td>5</td>
<td>3.8%</td>
</tr>
<tr>
<td>Secondary Level Education</td>
<td>83</td>
<td>62.9%</td>
</tr>
<tr>
<td>Graduate Level Education</td>
<td>44</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

*Source: Author (2014)*

From the findings, 83 of the respondents indicated that they had a high School education, 44 indicated that they had Graduate qualifications, 5 indicated that they had basic education. We can therefore deduce that majority of the respondents were educated.

4.2.4 Respondents’ Income Level

The respondents were requested to indicate their income levels. From the responses, 36 indicated that they earned below 10K, 51 indicated they earned between 10K and 25K, 19 indicated they earned between 25K and 50K, 26 earned between 50k and 100k while 1.9% indicated they earned above 100k. The responses were represented using Table 5 below.
Table 5: Respondents’ Income Level

<table>
<thead>
<tr>
<th>Income Level</th>
<th>f</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 10K</td>
<td>36</td>
<td>27.3%</td>
</tr>
<tr>
<td>10 – 25 K</td>
<td>51</td>
<td>38.6%</td>
</tr>
<tr>
<td>25 – 50 K</td>
<td>19</td>
<td>14.4%</td>
</tr>
<tr>
<td>Above 50 K</td>
<td>26</td>
<td>19.7%</td>
</tr>
</tbody>
</table>

Source: Author (2014)

4.2.5 Respondents’ Registration Status

The respondents were also requested to indicate whether they had registered for Paperless Banking or not and the responses were as shown in the Table 6 below:

Table 6: Respondents’ Registration Status

<table>
<thead>
<tr>
<th>Status</th>
<th>f</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered</td>
<td>200</td>
<td>90.1%</td>
</tr>
<tr>
<td>Not Registered</td>
<td>22</td>
<td>9.9%</td>
</tr>
</tbody>
</table>

Source: Author (2014)
From the responses 32 of the respondents indicated that they had registered on Paperless Banking while 82 indicated that they had not registered for Paperless Banking services. This clearly shows that most of the respondents were registered users of Paperless Banking services offered by their banks.

4.2.6 Respondent’s Influence to Register for Paperless Banking

The respondents were further requested to specify what influenced them to sign up for Paperless Banking services and the responses were as shown in Table 4.1 below:

<table>
<thead>
<tr>
<th>Influence to Sign Up</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Staff</td>
<td>56</td>
</tr>
<tr>
<td>Media advertisement</td>
<td>12</td>
</tr>
<tr>
<td>Family</td>
<td>4</td>
</tr>
<tr>
<td>Friends</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>77</strong></td>
</tr>
</tbody>
</table>

Source: Author (2014)

According to the responses from those who had signed up for Paperless Banking, 12.7% indicated that they were influenced by media advertisements to sign up, 17.7% indicated that they were influenced by family and friends, 34.3% indicated they were influenced by company policy and 35.3% indicated they were influenced by other sources, some of which included personal decision to sign up. This, therefore, shows that company policy and other different reasons had the greatest influence on the respondent’s decision.
4.3 Adoption of Paperless Banking Services

Understanding the frequency with which certain services provided under Paperless Banking are used by customers is important and provides useful feedback for management of banks. This is because it could give an indication whether the service is meeting customer needs or not, whether customers know how to use the particular service and simply whether it adds value providing it or not. To measure frequency of use of Paperless Banking services, customers were asked to rate how frequently they used the services ranging from never to always on a numerical scale of 1-5. The results of the respondents rating were as shown in the table below:

Table 4.2: Paperless Banking Services and Frequency of Use

<table>
<thead>
<tr>
<th>Services</th>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV1 Balance Inquiry</td>
<td>16.6%</td>
<td>17.0%</td>
<td>24.4%</td>
<td>7.8%</td>
<td>34.3%</td>
</tr>
<tr>
<td>SV2 Statement Inquiry</td>
<td>19.8%</td>
<td>39.2%</td>
<td>24.7%</td>
<td>2.8%</td>
<td>13.4%</td>
</tr>
<tr>
<td>SV3 Transfer to other accounts</td>
<td>62.5%</td>
<td>11.3%</td>
<td>15.2%</td>
<td>5.3%</td>
<td>5.7%</td>
</tr>
<tr>
<td>SV4 Transfer to M-Pesa</td>
<td>4.9%</td>
<td>11.7%</td>
<td>12.7%</td>
<td>25.1%</td>
<td>45.6%</td>
</tr>
<tr>
<td>SV5 Purchase airtime</td>
<td>5.3%</td>
<td>11.0%</td>
<td>18.7%</td>
<td>20.5%</td>
<td>44.5%</td>
</tr>
<tr>
<td>SV6 Bill Payments</td>
<td>17.0%</td>
<td>30.7%</td>
<td>19.4%</td>
<td>13.4%</td>
<td>19.4%</td>
</tr>
<tr>
<td>SV7 Statement Request</td>
<td>66.8%</td>
<td>20.1%</td>
<td>7.1%</td>
<td>0.0%</td>
<td>6.0%</td>
</tr>
<tr>
<td>SV8 Cheque Book Request</td>
<td>58.3%</td>
<td>17.7%</td>
<td>12.0%</td>
<td>0.0%</td>
<td>12.0%</td>
</tr>
<tr>
<td>SV9 Loan application</td>
<td>82.3%</td>
<td>12.0%</td>
<td>5.7%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>SV10 Other (specify)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Author (2014)

The responses were analysed using the measures of central tendencies and dispersion (mean, mode and standard deviation) to show the services used most frequently by customers and presented as follows:
Table 4.3: Paperless Banking Services Ranked In Order of Use

<table>
<thead>
<tr>
<th>Service</th>
<th>Mean</th>
<th>Mode</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV4 Transfer of funds to M-Pesa</td>
<td>3.53</td>
<td>5</td>
<td>1.737</td>
</tr>
<tr>
<td>SV5 Purchase airtime</td>
<td>3.43</td>
<td>5</td>
<td>1.766</td>
</tr>
<tr>
<td>SV1 Balance Inquiry</td>
<td>2.83</td>
<td>5</td>
<td>1.763</td>
</tr>
<tr>
<td>SV6 Bill Payments</td>
<td>2.54</td>
<td>2</td>
<td>1.621</td>
</tr>
<tr>
<td>SV2 Statement Inquiry</td>
<td>2.15</td>
<td>2</td>
<td>1.423</td>
</tr>
<tr>
<td>SV8 Cheque Book Request</td>
<td>1.72</td>
<td>1</td>
<td>1.459</td>
</tr>
<tr>
<td>SV3 Transfer to other accounts</td>
<td>1.64</td>
<td>1</td>
<td>1.309</td>
</tr>
<tr>
<td>SV7 Statement Request</td>
<td>1.38</td>
<td>1</td>
<td>1.118</td>
</tr>
<tr>
<td>SV9 Loan application</td>
<td>1.08</td>
<td>1</td>
<td>0.658</td>
</tr>
</tbody>
</table>

Source: Author (2014)

From the results in Table 4.3 above it can be deduced that Transfer of funds to M-Pesa is the most frequently used service while loan application is the least used. This information is important in that it could be used by management to determine whether the least used services add any value or to embark on a fact finding mission from customers on their opinion of the services, and make the relevant decisions.

4.4 Factors Affecting Adoption of Paperless Banking Among Bank Customers

It is important for Paperless Banking service providers to understand the factors which influence or affect the adoption of Paperless Banking in order to be able to provide services which meet the customers’ expectations and needs. Bank customers were also requested to rate how important the identified factors were in influencing their decision to sign up for Paperless Banking ranging from Unimportant to Very important on a numerical scale. The results of the responses were as shown in the table below:
### Table 4.4: Factors Affecting Paperless Banking Adoption

<table>
<thead>
<tr>
<th>Factors</th>
<th>Unimportant</th>
<th>Of little</th>
<th>Moderately Important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience</td>
<td>7.8%</td>
<td>9.4%</td>
<td>0.0%</td>
<td>12.7%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Cost</td>
<td>25.7%</td>
<td>11.7%</td>
<td>21.5%</td>
<td>23.5%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Security</td>
<td>25.4%</td>
<td>6.8%</td>
<td>10.7%</td>
<td>22.8%</td>
<td>34.2%</td>
</tr>
<tr>
<td>Reliability</td>
<td>7.8%</td>
<td>11.1%</td>
<td>14.3%</td>
<td>32.6%</td>
<td>34.2%</td>
</tr>
<tr>
<td>Comfort*</td>
<td>12.7%</td>
<td>0.7%</td>
<td>15.3%</td>
<td>46.9%</td>
<td>24.4%</td>
</tr>
<tr>
<td>Handset operability</td>
<td>8.5%</td>
<td>11.7%</td>
<td>10.7%</td>
<td>22.5%</td>
<td>46.6%</td>
</tr>
<tr>
<td>Knowledge</td>
<td>14.3%</td>
<td>5.9%</td>
<td>9.4%</td>
<td>19.5%</td>
<td>50.8%</td>
</tr>
<tr>
<td>Others (Please specify)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Comfort of using Virtual money; Source: Author (2014)

The responses were analysed and ranked as represented in the table below to determine the importance that customers place on various factors when making the decision to adopt Paperless Banking:

### Table 4.5: Rank of Importance of Factors in Paperless Banking Adoption

<table>
<thead>
<tr>
<th>Factors</th>
<th>Mode</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1 Convenience</td>
<td>5</td>
<td>3.95</td>
<td>1.691</td>
</tr>
<tr>
<td>F7 Knowledge of the services</td>
<td>5</td>
<td>3.58</td>
<td>1.732</td>
</tr>
<tr>
<td>F6 Handset operability</td>
<td>5</td>
<td>3.58</td>
<td>1.644</td>
</tr>
<tr>
<td>F4 Reliability of Service</td>
<td>5</td>
<td>3.46</td>
<td>1.559</td>
</tr>
<tr>
<td>F3 Security</td>
<td>5</td>
<td>3.08</td>
<td>1.777</td>
</tr>
<tr>
<td>F5 Comfort with virtual money</td>
<td>4</td>
<td>3.42</td>
<td>1.524</td>
</tr>
<tr>
<td>F2 Cost</td>
<td>1</td>
<td>2.73</td>
<td>1.594</td>
</tr>
</tbody>
</table>

Source: Author

From Table 4.5 we can deduce that most customers attach so much importance to convenience and the least importance to cost as shown by the ranking. This, therefore, may imply that the cost of Paperless Banking which includes cost of the service or transaction
costs and cost of the Paperless Banking handsets may not have a significant impact on customers' decision to sign up for Paperless Banking.

4.5 Challenges Facing Paperless Banking Adoption

Understanding the challenges faced by customers in Paperless Banking provides useful insight into reasons why customers may not be using or signing up for Paperless Banking services as expected by the Paperless Banking service providers. These challenges may indicate shortcomings in the services being provided or challenges on the customers themselves. Therefore, services providers are better placed to improve their services, how they package these services, and how they present them to the customers. Some customer’s decisions to adopt a product or service are determined by their perception of the product. The respondents, both registered and unregistered were therefore asked to rate how the identified challenges impacted on their Paperless Banking adoption process.

Table 4.6: Obstacles to Paperless Banking Adoption

| CH1 Cost | 53.6% | 16.9% | 17.2% | 5.4% | 6.9% |
| CH2 Reliability | 55.1% | 6.9% | 6.9% | 14.5% | 16.6% |
| CH3 Handset | 78.6% | 12.7% | 3.9% | 4.8% | 0.0% |
| CH4 Security | 66.0% | 24.7% | 0.9% | 0.0% | 8.4% |
| CH5 Alternatives | 54.8% | 12.7% | 6.3% | 14.5% | 11.7% |
| CH6 Restrictions | 44.6% | 25.3% | 16.6% | 5.7% | 7.8% |
| CH7 Accessibility | 54.5% | 17.8% | 0.0% | 12.7% | 15.1% |
| CH8 Other challenges | 93.1% | 0 | 0 | 0 | 6.9% |

*Source: Author (2014)*
The responses were analysed and ranked to determine the challenges which hinder customers the most, and were as represented in the table below:

**Table 4.7: Rank of Obstacles to Adoption of Paperless Banking**

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Mean</th>
<th>Mode</th>
<th>Std.Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH2 Reliability of service</td>
<td>2.3</td>
<td>1</td>
<td>1.614</td>
</tr>
<tr>
<td>CH5 Availability of substitutes</td>
<td>2.16</td>
<td>1</td>
<td>1.493</td>
</tr>
<tr>
<td>CH7 Accessibility on networks</td>
<td>2.16</td>
<td>1</td>
<td>1.545</td>
</tr>
<tr>
<td>CH6 Restrictions of the service</td>
<td>2.07</td>
<td>1</td>
<td>1.243</td>
</tr>
<tr>
<td>CH1 Cost</td>
<td>1.95</td>
<td>1</td>
<td>1.245</td>
</tr>
<tr>
<td>CH4 Security</td>
<td>1.6</td>
<td>1</td>
<td>1.128</td>
</tr>
<tr>
<td>CH3 Handset operability</td>
<td>1.35</td>
<td>1</td>
<td>0.772</td>
</tr>
<tr>
<td>CH8 Others (Lack of Interest)</td>
<td>0.36</td>
<td>0</td>
<td>1.297</td>
</tr>
</tbody>
</table>

*Source: Author (2014)*

From the results above, reliability of service was ranked as having the greatest hindrance on Paperless Banking adoption, followed by availability of substitutes which included other services like M-Pesa and accessibility on different networks. Handset operability was ranked as having the least hindrance on the adoption process. There was an additional challenge or hindrance specified as lack of interest in Paperless Banking, which was highlighted by mostly those who had not signed up for the service. This information is important as it can be used to improve the existing services by addressing the challenges and make Paperless Banking more appealing to customers and ease their experience of these services.
4.6 Level of Paperless Banking Adoption in Relation to Factors

Regression was done to determine how the level of adoption varied with factors influencing adoption which was represented by the number of registered respondents on Paperless Banking and the results tabulated.

**Table 4.8: Regression analysis of level of Paperless Banking adoption and factors influencing adoption**

<table>
<thead>
<tr>
<th>Variables</th>
<th>t</th>
<th>Standardized</th>
<th>Coefficients Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1 Convenience</td>
<td>27.12</td>
<td>6.86</td>
<td>5.000*</td>
</tr>
<tr>
<td>RQ2 Cost of service</td>
<td>1.85</td>
<td>3.05</td>
<td>0.065</td>
</tr>
<tr>
<td>RQ3 Conceptualizing e-money</td>
<td>10.02</td>
<td>2.29</td>
<td>5.000*</td>
</tr>
<tr>
<td>RQ4 Handset operability</td>
<td>-8.016</td>
<td>-0.19</td>
<td>0.000*</td>
</tr>
<tr>
<td>RQ5 Cost of handset</td>
<td>-7.524</td>
<td>-0.14</td>
<td>2.000*</td>
</tr>
<tr>
<td>RQ6 Social aspect of transaction</td>
<td>11.56</td>
<td>3.27</td>
<td>5.000*</td>
</tr>
<tr>
<td>RQ7 Availability on networks</td>
<td>-4.219</td>
<td>-0.09</td>
<td>4.000*</td>
</tr>
<tr>
<td>RQ8 Reliability</td>
<td>-7.550</td>
<td>-0.21</td>
<td>6.000*</td>
</tr>
<tr>
<td>RQ9 Security of transactions</td>
<td>1.42</td>
<td>6.04</td>
<td>3.155</td>
</tr>
<tr>
<td>RQ10 Security of service</td>
<td>-6.046</td>
<td>-0.16</td>
<td>9.000*</td>
</tr>
<tr>
<td>RQ11 Availability of alternatives</td>
<td>-3.816</td>
<td>-0.09</td>
<td>0.000*</td>
</tr>
<tr>
<td>RQ12 Marketing strategies</td>
<td>2.32</td>
<td>4.10</td>
<td>7.021*</td>
</tr>
<tr>
<td>RQ13 Attitude towards change</td>
<td>0.810</td>
<td>0.034</td>
<td>0.418</td>
</tr>
</tbody>
</table>

*Significant at 0.05  Source: Author (2014)

Adjusted R2 0.89 (F = 207.98, df = 13, 318, sig. = 0.000)

The overall model used was significant for the selected banks as shown by the values

(F= 207.98, df = 13, 318, sig. = 0.000).
The implication of this is that all the variables collectively impact the level of adoption of Paperless Banking. The table also indicates that the overall model is significant. Specifically, the regression shows that out of the 13 variables (factors) 10 factors significantly affect the level of adoption. These variables are: Convenience (RQ1) which increases the chance of a bank customer adopting Paperless Banking by 87%, conceptualizing e-money (RQ3) which increases this chance by 30%,

Handset operability (RQ4) which, according to the negative sign, shows that it could decrease chances of adoption by 19% in case it becomes difficult, and Cost of handset (RQ5) which also could decrease adoption by 14% if it becomes a challenge as indicated by the negative sign. Other variables include Social aspect of transaction (RQ6) which contributes 28%, Availability on different networks (RQ7) which could affect adoption by 9% if it becomes a challenge, Reliability of service (RQ8) which could negatively affect adoption by 22% and Security of service (RQ10) which could also negatively affect adoption by 17% in its absence. Availability of alternatives (RQ11) is also very significant and could affect adoption by 9%, while Marketing strategies (RQ12) which is also significant contributes 11%.

The remaining three factors Cost of service (RQ2), Security of transactions (RQ9) and Attitude towards change (RQ13) are not significant at the 0.05 level of confidence. From the table above, it can be seen that these factors do not contribute much to the adoption of Paperless Banking by bank customers; they do not significantly affect adoption. RQ2 increases chances of adoption by 5%, RQ9 contributes 4% while RQ13 contributes 3%. The t values in the table show the ratio between the mean values for the respective variable and the standard error mean. This means that a high t value for a variable suggests that the variable
does not support the null hypothesis of this study, while a low t value suggests that the mean for the variable is smaller and could support the null hypothesis depending on the significance. For instance, the t values for RQ4, RQ5, RQ7 and RQ8 are negative values but they are still significant at p<0.05. This means that although their standard means were small they do not support the null hypothesis. The null hypothesis in this study is that the given variables do not support the adoption of Paperless Banking among bank customers. This finding is consistent with studies such Rogers (2013) who found that usage of innovations are largely driven by perceived benefits of the innovation over available alternatives, in this case the benefit being convenience.
CHAPTER FIVE
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a discussion of the key findings, conclusions drawn from the findings and makes appropriate recommendations. The conclusions and recommendations drawn were aimed at addressing the objective of evaluating the level of adoption of Paperless Banking among bank customers, and the factors influencing and challenges facing the adoption process.

5.2.1 Summary of the Study

The purpose of this research was to establish how technological factors influence service delivery and customer adoption of paperless banking in Kapenguria town West Pokot County. To investigate the extent that social factors limit adoption of paperless banking in Kapenguria town of West Pokot county, To establish the level banking infrastructure and how it influences adoption of paperless banking in Kapenguria town West Pokot County. To establish the effect of geographical barriers on adoption of paperless banking processes in West Pokot County, Kenya. The Theory of Reasoned Action, (TRA) which was developed to better understand relationships between attitudes, intentions and behaviours (Fishbein, 1967) was used in the theoretical framework. . This is one of the most important theories that are used to explain human behaviours. The study was conducted using cross-sectional design in which the researcher collected data at one point in a time and analysed it instead of following the target population in order to analyse changes in behaviour over a long period of time. The target population was 500 correspondents drawn from banking customers in three commercial banks in West Pokot County. A sample size of 222 correspondents was used. Data was collected through questionnaires; closed-ended semi structured interviews and cross
referenced against supporting records. Data analysis technique was by content analysis method. Data was analysed in chapter four and represented in tables. Summary, conclusions and recommendations were made in chapter five. The study findings showed a great influence of Paperless Banking services on customer service delivery. The study suggests to the banks should give high priority to customer service delivery and consider paperless banking as a key driver towards successful implementation of customer service delivery. Recommendations include the following: Banks to continually and aggressively create awareness to realize benefits of Paperless Banking to both staff and their customers, which in turn improves customer service delivery. To the government, for Electronic transactions, which utilize the PIN, the PIN must be recognized by the Court as being key and crucial to such transaction and there must be a method of upholding its validity in a transaction. This assures users of security while using Paperless Banking services. Also, banks need to regularly carry out customer surveys so as to understand their customer needs and develop Paperless Banking services with customer driven strategies.

5.2.2 Summary of Findings

From the three banks which are present in Kapenguria, customers mostly used Paperless Banking to transfer funds from their bank accounts to M-Pesa and to purchase airtime. With M-Pesa being the leading form of Paperless Banking in Kenya provided by a non-banking institution: a telecommunication company, it has a wider reach to customers. This service option therefore provides customers with the flexibility of being able to load their M-Pesa accounts straight from their accounts for onward transfer to other people as intended. It was found out that among the factors identified as influencing or affecting Paperless Banking, convenience (F1) was rated as the most important factor with 70% of the respondents rating it as very important, followed by knowledge of the services (F7) and handset operability (F6). This means that awareness of the services and how to navigate
through the available menus (access) were key factors in determining adoption decisions by customers. During the study it was found out that these services were accessible to most phones through USSD codes, for example *224# for Barclays bank, because most of the phones in Kenya were just basic phones with basic facilities hence USSD was the most suitable for these phones. However, it was also discovered that the banks are now developing applications of these services for customers who have higher version phones, commonly called smart phones. It was also noted that the customers did not attach much importance to cost of the service (F2), this was because the cost of Paperless Banking service offered by the banks was more or less the same as that being offered by the telecommunications companies, if not cheaper. For instance, it was found that some banks charge as little as Kshs 20 to transfer funds from the customer’s account to their M-Pesa account, and as little as Kshs 5 to access the Paperless Banking service and perform other enquiries.

Among the challenges that were identified, it was found that Reliability (CH2) was the greatest hindrance to Paperless Banking owing to the fact that for some of the banks their services were inaccessible at times. This, it was discovered during the study, was affected mostly by the telecommunication platforms being used by the banks to provide the service, such that if the telecommunication lines were down at any one time then the service becomes inaccessible. Availability of substitutes (CH5) and Accessibility on different networks (CH7) were also rated highly as impediments to Paperless Banking adoption. For CH5 it was found that most customers feel that the Paperless Banking services offered by their banks were not significantly different from the ones offered by the telecommunication companies, and given that the ones provided by telecoms were already in existence before banks rolled out theirs hence gained more popularity. As for CH7 it was found that most banks offer their Paperless Banking services on only one network, mostly Safaricom, hence locking out customers with Airtel or Orange SIM cards.
5.3 Theoretical Implications of the Research

Previous studies have examined the factors that affect Paperless Banking adoption and come up with varying conclusions on the most influential factors (Sulaiman et al, 2007; Njenga, 2011; Rosenberg, 2010). This study contributes to the global body of knowledge on the factors which affect innovation adoption in an emerging economy, specifically Kenya, considering this is a relatively new innovation and the uptake in developing countries has surpassed that of developed countries. In addition, the study increases knowledge to the banks of reasons why their customers may not be signing up for the services yet they are expected to be the ambassadors of these services to customers as they aim for 100% take up of these services.

5.4 Recommendations and Managerial Implications

This study has unveiled important information regarding adoption of Paperless Banking services, the services which customers feel add value to them, those which they feel are not important and the challenges they face when using or when making the decision to sign up for Paperless Banking. It is recommended that the management of these banks and other service providers re-evaluate their Paperless Banking services and embark on a fact finding mission to find out from their customers the services which they would like to have access to via Paperless Banking, so that whatever solutions they come up with was more enticing to customers and encourage them to sign up. It is also recommended that service providers address the challenges highlighted so as to give customers a worthwhile experience when taking up this innovation because the benefits of Paperless Banking are yet to be fully explored beyond convenience.

5.5 Conclusion

In conclusion, this study sought to find out the factors that affect Paperless Banking adoption and challenges hindering 100% sign up of Paperless Banking by bank customers.
Through existing literature and empirical evidence, the study concludes that most customers sign up for Paperless Banking because of the convenience it offers, and also rely on their knowledge of the services. It is also concluded that in as much as this is an emerging economy where cost is considered as an important factor in provision of goods and services, in Paperless Banking adoption cost is not an important factor neither is it a hindrance, meaning the service is reasonably affordable; customers are willing to pay for the convenience it offers. It is also concluded that the factors which were being measured in this research had a significant impact in influencing adoption decisions.

5.6 Recommendations for Future Research

This study may not have exhausted all the factors that could influence innovation adoption decisions as the factors highlighted account for 89% influence. It is therefore recommended that further research be done to unveil the other factors. Further research could also be done to evaluate how Paperless Banking contributes to paperless banking, whether it has any impact on internet banking and how it can be integrated or interlinked with internet banking, considering the current vision for banks is to go paperless and branchless. This will help banks to determine whether they are heading in the right direction in adopting technological innovation to achieve their goals and visions of branchless banking.
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APPENDIX A

CUSTOMER QUESTIONNAIRE

Factors influencing service delivery and adoption of paperless banking, a case study in West Pokot County.

Introduction

This research is being conducted by Glenn Chakava, a PPM master’s student at the University of Nairobi. Please answer the following questions honestly in the spaces provided. Kindly do not write your name, although you can sign the following questionnaire. The pages may be handwritten, typewritten or completed electronically.

Please tick all answers that apply.

1) Which Bank/s do you hold accounts?
   □ Barclays Bank
   □ Equity
   □ KCB

2) Age:
   □ Below 25
   □ 25-34
   □ 35-44
   □ 45-54
   □ 55 and Above

3) Gender:
   □ Male
   □ Female

4) Education level:
   □ Basic
   □ Primary
   □ College/Tertiary
5) Income level:

- □ Below 5,000
- □ 5,001-20,000
- □ 20,001-50,000
- □ Above 50,000

6) Registered on Paperless banking:

- □ Yes
- □ No (Proceed to Section B question 3)

7) Influenced to sign up by:

- □ Bank Staff
- □ Family
- □ Friends
- □ Media advertisements

Other (please specify)…………………………………………………………
APPENDIX B
PAPERLESS BANKING SERVICES

1. On a scale of 1 to 5 please state how often you use the following services on average in a month, by ticking the appropriate box, where

1- Never,
2- Seldom
3- Sometimes
4- Often
5- Always

2. What Paperless services do you use?

a) Balance Inquiry
b) Statement Inquiry
c) Transfer of funds to other bank accounts
d) Transfer of funds to M-Pesa
e) Purchase airtime
f) Bill Payments
g) Statement Request
h) Cheque Book Request
i) Loan application
j) Other services (please specify)………………………………………………………………………………...
3. Please rate how the following factors have hindered your uptake of Paperless banking services by ticking the appropriate box, where 1 – No hindrance, 2 – A little hindrance, 3 – Some hindrance, 4 – Considerable hindrance, 5 – Great hindrance

a) Cost  
b) Reliability of service  
c) Handset operability  
d) Security  
e) Availability of substitutes  
f) Restrictions of the service  
g) Accessibility on different networks  
h) Other challenges (Please specify)
Please answer the following by ticking the appropriate option:

1. Do you find using Paperless banking more convenient than using the branch-based services?
   □ Yes
   □ No

2. Do you find Paperless banking offered by your bank to be more expensive than other Paperless banking services like M-Pesa?
   □ Yes
   □ No

3. Do you feel comfortable transacting through Paperless banking as opposed to dealing with physical cash?
   □ Yes
   □ No

4. Did your Paperless phone support Paperless banking at the time you signed up or the service? If yes please proceed to question 6. If no please proceed to question 5.
   □ Yes
   □ No

5. Did you have to purchase a phone that supports the service?
   □ Yes
   □ No

6. Does your income influence your use of Paperless banking?
   □ Yes
   □ No

7. Is your bank's Paperless banking service available on more than one network?
   □ Yes
   □ No

8. Do you find Paperless banking to be more reliable than branch based services?
9. Do you find using Paperless banking to perform transactions to be more secure rather than performing them at the branch?

- Yes
- No

10. Are there any security concerns that have been raised concerning your bank’s Paperless banking services?

- Yes
- No

11. Would you prefer to use your bank’s Paperless banking services rather than those provided by your Paperless network provider e.g. Safaricom, Airtel etc.?

- Yes
- No

12. Do you find your bank’s advertisements on Paperless banking appealing or interesting enough to encourage customers to sign up?

- Yes
- No

13. Does your attitude towards change (how you perceive change) affect your use or uptake of Paperless banking?

- Yes
- No

Thank you for your co-operation
SECTION B
EMPLOYEES OF PAPERLESS BANKING ORGANISATIONS

Factors influencing service delivery and adoption of paperless banking, a case study in West Pokot County.

Introduction

This research is being conducted by Glenn Chakava, a PPM master’s student at the University of Nairobi. Please answer the following questions honestly in the spaces provided.

Kindly do not write your name, although you can sign the following questionnaire.

The pages may be handwritten, typewritten or completed electronically.

1. How long have you been working where you are?

□ 1 year-5 years
□ 6 years – 10 years
□ 11 years- 15 years
□ More than 16 years

2. How effective is paperless banking compared to paper banking?

□ Excellent
□ Very good
□ Good Fair
□ Poor
□ Don’t know

3. Which are the processes involved in paperless banking in depositing and withdrawing?

..............................................................................................................................................
a) Has the processes reduced the time taken to serve one customer?
   □ Yes
   □ No
   Explain
   ...........................................................................................................
   ......................................................

b) Has the processes reduced the length of queues in serving customers?
   □ Yes
   □ No
   Explain
   ...........................................................................................................
   ......................................................
   ......................................................
   ......................................................


c) Is there any significant difference between paperless banking and paper banking?
   □ Yes
   □ No
   Explain
   ...........................................................................................................
   ......................................................
   ......................................................
   ......................................................

d) How do you control work flows in case breakdown occurs?
   ...........................................................................................................
   ......................................................
   ......................................................


e) According to you as an employee do the benefits of using paperless banking exceed those of paper banking?
   □ Yes
   □ No
   Explain
   ...........................................................................................................
   ......................................................
   ......................................................
f) According to the information that you have gathered from customers before introduction and after introduction of paperless banking, which is the effectiveness of paperless banking to customers?

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g) Which are the challenges that you face while offering services using paperless banking?

…………………………………………………………………………………………
…………………………………………………………………………………………

…………………………………………………………………………………………
APPENDIX D
INTRODUCTION LETTER

Glenn Chakava
P.O Box 252-30600,
Kapenguria.
Date: 18/05/2014

To the Branch Manager,
……………………. Bank Limited,
P.O Box ..............,
……………………
Kenya.

Dear Sir/ Madam,
RE: REQUEST TO BE ALLOWED TO CARRY OUT RESEARCH WITH YOUR STAFF

I am a master’s student in Project Planning Management at the University of Nairobi. I am carrying out some research on factors influencing service delivery and adoption of paperless banking in West Pokot County.

I hereby kindly request your office to allow me to carry out the above said within your premises with staff and customers. This will entail a brief interview sessions and administering of questionnaires. It will run for a maximum of two weeks and is entirely voluntary. The questions do not require any sensitive or confidential information that would compromise the operations of your organization: a questionnaire is attached for your confirmation.

I am looking forward to a positive consideration.

Thanking you in advance,

Yours sincerely,

Glenn Chakava