

**SERVICE DELIVERY CHANNELS AND OPERATIONS
PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

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DECLARATION

Declaration by the Student

This research project is my original work and has never been presented to any other examination body. No part of this research should be reproduced without my consent or that of the University of Nairobi.

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This Research project has been presented for examination with my approval as a university supervisor.

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DEDICATION

This project is dedicated to my family for their unending love, care and support and to all the commercial banks in Kenya.

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I thank God for providing me with an opportunity, strength, health, knowledge and favour to complete this research project. I am heartily thankful and appreciate my supervisor Dr. X.N Iraki, without whose guidance and supervision, this project would not have been accomplished. Lastly and not least, am also indebted to my MBA colleagues and friends and all those who assisted me in one way or another throughout this period of study and though I may not name each one of you individually, your contribution is recognized and appreciated immensely. I owe you my gratitude. To you all, God bless.

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ABSTRACT

The objectives of this study were to determine the extent of usage of service delivery channels used by commercial banks in Kenya, and to determine the effect of service delivery channels on operational performance of commercial banks in Kenya. This study used a causal research design because it enabled the study to test the cause and effect relationship between two or more variable. Secondary data was also used in the study. Secondary data was extracted from the financial and operational data for the banks released in their annual reports and annual supervision reports released by the Central Bank of Kenya. The study used correlation and regression statistics to analyse the data. The study concludes that ATMs increase accessibility of the bank services to the customers and that use of ATMs helps the bank attain efficiency in delivering services. This study concludes that mobile banking leads to reduction in operational costs. This study also concludes that M-banking provides increase convenience, expand access and significantly save time for the customers. This study also concludes that branch networking enhances geographical market increasing the organizations size and influences new customers. It was also concluded that internet banking offers more convenience and flexibility to customers coupled with a virtually absolute control over their banking and it eliminates the barriers of distance/time and provides continual productivity for the bank to unimaginable distant customers.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The financial sector reforms introduced in the early 1990s in Kenya envisaged an effective and strong financial industry. The introduction of these reforms brought with it a healthy competition. Banks felt the need to upgrade their customer service to a much higher level to survive in this competitive environment. They found technology as an ideal tool to achieve this objective.

Till 1980's, banks had only one delivery channel which is the branch presence. Suddenly, technology has opened up options for various delivery channels. Technology products like ATM'S, internet banking, agency banking, mobile banking have given customers a sea of options to choose from. Consequently, the banks should also have channel based strategy to serve the customers. The earlier manual way of operation has been automated, thereby saving a lot of time and effort (Uppal, 2011).

The goal of every organization is to meet the needs and the requirements of its stakeholders not only ensure the survival of the organization but also allow it to flourish. The challenge today for organizations is to move from a retail model that emphasizes transaction processing and operational capabilities to one that focuses more effectively on the needs of customers, recognizing that they often vary across segments. In an endeavour to optimize services and diminish costs, banks are regularly migrating towards a twenty four hour service where clients are enjoying the superior sense of independence that this creates (Xue and Harker, 2012). In an effort to drive even superior differentiation

from the competition, financial services organizations is currently exploring alternative banking channels. The global banking industry has revolutionized over the past three decades by an attack of latest technologies in addition to an extensive change in the rules governing the application of this technology (Saxena, 2010). Therefore many banks have began adapting their service delivery channels and shifting from frontal individual service to direct sales and marketing through email, phone and other electronic transactions. The broad understanding is that this improves the operational performance of the banks (Valluri, 2012).

The economic distribution channel theory posit that the normative delivery channel can be determined by exploring what the consumers want in terms of service outputs from the delivery channel, how much they are willing to pay for a given service level, how the services can be provided to them, and what the costs of the alternative delivery channels are (Stem and Sturdivant, 2007). Thus it is imperative that business units establish an appropriate delivery system that is most efficient in meeting the customers' wants and improving the organizations operational performance. Thus, an economic delivery channel model takes a customer's perspective, analyses the output from the commercial part of the different delivery channels and relates it to the customers' costs and benefits from the different levels of service output offered by the available delivery channels.

The banking sector in Kenya is under pressure to improve their quality of service, while also reducing costs to remain competitive in an extremely volatile and uncertain market. Improving customer service is imperative for banks in the current market and economic scenario, where product and price no longer provide a clear competitive edge (CBK,

2014). Service delivery channels play a key role in delivering an enhanced customer experience as customer interactions begin and end with channels. Banking customers are increasingly expecting more convenience, accessibility, personalization and reliability across distribution channels network. Banks need to deliver these features by leveraging innovative technologies and solutions for a seamless and personalized experience as this would improve the overall operational performance of the banks. There is a clear demand for banks to invest in their channel networks to make them more customers' centric and user-friendly, while in the process improving the channel efficiencies for better return on investments, operational performance and increased profitability (Valluri, 2012).

1.1.1 Service Delivery Channels

Service delivery channel can be described as any delivery method through which an organization can provide services to customers (Karmarkar and Pitbladdo, 2009). Each individual organization typically operates an array of delivery channels, collectively termed the organization's multi-channel mix. Across the multi-channel mix, those channels that do not involve physical face-to-face contact with staff members have been called 'direct channels.' Multi-channel distribution has been identified as promoters of sales growth, improved satisfaction of consumers target and cost reduction by substituting high for low cost channels, increased number means linking company with market sections, reduced business risks and diversified sources of company business. Lovelock and Young(2011) brings out the value of each independent channel performance. Each independent channel contributes to the aggregated firm's sales growth, improved customer satisfaction, cost reduction, and increased means of linking the firm products to the market, thus improved productivity.

The popularity of different service delivery channels is a result of decades of service delivery innovation in pursuit of lower costs and higher quality, fueled by the advancement of technology, especially information technology. In some industries, the provision of such a multi-channel service delivery system has become a competitive necessity (Johnson and Susan, 2012). Moreover, service delivery systems can have a significant effect on firms' operations strategy such as capacity management (Roth and Menor, 2003), as well as on the operational performance of other business processes that directly interact with the customer, such as sales and marketing. In the case of a bank, the service delivery channel is the way the banking product or service takes from the bank to the customer. Most banks have multiple channels to serve their customers. Today, they can choose between branches, contact centers, ATMs and online channels, portals and web banks.

1.1.2 Operations Performance

Operational performance is a measure against standard or prescribed indicators of effectiveness, efficiency, and environmental responsibility such as, cycle time, productivity, waste reduction, and regulatory compliance (Sullivan, 2011). Achieving and sustaining operational performance is more important than ever in today's challenging economic environment. Cost pressures, changing customer expectations, stronger competitors and other industry and market disruptions are collectively causing a tremendous strain on operational capabilities and performance. Operational performance excellence is no longer a desired end state but a near-term requirement for any successful company.

Swanson (2000) noted that operational performance is the valued productive output of a system in the form of goods or services. The measures of operational performance differ from company to company and from industry to industry. In the current research, the measures of performance include quality of the products, cost efficiency, delivery time, flexibility, reliability and the speed of service delivery. Private sector organizations strive for good financial results whereas public organizations are aimed at non-financial results like delivering good public services to citizens. Magutu (2013) opine that operational performance refers to the measurable aspects of the outcomes of an organization's processes, such as reliability, production cycle time, and inventory turns and it will affect a firm's performance measures such as market share and customer satisfaction. The measurement of operational performance entails gauging the quality of service.

Banks' operational performance contributes to the operation and growth of an economy through various roles, including that of intermediary and provides of payment settlement facilities. Banks must also execute these roles faultlessly in order to promote confidence and stability in the system. The traditional role of banks has been that of intermediary, that is, the bringing together of borrowers and lenders. This can only be done successfully and for sustainable period with the careful management of credit, liquidity and risk factor essentially, because a bank is funded primarily by depositors, it has an obligation to ensure that the risks which depositor's funds are exposed to be minimized (Johnson and Susan, 2012).

1.1.3 Commercial Banks in Kenya

According to the Central Bank of Kenya, there are currently 44 commercial banks in Kenya (CBK, 2014). Thirty-five of these banks, most of which are small to medium sized, are locally owned and the other 8 are foreign owned. Kenya's financial landscape has considerably changed over the period 2006-2013 and the financial sector has grown in assets, deposits, profitability and products offering. The growth has been mainly underpinned by an industry wide branch network expansion strategy both in Kenya and in East Africa community region as well as automation of a large number of services and a move towards emphasis on the complex customer needs rather than traditional 'off-the-shelf' products. Among these innovations include moving from the traditional decentralized banking to one branch banking that has been enabled by integration of various business functions (PWC, 2013). The CBK annual supervision report emphasizes that the financial institutions will need to cope continuously with changing business environment and a continuous flood of new requirements via a robust ICT platform, while staying sufficiently agile. Consumers will continue to demand individualized services, and to demand them faster than ever (CBK, 2014).

In Kenya, commercial banks play an important role in mobilizing financial resources for investment by mobilizing investors and boosting businesses as well as offering financial services to the public with the aim of making profit. Over the last decade, Kenyan Banks have realized tremendous growth in the last five years and have expanded to the East African region. The growth has been mainly underpinned by, the industry's wide branch

network expansion strategy both in Kenya and in the East African community region, and automation of a large number of services and a move towards emphasis on the complex customer needs rather than traditional ‘off the-shelf’ banking products. Players in this sector have experienced increased competition over the last decade years resulting from increased innovations among the players and new entrants into the market (CBK, 2013). The banking industry in Kenya has found it necessary to embrace business integration as one way of responding to the changing needs of the customers. Contemporary customers have become more informed and require efficient and faster service delivery than before. Nyaoke (2007) indicates that there are some challenges that are encountered by the banking industry in Kenya such as money laundering, but such kind of challenges are easily overcome once banks embrace integration since various departments are able to share real time information.

1.2 Research Problem

In today’s business, competition, deregulation and globalization have compelled banks to offer service 24 hours around the globe, whereas the significance drawback, on the other hand, lies in its inconvenience and security factors. However, both these factors have a significant and profound impact on banks’ operational performance and customer service delivery (Johnson and Susan, 2012). Due to increasing global competition and declining profit margins most organizations are pursuing different operations strategies to keep market share and maximize the share holders’ value. The need to respond to market changes on a daily basis and the difficulty of predicting the direction of such changes mean that organizations must focus on their service delivery channels. Customers are actually the end users of the firms’ products and services. An organization should aim at

meeting customers' needs for it to remain relevant (Mudaki, 2011). By tailoring its delivery channels to meet these needs, the operational performance will improve and hence the overall organizational performance.

Over the last few years, the banking sector in Kenya has continued to grow in assets, deposits, profitability and products offering. The growth has been mainly underpinned by an industry wide branch network expansion strategy both in Kenya and in East Africa community region as well as automation of a large number of services and a move towards emphasis on the complex customer needs rather than traditional "off-the-shelf" products (CBK, 2014). The CBK annual supervision report of 2009 emphasizes that the banking institutions will need to cope continuously with changing business environment and a continuous flood of new requirement via a robust ICT platform, while staying sufficiently agile. Consumers will continue to demand individualized services, and to demand them faster than ever. Hence banks will continue aggressively design new products that leverage on ICT to remain competitive. Down streaming into the retail market segment will also be expected to continue particularly with the anticipated licensing of deposit taking Microfinance Institutions (CBK, 2009).

International studies that have been undertaken on service delivery channel include Chen and Hitt (2002) which showed that customer retention in the online brokerage industry can be influenced by the design of self-service systems and other product design choices. Christopher et al. (2006) indicated that e-banking provides an important channel to sell products and services of banks and is perceived to be a necessity for banks to be successful. Therefore, service quality and efficiency in the banking industry has increased tremendously worldwide in the world due to the integration of information technology

into banking operation. Balasubramanian and Peterson (2010) study established that service delivery channels contributes to the aggregated firm's sales growth, improved customer satisfaction, cost reduction, and increased means of linking the firm products to the market, thus improved productivity. Local studies include Inyo (2013) study on service quality and operational performance of Tour operators in Kenya. The study found out that although both micro-and-small enterprises managed independently generally place a similar level of importance on service quality components as medium-internationally affiliated firms, these firms are still unsuccessful in attaining high operational performance. Machana (2014) researched on the effect of outsourcing on operational performance of major petroleum firms in Kenya and established that outsourcing increased the firm's competitiveness through access to modern technology and expertise, cost savings and enable the firm to focus on core competence. From the above studies, there is no study that has been undertaken on the effect of service distribution channels on operational performance. The study therefore sought to answer the question; what is the effect of service delivery channels on operational performance of commercial banks in Kenya?

1.3 Research Objectives

1. To determine the extent of usage of service delivery channels used by commercial banks in Kenya.
2. To determine the effect of service delivery channels on operational performance of commercial banks in Kenya.

1.4 Value of the study

The findings of the study will be of importance to the existing theory and knowledge on the effect of service delivery channels on organizations as this will help more organizations to take interest on their delivery channels for they know the benefits.

The study will also help banks identify the profitable and non-profitable service delivery channels, establish why some channels are preferred by customers over others and try to bridge a knowledge/ training gap if any exists.

The study will also be important in policy formulation. It will be of great interest and importance's to the government since it will help in the formulation and modification of the various policies to assist remove any outstanding hindrances to contribution of service delivery channels on operational performance of commercial banks. The study is expected to be of help to commercial bank policy makers in identifying the key challenges of delivery channels and coming up with strategies that will lead to improved operational performance.

In practice, this study will be of importance to the banks because they will know how much they are gaining through service delivery channels thus putting in place mechanisms that will ensure that they deliver their products and services to its customers.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two deals with the literature review, theoretical review and conceptual framework. Specifically, it covers the service delivery channels used by commercial banks in Kenya, their effects on operational performance of commercial banks in Kenya and the gap that still exists and which makes it worthwhile to undertake this study

2.2 Theoretical Review

The economic distribution channel theory posit that the normative distribution channel can be determined by exploring what the consumers want in terms of service outputs from the distribution channel, how much they are willing to pay for a given service level, how the services can be provided to them, and what the costs of the alternative distribution channels are (Stem and Sturdivant, 1987). Thus it is imperative that business units establish an appropriate distribution system that is most efficient in meeting the customers' wants. Thus, an economic distribution channel model takes a customer's perspective, analyses the output from the commercial part of the different distribution channels and relates it to the customers' costs and benefits from the different levels of service output offered by the available distribution channels.

According to Frei et al., (2007), the interaction between the adoption and promotion of electronic channels by the banks and the changes in the customer segments is input to a change process where the structure of the distribution channel is adapted to the new

environment. However, they note that this is not likely to happen overnight because of barriers and temporal constraints. For example, some banks will have invested in a huge branch network, which will be of no use if all or most of its customers want to switch to an electronic channel, and the customers will be tied to their present bank and its distribution channel because of habits, and perceived social, psychological and financial risks associated with switching banks. Besides, they will have to spend time searching and evaluating alternative banks in order to find a more suitable bank. Therefore, the existing distribution strategy will also influence the changes in the distribution channel structure. The change process will end when the new distribution strategy is the normative distribution channel (Bucklin, 1996).

Several different distribution channels are used by the retail banks. They offer their services through branch networks, automatic teller machines, the telephone and PC Internet-based home banking systems. Also channels such as car dealers, mobile branches (buses), and retailers are used for distributing bank services.

2.3 Service Delivery Channels Used by Commercial Banks in Kenya

Commercial banks in Kenya have embraced alternative banking channels which represent a shift in delivery of banking and financial services since the alternative banking have become synonymous with commercial banks in Kenya. What remains unclear is how these new methods of delivering financial services affect the profitability of commercial banks. Alternative banking channels have undoubtedly transformed the way financial services are delivered. The convenience of banking services derived from alternative channels is well recognized.

The speed of service delivery is another major factor associated with alternative banking channels. More and more people are resorting to alternative banking channels for various reasons and the systems serve customers well. Whether these channels have led to high profitability for commercial banks or not is the subject of this study. As a result, the study endeavors to delve deep into the ways in which these channels affect the profitability of commercial banks.

2.3.1 Internet Banking

Internet banking (e-banking) refers to the use of the internet as a delivery channel for banking services (Frust, Lang, & Nolle, 2000). When first introduced, internet banking was used mainly as an informational medium in which banks marketed their products and services on their websites. Now, customers can access traditional banking services such as balance enquiry, printing statements, fund transfers, bills payment and electronic bill presentation and payment. Customers benefit from being able to execute their banking business whenever and wherever they have access to the internet.

E-banking strategy entails the use of information communications and technology innovations as leverage to achieve sustainable competitive advantage. It involves investing in new technologies with the aim of innovating the traditional products and services as well as create new ones (Porter, 2001). E-banking strategy focuses primarily on differentiation; creating a unique user experience and cost leadership; use of innovations in information communications and technology to reduce costs.

According to Chau & Lai (2003), while the rapid growth and popularity of the internet has created great opportunities, it has also created new threats to commercial sectors. For

banks, the scope of competition is now not limited by the region or by country. It is more difficult to retain customer base since switching cost, an opportunity cost paid by a customer when changing financial institutions, is lowered by e-banking (Lin, Geng&Whinston, 2001).

The studies have shown that high levels of customer service quality can exert a positive influence on customer satisfaction (Parasuraman et al., 1988; Cronin and Taylor, 1992). The literature has argued that service worth is dictated by the differences between client's anticipation of service supplier's performance and their assessment of the services received. In the case of the banking industry, Johnston (1995) examined, by using the critical incident technique, banking customer's perceptions concerning the service superiority they established and got 18 service superiority traits. They are: Flexibility Access, and, Security Aesthetics, Responsiveness Cleanliness/tidiness Integrity Helpfulness, Availability, Comfort, Communication Commitment, Competence, Courtesy, Functionality Reliability Friendliness, Care.

Fiscal service web sites can carry out a diversity of functions ranging from basic information provision to full transactional capability. Madu (2002) have noted that traditional service excellence aspects, such as capability, consideration, hygiene, relieve, and openness, are not relevant in the background of online transaction, while additional factors, such as convenience, communication, trustworthiness, and manifestation, are critical to the success of online businesses.

Similarly Cox and Dale (2001) propose the following 15 dimensions of online service quality based on the relevant literature review: performance, aspects, configuration,

aesthetics, dependability, storage ability, serviceability, safety and system veracity, trust, responsiveness, product/service differentiation and customization, web store policies, reputation, assurance, and empathy.

A bank which opens and closes erratically will lead to dissatisfied clients; but, a bank which operates accurately on time does not repeatedly lead to delighted clients. As for the Internet banking, Sathye (1999), with respect to the adoption of Internet banking by Australian clients, found that two aspects such as complexity in use and security are important reasons that customers do not want to use the service. Ghosh (1998) and Mols (2000) stated that the internet banks could offer personalized services to their customers in order to build client devotion, since they can involuntarily track, via the Internet, individual client's financial service handling and collect the information in their incorporated database. For numerous web sites, the solution to achievement is the amount of clients that utilize the site and carry on recurring to build purchases (Cox & Dale, 2002). In the case of business deal, this indicate that all the client data such as the billing and delivery addresses do not have to be filled in, or it could be the preservation of mass particulars for buying clothes.

Internet banking offers more convenience and flexibility to customers with absolute control over their banking activities. As an alternative delivery medium of retail banking, internet banking has all the impact on productivity of telebanking and PC-Banking. In addition, it is the most cost-efficient technological means of yielding higher productivity.

2.3.2 Mobile banking

Mobile banking (m-banking) is defined as the provision of banking and financial services through the help of mobile telecommunication devices (Okiro&Ndungu, 2013). The services that may be rendered by m-banking include access to customized information and facilities to conduct bank, stock market and accounts administration. According to Schofield &Kubin (2002), the telecommunications industry worldwide is scrambling to bring what is available to networked computers to mobile devices. This is due to the fact that a user has access to his mobile phone all day, at all times, therefore convenience can be achieved 24 hours a day.

The terms m-banking, m-payments, m-transfers, m-payments, and m-finance refer collectively to a set of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds, or even access credit or insurance products (Laukkanen and Pasanen, 2007). Finance-related services that are offered by employing mobile telecommunication technologies are generally referred to as “Mobile Financial Services” (MFS). They can be divided into two categories: “Mobile Payment” and “Mobile Banking” (Georgi and Pinkl, 2005). The term Mobile Banking refers to provision of banking and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information (Tiwari and Buse, 2006).The introduction of mobile banking has revolutionized and redefined the ways banks were operating hence technology is now considered as the main contribution for the organizations’ success and as their core competences. Mobile Banking refers to provision and availment of banking

and financial services with the help of mobile telecommunication devices that allow customers of a financial institution to conduct a number of financial transactions through a mobile device such as a mobile phone or personal digital assistant. The scope of services offered may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information.

According to Chogi (2006), only a small percentage of the population had access to banking services due to high bank fees, lack of customized products and services, limited geographical reach and the perceived low level of demand and low bank income. In response to these challenges, banks adopted technological developments to facilitate the provision of better products and services, all which enhance customer satisfaction and at the same time, minimize operational costs (Sohail&Shanmugham, 2003)

2.3.3 Automated Teller Machines Banking

This is an electronic banking outlet that enables customers to perform simple transactions without the aid of a bank staff. There are two types of ATMs. The simple unit allows for one to perform basic transactions like cash withdrawal, checking balances and printing mini statements (Wonglimpiyarat, 2005). The more complex unit enables one to perform advanced transactions which include making deposits, pay bills among others. This allows for easy access to banking facilities by customers. There is usually, but not always, a fee incurred for using this facility. More recent technological advancements have brought about the intelligent ATMs which offer customer's hustle free banking with no tellers and a cashless environment that offer customers a digital self service banking experience. By migrating routine transactions away from the teller counter, this provides

the combined benefits of lower operational costs, quicker and more accurate transactions and increased product sales and revenue growth.

The use of the ATMs as customer service delivery interfaces has enabled bank customers to transact banking business using a coded ATM card. Everywhere an ATM unit is located; clients can obtain their accounts for twenty four hours a day and seven days a week. A number of studies (Essinger, 1999; Fitzsimmons Scheuermann, & Babineauz, 2004) have indicated that most banks do not simply utilize the ATMs as a tactical tool for pleasing customer-oriented need, enhancing staffs' competence, and getting competitive advantage, they in addition utilize it to demonstrate their technological progression. In a study in which factors that impacted on the adoption of internet banking services were investigated, Tan and Thompson (2000) found that customers' attitude and perceived behavioral control-factors significantly influenced their intentions to use internet banking services. Other studies have also investigated the acceptance of internet banking services (e.g. Suh & Han, 2002; Lai & Li, 2005; Cheng, Lam & Yeung, 2006). For example, Suh & Han (2002) observed that trust has a more direct effect on a client's mind-set than supposed easiness of utilization in the internet banking background. An evaluation of bank client' ATM utilization models and perceptual aspects by Joseph and George (2003) revealed that ATMs were not being used to their ultimate latent and had mainly not been used by clients as innovations that could entirely restore bank tellers in designated functions.

Lewis, Ordledge and Mitchell (1994) cited the significant gains of sturdy banking services to include the following; satisfied and retained customers, opportunities for cross-selling, attraction of new customers, development of customer bond, enhanced

sales and market shares, increased corporate image, and reduced costs and increased profit margins and business performance. These factors offered significant conduit that could be used to better understand the needs and expectations of consumers of banking products who could be profiled and segmented on the basis of their perceptions of ATM attributes. In this regard, banks have not been able to capitalize on Zhu *et al.* (2004) postulated that a pleasant experience of automated services provides enhanced value to the customers and catch the attention of them in undertaking enhanced commerce with their banks. Banks tend to utilize this electronic banking device, as all others for a competitive advantage. ATM also saves the customers' time as saved time could be invested in other productive activities.

2.3.4 Branch Networking

According to Abor (2003), branch networking is the computerization and inter-connecting of geographically scattered stand-alone bank branches, into a combined system in the form of a Wide Area Network (WAN) which offers quicker rate of inter-branch deals as the result of distance and time are eradicated. Previous study indicates that depositors consider geographic contact and home branch mass when choosing a depository body (Abor, 2005).

The first strand of research assesses the influence of the development of wide-market banking business on competition in confined banking market. According to Hannan and Prager (2004), large, multi-market banks offer lower deposit rates than lesser, one-market banks and that the rates provided by one-market banks beg off as the market share of great, multi-market banks swells. The explanation is that large, multi-market banks have

access to less costly extensive funding foundation and hence are less expected to contend for retail deposits as a source of finances.

Complete service branches entail important costs that banks must cover through the revenues generated by these systems, chiefly the implied and open income linked with deposit accounts (Orlow, et.al 1996).

Branch networking offers quicker rate of inter-branch transaction as distance barriers are eliminated. Hence, there is more productivity per time period. Also, with the several networked branches serving the customers as one system, there is simulated division of labor among bank branches with its associated positive impact on productivity among branches. It cuts down on customer travel distance to bank's branches while offering more time for customer's activities.

2.3.5 Agency Banking

Eisenhardt (1989) describes the agency theory as a result of the explored risk sharing among individuals and groups during 1960-1970. The problem found was when two cooperating parties have different attitudes towards risk and have different objectives in mind. The agency problem starts when the agent seeks and the fact that it's costly and difficult for the principal to observe the agents work. Therefore its assumed that the agent will act in his or her own interest rather than the principal's (Bender, 2011) there is also the issue of moral hazard which refers to lack of effort from the agent and does not do as agreed upon. It's also difficult for the Principal to ascertain skills of agent which he claims to have in order to carry out the task given.

Commercial banks are big beneficiaries of the rapid growth of agency outlets. They have helped cut costs on expansion and staffing but it is important that the banks have clear strategic rationale for each agent it sets up. To drive decision making, ensure appropriate agent set up and channel support and permit subsequent performance evaluation against the original strategic intent (Sidiek, 2008). This initiative will enhance financial access for those people who are currently unbanked or under (CBK2011). An evaluation of the role of agency banking on the performance of commercial banks in Kenya concluded that infrastructure cost and security influence the financial performance of commercial banks attributable to financial performance of commercial banks to a very great extent.

Mwangi (2012) sought to establish the role of agency banking in the performance of commercial banks and established that cost effectiveness associated with agency banks positively influence banks financial performance. Emergence of agency banking has resulted in increased number of transaction volumes as the banks can now access a large number of clients. Extending branch networks is often too expensive, but the development of appropriate technologies can provide one answer Deposit taking has increased among commercial banks since the emergence of agency banking

In conclusion, banking through internet is considered as a complimentary delivery channel for the services rather than a substitute for the brick and mortar banking branches. This research paper aims at examining the service delivery channels and operations performance of commercial banks in Kenya. Service delivery channels have increased the competition among the banks and both domestic and foreign banks are offering more and more modern ways of service delivery channels.

2.4 Operational performance

Operations transform resource or data inputs into desired goods, services, or results, and create and deliver value to the customers. Two or more connected operations constitute a process, and are generally divided into four basic categories. These are: processing, inspection, transport, and storage. The term operations describe the processes and resources that you use to produce the highest quality products or services as efficiently as possible. Business operations typically include four components: Location, Equipment, Labour and Process (Brown, 2008). Operational performance is firm's performance measured against standard or prescribed indicators of effectiveness and efficiency (Brown, 2008). Russel and Taylor, (2011) propose that every employee is empowered to take immediate action to satisfy a customer's wish or to resolve a problem.

Operational efficiency is the capability of a service sector to deliver products or services to its customers in the most cost-effective manner possible while still ensuring the high quality of its products, service and support. Battice (2005) operational efficiency is often achieved by streamlining a company's core processes in order to more effectively respond to continually changing market forces in a cost-effective manner. In order to attain operational efficiency a company needs to minimize redundancy and waste while leveraging the resources that contribute most to its success and utilizing the best of its workforce, technology and business processes. The reduced internal costs that result from operational efficiency enable a company to achieve higher profit margins or be more successful in highly competitive markets. Thus, a firm is effective if identifies appropriate strategic goals, and efficient if it achieves them with minimal resources. Battice, (2005) proposed tips for increasing operational efficiency: reduce costs,

improve customer satisfaction, and stay ahead of the competition. Provide employees with secure, consistent access to information. A secure, reliable, self-defending network based on intelligent routers and switches provides your business with maximum agility by providing reliable, secure access to business intelligence. What's more, a secure, reliable network infrastructure provides the necessary foundation for a number of efficiency-enhancing technologies and solutions, such as Internet Protocol communications. Create effective business processes with partners. Some large enterprises make efficient, secure business processes a prerequisite for doing business with them.

To develop efficient business processes that meet the requirements of your partners, your firm needs a secure, reliable network infrastructure. Make it easy to collaborate. Effective, interactive collaboration between employees, partners, suppliers, and customers is a sure way to boost efficiency while also reducing costs. Integrated voice, video, and data and wireless provides the kind of interactive calendaring, videoconferencing, Internet Protocol communications, and other technologies your business needs to foster seamless, easy collaboration. Streamline communications with customers. Interacting with customers efficiently and knowledgeably helps keep them satisfied and few things are as important to your bottom line as satisfied customers. Develop a long-term technology plan. Carefully determine short and long term business objectives and the carefully mapping technology solutions to those objectives (Battese, 2005)

2.5 Service distribution channels and operational performance

Facing continuously changing and highly competitive business environment, banks have invested heavily in information technology (IT) to enhance operating efficiency and sustain competitive advantage (Yakhlef, 2001). Banks have deployed different IT to offer multiple service channels to serve customers and satisfy their needs. Strategically utilizing IT to optimize operating performance, banks have continued some functions with traditional branch-based channel, and enhanced their functionality by introducing alternative IT-based service channels, such as automated teller machines (ATMs) and internet banking. Relieving the pressure on branches enables banks to perform diverse financial transactions more efficiently and also attract high-end customers by providing more personalized services.

Multiple service channels may significantly lower costs of serving customers. Internet banking allows customers to perform many banking functions anytime and anywhere, while ATMs provide some services not possible by internet banking, such as withdrawing money around the clock. This suggests that a bank's channel mix strategy may influence a customer's decision of who to bank with and how to use alternative channels, but in turn also role the bank's financial performance. The use of alternative service channels has changed the traditional way of understanding and undertaking banking activities (Portela and Thanassoulis, 2007). For short-term operation, utilization of alternative service channels contributes to the improvement of operating efficiency. For long-term operation, efficient channel mix strategy enhances a bank's market competition

With the ascent of internet technology, several prior studies have examined the determinants of internet banking adoption from customer perspective (Yakhlef, 2001). From a cost perspective, internet banking provides greater economies of scale to process transactions, compared to branches or ATMs since internet banking is mostly a fixed-cost technology. With less staff and fewer physical branch requirements, the average transaction cost through Internet banking is much lower than at a branch (Cheng et al., 2006). Internet banking also provides a more convenient way to deliver banking services and imposes few access, location or time constraints on customers (Calisir and Gumussory, 2008). These characteristics of bank service may attract customers who value convenience and rapid services. As a result, we expect that internet banking positively impacts a bank's market share. However, the transactions currently processed through Internet banking are for low-end services for which banks cannot command premium prices.

Unlike customized high-end advisory services where branch staff interacts with customers intimately, Internet banking is found to be ineffective in influencing bank customers' buying decisions (Calisir and Gumussory, 2008). The adoption of IT-based channels enables banks to expand their market share in a more cost efficiency way and protect their market against their competitors that offer the same IT channel option (Kauffman and Kumar, 2008). Continued performance of branch network seems to be consistent with banks' beliefs that branch will continue to be an effective channel for generating revenues despite the costs and the development of alternative IT-based channels (Hirtle, 2007).

The reason behind the belief is that bank managers commonly believe that utilizing IT provides an opportunity to move non-value-added transactions to IT-based channels, leaving branches with more time to devote to value-added activities (Calisir and Gumussory 2008). In addition, customers' adoption of Internet banking is found to be associated with increased usage of branch services, suggesting that investments in branches and Internet banking are complements (Xue et al. 2009). We expect that the lower costs and higher convenience of IT based channels create resource slack for customers and increases their demand for banking services

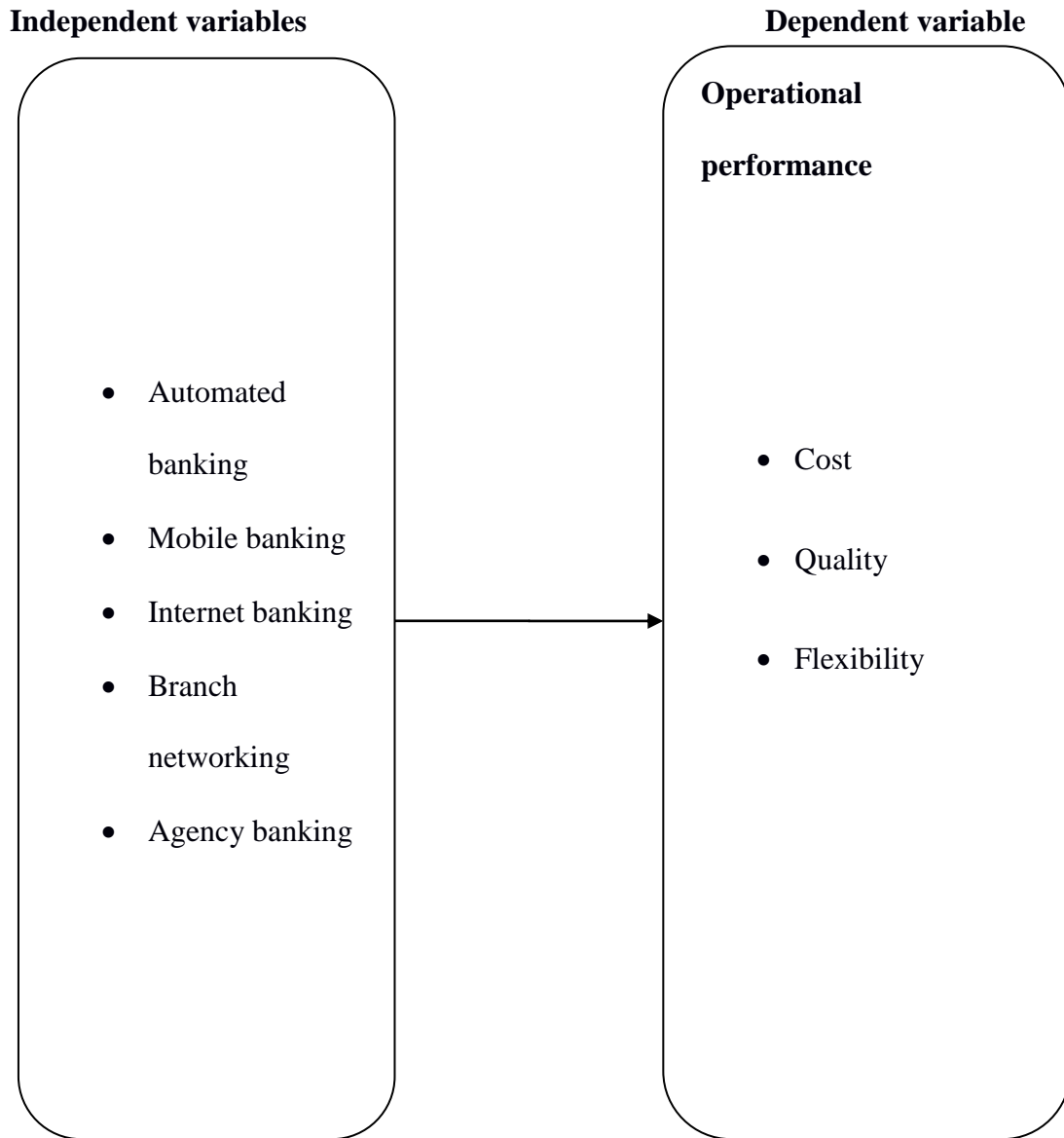
2.6 Conceptual Framework

A conceptual framework is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and to communicate this. According to Bogdan and Biklen (2003) a conceptual framework is a basic structure that consists of certain abstract blocks which represent the observational, the experiential and the analytical/synthetical aspects of a process or system being conceived. The interconnection of these blocks completes the framework expected outcomes.

An independent variable is that variable which is presumed to affect or determine a dependent variable. It can be changed as required, and its values do not represent a problem requiring explanation in an analysis, but are taken simply as given (Bogdan and Biklen, 2003). The independent variable in this study is service delivery channels. A dependent variable is what is measured in the experiment and what is affected during the experiment. The dependent variable responds to the independent variable (Everett, 2002).

The dependent variable in this study is operational Performance as presented in figure 2.1.

Figure 2.1: Conceptual Framework



Source: Researcher, 2015

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that will be used to carry out the study. Included in this chapter are the research design, data collection and instruments and data analysis.

3.2 Research Design

This study used a causal research design because it enabled the study to test the cause and effect relationship between two or more variables, measures the extent of relationship between the variables and specifies the nature of functional relationship between two or more variables (Adèr, Mellenbergh and Hand, 2008). Causal research design was selected because it enabled the study test how the independent variables (service delivery channels) affects/determines the operations performance.

3.3 Target Population

The population for this study was Commercial banks in Kenya. There were a total of 44 Commercial Banks in Kenya as at 31 December 2014 which formed the target population for this study. Mugenda and Mugenda (2003) explains that the target population should have some observable characteristics, to which the researcher intends to generalize the results of the study. Data was collected for all the 44 Commercial Banks in Kenya (Appendix 1). A census survey was conducted because the population is considerably small and manageable.

3.4 Data collection

Data from secondary sources was obtained for utilization in the study. Secondary data was extracted from the financial and operational data for the banks released in their annual reports and annual supervision reports released by the Central Bank of Kenya. A secondary data collection framework was developed to extract information concerning specific issues from the bank. For the purpose of this analysis, annual time series data of the variables were used. A time series data set consists of observations on a variable or several variables over time. Because past events can influence future events and lags in behaviour are prevalent in the social sciences, time is an important dimension in a time series data set (Wooldridge, 2004). Data covering the period between 2010 to 2014 was used.

3.5 Data analysis

The study used correlation and regression statistics to analyse with the help of SPSS. The dependent variable was correlated with independent variables to determine if a relationship exists between variables. Regression statistics was used to determine the significance of the relationship between variables.

The empirical model that was used in the study to test the impact of service delivery channels on operations performance of commercial banks in Kenya was as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where: Y: the banks' operational performance measured by cost of operation

β_0 = the regression constant

$\beta_1 - \beta_4$ = the regression coefficient

X_1 = Automated Teller Machines measured by Number of transactions in an year

X_2 = Mobile banking measured by Cumulative number of Customers registered in an year

X_3 = internet banking measured by Number of transactions in an year

X_4 = branch networking measured by Number of branch networks in an year

X_5 = Agency banking measured by total no. of agent transactions

Objective on the extent of usage of service delivery channels used by commercial banks in Kenya was measured by the secondary data while the second objective on the effect of service delivery channels on operational performance of commercial banks in Kenya was measured using the questionnaire.

F-test was used to test the joint significance of all coefficients and t-test for the test significance of individual coefficients. The significance of the regression model was determined at 95% confidence interval and 5% level of significance.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents data analysis and discussions. The study had two objectives namely; to determine the extent of usage of service delivery channels used by commercial banks in Kenya and to determine the effect of service delivery channels on operational performance of commercial banks in Kenya.

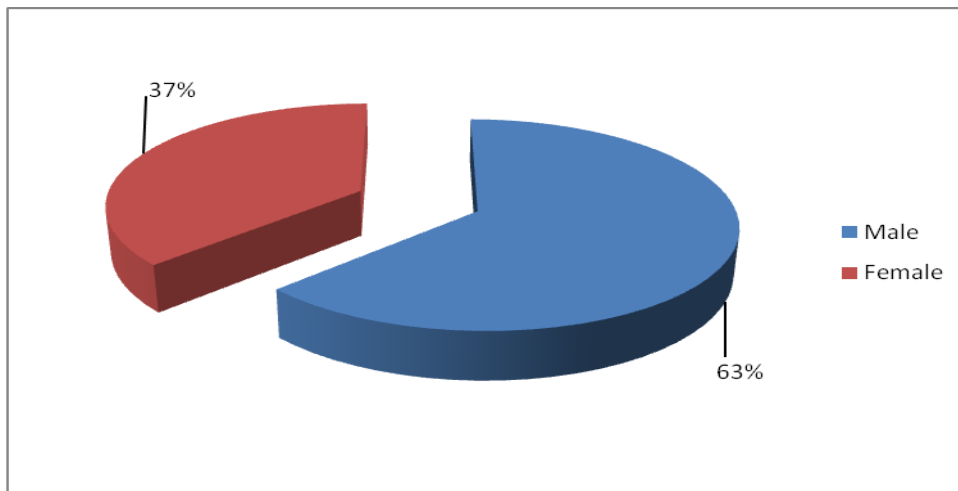
4.2 Demographic information

The study sought to ascertain the background information of the respondents involved in the study. The background information points at the respondents' suitability in answering the questions.

4.2.1 Gender of the respondents

The respondents were requested to indicate their gender. The findings were as shown in the Figure 4.2.

Figure 4.2: Gender of the respondents



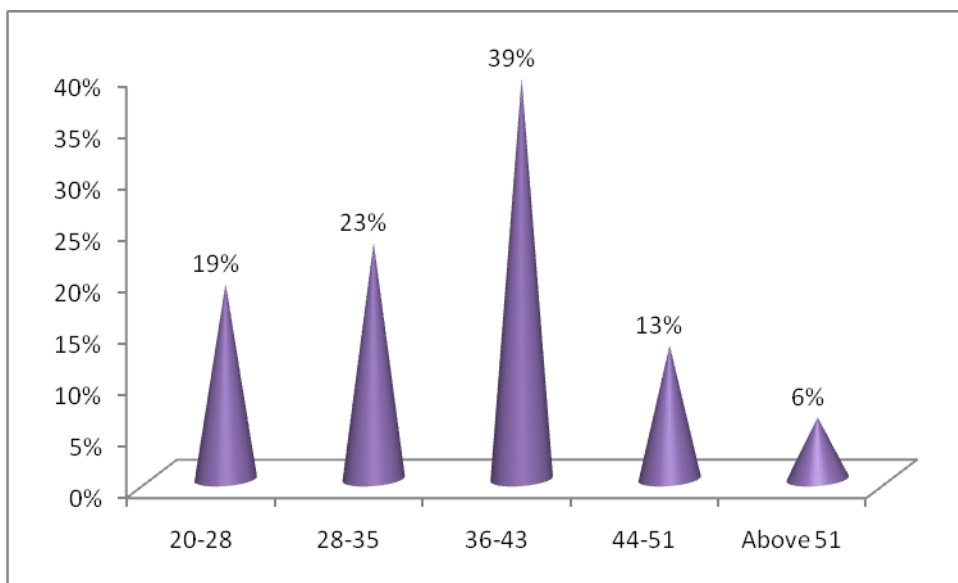
Source: Researcher, 2015

From the findings above 63% of the respondents were male while 37% were females. This depicts that majority of the respondents were males. In this research, the respondents were in management level. This depicts that more men hold managerial positions in the banking sector as compared to women, though great strides have been made to close the gap, a lot more needs to be done. Constitution of Kenya 2010 recognizes the rights of everyone and has entrenched Gender Equality as one of the key principle. The Constitution of Kenya provides that women representation should be a third of all the key positions. Hopefully once fully implemented, the above scenario will shift to 50-50 representation.

4.2.2 Age of the respondents

The respondents were requested to indicate their age. The findings were as shown in the Figure 4.3.

Figure 4.3: Age of the respondents



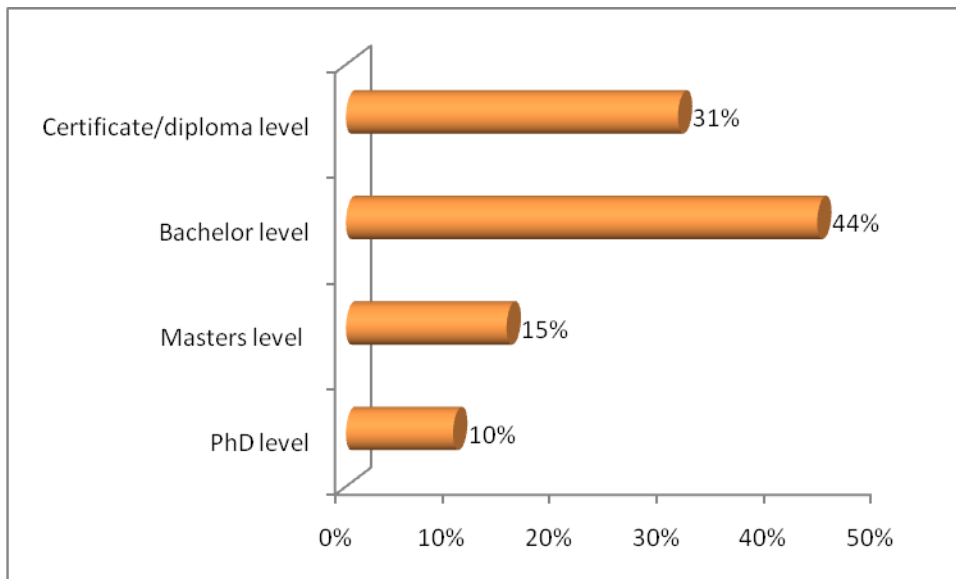
Source: Researcher, 2015

The study established that majority of the respondents were between the age of age of 36-43 years. The maximum age for entry level, as per the banks' recruitment policy is 28 years. Assuming that most of the respondents joined the bank at 28 years, then the respondents had worked in the bank for 7 years or more. This shows that the respondents had served in the bank long enough to be conversant with the workings of the bank.

4.2.3 Level of education

The respondents were requested to indicate their level of education. The findings were as shown in the Figure 4.4.

Figure 4.4: Level of Education



Source: Researcher, 2015

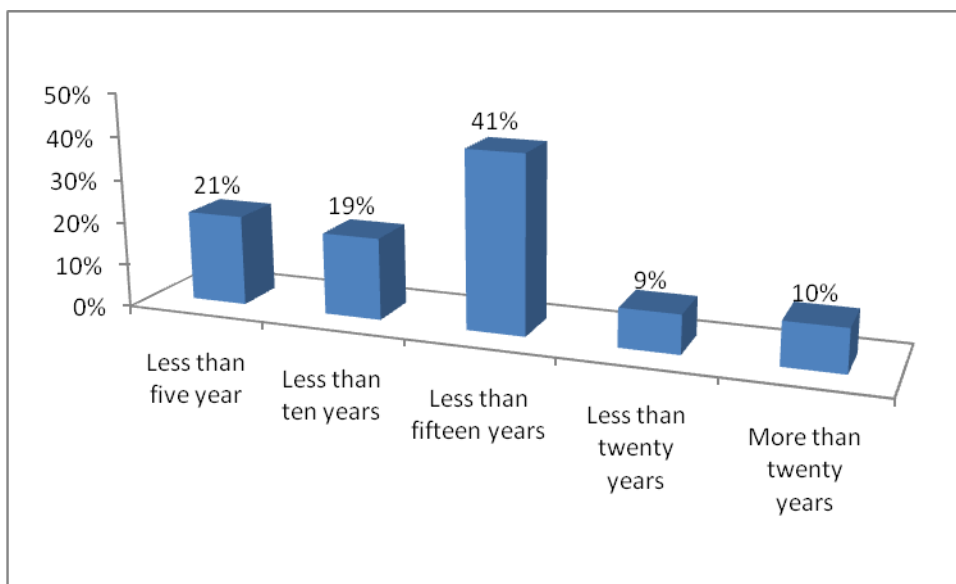
This infers that majority of the respondents in the banks are well trained thus had rich information and knowledge on nexus between service delivery channels and operations performance and therefore there was higher chances that they would offer reliable

information. Majority of the banks employees are holders of bachelor level because in most of the banks, the entry level is undergraduate level. Furthermore, Banks still train their employees for example; The Co-operative Bank of Kenya Ltd has a learning & Management Centre at Karen, which offers training for all the employees throughout the year. E-learning courses are also offered on the Intranet for the employees.

4.2.4 Working duration in the bank

The study requested to indicate the period of time they had worked with the bank (in years). The findings are illustrated in the Figure 4.4.

Figure 4.4: Working duration in bank



Source: Researcher, 2015

From the findings, it can be established that most of the respondents have worked with the bank for a period of 10-15 years and thus could be familiar with the dynamics in their area.

4.3 The extent of usage of service delivery channels used by commercial banks in Kenya

The first objective of the study sought to establish the extent of usage of service delivery channels used by commercial banks which was measured by the secondary data. The study findings as presented subsequent sections

4.3.1 Usage of service delivery channels

Descriptive statistics are the measures that define the general nature of the data under study. They define the nature of response from primary data and/or secondary data. Descriptive statistics for this study were: mean, standard deviation, minimum and maximum. The descriptive statistics results are tabulated Table 4.2.

Table 4.1: Usage of service delivery channels

Nature of transactions	Mean	Std. Deviation
Automated teller machines banking (Number of transactions in an year Internet Banking in millions)	1489.6377	1769.13923
Mobile banking (Number of customers registered (in thousands))	1682.1993	2015.40933
Internet banking (Number of transactions in an year in thousands)	1954.4989	2320.03376
Branch networking (Number of branch networks in an year)	2173.6514	2585.44782
Agency banking (Total no. of agent transactions (M))	57.2710	7.98641

Source: CBK 2015

From the findings, the average number of automated teller machines transactions was 1489.64 millions. Averages for the number of customers registered on the mobile banking service in an year for the commercial banks as extracted from the financial and annual statements reflects a mean of 1682.2 thousands. Internet banking averages for number of transactions in an year (in millions) for the commercial banks was 1954.4989. Total no. of agent transactions averages for number of transactions in a year (in millions) for the commercial banks was 57.27. Agency banking has a small standard deviation out of the other delivery channels because there was low variation in the responses. The deviation in mean averages indicates the variation of usage of various service delivery channels understudy indicating automated teller machines banking as widely used of all the other service delivery channels with a mean of 1489.64 millions followed by agency banking with a mean 57.27 millions.

4.4 The effect of service delivery channels on operational performance

The second objective of the study sought determines the effect of service delivery channels on operational performance of commercial banks in Kenya. The study findings as presented subsequent sections

4.4.1 Automated teller machines banking

The study sought to determine the extent to which Automated teller machines banking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree and 5 is strongly agree. The results are as presented in Table 4.3.

Table 4.2: Automated teller machines banking

	Mean	standard deviation
Investment in ATMs is mostly motivated by profits to the bank	3.9634	0.6342
ATMs investments enhance accessibility	4.4123	0.3214
ATMs enhance service delivery	4.6123	0.4237
ATMs have low maintenance costs leading to high levels of profitability over their economic lifetime	3.8147	0.6431
Income from ATMs has high margin hence contributing positively to bank annual profitability	3.8214	0.2364

Source: Researcher, 2015

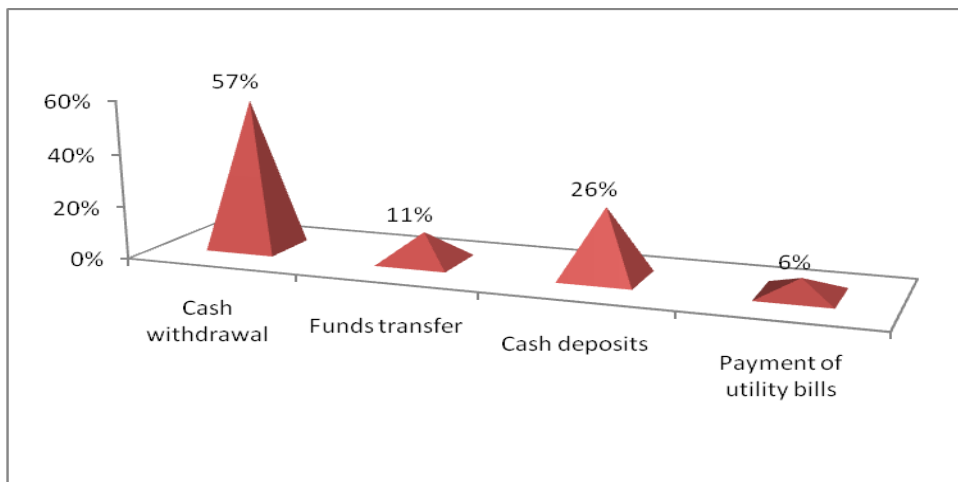
As observed in above findings, the statements that ATMs enhance service delivery and accessibility was ranked highest by the respondents. This might be due to ATMs ensures easy access to banking facilities by customers. There is usually, but not always, a fee incurred for using this facility. More recent technological advancements have brought about the intelligent ATMs which offer customer's hustle free banking with no tellers and a cashless environment that offer customers a digital self service banking experience. By migrating routine transactions away from the teller counter, this provides the combined benefits of lower operational costs, quicker and more accurate transactions and increased product sales and revenue growth. Suh & Han (2002) observed that trust has a more direct effect on a client's mind-set than supposed easiness of utilization in the internet banking background. An evaluation of bank client' ATM utilization models and

perceptual aspects by Joseph and George (2003) revealed that ATMs were not being used to their ultimate latent and had mainly not been used by clients as innovations that could entirely restore bank tellers in designated functions.

4.4.2 Services provided by ATMs

The respondents were asked to indicate the services that ATMs in their bank provide. Findings of the study are as shown in Figure 4.5.

Figure 4.5: Services provided by ATMs



Source: Researcher, 2015

It can be established from the findings above that most of the service offered by ATMs in banks is cash withdrawal. The respondents felt that customers have trust in this service since it has been offered by ATM'S since early 1980 as compared to funds transfer, cash deposits and payment of utility bills which they feel is a relatively new development. Payment of utility bills is the least utilized as individuals still demand receipts as proof of payment and have not fully adopted electronically generated receipts.

4.4. 3 Opinions on the Usage of ATMs

The study sought to establish the extent to which ATMs are used in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= No extent, 2- Little extent, 3- Moderate, 4- Great extent and 5= Very great extent

Table 4.3: Usage of ATMs

	Mean	standard deviation
Banks utilize ATMs to gain competitive advantage in the industry	4.32461	0.2346
Combinations of ATMs services and human tellers lead to more productivity for the bank during banking hours	4.2314	0.8696
Use of ATMs saves customers time in service delivery as alternative to queuing in bank halls	4.6289	0.9784
ATMs are a cost-efficient way of yielding higher productivity as they achieve higher productivity per period of time than human tellers	4.4012	0.9671
Use of ATMs brings continual productivity for the banks even after banking hours	4.2341	0.7312
Use of ATMs is a symbol of technological advancement of the bank	4.0123	0.9461
Use of ATMs helps the bank attain efficiency in delivering customer services	4.6431	0.4261
ATMs increase accessibility of the bank services to the customers	4.7124	0.2371

Source: Researcher, 2015

It can established from the table 4.3 above that ATMs increase accessibility of the bank services to the customers and that use of ATMs helps the bank attain efficiency in

delivering customer services to a very great extent that respectively as highly ranked by the respondents. This might be so because the use of the ATMs as customer service delivery interfaces has enabled bank customers to transact banking business using a coded ATM card. Everywhere an ATM unit is located; clients can obtain their accounts for twenty four hours a day and seven days a week. Most banks do not simply utilize the ATMs as a tactical tool for pleasing customer-oriented need, enhancing staffs' competence, and getting competitive advantage, they in addition utilize it to demonstrate their technological progression. ATMs increase accessibility of the bank services to the customers was ranked the highest meaning that there was high variation of the responses, while Use of ATMs is a symbol of technological advancement of the bank was ranked the lowest which was as a result of low variation in the responses hence it was closest to the mean of the dataset. Most of the respondents being between 36-43 years were born and found ATM'S already in operation thus did not think of it as a symbol of technological advancement, but rather felt that internet banking and mobile banking were recent technological advancement products.

4.4.4 Usage of ATMs and performance

Respondents were kindly asked to indicate how the use of ATMs enhances performance of their bank. The study established that ATMs enhances performance through; enhancing staffs' competence, getting competitive advantage, technological progression, satisfied and retained customers, attraction of new customers, development of customer bond, enhanced sales and market shares, reduced costs and increased profit margins.

4.4. 5 Mobile banking

The study sought to determine the extent to which mobile banking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree and 5 is strongly agree. The results are as presented in Table 4.5.

Table 4.4: Mobile banking

	Mean	standard deviation
Mobile banking influence reduction of operational costs	4.3126	0.345
Mobile banking investments is much convenient	4.2132	0.126
Mobile banking increases the deposit level	3.9476	0.172

Source: Researcher, 2015

Respondent's ranked the statements that mobile banking influence reduction of operational costs and it's much convenient to be the best. This might be so because the use of the mobile banking as customer service delivery interfaces has enabled bank customers to transact banking business using mobiles everywhere and clients can obtain their accounts for twenty four hours a day and seven days a week. According to Chogi (2006), only a small percentage of the population had access to banking services due to high bank fees, lack of customized products and services, limited geographical reach and the perceived low level of demand and low bank income. In response to these challenges, banks adopted technological developments to facilitate the provision of better products

and services, all which enhance customer satisfaction and at the same time, minimize operational costs (Sohail & Shanmugham, 2003)

4.4.6 Opinions on the Usage of Mobile banking

The study sought to determine the extent to which usage of mobile banking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= No extent, 2- Little extent, 3- Moderate, 4- Great extent and 5= Very great extent

Table 4.5: Mobile banking and operational performance

	Mean	standard deviation
M-banking provides increase convenience, expand access and significantly save time for the customers	4.7123	0.264
The costs of delivering mobile-based services are substantially lower than those of branch based services	3.7412	0.634
Even after banking hours M-banking accrues continual productivity for the bank	4.3212	0.634
Complexity of M-banking is often inversely related to a consumer's experience with technology	4.0123	0.241
Tele-banking is difficult for first-time users	3.9641	0.414
Mobile banking enhances market expansion/partnership, efficiency in service delivery, and better access to information	4.3321	0.238
Mobile banking attract new customers and to retain existing customers	4.4123	0.122

Source: Researcher, 2015

The study revealed reveals that M-banking provides increase convenience, expand access and significantly save time for the customers. The introduction of mobile banking has revolutionized and redefined the ways banks were operating hence technology is now considered as the main contribution for the organizations' success and as their core competences. Mobile Banking refers to provision and availment of banking and financial services with the help of mobile telecommunication devices that allow customers of a financial institution to conduct a number of financial transactions through a mobile device such as a mobile phone or personal digital assistant. The scope of services offered may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information.

4.4.7 Mobile banking and operational performance

The study sought to determine the extent to which mobile banking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= No extent, 2- Little extent, 3- Moderate, 4- Great extent and 5= Very great extent

Table 4.6: Mobile banking and operational performance

	Mean	standard deviation
Income from mobile banking has high margin	3.9673	0.123
Mobile banking has low operational costs	4.4123	0.331
Investment in mobile banking is mostly motivated by profits to the bank	4.2314	0.186

Source: Researcher, 2015

The statement that mobile banking has low operational costs was ranked first. This was expected because initially before introduction of mobile banking only a small percentage of the population had access to banking services due to high bank fees, lack of customized products and services, limited geographical reach and the perceived low level of demand and low bank income. In response to these challenges, banks adopted mobile banking to facilitate the provision of better products and services, all which enhance customer satisfaction and at the same time, minimize operational costs. Investment in mobile banking is mostly motivated by profits to the bank was ranked second by the respondents.

4.4.8 Internet banking

The study sought to determine the extent to which internet banking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree and 5 is strongly agree. The results are as presented in Table 4.8.

Table 4.7: Internet banking

	Mean	standard deviation
internet banking influence good accessibility	4.6123	0.145
internet banking is flexible enough	4.4871	0.138
Internet banking increases the transaction rate	4.3241	0.332

Source: Researcher, 2015

Respondents ranked the statement that internet banking influence good accessibility banking first and the statement that influence good accessibility and it increases the transaction rate was ranked second. It therefore seems that Internet banking offers more convenience and flexibility to customers with absolute control over their banking activities. As an alternative delivery medium of retail banking, internet banking has all the impact on productivity of telebanking and PC-Banking. In addition, it is the most cost-efficient technological means of yielding higher productivity. According to Chau & Lai (2003), while the rapid growth and popularity of the internet has created great opportunities, it has also created new threats to commercial sectors. For banks, the scope of competition is now not limited by the region or by country. It is more difficult to retain customer base since switching cost, an opportunity cost paid by a customer when changing financial institutions, is lowered by e-banking (Lin, Geng & Whinston, 2001).

4.4.9 Internet banking and operational performance

The study sought to determine the extent to which internet banking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree and 5 is strongly agree. The results are as presented in Table 4.9.

Table 4.8: Internet banking and operational performance

	Mean	standard deviation
Internet banking which solely focus on cost reduction may lead to high supply chain effectiveness	4.6132	0.234
Internet banking offers more convenience and flexibility to customers coupled with a virtually absolute control over their banking	4.2312	0.335
Internet banking is the most cost-efficient technological means of yielding higher productivity	3.9742	0.222
Internet banking eliminates the barriers of distance/time and provides continual productivity for the bank to unimaginable distant customers	4.1123	0.358
Adoption of Internet banking is inhibited by difficulty in use” and “security concern	3.7142	0.256

Source: Researcher, 2015

Respondents ranked first the statement that internet banking which solely focuses on cost reduction may lead to high supply chain effectiveness. This is because while the rapid growth and popularity of the internet has created great opportunities, it has also created new threats to commercial sectors. For banks, the scope of competition is now not limited by the region or by country. It is more difficult to retain customer base since switching cost, an opportunity cost paid by a customer when changing financial institutions, is lowered by e-banking and thus internet banking which solely focuses on cost reduction may lead to high supply chain effectiveness. Also it can be established that internet banking offers more convenience and flexibility to customers coupled with a virtually

absolute control over their banking and it eliminates the barriers of distance/time and provides continual productivity for the bank to unimaginable distant customers. Madu (2002) have noted that traditional service excellence aspects, such as capability, consideration, hygiene, relieve, and openness, are not relevant in the background of online transaction, while additional factors, such as convenience, communication, trustworthiness, and manifestation, are critical to the success of online businesses. Similarly Cox and Dale (2001) propose the following 15 dimensions of online service quality based on the relevant literature review: performance, aspects, configuration, aesthetics, dependability, storage ability, serviceability, safety and system veracity, trust, responsiveness, product/service differentiation and customization, web store policies, reputation, assurance, and empathy.

4.4.10 Other ways in which internet banking enhance the performance

Respondents were kindly asked to suggest other ways in which internet banking can enhance the performance of their bank. The study established that internet banking can lower costs of serving customers, can allow customers to perform many banking functions anytime and anywhere can improve operating efficiency and enhances a bank's market competition. Ghosh (1998) and Mols (2000) stated that the internet banks could offer personalized services to their customers in order to build client devotion, since they can involuntarily track, via the Internet, individual client's financial service handling and collect the information in their incorporated database. For numerous web sites, the solution to achievement is the amount of clients that utilize the site and carry on recurring to build purchases (Cox & Dale, 2002). In the case of business deal, this indicate that all

the client data such as the billing and delivery addresses do not have to be filled in, or it could be the preservation of mass particulars for buying clothes.

4.4.11 Branch networking

The study sought to determine the extent to which branch networking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree and 5 is strongly agree. The results are as presented in Table 4.10.

Table 4.9: Branch networking

	Mean	standard deviation
Branch networking influences new customers	4.0121	0.3692
Branch networking enhances division of labor	3.9431	0.4213
Branch networking enhances new geographical market increasing the organizations size	4.4612	0.7844

Source: Researcher, 2015

Respondents ranked the statement that branch networking enhances new geographical market increasing the organizations size and that influences new customers higher. This is so because Branch networking offers quicker rate of inter-branch transaction as distance barriers are eliminated. Hence, there is more productivity per time period. Also,

with the several networked branches serving the customers as one system, there is simulated division of labor among bank branches with its associated positive impact on productivity among branches. Similar to the findings, Hannan and Prager (2004), noted that branch networking offers quicker rate of inter-branch transaction as distance barriers are eliminated. Hence, there is more productivity per time period. Also, with the several networked branches serving the customers as one system, there is simulated division of labor among bank branches with its associated positive impact on productivity among branches. It cuts down on customer travel distance to bank's branches while offering more time for customer's activities. However, on the contrary, the situation has greatly changed where banks are currently closing branches and investing more in service delivery channels, which they feel will only allow them serve customers whose transactions cannot be handled at the channels, hence offer more personalized and customized services. National bank of Kenya closed 12 Branches in 2015 and The Co-operative Bank halted the opening of 11 more Branches in 2013.

4.4.12 Branch networking and operational performance

The study sought to determine the extent to which branch networking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree and 5 is strongly agree. The results are as presented in Table 4.11.

Table 4.10: Branch networking and operational performance

	Mean	standard deviation
Branch networking lead to simulated division of labour among bank branches and a positive impact on productivity among the branches	4.3121	0.6341
Branch networking curtails customer travel distance to bank branches and thus offers more time for customers' productive activities	4.2134	0.4631
It offers convenience of many possible points of contact with the bank	4.0123	0.2364
Customers select their bank primarily due to its location	3.4213	0.2634
Branch networking continue to be an effective channel for generating retail banking revenues	3.6412	0.8967

Source: Researcher, 2015

The study established that branch networking lead to simulated division of labor among bank branches and a positive impact on productivity among the branches and that branch networking curtails customer travel distance to bank branches and thus offers more time for customers' productive activities. Complete service branches entail important costs that banks must cover through the revenues generated by these systems, chiefly the implied and open income linked with deposit accounts large, multi-market banks offer lower deposit rates than lesser, one-market banks and that the rates provided by one-market banks beg off as the market share of great, multi-market banks swells.

The explanation is that large, multi-market banks have access to less costly extensive funding foundation and hence are less expected to contend for retail deposits as a source of finances. The first strand of research assesses the influence of the development of wide-market banking business on competition in confined banking market. According to Hannan and Prager (2004), large, multi-market banks offer lower deposit rates than lesser, one-market banks and that the rates provided by one-market banks beg off as the market share of great, multi-market banks swells. The explanation is that large, multi-market banks have access to less costly extensive funding foundation and hence are less expected to contend for retail deposits as a source of finances.

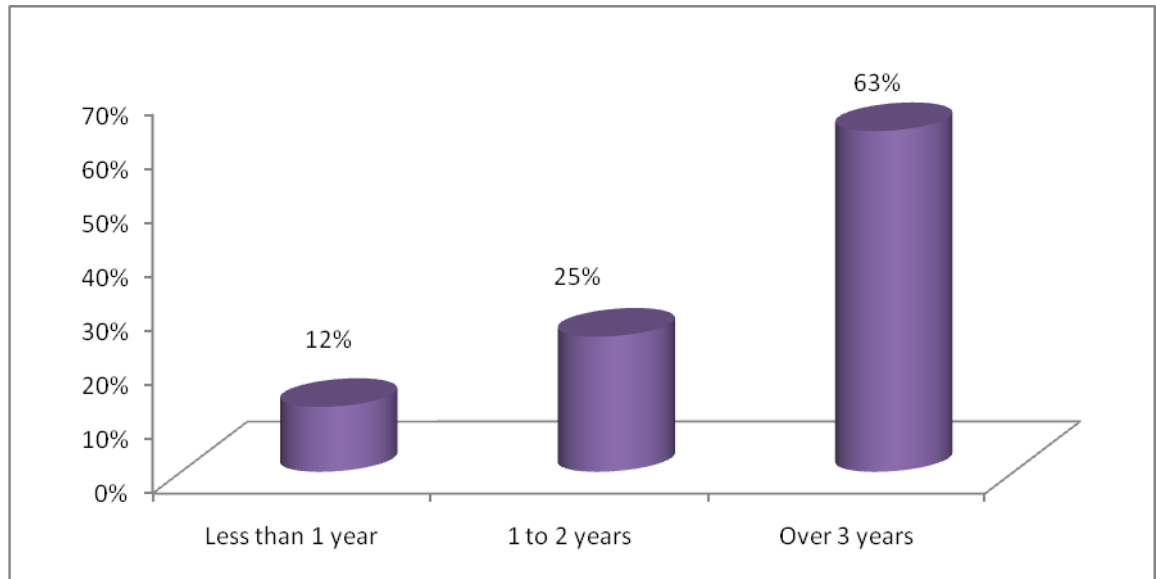
4.4.13 Other ways in which branch networking enhance the performance

Respondents were kindly asked to suggest other ways in which internet banking can enhance the performance of their bank. The study established that branch networking can enhance the performance through; enhancing market competition, expanding market share, cost efficiency and generating revenues

4.4.14 Period of using agency banking

The respondents were asked to indicate the period their firm has been using agency banking to carry out financial transactions. Findings of the study are as shown in Figure 4.6.

Figure 4.6: Period of using agency banking



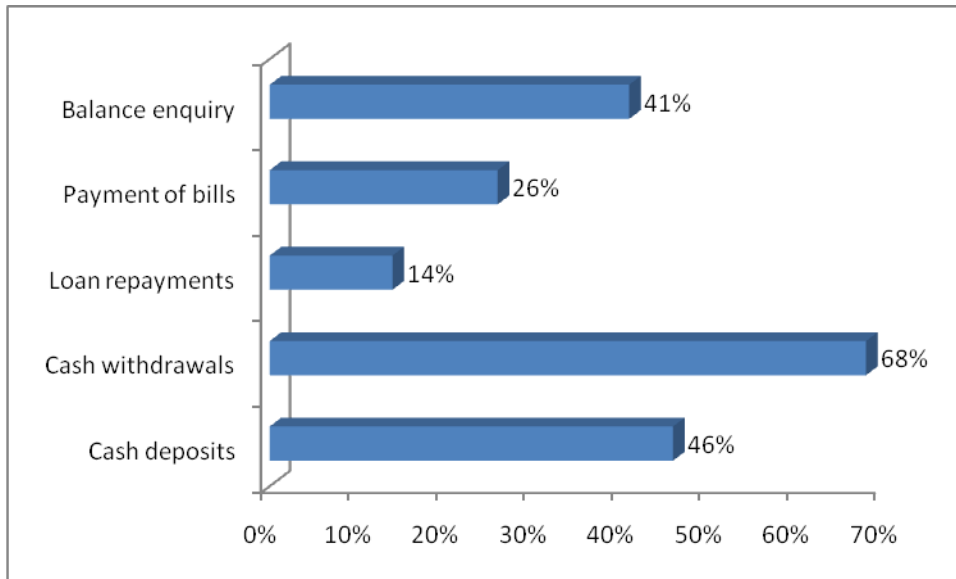
Source: Researcher, 2015

From the findings, it can be established that bank have used agency banking to carry out financial transactions for over 3 years. This implies bank usage of agency banking has enhanced financial access for those people who are currently unbanked or under and financial performance of commercial banks to a very great extent due to infrastructure cost and security influence.

4.4.15 Services accessed through agency banking

The respondents were asked to indicate the services accessed through agency banking. Findings of the study are as shown in Figure 4.7.

Figure 4.7: Services accessed through agency banking



Source: Researcher, 2015

From the findings, it can be established that agency banking have increased accessibility of cash withdrawals cost effectiveness associated with agency banks positively influence banks financial performance. Emergence of agency banking has resulted in increased number of transaction volumes as the banks can now access a large number of clients. Extending branch networks is often too expensive, but the development of appropriate technologies can provide one answer Deposit taking has increased among commercial banks since the emergence of agency banking

4.4.16 Agency banking and operational performance

The study sought to determine the extent to which agency banking influence operational performance in the banks. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five

Likert scale where 1= strongly disagree, 2= disagree, 3= moderately agree, 4= agree and 5 is strongly agree. The results are as presented in Table 4.12.

Table 4.11: Agency banking and operational performance

	Mean	standard deviation
Agency Banking has enabled more opening of accounts with our bank	4.4123	0.2467
There has been a considerable increase in number of transactions per day as a result of agency banking	4.3214	0.1364
Agency banking has enabled the bank reach and serve many customers in both rural and urban slums where there no branches	4.6123	0.9466
There has been an increase in profits as a result of agency banking	3.9746	0.4621
Bank Staff and operation costs have reduced due to Agency Banking	3.8741	0.6123
Agency banking has created employment opportunities for many	4.0123	0.23461

Source: Researcher, 2015

From the findings, it can be established that agency banking has enabled the bank reach and serves many customers in both rural and urban slums where there no branches. Commercial banks are big beneficiaries of the rapid growth of agency outlets. They have helped cut costs on expansion and staffing but it is important that the banks have clear

strategic rationale for each agent it sets up. To drive decision making, ensure appropriate agent set up and channel support and permit subsequent performance evaluation against the original strategic intent. Mwangi (2012) sought to establish the role of agency banking in the performance of commercial banks and established that cost effectiveness associated with agency banks positively influence banks financial performance. Emergence of agency banking has resulted in increased number of transaction volumes as the banks can now access a large number of clients. Extending branch networks is often too expensive, but the development of appropriate technologies can provide one answer. Deposit taking has increased among commercial banks since the emergence of agency banking

4.4.17 Other ways in which agency banking enhance the performance

Respondents were kindly asked to suggest other ways in which agency banking can enhance the performance of their bank. The study established that agency banking enhance the performance through; increased deposit levels, enhanced customer base and increased competition.

4.5 Effect of service delivery channels and operational performance

The researcher further conducted a multiple regression analysis in order to test the effect of service delivery channels and operational performance of commercial banks in Kenya. Statistical package for social sciences (SPSS) was used to code, enter and compute the measurements of the multiple regressions for the study. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in

the dependent variable (financial performance) that is explained by all the five independent variables (automated teller machines, mobile banking, internet banking, branch networking, and agency Banking).

4.5.1 Service Delivery and Operational Performance

The empirical model that was used in the study to test the impact of service delivery channels on operations performance of commercial banks in Kenya was as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where: Y: the banks' operational performance measured by cost of operation

β_0 = the regression constant

β_1 - β_4 = the regression coefficient

X_1 =Automated Teller Machines measured by Number of transactions in an year

X_2 = Mobile banking measured by Cumulative number of Customers registered in an year

X_3 = internet banking measured by Number of transactions in an year

X_4 = branch networking measured by Number of branch networks in an year

X_5 = Agency banking measured by total number of agent transactions

Table 4.12. Regression model output

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.127	0.2235		5.132	0.000
	Automated Teller Machines	0.752	0.2050	0.1032	3.668	.000
	Mobile banking	0.652	0.1032	0.1425	6.318	.000
	Internet banking	0.587	0.1125	0.1178	4.844	.000
	Branch networking	0.545	0.0937	0.0937	5.816	.000
	Agency Banking	0.477	.0461	0.3412	4.316	.001

Source: Researcher, 2015

Multiple regression analysis was conducted as to determine service distribution channels and operational performance of commercial banks in Kenya and the five variables. As per the SPSS generated table below, regression equation

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + e \text{ become:}$$

$$Y = 1.127 + 0.752X_1 + 0.652X_2 + 0.587X_3 + 0.545X_4 + 0.477X_5 + e$$

According to the regression equation established, taking all factors into account (automated teller machines, mobile banking, internet banking, branch networking, and agency banking) constant at zero, the operational performance of commercial banks will be 1.127. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in Automated Teller Machines will lead to a 0.752

increase in the operational performance of commercial banks ; a unit increase in Mobile banking will lead to a 0.652 increase in the operational performance of commercial banks , a unit increase in Internet banking will lead to a 0.587 increase in the operational performance of commercial banks ; a unit increase in branch networking will lead to a 0.545 increase in the operational performance of commercial banks ; while a unit increase in agency banking will lead to a 0.477 increase in the operational performance of commercial banks.

4.5.2. Regression Model Summary

Table 4.13. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.857	0.735	0.689	0.5273

The coefficient of determination (R Square) is used to test the goodness-of-fit of the model. That is, R Square measures the proportion or percentage of the total variation in the dependent variable explained by the independent variable. The value of R Square lie between 0 and 1 and if R Square value is 1 there is a perfect fit while R Square value 0 indicates that there is no relationship between dependent and independent variables. The five independent variables that were studied, explain only 73.5% of the operational performance of commercial banks as represented by the R^2 . This therefore means that other factors (such as economic factors, organizational factors, regulations as well as

market factors) affecting operational performance of commercial banks not studied in this research adds up to 26.5%.

4. 5.3. ANOVA

Table 4.14. ANOVA of the Regression

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.534	4	1.267	9.475	.0031
	Residual	9.307	49	2.327		
	Total	11.841	53			

Source: Researcher, 2015

The significance value is 0.031 which is less than 0.05 thus the model is statistically significant in predicting how service distribution channels (automated teller machines, mobile banking, internet banking, branch networking, and agency Banking) affect the operational performance of commercial banks. The F critical at 5% level of significance was 3.23. Since F calculated is greater than the F critical (value = 9.475), this shows that the overall model was significant.

The study established that the average number of automated teller machines transactions was 1489.6377 millions. Averages for the number of customers registered on the mobile banking service in an year for the commercial banks as extracted from the financial and annual statements reflects a mean of 1682.1993 thousands. Internet banking averages for number of transactions in an year (in millions) for the commercial banks was 1954.4989.

Total no. of agent transactions averages for number of transactions in a year (in millions) for the commercial banks was 57.2710.

The study established that most of the service offered by ATMs in banks is cash withdrawal. The study also revealed that ATMs increase accessibility of the bank services to the customers and that use of ATMs helps the bank attain efficiency in delivering customer services to a very great extent that respectively. This study revealed that mobile banking influence reduction of operational costs and it's much convenient. This study also reveals that M-banking provides increase convenience, expand access and significantly save time for the customers. Mobile banking has low operational costs. This study established that internet banking influence good accessibility and it increases the transaction rate .This study established that branch networking enhances new geographical market increasing the organizations size and that influences new customers. The study also established that branch networking lead to simulated division of labor among bank branches and a positive impact on productivity among the branches and that branch networking curtails customer travel distance to bank branches and thus offers more time for customers' productive activities

The study established that Automated Teller Machines contributes the most to the operational performance of commercial banks followed by Mobile banking. At 5% level of significance and 95% level of confidence, automated teller machines, mobile banking, internet banking, branch networking, and agency banking were all significant measures on the operational performance of commercial banks.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the data findings on the service delivery channels on operational performance of commercial banks in Kenya, the conclusions and recommendations are drawn there to. The chapter is therefore structured into summary of findings, conclusions, recommendations, limitations and area for further research.

5.2 Summary of findings

The study also revealed that ATMs increase accessibility of the bank services to the customers and that use of ATMs helps the bank attain efficiency in delivering customer services to a very great extent that respectively. The study further established that ATMs enhances performance through; enhancing staffs' competence, getting competitive advantage, technological progression, satisfied and retained customers, attraction of new customers, development of customer bond, enhanced sales and market shares, reduced costs and increased profit margins .

This study revealed that mobile banking influence reduction of operational costs and it's much convenient. This study also reveals that M-banking provides increase convenience, expand access and significantly save time for the customers. Mobile banking has low operational costs. This study established that internet banking influence good accessibility and it increases the transaction rate. Also it can be established that internet banking offers more convenience and flexibility to customers coupled with a virtually

absolute control over their banking and it eliminates the barriers of distance/time and provides continual productivity for the bank to unimaginable distant customers.

This study established that branch networking enhances new geographical market increasing the organizations size and that influences new customers. The study also established that branch networking lead to simulated division of labor among bank branches and a positive impact on productivity among the branches and that branch networking curtails customer travel distance to bank branches and thus offers more time for customers' productive activities

The study found out that agency banking has increased accessibility of cash withdrawals. This shows that agency banking has enabled the bank reach and serves many customers in both rural and urban slums where there no branches. The study also established that agency banking enhance the performance through; increased deposit levels, enhanced customer base and increased competition.

The study found out that taking all factors into account (Automated Teller Machines, Mobile banking, Internet banking, and Branch networking,) constant at zero, the operational performance of commercial banks will be 1.127. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in Automated Teller Machines will lead to a 0.752 increase in the operational performance of commercial banks ; a unit increase in Mobile banking will lead to a 0.652 increase in the operational performance of commercial banks , a unit increase in Internet banking will lead to a 0.587 increase in the operational performance of commercial banks ; a unit increase in branch networking will lead to a 0.545 increase in the operational performance of commercial banks; while a unit increase in agency banking will lead to a

0.477 increase in the operational performance of commercial banks. At 5% level of significance and 95% level of confidence, the study established that automated teller machines, mobile banking, internet banking, branch networking, and were all significant measures on the operational performance of commercial banks.

5.3 Conclusion

The study concludes that the average number of automated teller machines transactions was 1489.6377 millions. Averages for the number of customers registered on the mobile banking service in an year for the commercial banks as extracted from the financial and annual statements reflects a mean of 1682.1993 thousands. Internet banking averages for number of transactions in an year (in millions) for the commercial banks was 1954.4989. Total no. of agent transactions averages for number of transactions in a year (in millions) for the commercial banks was 57.2710.

The study concludes that ATMs increase accessibility of the bank services to the customers and that use of ATMs helps the bank attain efficiency in delivering customer services to a very great extent that respectively. The study further concludes that ATMs enhances performance through; enhancing staffs' competence, getting competitive advantage, technological progression, satisfied and retained customers, attraction of new customers, development of customer bond, enhanced sales and market shares, reduced costs and increased profit margins.

As per the findings, it can be concluded that M-banking provides increase convenience, expand access and significantly save time for the customers. In addition, it was conclusive that internet banking influence good accessibility and it increases the

transaction rate. Also it can be concluded that internet banking offers more convenience and flexibility to customers coupled with a virtually absolute control over their banking and it eliminates the barriers of distance/time and provides continual productivity for the bank to un-imaginable distant customers.

Based on the study findings, the study concludes that branch networking enhances new geographical market increasing the organizations size. Branch networking also, lead to simulated division of labor among bank branches and have a positive impact on productivity among the branches. The study finally concludes that agency banking has enabled the bank reach and serves many customers in both rural and urban slums where there no branches.

5.4 Recommendations

The banks must be focused in terms of their needs and using the right technology to achieve goals, rather, than acquiring technology because other banks have it. Government participation in ensuring focused telecommunication industry must be visible to reduce or remove avoidable costs of implementing e-commerce and internet banking. Regulatory authorities like Central Bank of Kenya must stipulate standards for the banks to follow to avoid making Kenya Banking Sector a dumping ground for the outdated technological infrastructures. Training and Manpower development is another major problem militating against the growth of technology innovation in the country.

Banks have invested a lot in these service delivery channels, but the utilization is not at the expected level. Banks need to do more of training and educating of its clients, because this has led to under-utilization of channels such as internet banking and mobile

banking. Banks should also create trust in their alternative channels e.g agency banking. Some customers are shy of using this service as they feel their confidentiality may be compromised.

5.5 Limitations of the study

Most banks may not be willing to provide data related to their operations performance and inner details of the banks. Some respondents also gave false information responses to the questions asked. It was very hard to convince them of the intention of my research in a bid to collect information from them based on the sensitivity of the sector. However, with the assistance of friends working in the sector and with the introduction letter from the university the researcher was given the opportunity to undertake the research.

Some of the respondents did not co-operate to the interview and attempted to ignore the questionnaires. The researcher however, minimized non response cases by taking and collecting summary questionnaires by hand from each respondent. Also, by having trustworthy people (especially one bank employee in each sampled bank) to distribute and collect the questionnaires and knowing how best to deal with those reluctant to interviews.

5.6 Suggestions for Further Research

This study was done only on the commercial banks in Kenya. The study can also be extended to other financial markets such as capital and insurance companies in order to understand the implication of technology innovation on the overall financial markets in Kenya. Similarly the studies can be done for other bank industry in other countries.

This study studied was confined to commercial banks yet the current banking innovation such as electronic money is targeted to include the rural marginalized mostly served by micro finance institution in the banking net. There is need therefore to study adoption and use of technology innovation by Micro finance institutions. There is also need to identify and understand the changes that technology innovation are causing on the banking sector and the payments systems, in order to examine in detail how the recent (and foreseeable) advances in technology innovation are affecting the sector and can affect its future evolution. Therefore a study on the effects of technology innovation on the banking sector and the payments system is recommended.

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APPENDICES

Appendix I: List of Licensed Commercial Banks in Kenya as at 31.12.2014

African Banking Corporation Ltd.

Bank of Africa Kenya Ltd.

. Bank of Baroda (K) Ltd.

Bank of India

Barclays Bank of Kenya Ltd.

CFC Stanbic Bank Ltd.

Charterhouse Bank Ltd

Chase Bank (K) Ltd.

Citibank N.A Kenya

Commercial Bank of Africa Ltd.

Consolidated Bank of Kenya Ltd

Co-operative Bank of Kenya Ltd.

Credit Bank Ltd.

Development Bank of Kenya Ltd

Diamond Trust Bank Kenya Ltd

Dubai Bank Kenya Ltd.

Ecobank Kenya Ltd

Equatorial Commercial Bank Ltd.

Equity Bank Ltd.

Family Bank Limited

Fidelity Commercial Bank Ltd

Fina Bank Ltd

First community Bank Limited

Giro Commercial Bank Ltd.

Guardian Bank Ltd

Gulf African Bank Limited

Habib Bank A.G Zurich

Habib Bank Ltd.

I & M Bank Ltd

Imperial Bank Ltd

Jamii Bora Bank Limited.

Kenya Commercial Bank Ltd

K-Rep Bank Ltd

Middle East Bank (K) Ltd

National Bank of Kenya Ltd

NIC Bank Ltd

Oriental Commercial Bank Ltd

Paramount Universal Bank Ltd

Prime Bank Ltd

Standard Chartered Bank Kenya Ltd

Trans-National Bank Ltd

UBA Kenya Bank Limited

Victoria Commercial Bank Ltd

Source: Central Bank of Kenya (www.centralbank.go.ke).

Appendix ii: questionnaire

SECTION A

(Please complete this section by checking the correct answer)

4 What is your gender? Male male

5 What is your age Bracket?

20-28 28-35 36-43 44-51 Above 51

6 What is your level of education?

Certificate/ Diploma level

Bachelor level

PhD level

7 What department are you based in the bank?.....

8 How long have you worked with this bank?

Less than five year ()

Less than ten years ()

Less than fifteen years ()

Less than twenty years ()

More than twenty years ()

Section B: The impact of Automated teller machines on operational performance

9 What is your level of agreement with the following statements regarding Automated teller machines banking given below as they are reflected in your organization? Use a scale of 1-5 where 1= Strongly disagree, 2-disagree, 3-moderately agree, 4-agree and 5= Strongly agree

	1	2	3	4	5
Investment in ATMs is mostly motivated by profits to the bank					
ATMs investments enhance accessibility					
ATMs enhance service delivery					
ATMs have low maintenance costs leading to high levels of profitability over their economic lifetime					
Income from ATMs has high margin hence contributing positively to bank annual profitability					

10 What services do ATMs in your bank provide?

Cash withdrawal Funds transfer Cash deposits

Payment of utility bills

11 To what extent do you agree with the below statements in regard to the use of ATMs as reflected by your organization? Use a scale of 1-5 where 1= No extent, 2- Little extent, 3- Moderate, 4- Great extent and 5= Very great extent

	1	2	3	4	5
Banks utilize ATMs to gain competitive advantage in the industry					
Combinations of ATMs services and human tellers lead to more productivity for the bank during banking hours					
Use of ATMs saves customers time in service delivery as alternative to queuing in bank halls					
ATMs are a cost-efficient way of yielding higher productivity as they achieve higher productivity per period of time than human tellers					
Use of ATMs brings continual productivity for the banks even after banking hours					
Use of ATMs is a symbol of technological advancement of the bank					
Use of ATMs helps the bank attain efficiency in delivering customer services					
ATMs increase accessibility of the bank services to the customers					

12 How can the use of ATMs in your organization enhance performance of your bank

.....

Section C: The impact of mobile banking on operational performance

- 13 What is your level of agreement with the following statements regarding mobile banking given below as they are reflected in your organization? Use a scale of 1-5 where 1= Strongly disagree, 2-disagree, 3-moderately agree, 4-agree and 5= Strongly agree

	1	2	3	4	5
Mobile banking influence reduction of operational costs					
Mobile banking investments is much convenient					
Mobile banking increases the deposit level					

- 14 What level does mobile banking have on operational performance as reflected by the following? Use a scale of 1-5 where 1= No extent, 2- Little extent, 3- Moderate, 4- Great extent and 5= Very great extent

	1	2	3	4	5
M-banking provides increase convenience, expand access and significantly save time for the customers					
The costs of delivering mobile-based services are substantially lower than those of branch based services					
Even after banking hours M-banking accrues continual productivity for the bank					
Complexity of M-banking is often inversely related to a consumer's experience with technology					
Tele-banking is difficult for first-time users					

Mobile banking enhances market expansion/partnership, efficiency in service delivery, and better access to information					
Mobile banking attract new customers and to retain existing customers					

15 What level does mobile banking have on operational performance as reflected by the following? Use a scale of 1-5 where 1= No extent, 2- Little extent, 3- Moderate, 4- Great extent and 5= Very great extent

	1	2	3	4	5
Income from mobile banking has high margin					
Mobile banking has low operational costs					
Investment in mobile banking is mostly motivated by profits to the bank					

Section D: The impact of internet banking on operational performance

16 How do you agree with the following statements regarding internet banking as they are reflected in your organization? Use a scale of 1-5 where 1= Strongly disagree, 2- disagree, 3-moderately agree, 4-agree and 5= Strongly agree

	1	2	3	4	5

internet banking influence good accessibility					
internet banking is flexible enough					
Internet banking increases the transaction rate					

17 What is your level of agreement with the following statements given below as they are reflected in your Bank? Use a scale of 1-5 where 1= Strongly disagree, 2-disagree, 3-moderately agree, 4-agree and 5= Strongly agree

	1	2	3	4	5
Internet banking which solely focus on cost reduction may lead to high supply chain effectiveness					
Internet banking offers more convenience and flexibility to customers coupled with a virtually absolute control over their banking					
Internet banking is the most cost-efficient technological means of yielding higher productivity					
Internet banking eliminates the barriers of distance/time and provides continual productivity for the bank to unimaginable distant customers					
Adoption of Internet banking is inhibited by difficulty in use” and “security concern					

18 Suggest other ways in which internet banking can enhance the performance of your bank

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Section E: The impact of branch networking on operational performance

19 To what extent do you agree with the following statements concerning branch networking as they are reflected in your organization? Use a scale of 1-5 where 1= Strongly disagree, 2-disagree, 3-moderately agree, 4-agree and 5= Strongly agree

	1	2	3	4	5
Branch networking influences new customers					
Branch networking enhances division of labor					
Branch networking enhances new geographical market increasing the organizations size					

20 What is your level of agreement with the following statements given below as they are reflected in your organization? Use a scale of 1-5 where 1= Strongly disagree, 2-disagree, 3-moderately agree, 4-agree and 5= Strongly agree

	1	2	3	4	5
Branch networking lead to simulated division of labour among bank branches and a positive impact on productivity among the branches					

Branch networking curtails customer travel distance to bank branches and thus offers more time for customers' productive activities					
It offers convenience of many possible points of contact with the bank					
Customers select their bank primarily due to its location					
Branch networking continue to be an effective channel for generating retail banking revenues					

21 Suggest other ways in which branch networking in your organization can enhance the operational performance of your bank

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Section E: The impact of agency banking on operational performance

22 How long has your firm been using agency banking to carry out financial transactions?

Less than 1 year []

1 to 2 years []

Over 3 years []

23 What services do your firm access through agency banking?

Cash deposits []

Cash withdrawals []

Loan repayments [] P

Payment of bills []

Balance enquiry []

24 To what extent do you agree with the following statements concerning branch networking as they are reflected in your organization? Use a scale of 1-5 where 1= Strongly disagree, 2-disagree, 3-moderately agree, 4-agree and 5= Strongly agree

	1	2	3	4	5
Agency Banking has enabled more opening of accounts with our bank					
There has been a considerable increase in number of transactions per day as a result of agency banking					
Agency banking has enabled the bank reach and serve many customers in both rural and urban slums where there no branches					
There has been an increase in profits as a result of agency banking					
Bank Staff and operation costs have reduced due to Agency Banking					
Agency banking has created employment opportunities for many					

25 Suggest other ways in which agency banking in your organization can enhance the operational performance of your bank

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Thank you for your input and cooperation!!

Appendix Iii: Data Collection Sheet

	Type	2010	2011	2012	2013	2014
X1	Automated teller machines banking (Number of transactions in an year Internet Banking in millions)	3572.209	4104.419	4673.41 9	5217.89 1	5768.49 6
X2	Mobile banking (Number of customers registered (in thousands))	2345.953	2580.07	3095.95 3	3423.99 2	3798.99 2
X3	Internet banking (Number of transactions in an year in millions)	2.1096	2.099	2.1585	2.2188	2.4666
X4	Branch networking (Number of branch networks in an year)	38.27907	42.2093	46.4651 2	50.5038 8	54.5969
X5	Agency banking (Total no. of agent transactions (M))	47.23641	52.08628	57.3379 3	62.3218 1	67.3725 7