

**UPTAKE OF ALTERNATIVE CHANNELS AND OPERATIONAL
PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

MARION MKANYIKA KALELA

**A RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF
MASTER OF BUSINESS ADMINISTRATION DEGREE OF THE
UNIVERSITY OF NAIROBI**

DECEMBER, 2017

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.

Signature:

Date

Marion Kalela

D61/81570/2015

This research project has been presented for examination with my approval as a University supervisor.

Signature:

Date

Ernest O. Akelo

Department of Management Science,

University of Nairobi

ACKNOWLEDGEMENTS

First of all, I wish to express my utmost gratitude to the almighty God for granting me resilience to reach this far in my academic goals. I would also like to appreciate my family and friends for the support and encouragement they accorded me during my research.

I as well extend gratitude to my supervisor E.O Akelo for his outstanding knowledge and guidance that contributed to the success of this project.

To my fellow students who greatly encouraged me during the tough times, I say thank you. And finally to the University of Nairobi for all the resources provided including journals and books and all my respondents in all commercial banks in Kenya.

DEDICATION

I dedicate this project to my parents, my sisters, my brother and my friend David, for their unending love and support in my academic endeavors.

TABLE OF CONTENTS

TABLE OF CONTENT	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Alternative Channels	2
1.1.2 Operational Performance.....	4
1.1.3 Commercial Banks	4
1.2 Research Problem	6
1.3 Research Objectives	8
1.4 Value of the study	9
CHAPTER TWO: LITERATURE REVIEW	10
2.1 Introduction.....	10
2.2 Theoretical Review	10
2.2.1 Technology Acceptance Model (TAM).....	10
2.2.2 Competitive Advantage Theory.....	11
2.3 Alternative Channels Used by Commercial Banks in Kenya	11
2.3.1 Mobile Banking	12
2.3.2 Automated Teller Machines.....	12
2.3.3 Internet Banking	13
2.3.4 Agency Banking	14
2.4 Operational Performance	14
2.5 Empirical review	15
2.6 Conceptual Framework	18
CHAPTER THREE: RESEARCH METHODOLOGY	19
3.1 Introduction.....	19
3.2 Research Design.....	19

3.3 Target Population.....	19
3.4 Sampling	20
3.5 Data Collection	20
3.6 Data Analysis	21
CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS	22
4.1 Introduction.....	22
4.2 The Utilization of alternative channels of commercial banks in Kenya	22
4.3 Uptake of Alternative Channels and Operational Performance of Commercial banks in Kenya.	25
4.3.1 Correlation Analysis	30
Utilization against cost to income ratio	30
4.3.2 Regression Analysis.....	34
4.4 Factors hindering the uptake of alternative channels in commercial banks in Kenya	40
4.4.1 Demographic information.....	41
4.4.2 Opinions of managers and customers on factors hindering the uptake of alternative channels	45
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	49
5.1 Introduction.....	49
5.2 Summary of findings.....	49
5.3 Conclusion	50
5.4 Recommendations.....	51
5.5 Limitations of the study	52
5.6 Suggestions for further research	52
REFERENCES.....	53
APPENDICES.....	i
Appendix I: List of Commercial Banks In Kenya.	i
Appendix II: Data Collection Sheet.....	iii
Appendix III: Questionnaire: Managers	vii
Appendix IV: Questionnaire: Customers	x

LIST OF TABLES

Table 4 1: Biannual number of transactions per alternative channel.....	23
Table 4 2: Cost to income ratio Dec 2009 to Jun 2017 in KES billions.....	26
Table 4 3: Average Channel Uptime since 2009 to 2017	27
Table 4 4: Average Channel speed of service in seconds since 2009 to 2017.....	28
Table 4 5: Utilization of Alternative Channels and Operational Performance.....	29
Table 4 6: Correlations, Utilization of alternative channels against Cost to income ratio	30
Table 4 7: Correlations, Utilization against Channel Availability measured in channel uptime	32
Table 4 8: Utilization of alternative channels against the average service speed of alternative channels.....	33
Table 4 9: Regression model: Utilization of alternative channels and cost to income ratio	35
Table 4 10: ANOVA, utilization of alternative channels and cost to income ratio	36
Table 4 11: Coefficients, utilization of alternative channels and cost to income ratio.....	36
Table 4 12: Model Summary, Utilization of alternative channels and channel uptime....	37
Table 4 13: ANOVA, utilization of alternative channels and channel uptime	37
Table 4 14: Coefficients, utilization of alternative channels and channel uptime	38
Table 4 15: Model summary, utilization of alternative channels and Speed of service ...	39
Table 4 16: ANOVA, utilization of alternative channels and speed of channel.....	39
Table 4 17: Coefficients, utilization of alternative channels and speed of channel.....	40
Table 4 18: Gender of respondents	41
Table 4 19: Level of education of respondents.....	43
Table 4 20: Managers Questionnaire Output	46
Table 4 21: Customers Questionnaire Output.....	47

LIST OF FIGURES

Figure 4 1: Age of respondents	42
Figure 4 2: Working experience of respondents *Horizontal axis: no of years.....	43
Figure 4 3: No. of years a customer has banked with their current bank	44
Figure 4 4: Most popular alternative channel	44

LIST OF ABBREVIATIONS

- ATMS** : AUTOMATED TELLER MACHINES
- CBK** : CENTRAL BANK OF KENYA
- KBS** : KENYA BUREAU OF STATISTICS
- KCB** : KENYA COMMERCIAL BANK
- POS** : POINT OF SALE
- PWC** : PRICE WATERHOUSE COOPERS
- SCB** : STANDARD CHARTERED BANK
- SMEs** : SMALL AND MEDIUM SIZE ENTREPRISES
- SPSS** : STATISTICAL PACKAGE FOR SOCIAL SCIENCES
- TAM** : TECHNOLOGY ACCEPTANCE MODEL

ABSTRACT

The aim of this study is to determine whether there is a relationship between the uptake of alternative channels and operational performance of commercial banks in Kenya. The study was guided by three main objectives; to determine the utilization of alternative channels in commercial banks in Kenya; to determine the relationship between the utilization of alternative channels and operational performance of commercial banks in Kenya and to determine factors that are hindering the uptake of alternative channels in Kenya. The alternative banking channels under study include; ATMs, mobile banking, agency banking and internet banking. Operational performance was measured by cost to income ratio of commercial banks in Kenya, channel availability or reliability which was measured by channel uptime and channel speed of service. The study adopted a causal and descriptive research design. Both secondary and primary data was used in the study; secondary data was retrieved from CBK annual supervision reports and the Economic survey 2016, prepared by Kenya bureau of statistics. Secondary data that was collected included; the number of transactions over years on the selected alternative channels, cost to income ratios, data on channel uptime to measure reliability and availability, and channel speed of service. Primary data was in the form of two questionnaires, one administered to managers and the other to customers, both of commercial banks in Kenya. The study used correlation and regression statistics to analyze the data. The study finds that the utilization of alternative channels is continually increasing year after year. The study finds a positive relationship between utilization of agency banking, mobile banking and cost to income ratio; a positive relationship between utilization of all channels under study and channel uptime; and a negative relationship between agency, mobile and internet banking against average channel speed of service. The study also finds that utilization of ATMs and Mobile banking predicts channel reliability and speed of service. The study further concludes that reliability and security of alternative channels affects the uptake of alternative channels.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In the ever evolving financial business environment, banks are forced to react efficiently and effectively in order to remain competitive. To retain profitability, competitive priorities are critical for operations managers in making key strategy decisions. These priorities include; low cost, quality, quick delivery and flexibility. One of the greatest challenges in operations management is to develop and gain competitive advantage by making a tradeoff between these competitive priorities (Awwad, Khattab & Anchor, 2013). Most leaders in the financial world accept that customers prefer convenience of multiple channels that is the ability to bank anywhere anytime. Commercial banks have in the recent past achieved competitive advantage through the deployment of alternative channels. Alternative channels have proven to achieve service flexibility, low cost and quicker service delivery times (Gallup News, Business Journal, 2016).

Since the 1990s, technology has opened up numerous banking service delivery channels. These banking channels have proven to increase revenue streams and reduce operational costs at the same time. They include: ATMs, mobile Banking, internet banking as well as agency banking (Awinja, 2015). Banks in the recent past have aggressively promoted these channels in order to remain competitive. As a consequence, alternative channels are changing the role of the traditional physical bank branch (Ansari, Mela & Neslin, 2008).

In the past decade, customers have increasingly adapted to the use of ATMs, mobile banking, internet banking and agency banking channels. This is because they have proven to increase convenience to the customer and improve accessibility to financial services.

However there is a clear indication that these channels are yet to be optimally adopted especially in the Kenyan market. For commercial banks in Kenya to reap the full benefits of these technology enhanced channels they require scale and time (O’Keefe, Bachman & Oyier 2016). Today, Barclays bank, Standard Chartered bank and Ecobank Kenya have closed some of their branches as they push customers to adopt mobile banking and internet banking channels. A move to review operational efficiency in line with customers changing needs.

1.1.1 Alternative Channels

According to O’Keefe, Bachman and Oyier (2016) an alternative channel is any technologically enhanced, service delivery method through which the bank can provide financial services to the customer other than the brick-and-mortar traditional branch. Alternative channels have become apparent because of a shift in consumer expectations and innovations in information and communication technology. Chebii (2013) described these channels as substitute options for processing banking transactions other than conventional means. Often times known as branchless banking, alternative banking channels are a strategy for distribution used to deliver financial services without depending on the branch or the banking hall (Von Rosen, 2013). These channels in Kenya are used to supplement the traditional banking branches where customers come to deposit, withdraw or transfer their money in the banking hall (Ndung’u, 2015).

Alternative delivery channels include ATMs, agency banking, mobile phone banking, online or internet banking, video banking, call centers, limited service branches, and roving staff such as susu collectors or mobile vans. In recent years social media has been coming up alongside mobile banking. Banks have been interacting with customers via

social media including Facebook and Twitter. The New Zealand bank ASB in September 2010 launched its first virtual Facebook branch. From 10 am to 6 pm, Monday through to Friday, the virtual branch offers advice related to personal banking (Khan, 2017). It however does not support actual financial transactions. Although banking options on social media channel are still limited, this is surely a broad move towards utilizing a highly probable and increasingly popular channel.

Introduced towards the beginning of 2017, the most recent alternative banking platform by Standard Chartered bank in Kenya is video banking. With video banking, customers are able to speak to banking consultants over a secure video connection from any location using their laptop or tablet. Clients are able to do anything they would want to do in the traditional branch.

Alternative banking channels increase the reach of financial services beyond traditional branches, responding to the demand for access anywhere. In 2006, no more than 26.4% of over 18 year old Kenyans, had access to proper financial services. This percentage has steadily increased to 66.7 % by the year 2013. This percentage has been propelled by adults who were not banking their money, and are now banking through mobile wallets (Khan, 2017). For commercial banks, alternative channels are an opportunity to serve more clients more effectively and efficiently by reducing costs, driving growth, and improving service quality. For customers, these channels bring convenience and potentially a better client experience, such as lower fees and enhanced comfort with the services. This added value should ultimately translate into greater usage, especially if the products are designed in ways that truly meet client needs (O'Keefe, Bachman & Oyier, 2016). For the country, alternative channels are pertinent in progressing financial

inclusion. Particularly mobile banking has facilitated access to financial services to remote populations and SMEs at low risk and cost (World Bank, 2017).

1.1.2 Operational Performance

According to the business dictionary, operational excellence is a measure of effectiveness and efficiency of an organization in achieving its goals and objectives. Brown (2006) defines operational performance as a measure against pre-determined standards of a business's efficiency and effectiveness. Firms have set different standards to measure operational performance. Most of these operational performance standards are guided by five major operations performance objectives Slack (2004); they include cost, quality, speed, dependability and, flexibility. Service quality dimensions also include reliability, responsiveness, timeliness of the service, assurance, empathy (Okwiri, 2015).

The measures of operational performance differ from corporation to corporation and from sector to sector. The measures of operational performance in the banking industry include; cost, efficiency, delivery time, flexibility, reliability and the speed of service delivery. All the above factors will affect a firm's performance measures such as market share and customer satisfaction, (Magutu, 2013).

1.1.3 Commercial Banks

Commercial banks in Kenya are governed by various acts of law. One of them is the Banking Act (Cap 488). The banking act defines a bank as a company, which carries or proposes to carry on "banking business" other than the central bank. Banking business is further elaborated and defined as accepting from members of the public deposits payable

on demand or at the expiry of a fixed period, payment and acceptance of cheques and employing the money deposited by lending or investing.

Currently, as documented in the by the Central bank of Kenya (CBK), there are 42 commercial banks all offering similar if not the same kind of products. Atypical commercial bank in Kenya will take cash deposits, offer various types of loans as well as avail investment products such as savings accounts and fixed deposits.

According to the economic survey 2017, Kenya has an estimated population of 45.4 million people. This means that 45.5 million Kenyans have 42 alternatives to bank their money, compared to the Nigerian population of about 185 million with only 24 banks to select from, it is safe to say that Kenya is “Over banked”. This is the main cause of the competitive nature of the Kenyan Banking Industry. Other than being “Over banked” there is the capping of interest rates. In September 2016 Parliament passed the law to cap interest rates. Summarized, the law limits interest on loans by the Central Bank Rate (CBR) at no more than four percent above the rate.

Regulators as well have become less forgiving as witnessed in 2015 and 2016 when two banks were placed under receivership by the Central bank of Kenya. Following the placement of Chase and Imperial banks under receivership, the market has shifted to perceived stable commercial banks such as KCB and SCB, tier one banks. Tier one banks are now receiving bulk deposits while tier two and three are struggling and receiving support from the central bank of Kenya. To survive the aforementioned environmental hostilities, commercial banks need to adapt to relevant strategies. Local tier three banks

are facing pressure to either merge or sell for them to stay profitable (Cytton Investments, 2016).

1.2 Research Problem

Kenyan banks posted flat or reduced earnings in 2016 following interest rate caps introduced in September 2016. Before the law, lending charges stood at between 19 percent and 27 percent, with proponents of capping then noting that banks were exploiting their customers through their high rates to make billions of dollars in profits. With the capping of interest rates, banks are definitely looking for means and ways to either increase their revenue streams or reduce their costs, in order to maintain at best, their profitability. Alternative channels have enabled some commercial banks to achieve this (Ndung'u, 2015).

A vast majority of the literature on alternative channels in banks both globally and locally show that alternative channels have a positive effect on both financial and operational performance of the bank, for example, Humphrey, Christopher and Douglas (2014), Roth and Menor (2003), Prashat (2014), Musiime and Malinga (2011) and Awinja (2015).

Humphrey, Christopher and Douglas (2014) in their study found that bank profits are significantly increased by Alternative channels. They concluded that alternative banking channels offered ease to which clients' access banking service and the speed at which the services are rendered. They also inferred that Alternative banking channels were easy to use and increased revenue generation.

Roth and Menor (2003) imply that operational costs reduce with the adoption of alternative channels. They continue further to say, setting up a physical branch involves expenses such as hiring and staffing costs, rent and utility expenses. With alternative channels none of that is incurred, just system set up costs. Furthermore, service delivery systems can have a material positive impact on capacity management, as well as business processes such as marketing and sales that interact with the customer directly.

Prashant (2014) found that the level of satisfaction of customer is higher in the case of doing transactions via alternative banking channels. This is compared to carrying out transactions manually as the customer's involvement is more in case of the former. With increased customer satisfaction, market share is improved. Von Rosen (2013) concludes that use of alternative channels has improved the general welfare of low income earners.

Musiime and Malinga,(2011), researched on customer adoption and satisfaction of internet banking in Uganda. This study focused on internet banking and not all alternative channels as a whole, the research is also based in the Ugandan market. The research finalizes that internet banking increases the satisfaction level of customers. Aduda and Nancy (2012) concentrated on the effects of e-banking on the Kenyan banking sector. Their conclusion was that there exists a positive relationship between e banking and banks performance.

Awinja (2015), researched on the effects of service delivery channels on operational performance of commercial banks in Kenya. Among the service delivery channels that were researched on in this study include alternative delivery channels such as Agency banking, Mobile banking, ATMs and internet banking. The research found that service

delivery channels have a positive impact on operational performance of commercial banks in Kenya. Awinja (2015) also found that the utilization of service delivery channels is not optimal and could be improved.

From the above analysis on previous studies done on the effects of alternative channels in commercial banks, both globally and locally, it leaves no doubt that alternative channels are beneficial to the banking. Awinja (2015), in her conclusion admits that alternative channels are being under-utilized. O’Keefe, Bachman and Oyier (2016), conclude that, lower operational expense ratios from alternative channels require scale and time. They reiterate that commercial banks in Kenya are yet to reach the necessary scale to realize better operational expense ratios.

This study will aim to answer the following questions (a) does the customer utilization rate of alternative channels affect operational performance of commercial banks in Kenya? (b) What are the factors hindering the uptake of alternative channels in commercial banks in Kenya?

1.3 Research Objectives

The main objective of the study is to determine the uptake of alternative channels of commercial banks in Kenya and how the uptake relates to operational performance of commercial banks in Kenya.

- i. To determine the utilization of alternative channels in commercial banks in Kenya.
- ii. To determine how the utilization of alternative channels is affecting operational performance.

iii. To determine factors hindering the uptake of alternative channels.

1.4 Value of the study

The study would be beneficial to commercial bank managers as its focus is on alternative banking channels. The findings would guide banks in managing challenges and risks involved in alternative banking channels. It will also guide banks into adopting the ideal branch against alternative channels model.

The findings of this study would be vital to policy makers in government bodies as they would be guided on their policy making on commercial banks. This would result to enacting of policies that regulate the alternative banking channels in the best interest of the banks and the customers.

Finally, the study would supply knowledge to the academic world and provide a basis for future research on similar or related subject matters.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents reviewed literature and theories from various research studies carried out by other learners and students. The specific areas covered here include theoretical review, empirical review of existing literature and summary of the literature review. The literature was derived to give relevance to the research and avoid duplication of work done by other academicians.

2.2 Theoretical Review

This study will be based on the technology acceptance model, theory of costs and competitive advantage theory.

2.2.1 Technology Acceptance Model (TAM)

The technology acceptance model is an information systems theory that attempts to explain how users come to accept and use technology. The model was developed by Davis, Bagozzi and Warshaw (1989). The technology acceptance model proposes that when users are introduced new technology, two factors persuade their choice to employ the technology. They include perceived ease of use of the technology and perceived usefulness of the new technology. Perceived usefulness is the extent to which an individual is convinced that using a specific system would improve his or her output. Perceived ease-of-use is the extent to which an individual is convinced that use of the system will be effortless (Davis, Bagozzi & Warshaw, 1989).

TAM was established on the reasoning that, for a user to increase their use of information technology, they first had to accept it (Holden & Karsh, 2010). Acceptance of information technology could be determined by questioning individuals on their plan to utilize the technology. Understanding the influences that shaped ones intention to use the technology would enable organizations to control the same factors in order to encourage IT reception, therefore increasing its use.

This study will adopt the technology acceptance model as it tries to determine the uptake of alternative channels by customers in commercial banks in Kenya.

2.2.2 Competitive Advantage Theory

Competitive advantage is achieved when a firm executes actions or obtains characteristics that aid it in outperforming other firms, its competitors. The most dominant theories for competitive advantage include; market based view, resource based view, knowledge based view, capability based view and the relational view (Wang, 2014)

Michael Porter

2.3 Alternative Channels Used by Commercial Banks in Kenya

Commercial banks in Kenya have ultimately embraced the use of alternative channel, this is evidenced the recent aggressive promotion of these channels by commercial banks. Embracing of alternative channels is mainly attributed to the benefits that come with it. As concluded by Ndungu (2015), Awinja (2015) and Prashat (2014), alternative channels improve both financial and operational performance of commercial banks in Kenya, as well as increase customer satisfaction due to increased service speed as well as increased

accessibility of service. Alternative channels popular in the Kenyan commercial banks include, mobile banking, ATMs, internet banking and agency banking.

2.3.1 Mobile Banking

Mobile banking is to provide access to banking and bank related services through the mobile phone (Mwange, 2013). These services include but are not limited to money transfers, opening of accounts, getting bank statements, borrowing and seeking freight exchange rates. This is possible because the telecommunications industry has managed to avail majority of the functions of a networked computer to the mobile phone (Schofield & Kubin, 2002).

The introduction of mobile banking in Kenya has facilitated provision of better products and services. It has also improved financial inclusion; especially to low income earners and rural areas (Von Rosen, 2013).

As for commercial banks, the wish to beat competition by reducing administrative and operational costs has fuelled the embracement of mobile banking. Nonetheless, a boost in the adoption of mobile banking by customers is the only way to achieve reduced costs (Bradley & Stewart, 2003).

2.3.2 Automated Teller Machines

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.

The introduction of ATMs has migrated routine transactions from the teller. Allowing the human resource to be utilized in other productive areas such as sales,(Awinja,2015).Other benefits of the Automated Teller machine include; lower operational costs, quicker and more accurate transactions and increased product sales and increased revenue streams from fee collections resulting to revenue growth.

2.3.3 Internet Banking

Internet banking, otherwise known as online banking is the access of banking services through the web. When first established in commercial banks, internet banking was used as a platform for information and for marketing of financial products and services. Recently, internet banking is used to remotely reach financial services such as money transfers, viewing and downloading of statements and bill payments. Internet banking can now be accessed from other gadgets other than the computer or laptop. Internet banking can now be accessed from tablets and mobile phones

The advantage to internet banking is that customers are able to bank from anywhere, anytime as long as there's access to internet (Frust, Lang, & Nolle, 2000). This is the main factor that has influenced the adoption of internet banking. Musiime and Malinga, (2011) in their study to investigate factors that influence the adoption of internet banking in Uganda found that ability to control and access a bank account remotely was the main factor influencing the adoption of internet banking.

2.3.4 Agency Banking

According to the Central bank of Kenya, “agency banking is the provision of financial services to customers by a third party (agent) on behalf of a licensed deposit taking financial institution and/or mobile money operator (principal)”.

Agents increase the reach of banks to their customers. Especially in locations that remain unreached such as interior rural areas. According to Ivatury and Lyman (2006), customers can now easily access basic banking services conveniently through agency banking. These services include; cash deposit and withdrawal and bank balance inquiry.

The emergence of agency banking has resulted in increased number of transaction volumes as the banks can now access a larger number of clients. Unlike agency banking, expanding branch networks can be quite costly. However, the establishment of agents through appropriate technologies can turn out to be much cheaper. Deposit taking has also increased among commercial banks since the emergence of agency banking (Awinja, 2015).

2.4 Operational Performance

Operational performance of an institution or organization is able to make or break it; this is mainly due to the fact that the operations function gives an organization the ability to compete. Operations directly affects profits, by increasing operational efficiencies and effectiveness we can reduce operational expenses .Reducing operating expenses increases profit margins of an organization. It therefore follows that if operational performance has such significance on the performance and well-being of an organization, we should be able to define and assess it.

Operational performance is a firm's or organization's measure of efficiency and effectiveness against pre-defined standards. Operational performance can be assessed by the five basic performance objectives, they include; quality, speed, dependability, flexibility and cost. Quality is defined as consistently conforming to customers' expectations, that is, "doing things right". The things that operations need to do to achieve the quality will vary based on the type of operation. Speed in regards to operational performance means the time elapsed between the time the customer receives the product or service and the time they requested for it. Dependability is providing service or a product for the customer when the time they need or the time they were promised. Flexibility as an objective of operational performance is the ability to change the operation in a way, for instance in delivering financial services customers have the flexibility to access financial services from alternative channels as opposed to bank branches. Finally cost, the lower the cost of producing goods and services, the lower the price can be to customers (Slack, Stuart & Johnson, 2010).

2.5 Empirical review

A number of studies have been carried out both locally and internationally on alternative channels. Gupta and Khanna, (2015) carried out a study on customer's adoption on technology enabled delivery channels in selected public sector banks in India. They found that customer experience is what inspires customer satisfaction and therefore adoption of technology enabled channels. They went on and concluded that revamping a channel is ineffective without a good plan for enhancing customer experience.

Sakuhuni (2015) analyzed the factors affecting the uptake of mobile banking in Zimbabwe, she concluded that bank customers do not have sufficient knowledge of on the usefulness and the ease of use of mobile banking products availed by the commercial banks. Bank customers also do not have knowledge to use innovation correctly impacting in the trust in the banks mobile banking system. Even though banks in Zimbabwe are advocating for use of alternative channels, the study concluded that the uptake of mobile banking is higher than the other channels, such as internet banking.

Al – Jabri and Sohail (2012) carried out a study on the adoption of mobile banking by applying the diffusion of innovation theory, he concluded that adoption of mobile banking will only increase with the increase in perceived usefulness. He further suggested that banks must reduce perceived risk by customers by offering guarantees and protection.

Achieng and Ingari (2015) in their study of factors influencing the adoption of mobile banking in KCB, found that perceived risk is one of the factors impeding the adoption of mobile banking. They also added that cost in a key factor stopping people from adopting mobile banking. Jospeter (2016) researched on factors influencing the adoption of alternative banking channels by commercial banks listed in the Nairobi securities exchange. She found that cost of transacting, perceived insecurity, perceived usefulness and ease of use of channels are factors influencing the adoption of alternative channels.

Ndungu (2015) analyzed the effects of alternative channels on financial performance of commercial banks in Kenya. His conclusion included that alternative channels increase operational efficiency by reducing operational costs and that usage of mobile banking

increased between 2010 and 2012 but declined in the subsequent years. Ndungu, (2015) further recommends that management adopt more alternative channels as well as exploit more innovation that will improve the quality of alternative channels.

Awinja (2015) studied the effects of service delivery channels on operational performance of commercial banks in Kenya. The service delivery channels researched on include; agency banking, internet banking, ATM, mobile banking and the branch network. She found that service delivery channels have a positive impact on operational performance. Awinja further concluded that the utilization of service channels is not at the optimal level.

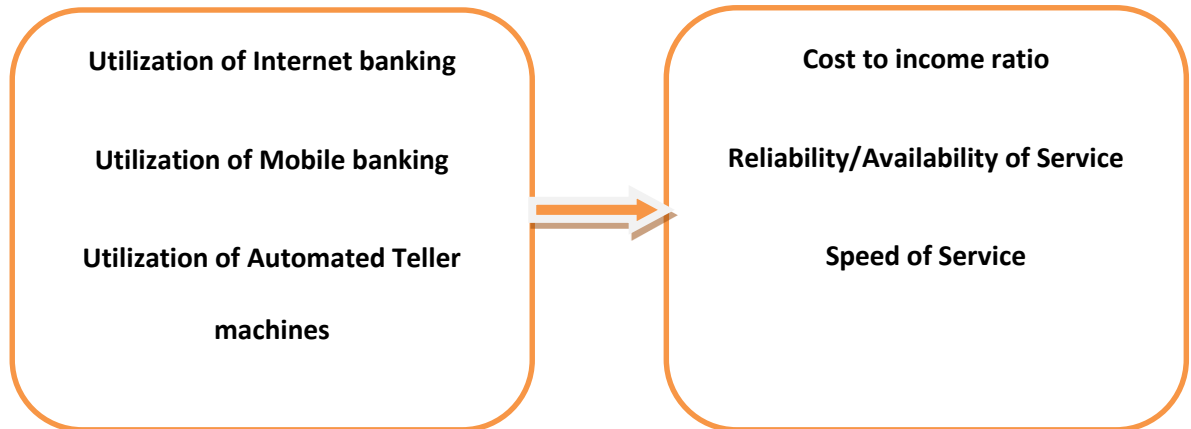
Several studies were reviewed in this chapter on the uptake of alternative channels and operational performance of commercial banks both locally and internationally, they include; Gupta and Khanna, (2015), Sakuhuni (2015), Al – Jabri and Sohail (2012), Achieng and Ingari (2015), Jospeter, (2016), Ndungu (2015) and Awinja (2015). These studies however did not investigate the uptake of alternative channels and how it affects operational performance of commercial banks in Kenya. This study is meant to fill this research gap.

2.6 Conceptual Framework

The independent variable in this study will be utilization rate of alternative channels. The dependent variable will be operational performance.

Uptake of alternative channels

Operational Performance



Source: Own Compilation

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This Chapter will present the research methodology that was used to carry out the study. The sections covered in this chapter will include research design, target population of the study, the sample data collection and data analysis as well as presentation techniques.

3.2 Research Design

This study adopted a descriptive research design. According to the University of southern California library research guides, 2017, descriptive research designs help provide answers to the questions of who, what, when, where, and how associated with a particular research problem; a descriptive study cannot conclusively ascertain answers to why. Descriptive research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation. This study attempted to explain the current utilization rate of alternative banking channels and how it affects operational performance. It also examined the factors hindering the uptake of alternative channels in Kenya.

3.3 Target Population

Target population is the population to which a researcher wants to generalize the results of the study (Mugenda & Mugenda, 2003). The target population was the commercial banks in Kenya. As at end of June 2017, there were 42 licensed commercial banks in Kenya (CBK, 2017).

3.4 Sampling

A census survey was conducted since the population is considerably manageable. Secondary data on the number of transactions carried out on each alternative channel under study was retrieved from the CBK website, from December 2009 to June 2017. One manager and one customer were issued with the managers and customers questionnaire respectively. Therefore 2 questionnaires were randomly issued for each commercial bank. This is following the stratified technique of sampling.

3.5 Data Collection

Secondary data on the uptake of alternative channels by customers was collected from CBK reports on Commercial banks in Kenya in form of number of transactions carried out on each channel. Operational performance was measured using cost to income ratio, channel reliability measured in channel uptime and average speed of channel of commercial banks in Kenya over a period of 8 years, December 2009 to June 2017. Information on cost to income ratios was mined from the CBK website in form of bank supervision reports. Information on channel uptime and speed of channel was provided by two alternative channels experts. A two part questionnaire was used to collect data from Kenyan banks customers and managers. The first part of the questionnaire aimed to achieve a better understanding of respondents; example their age, profession, how long they have worked in the banking sector or how long they have banked with their current commercial bank. The second part of the questionnaire was used to bring out factors hindering the uptake of alternative channels in commercial banks in Kenya.

3.6 Data Analysis

The first objective was to determine the uptake of alternative channels in Kenyan commercial banks. The alternative channels under study were; ATMs, mobile banking, agency banking and internet banking. Determining the utilization of alternative channels was achieved by retrieving data on the number of transactions done on each channel over a period of time. The second objective was to determine how utilization of alternative channels relates to operational performance. Utilization of alternative channels was correlated with operational performance, to determine if a relationship exists between these variables. Operational performance was measured by cost to income ratio, channel up and channel speed of service. Regression statistics was be used to determine the significance of the relationship between the two variables i.e utilization of alternative channels and operational performance.

The third objective of determining factors that hinder the uptake of alternative channels in commercial banks in Kenya, was determined by calculating the mean and standard deviation of responses to two questionnaires, managers and customers to allow for objective measure of opinion.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

A detailed presentation of analyzed data is presented in this chapter. To achieve the set out objectives of the study, both secondary and primary data was analyzed and presented in form of charts and tables. The general objective being to determine how the uptake of alternative channels affects operational performance of commercial banks in Kenya and also to establish factors that hinder the uptake of alternative channels in Kenya. The alternative channels that were analyzed in this case include; Agency banking, mobile banking, internet banking and ATMs. These are the most popular alternative channels according to the questionnaires that were administered.

4.2 The Utilization of alternative channels of commercial banks in

Kenya

The first objective was to determine the utilization of alternative channels of commercial banks in Kenya. The alternative channels under study include mobile banking, ATMs, agency banking and internet banking. The information that was sought to achieve this objective was, the number of transactions performed under each channel over a period of 8 years. This information was retrieved from the CBK website as recorded in Table 4.1. The period of information sought was dictated by availability of data.

Table 4.1 below shows the number of transactions carried out in the four channels under study that is the number of transactions done biannually on ATMs, mobile banking, agency banking and internet banking from December 2009 to June 2017

Table 4 1: Biannual number of transactions per alternative channel

Month/Year	ATM	Mobile banking	Agency banking	Internet banking	Total number of transactions
Dec-09	5.81	21.69	-	0.57	28.07
Jun-10	5.19	25.03	0.10	1.21	31.53
Dec-10	10.07	29.12	2.57	2.11	43.87
Jun-11	11.72	35.82	14.98	2.09	64.61
Dec-11	11.24	41.71	20.43	2.10	75.48
Jun-12	17.47	47.87	28.53	2.13	96.00
Dec-12	28.08	41.71	30.00	2.16	101.95
Jun-13	28.89	60.03	35.79	2.19	126.90
Dec-13	27.38	69.14	42.06	2.22	140.80
Jun-14	22.88	74.03	50.41	2.20	149.52
Dec-14	18.22	85.61	57.99	2.47	164.29
Jun-15	18.93	90.67	60.08	2.31	171.99
Dec-15	19.71	107.44	79.62	2.50	209.27
Jun-16	17.43	121.81	82.39	2.73	224.36
Dec-16	18.15	146.20	104.19	3.20	271.74
Jun-17	17.52	150.29	124.62	4.50	296.93

Source: CBK (2017)

From table 4.1 above, the number of transactions carried out on each channel continually increase from Dec 2009 to June 2017.

Figure 4.1 below represents the number of transactions carried out in alternative channels; ATM, mobile banking, agency banking and internet banking

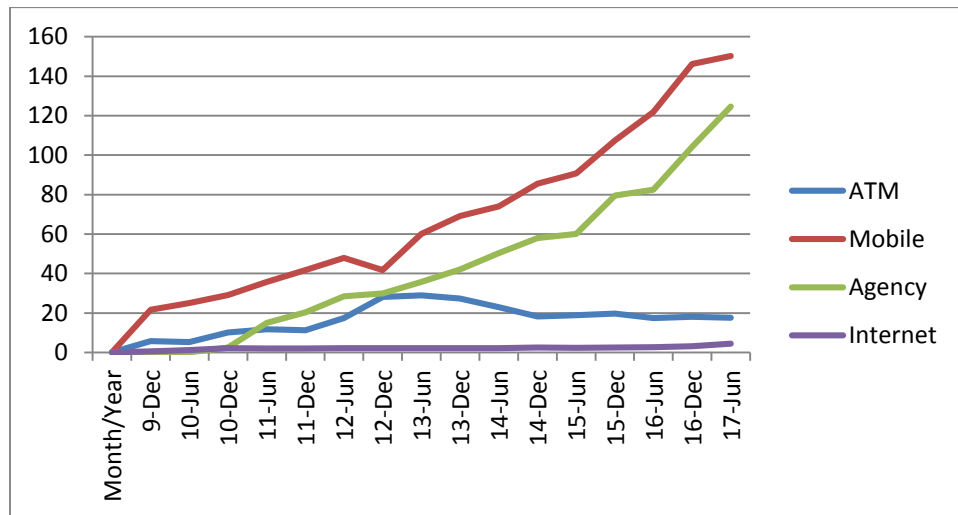


Figure 4.1: A graph on the number of transactions on each alternative channel bi annually

From Table 4.1 and Figure 4.1 above, the number of transactions per channel keeps increasing over the years. With an exception of ATMs whereby from 2014, transactions start to taper off. Mobile banking transactions have the fastest growth rate according to the line graph. Transactions done at agents have steadily increased from 28 million in 2012 to 104.19 million in 2016. Transactions carried out on internet banking have also increased in the past five years, however at a very slow rate. Internet banking transactions are estimated at 2.47 million in 2014 and 4.5 million at 2017. This shows that customers are increasingly embracing or adapting to alternative channels. According to the technology acceptance model customers increasingly adapt to new technologies if they find that the technology is easy to use or useful (Davis, Bagozzi & Warshaw, 1989). This shows that customers are increasingly finding alternative channels useful and easy to use.

According to O'Keefe, Bachman and Oyier (2016), since alternative channels add value to both customers and commercial banks, this should ultimately translate to greater usage if the products are designed in ways that meet client needs. This agrees with researchers findings.

4.3 Uptake of Alternative Channels and Operational Performance of Commercial banks in Kenya

This section is meant to determine the relationship between the utilization of alternative channels and operational performance of commercial banks in Kenya. Utilization will be measured by the number of transactions on each alternative channel as recorded in Table 4.1. Operational performance will be measured by the cost to income ratio of commercial banks in Kenya, channel availability also known as channel uptime and channel speed of service. Cost to income ratio was calculated by dividing expenses by income as shown in Table 4.2. Data on the average channel uptime was recorded as in Table 4.3. The Average speed for all channels was also derived as shown in Table 4.4.

Table 4.2 below represents the cost to income ratio of commercial banks in Kenya. Cost to income ratio is one of the variables used to measure operational performance of commercial banks, the smaller the ratio, the better the performance.

Table 4 2: Cost to income ratio Dec 2009 to Jun 2017 in KES billions

Month/Year	Expense	Income	Expense to income ratio
Dec-09	123.50	172.50	0.72
Jun-10	129.70	198.50	0.65
Dec-10	137.50	211.70	0.65
Jun-11	152.00	234.10	0.65
Dec-11	166.90	256.30	0.65
Jun-12	202.70	306.20	0.66
Dec-12	248.40	356.30	0.70
Jun-13	232.90	325.90	0.71
Dec-13	236.40	362.20	0.65
Jun-14	241.80	398.10	0.61
Dec-14	277.60	418.70	0.66
Jun-15	299.50	425.70	0.70
Dec-15	322.80	456.80	0.71
Jun-16	333.40	457.20	0.73
Dec-16	354.90	504.00	0.70
Jun-17	425.00	560.00	0.76

Source: CBK (2017)

The expense to income ratio was calculated by dividing annual expenses by annual income of banks. The cost to income ratio of commercial banks does not have a predictable trend. It has fluctuated from 0.65 to 0.76 over the past 8 years.

Table 4.3 below shows alternative channel availability measured by channel or system uptime in percentages.

Table 4 3: Average Channel Uptime since 2009 to 2017

Month/Year	ATMs (%)	Mobile (%) banking	Agency Banking (%)	Internet banking (%)	Average uptime (%)
Dec-09	90.4	96.0	95.0	97.2	94.65
Jun-10	90.5	96.0	95.1	97.2	94.70
Dec-10	92.0	96.2	95.1	98.2	95.38
Jun-11	93.0	96.2	95.1	97.9	95.55
Dec-11	93.9	97.0	95.3	97.1	95.83
Jun-12	95.0	97.0	95.9	98.0	96.48
Dec-12	95.0	97.5	96.0	98.6	96.78
Jun-13	95.2	97.9	96.0	98.3	96.85
Dec-13	96.9	98.7	96.3	97.9	97.45
Jun-14	97.6	98.6	97.5	97.2	97.73
Dec-14	97.1	98.2	97.6	97.2	97.53
Jun-15	98.5	99.0	98.6	98.1	98.55
Dec-15	98.5	99.6	98.6	98.0	98.68
Jun-16	98.7	99.7	99.7	98.7	99.20
Dec-16	99.6	99.8	99.9	99.4	99.68
Jun-17	99.0	99.9	99.9	99.7	99.63

Source: Channels Expert (2017)

Average channel reliability has been increasing since Dec 2009 to Jun 2017. This implies that banks are continuously applying new technologies to improve the availability of alternative channels (CBK, 2016).

Table 4.4 below shows the average time it takes to be served at each of the alternative channels under study.

Table 4 4: Average Channel speed of service in seconds since 2009 to 2017

Month/Year	ATMs (sec)	Mobile Banking (sec)	Agency Banking (sec)	Internet banking (sec)	Average time (sec)
Dec-09	55	90	300	79	131.00
Jun-10	52	87	280	82	125.25
Dec-10	52	85	276	64	119.25
Jun-11	49	85	231	63	107.00
Dec-11	47	84	222	55	102.00
Jun-12	48	72	219	53	98.00
Dec-12	45	99	210	57	102.75
Jun-13	42	82	158	55	84.25
Dec-13	42	78	142	52	78.50
Jun-14	39	59	139	52	72.25
Dec-14	37	60	122	49	67.00
Jun-15	35	33	101	48	54.25
Dec-15	33	47	94	55	57.25
Jun-16	33	20	89	46	47.00
Dec-16	32	15	72	47	41.50
Jun-17	32	13	60	45	37.50

Source: Channels Expert (2017)

The average speed of service for alternative channels has generally been decreasing over time. This shows that commercial banks are increasingly investing in technologies to improve the speed of service (CBK, 2016).

Table 4.5 below shows the utilization of alternative channels in number of transactions (millions) and operational performance of alternative channels measured by cost to income ratio, channel uptime/availability (in percentages) and speed of service (in seconds) of alternative channels from December 2009 to June 2017.

Table 4 5: Utilization of Alternative Channels and Operational Performance

Month/year	Utilization of ATMs	Utilization of Mobile banking	Utilization of Agency banking	Utilization of Internet banking	Cost to income ratio	Average Channel uptime	Average channel speed of service
Dec-09	5.81	21.69	-	0.57	0.72	94.65	131.00
Jun-10	5.19	25.03	0.10	1.21	0.65	94.70	125.25
Dec-10	10.07	29.12	2.57	2.11	0.65	95.38	119.25
Jun-11	11.72	35.82	14.98	2.09	0.65	95.55	107.00
Dec-11	11.24	41.71	20.43	2.10	0.65	95.83	102.00
Jun-12	17.47	47.87	28.53	2.13	0.66	96.48	98.00
Dec-12	28.08	41.71	30.00	2.16	0.70	96.78	102.75
Jun-13	28.89	60.03	35.79	2.19	0.71	96.85	84.25
Dec-13	27.38	69.14	42.06	2.22	0.65	97.45	78.50
Jun-14	22.88	74.03	50.41	2.20	0.61	97.73	72.25
Dec-14	18.22	85.61	57.99	2.47	0.66	97.53	67.00
Jun-15	18.93	90.67	60.08	2.31	0.70	98.55	54.25
Dec-15	19.71	107.44	79.62	2.50	0.71	98.68	57.25
Jun-16	17.43	121.81	82.39	2.73	0.73	99.20	47.00
Dec-16	18.15	146.20	104.19	3.20	0.70	99.68	41.50
Jun-17	17.52	150.29	124.62	4.50	0.76	99.63	37.50

Source: Researcher Data

A correlation and regression analysis was carried out to determine whether there is a relationship between the utilization of alternative channels and operational performance (cost to income ratio, channel uptime, average speed of service) of commercial banks in Kenya and whether the relationship is significant and predictive.

4.3.1 Correlation Analysis

A correlation analysis was carried out between the utilization of alternative channels and cost to income ratio on SPSS version 24 and the output was recorded.

Utilization of alternative channels against cost to income ratio

Table 4.6 below shows the output of correlation analysis between the utilization of ATMs, mobile banking, agency banking and internet banking against the cost to income ratio.

Table 4 6: Correlations, Utilization of alternative channels against Cost to income ratio

		ATMs	Agency	Mobile	Internet	Cost/Income Ratio
ATMs	Pearson Correlation	1	.395	.344	.384	.106
	Sig. (2-tailed)		.130	.192	.142	.695
	N	16	16	16	16	16
Agency	Pearson Correlation	.395	1	.990**	.877**	.559*
	Sig. (2-tailed)	.130		.000	.000	.024
	N	16	16	16	16	16
Mobile	Pearson Correlation	.344	.990**	1	.845**	.543*
	Sig. (2-tailed)	.192	.000		.000	.030
	N	16	16	16	16	16
Internet	Pearson Correlation	.384	.877**	.845**	1	.419
	Sig. (2-tailed)	.142	.000	.000		.106
	N	16	16	16	16	16
Cost/income Ratio	Pearson Correlation	.106	.559*	.543*	.419	1
	Sig. (2-tailed)	.695	.024	.030	.106	
	N	16	16	16	16	16

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The correlation between utilization of ATMs and Cost to income ratio, is $r = .11$, $p = 0.70$. This indicates a non-significant positive relationship between the number of transactions done on ATM and cost to income ratio. The correlation between the utilization of agency banking and cost to income ratio is $r = .56$, $p = .02$. This indicates a significant positive relationship between number of transactions done on agency banking and cost to income ratio. The correlation between the utilization of mobile banking and cost to income ratio is $r = 0.54$, $p = .03$. This indicates a significant positive relationship between the number of transactions carried out on mobile banking and cost to income ratio. The correlation between utilization of internet banking and cost to income ratio is $r = .42$, $p = 0.11$. This indicates that the relationship between the number of transactions done on internet banking and cost to income ratio is insignificant. This therefore means that as the number of transactions done on Agency banking and mobile banking increase so does the cost to income ratio.

According to Omondi, Maokomba and Musiega (2014), alternative banking channels reduce costs associated with banking such as staff costs. However as costs to deliver services reduce with the introduction of alternative channels, costs due to the heavy investments in technology by banks are increasing to keep the channels running. O'Keefe, Bachman and Oyier (2016), further reiterate that, lower operational expense ratios from alternative channels require scale and time. They conclude that commercial banks in Kenya are yet to reach the necessary scale to realize better operational expense ratios. This compares to the findings that as agency banking and mobile banking transactions increase so do the operational expense ratios.

The second correlation analysis was carried out between the utilization of alternative channels and channel uptime on SPSS version 24 and the output was recorded.

Utilization of alternative channels against Channel Availability/Uptime

Table 4.7 below shows correlation results between the utilization of alternative channels and channel uptime, as exported from SPSS version 24.

Table 4 7: Correlations, Utilization against Channel Availability measured in channel uptime

		ATMs	Mobile	Agency	Internet	Uptime
ATMs	Pearson Correlation	1	.344	.395	.384	.527*
	Sig. (2-tailed)		.192	.130	.142	.036
	N	16	16	16	16	16
Mobile	Pearson Correlation	.344	1	.990**	.845**	.965**
	Sig. (2-tailed)	.192		.000	.000	.000
	N	16	16	16	16	16
Agency	Pearson Correlation	.395	.990**	1	.877**	.966**
	Sig. (2-tailed)	.130	.000		.000	.000
	N	16	16	16	16	16
Internet	Pearson Correlation	.384	.845**	.877**	1	.821**
	Sig. (2-tailed)	.142	.000	.000		.000
	N	16	16	16	16	16
Uptime	Pearson Correlation	.527*	.965**	.966**	.821**	1
	Sig. (2-tailed)	.036	.000	.000	.000	
	N	16	16	16	16	16

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The study found that, the correlation between utilization of ATMs and channel uptime, is $r = .53$, $p = 0.03$. This indicates significant positive relationship between the number of transactions done on ATM and channel uptime. The correlation between the utilization of mobile banking and channel uptime is $r = .97$, $p < .01$. This indicates a strong significant

positive relationship between number of transactions done on mobile banking and channel uptime. The correlation between the utilization of agency banking and channel uptime is $r = 0.97$, $p < .01$. This indicates a strong significant positive relationship between the number of transactions carried out on agency banking and channel uptime. The correlation between utilization of internet banking and channel uptime is $r = .82$, $p < .01$. This indicates that the relationship between the number of transactions done on internet banking and channel uptime is strong, positive and significant. This implies that as the utilization of all the alternative channels under study increase so does the channel uptime. As more customers turn to alternative channels, banks work to improve channel uptime and availability to please their customers (IBM, 1998).

Utilization of alternative channels against Average speed of alternative channels

Table 4.8 shown below shows correlation output between the utilization of alternative channels and speed of service as exported from SPSS version 24.

Table 4 8: Utilization of alternative channels against the average service speed of alternative channels

		ATMs	Mobile	Agency	Internet	Speed
ATMs	Pearson Correlation	1	.344	.395	.384	-.488
	Sig. (2-tailed)		.192	.130	.142	.055
	N	16	16	16	16	16
Mobile	Pearson Correlation	.344	1	.990**	.845**	-.963**
	Sig. (2-tailed)	.192		.000	.000	.000
	N	16	16	16	16	16
Agency	Pearson Correlation	.395	.990**	1	.877**	-.958**
	Sig. (2-tailed)	.130	.000		.000	.000
	N	16	16	16	16	16
Internet	Pearson Correlation	.384	.845**	.877**	1	-.816**
	Sig. (2-tailed)	.142	.000	.000		.000
	N	16	16	16	16	16
Speed	Pearson Correlation	-.488	-.963**	-.958**	-.816**	1
	Sig. (2-tailed)	.055	.000	.000	.000	
	N	16	16	16	16	16

** . Correlation is significant at the 0.01 level (2-tailed).

The study found that, the correlation between utilization of ATMs and speed of service, is $r = -0.49$, $p = 0.06$. This indicates an insignificant negative relationship between the number of transactions done on ATMs and speed of service. The correlation between the utilization of mobile banking and speed of service is $r = -0.96$, $p < 0.01$. This indicates a strong significant negative relationship between number of transactions done on mobile banking and speed of service. The correlation between the utilization of agency banking and cost to income ratio is $r = -0.96$, $p < 0.01$. This indicates a strong significant negative relationship between the number of transactions carried out on agency banking and speed of service. The correlation between utilization of internet banking and speed of service is $r = -0.82$, $p < 0.01$. This indicates that the relationship between the number of transactions done on internet banking and speed of service is strong negative and significant. This implies that increase in the utilization of mobile, agency and internet banking, leads to a decrease in the average service time.

This is in agreement with Humphrey, Christopher and Douglas (2014); their study found that alternative banking channels offered ease to which clients' access banking services and the speed at which the services are rendered.

4.3.2 Regression Analysis

For regression the following general linear model was used;

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

Where: Y: The banks operational performance measured by cost/income ratio, average channel uptime, average channel speed

β_0 = the regression constant

$\beta_1 - \beta_4$ = the regression coefficient

X1=Number of transactions ATMs

X2= Number of transactions Mobile Banking

X3= Number of transactions Internet Banking

X4= Number of transactions Agency Banking

Tables 4.9, 4.10 and 4.11 below show the output of regression analysis between the utilization of ATMs, mobile, agency and internet banking against the cost to income ratio of commercial banks in Kenya.

Table 4 9: Regression model: Utilization of alternative channels and cost to income ratio

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.621 ^a	.386	.163	.03632

a. Predictors: (Constant), Internet, ATMs, Mobile, Agency

The adjusted R square value of the model is .163. This means that only 16.3 percent of the variation in cost to income ratio is explained by utilization of ATMs, mobile, agency and internet banking.

Table 4 10: ANOVA, utilization of alternative channels and cost to income ratio

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.(p level)
1	Regression	.009	4	.002	1.730	.213 ^b
	Residual	.015	11	.001		
	Total	.024	15			

a. Dependent Variable: Ratio

b. Predictors: (Constant), Internet, ATMs, Mobile, Agency

Source: Researcher Data

The p level is the probability that the results occurred randomly. In this case the p value is more than the alpha value, i.e $0.213 > 0.005$. This means that the model is not statistically significant. The researcher therefore did not proceed to consider the F value.

Table 4 11: Coefficients, utilization of alternative channels and cost to income ratio

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	.732	.071		10.377	.000
	ATMs	-.001	.002	-.208	-.749	.470
	Mobile	-.002	.002	-1.618	-.832	.423
	Agency	.003	.002	2.633	1.205	.254
	Internet	-.021	.025	-.445	-.843	.417

a. Dependent Variable: Ratio

Source; Researcher Data

Table 4.11 shows p values greater than the alpha 0.05 value of significance in all the four channels, ATMs p=0.47, Mobile banking p=0.42, agency banking p=0.25 and internet banking p=0.42. This signifies that the utilization of alternative channels does not successfully predict the cost to income ratio.

Table 4.12, 4.13 and 4.14 below show the output regression model of the utilization of ATMs, mobile, agency and internet banking against channel uptime, as analyzed by SPSS version24.

Table 4 12: Model Summary, Utilization of alternative channels and channel uptime.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988 ^a	.976	.967	.30510

a. Predictors: (Constant), Internet, ATMs, Mobile, Agency

The adjusted R squared value of the model is .967; meaning 96.7% of variation in channel uptime is explained by the utilization of ATMs, mobile banking, agency banking and internet banking.

Table 4 13: ANOVA, utilization of alternative channels and channel uptime

Model		Sum of Squares	df	Mean Square	F	Sig(p value)
1	Regression	40.961	4	10.240	110.007	.000 ^b
	Residual	1.024	11	.093		
	Total	41.985	15			

a. Dependent Variable: Uptime

b. Predictors: (Constant), Internet, ATMs, Mobile, Agency

From table 4.13 above, the p value is less than the alpha value 0.05. This means that the regression model is statistically significant. The F calculated value at 5% level of significance was 110.007 which is greater than F critical = 3.36. This further certifies that the model is significant.

Table 4 14: Coefficients, utilization of alternative channels and channel uptime

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	93.825	.592		158.417	.000
	ATMs	.052	.013	.227	4.113	.002
	Mobile	.038	.015	.944	2.436	.033
	Agency	-.001	.020	-.012	-.027	.979
	Internet	-.109	.213	-.054	-.511	.620

a. Dependent Variable: Channel Uptime/availability

Source: Researcher Data

In the table 4.14 above p values for ATMs p=0.02 and Mobile banking p=0.03, are less than 0.05 the alpha value. This signifies that, utilization of mobile banking and ATMs significantly predicts the average channel uptime. Agency banking p=0.98 and internet banking p=0.62, have p values of more than 0.05. They therefore do not successfully predict the average uptime for alternative channels. This means that as the utilization of ATMs increases by one unit, the average channel uptime increases by 0.052. As the utilization of mobile banking increase by a unit, channel availability increases by 0.038. This is derived from the beta value of unstandardized coefficients. As more customers turn to alternative channels, banks work to improve channel uptime and availability to meet customers' needs (IBM, 1998). This only applies to utilization of ATMs and mobile banking as implied by the regression model.

.Table 4.15, 4.16 and 4.17 below show the regression analysis output between the utilization of alternative channels and average speed of service.

Table 4 15: Model summary, utilization of alternative channels and Speed of service

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.978 ^a	.956	.940	7.48995

a. Predictors: (Constant), Internet, ATMs, Mobile, Agency

The adjusted R square of the model is 0.94; this indicates that 94% of the variation in average speed of service can be explained by the utilization of alternative channels.

Table 4 16: ANOVA, utilization of alternative channels and speed of channel

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13426.872	4	3356.718	59.835	.000 ^b
	Residual	617.093	11	56.099		
	Total	14043.965	15			

a. Dependent Variable: Speed

b. Predictors: (Constant), Internet, ATMs, Mobile, Agency

From table 4.16 above, the p value is less than the alpha value 0.05. This means that the regression model is statistically significant. The F calculated value at 5% level of significance was 56.099 which is greater than F critical = 3.36. This further certifies that the model is significant.

Table 4 17: Coefficients, utilization of alternative channels and speed of channel

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	147.474	14.540		10.143	.000
	ATMs	-.829	.313	-.197	-2.652	.023
	Mobile	-.868	.380	-1.190	-2.287	.043
	Agency	.235	.481	.286	.489	.635
	Internet	.508	5.219	.014	.097	.924

a. Dependent Variable: Speed

Source: Researcher Data

In the table 4.17 above, p values for ATMs and Mobile banking are 0.023 and 0.043 respectively. These values are less than 0.05 alpha values, meaning the utilization of ATMs and Mobile banking can predict the average speed of alternative channels. From the unstandardized coefficients, a unit increase in the utilization of ATMs leads to a 0.81 decrease in speed of service of alternative channels. A unit increase in the utilization of mobile banking leads to a 0.87 decrease in the speed of service. Agency banking and Internet banking have p values of more than 0.05. This means that utilization of agency banking and internet banking does not significantly predict the average speed of service. Alternative channels reduce the time it takes to access a banking service (Humphrey, Christopher & Douglas, 2014). This agrees with findings for just ATMs and mobile banking.

4.4 Factors hindering the Uptake of Alternative Channels of

Commercial Banks in Kenya

The third objective of the study was to determine factors that hinder the uptake of alternative channels in commercial banks in Kenya. The researcher sought to determine

factors that hinder the uptake of alternative channels in commercial banks in Kenya by seeking out the opinions of both customers and managers of these channels. The target population was 42, being a census study of commercial banks in Kenya. A manager questionnaire was administered and a customer's questionnaire was administered as well. The response rate for the manager's questionnaire was 28 out of 42, 66.67% response rate. The response rate for the customer's questionnaire was 21 out of 42, 50% response rate.

4.4.1 Demographic information

Part one of the questionnaires for both managers and customers was aimed at collecting demographic information to establish the respondent's ability in answering the questions.

The findings are presented below;

Gender of the respondents

Table 4 18: Gender of respondents

Gender	Managers		Customers	
	Freq	Percent	Freq	Percent
Male	7	25%	11	52%
Female	21	75%	10	48%
Total	28	100%	21	100%

Source: Researcher Data

From the manager's questionnaire, 75% of the respondents were female and 25 % of the respondents male, this depicts that, female managers are more open to give their views than male managers. It also shows that the number of female managers in the banking industry is increasing. As for the customers questionnaire 48% of the respondents were female and 52% were male.

Age of respondents

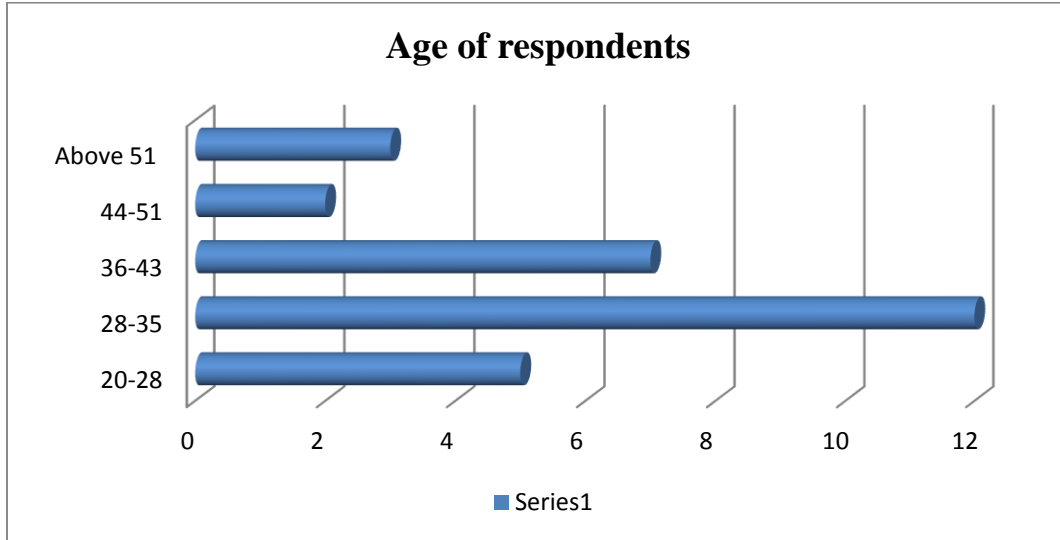


Figure 4 1: Age of respondents

Source: Researcher Data

Majority of the respondents were between ages 28-35 i.e. 62.5% of the respondents for managers' questionnaire and 33.3% for customers. This shows that commercial banks are increasingly hiring younger managers. Younger managers are more open to new technologies and would therefore better understand the advantages of alternative channels and factors that may hinder the uptake of the same.

Level of Education

Table 4 19: Level of education of respondents

Level of Education	Managers	Customers
Diploma Level	0	2
Bachelor's degree	14	15
Master's degree	14	3
Doctorate	0	1

Source: Researcher Data

All managers that responded to the questionnaire had either a bachelor's degree or Master's Degree. This infers that managers in commercial banks in Kenya are learned and therefore have the knowledge to answer the questions asked in the questionnaire.

Work Experience for managers

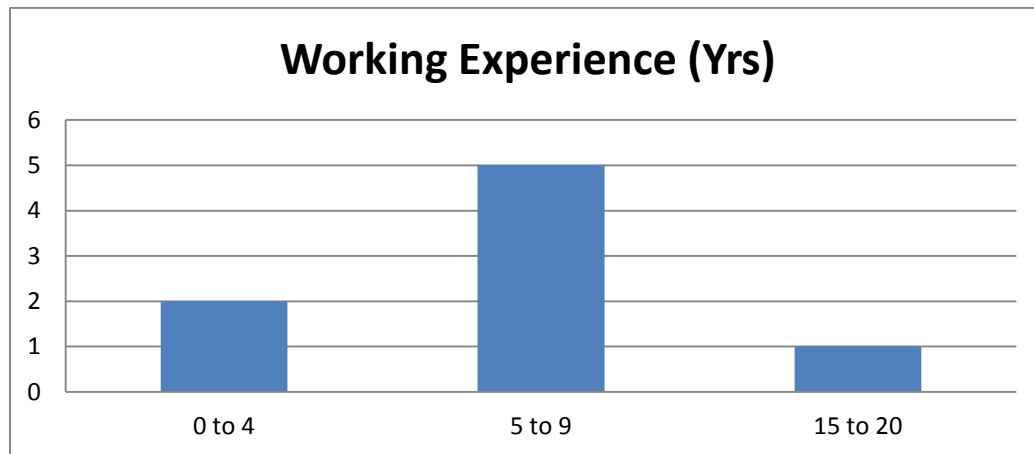


Figure 4 2: Working experience of respondents *Horizontal axis: no of years

Source: Researcher Data

62% of the respondents on the manager's questionnaire have 5 to 9 years of banking experience. This is sufficient working experience for the managers to understand the banking sector. It is therefore inferred that their response can be relied on.

Number of years a customer has banked with their current bank.

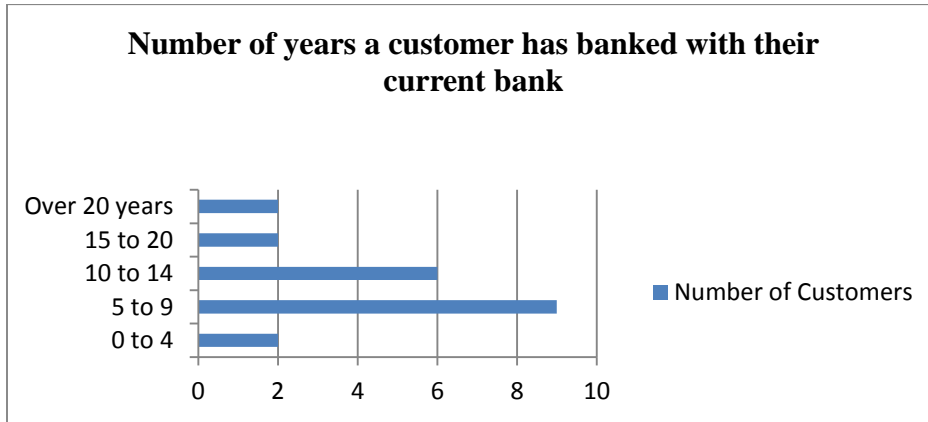


Figure 4 3: No. of years a customer has banked with their current bank

Source: Researcher Data

71 % of the customers that responded have banked with their current bank for 5 to 14 years. This indicates that customers prefer to stick to one bank if it serves them well. It also indicates that customer know their banks well and are in a good position to give reliable opinions on bank service.

Most popular alternative channel

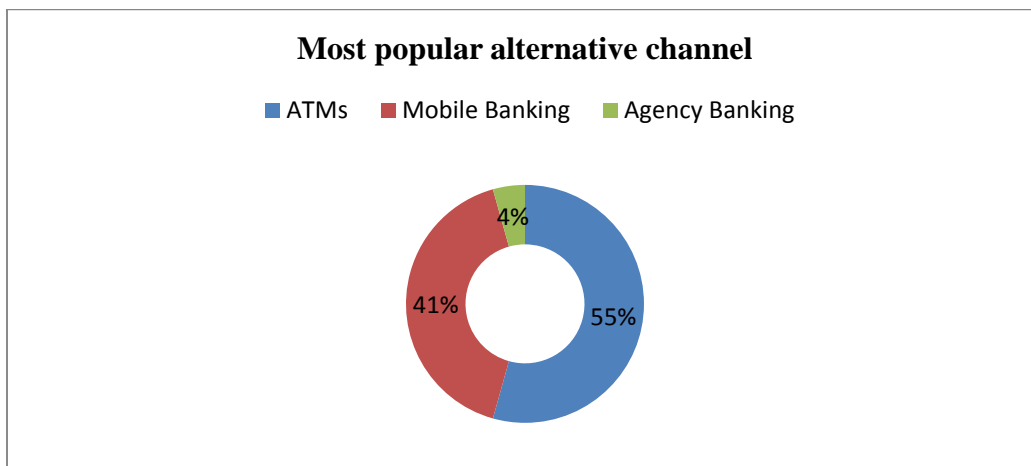


Figure 4 4: Most popular alternative channel

According to both managers and customers the most popular alternative channel is the ATM, followed by mobile banking and finally agency banking. 55% said the ATM is the most popular channel, 41% agreed its mobile banking and 4 % picked agency banking as the most popular channel. No respondent picked internet banking as a popular or preferred channel.

4.4.2 Opinions of managers and customers on factors hindering the uptake of alternative channels

The study sought to establish factors that hinder the uptake of alternative channels in commercial banks in Kenya. The respondents were both customers and managers and were asked to indicate the extent to which they agreed with the statements in table 4.20 and table 4.21. The responses were placed on a 5 likert scale where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5= strongly agree.

Table 4.20 below shows commercial banks manager's opinions on the factors hindering the uptake of alternative channels.

Table 4 20: Managers Questionnaire Output

Challenges	Mean	Standard Deviation
Alternative channels improve operational performance of the bank.	4.1250	0.9910
Customers are increasingly adapting to alternative channels	3.8750	0.8345
Convenience is a factor that increases the adaptability of alternative channels by customers.	4.0000	1.0690
Channel reliability is a factor that increases the uptake of alternative channels	3.7500	0.8864
Financial crime is a factor that hinders the uptake of alternative channels, e.g Internet and mobile hacks	3.5000	1.0690
Transaction errors are common when using alternative channels.	2.6250	0.7440
Systems that support alternative channels fail often	2.3750	0.7440
Customers complaints on alternative channels are numerous	2.5000	0.9258
Ease of use of alternative channels is a factor affecting the uptake of alternative channels	3.2500	0.8864
We train our customers on the use of alternative channels	4.2500	0.4629
Most of our customers know how to use the alternative channels we offer	3.5000	0.5345
Alternative channels are secure to use	3.8750	0.3536
Increase in the uptake of alternative channels will increase operational efficiency alternative channels in commercial banks in Kenya.	4.6250	0.5175

Source: Researcher Data

Based on the mean of above 3 and standard deviation of less than 1, managers agree that uptake of alternative channels will increase operational efficiency, alternative channels are secure, easy to use and banks train their customers in the use of alternative channels. Convenience is a factor that increases the adaptability of alternative channels; the statement had a mean of above 3, but a standard deviation of above 1. This means that some managers disagreed on this statement. 75% of managers agreed that channel reliability if a factor that increases the uptake of alternative channels, 63% agreed that financial crime is a factor that hinders the uptake of alternative channels. 13% agreed that transaction errors, system failures and customer complaints are factors that hinder the uptake of alternative channels.100% agreed that customers are trained in the use of alternative channels. 50% agreed that customers know how to use alternative channels.

100% agreed that increase in the uptake of alternative channels will increase operational efficiency. This is in agreement with Jospeter (2016) who found that, perceived insecurity, perceived usefulness and ease of use of channels are factors influencing the adoption of alternative channels.

Table 4.21 below represents opinions of customers on factors hindering the uptake of alternative channels of commercial banks in Kenya and their calculated mean and standard deviation.

Table 4 21: Customers Questionnaire Output

Challenges	Mean	Standard deviation
I have access to alternative channels	4.8095	0.4024
Alternative channels are affordable	4.8095	0.4024
I have the knowledge to use alternative channels	4.7143	0.5606
I don't know how to use all alternative channels.	2.9048	0.9952
Alternative channels are easy to use	4.7619	0.4364
I often use alternative channels	4.8000	0.4104
I often get transaction errors when I use alternative channels	2.3810	1.3220
It is quite easy to sign up for alternative channels	4.7619	0.4364
Alternative channels are quite useful	4.7619	0.4364
Alternative channels are secure	4.9524	0.2182
Alternative channels are reliable	4.9524	0.2182
Alternative channels are faster in service delivery than the branch	4.9524	0.2182
Alternative channels are designed for my needs	4.8095	0.5118
I send money via alternative channels	4.7143	0.6437
I pay bills using alternative channels	4.4762	0.7496
I use the alternative channels advertised on TV/Radio.	3.1905	0.9284
I'm afraid of losing money through alternative channels.	2.4375	1.4127
Alternative Channels are prone to Fraud.	2.1429	1.2364
I would recommend the use of alternative channels to my friends	4.9048	0.3008

Source: Researcher Data

The study found that customers have access to ATMs, mobile banking, internet banking and agency banking. Based on mean above 3 and standard deviation of less than 1, customers know how to use alternative channels, they also find alternative channels easy to use and that is why they use alternative channels. Customers also agreed that alternative channels are secure, reliable, and faster than the branch and are designed for their needs. There was a high standard deviation/variance $SD > 1$ on the following statements, transaction errors are often, fear of losing money through alternative channels and alternative channels are prone to fraud. As much as the mean for the above statements was < 3 , the standard deviation implies that, some respondents believe that transaction errors, fear of losing money on alternative channels and the likelihood of fraud on alternative channels are factors hindering the uptake of alternative channels. 31% of the customers agreed that they are afraid of losing money through alternative channels. 19% of customers agree that alternative channels are prone to fraud. 14% agreed that alternative channels are prone to errors.

Achieng and Ingari (2015) in their study of factors influencing the adoption of mobile banking in KCB, found that perceived risk is one of the factors impeding the adoption of mobile banking. This is in harmony with the findings.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter draws conclusions from the findings in chapter 4. A summary on the findings of the uptake of alternative channels and operational performance of commercial banks in Kenya will be presented as well as conclusions, recommendations, limitations and areas for further study.

5.2 Summary of findings

In determining the first objective, the study found that the utilization of alternative channels in commercial banks in Kenya is steadily increasing over time. This implies that both banks and customers are increasingly adapting to alternative channels. However the utilization of ATM slows down in 2014. This may be attributed to the up surge of mobile banking. Mobile banking is the fastest in growth and Internet banking is the slowest.

In determining the second objective the study found that there is a significant positive relationship between utilization of agency and mobile banking and cost to income ratio. There is also a significant positive relationship between utilization of ATMs, mobile, agency and internet banking and channel uptime. There is a negative significant relationship between the utilization of mobile, agency and internet banking against the average channel speed of service. The regression analysis between the utilization of ATMs, mobile banking, agency banking, internet banking and the cost income ratio, shows that there is no significant predictive behavior between the two variables. The regression analysis between the utilization of alternative channels and channel uptime or

reliability, shows that utilization of ATMs and mobile banking can significantly predict channel uptime. Utilization of agency banking and internet banking cannot significantly predict channel uptime. The utilization of ATMs and Mobile banking can significantly predict the average speed of service of alternative channels. Utilization of agency banking and internet banking cannot significantly predict channel average speed of service.

In determining the third objective managers agreed that customers are increasingly adapting to alternative channels and that channel reliability is a factor that affects the uptake of alternative channels. They also agreed that financial crime is a factor that hinders the uptake of alternative channels. Managers agreed that they train customers in the use of alternative channels to increase the uptake of alternative channels and that increase in the uptake of alternative channels will increase operational efficiency. On factors hindering the uptake of alternative channels for customers they agreed that, a small portion of customers agreed that they are afraid of losing money through alternative channels, and that alternative channels are prone to fraud. Majority agreed that alternative channels are faster than visiting the branch and that they would recommend alternative channels to a friend.

5.3 Conclusion

The study concludes that the uptake of alternative channels is continually increasing through the years. The study also concludes that increase in the uptake of mobile banking and agency banking leads to an increase in the cost to income ratio. This shows that, the current utilization of alternative channels in commercial banks in Kenya has not reached the necessary scale to reduce operational expenses. Uptake of alternative channels cannot

predict cost to income ratio. This is may have been a result of; the fact that the sample size was not large enough and two due to collinearity. Increase in the uptake of ATMs, mobile banking, agency banking, internet banking leads to an increase in service reliability and availability. Uptake of ATMs and mobile banking can also significantly predict channel or service availability. Increase in the uptake of mobile banking, agency banking and internet banking leads to a decrease in the average speed of service. The uptake of ATMs and mobile banking can significantly predict the average channel speed of service. The study further concludes that factors that hinder the uptake of alternative channels include, channel unreliability and fear of channel insecurity. Customers admit that they know how to use alternative channels and further the managers accept that they are continually training customers in the use of alternative channels. Customers admit that alternative channels are affordable and easy to use.

5.4 Recommendations

Banks are continually investing in technologies to enable and enhance utilization of alternative channels. Banks need to further invest in increasing the utilization of alternative channels as the current utilization is not up to scale to achieve reduced costs. Banks also need to secure alternative channels, especially internet banking to further increase the utilization of internet banking among other channels. Banks further need to increase the reliability of alternative channels by investing in better and up to date technologies, to enhance this, managers need to train their staff in the latest technologies so that they are able to introduce and secure these technologies in the bank. Managers are further training customers in the use of alternative channels; this should not stop as trainings help to demystify alternative channels. The Central Bank of Kenya must

establish clear regulatory policies to further secure the use of alternative channels in Kenya.

5.5 Limitations of the study

Many of the bank managers are not eager to avail data and information concerning the bank. A number of respondents were giving incomplete information. In general it was a challenge to persuade many of the respondents that the study was for good intent. The introduction letter by the university greatly assisted to persuade some respondents.

Further challenges included numerous interruptions during the academic year that were attributed to three lectures strike, university closure dues to political tensions in the country. These interruptions resulted to time limitations that made it a great challenge to conduct data collection and access lecturer's guidance in time to meet project deadlines.

5.6 Suggestions for further research

Further studies can be done on the utilization rate of alternative channels in other financial institutions such as insurance firms, money markets, investment firms and so on.

Now that most commercial banks already understand the importance of alternative channels and are driving for their utilization, a study should be carried out to determine if the bank branch is still beneficial to the bank. Can the branch be eliminated completely so that customers only transact via alternative channels? If not what is the perfect balance between the utilization of channels and utilization of the branch network for maximum profitability?

REFERENCES

- Achieng, M.B., &Ingari, B.K. (2015). Factors influencing the adoption of mobile banking in Kenya's commercial banks: A case of Kenya Commercial Bank (KCB) Kilindini Branch. *International Journal of Scientific and Research Publications*, Volume 5, Issue 10, October 2015.ISSN 2250-3153.
- Aduda, J., &Kingoo, N. (2014).The Relationship between Electronic Banking and Financial Performance among Commercial Banks in Kenya.*Journal of Finance and Investment Analysis*, vol.1, no.3, 2012, 99-118 ISSN: 2241-0988 (print version), 2241-0996 (online) Scienpress Ltd, 2012
- Al-Jabri,M.I., &Sohail, S.M.,(2012).Mobile Banking Adoption: Application of Diffusion of Innovation Theory. *Journal of Electronic Commerce Research*, Vol. 13, No. 4, pp. 379-391, 2012
- Ansari, A., Mela, F.C., &Neslin, S.A.(2008) Customer Channel Migration. *Journal of Marketing Research*: February 2008, Vol. 45, No. 1, pp. 60-76.
- Arthur, B. (2015). Why operational flexibility offers a new frontier for the financial services sector. *Extract from Performance*, Volume 7, Issue 1, February 2015.
- Awinja, P.(2015).Service Delivery Channels and operations performance of commercial banks in Kenya.*MBA Project, University of Nairobi*.
- Callewaert, P., & Kurt V.(2009).There is a future for Bank Branches.

- Chebii, M. (2013).Kenya Commercial Bank and SME banking alternative channels. Retrieved from<http://smefinanceforum.org/post/kenya-commercial-bank-and-sme-banking-alternative-channels-by-milkah-chebii-from-kcb>.
- Christopher, G. C., Mike, L., & Amy, W. A, (2005).Logic Analysis of Electronic Banking in New Zealand. *International Journal of Bank Market*, 24, 360- 383.
- Cytonn Investments. 2016. Transition continues but to a new landscape. *Kenya Listed Commercial Banks Analysis*, Q1,2016.
- Gallup News, Business Journal. (2016). Banks are getting their channel strategy wrong. Retrieved from <http://news.gallup.com/businessjournal/196640/banks-getting-channel-strategies-wrong.aspx>
- Gupta, N.&Khanna, T.V. (2015).Customer’s adoption for technology enabled delivery channels in selected public sector banks. *International Journal of Business and Management; Vol. 10, No. 12; 2015, ISSN 1833-3850 E-ISSN 1833-8119* .
- Holden, R.J., & Karsh, B.T. (2010). The Technology acceptance model: Its past and its future in health care. *Journal of Biomedical Informatics* 43(2010)159–172.
- Humphery, O.O.M., Christopher, M. & Douglas, M. (2014).The effects of alternative banking channels on profitability of commercial banks- case of the Co-operative bank of Kenya. *The International Journal of Engineering and Science (IJES)* 2014.
- Mohammed. K. (2017). Alternate Delivery Channel (ADC) In Banks. Retrieved from <http://www.fintechbd.com/alternate-delivery-channel-adc-in-banks/>

- Musiime, A., & Malinga, R. (2011). Internet banking, consumer adoption and customer satisfaction. *African Journal of Marketing Management*, 3(10), 261-269.
- Slack, N. & Chambers, S., & Johnston, R. (2010). Operations Management. Sixth Edition
- Ndung'u, C. (2015). The Effect of Alternative Banking Channels on Financial Performance of Commercial Banks in Kenya. *MBA Project, University of Nairobi*.
- O'Keefe, G., Bachman, C., & Oyier, M.O. (2015). Alternative delivery Channels Handbook. *ISBN Number: 978-0-620-70761-9*.
- Okwiri, A.O. (2015) Operations Management Concepts, Department of Management Science, *University of Nairobi*.
- Prashant, S. (2014). Branch Banking to Virtual Banking – Utilization of Direct Banking Channels in Indian Banking Sector. *European Journal of Accounting Auditing and Finance Research Vol.2, No.8, pp.1-8, October 2014*.
- Rajiv, B., Pei-Yu, C., Fang-Chun, L., & Chin, S., 2009. Interdependence of Alternative Service Channels on Bank Performance.
- Sakuhuni, S. (2015). An analysis of factors resulting in low uptake of mobile banking as a banking delivery channel in Zimbabwe. A case study of CBZ Bank. *A dissertation submitted to the University of Zimbabwe*.
- Silvio J. C., Justine, C. & Maria, D. F. (2014). Service Quality, and Internet Banking Perceptions of Maltese Retail Bank Customers.

- United States Agency for International Development, (USAID).(2009). Mobile Banking – The Key to Building Credit History for the Poor; Kenya Case study. Linking Mobile Banking and Mobile Payment Platforms to Credit Bureaus. *Retrieved from <http://www.microfinancegateway.org/gm/document-1.9.37062/49.pdf>.*
- Von Rosen T. (2013).Branchless banking in Kenya. Does Mobile Banking and Agency Banking have the potential to lift the Welfare of Low income Individuals. *LUND UNIVERSITY THESIS.*
- WorldBank.2017.FinancialInclusion.*Retrivedfrom:www.worldbank.org/en/topic/financial_inclusion/overview.*

APPENDICES

Appendix I: List of Commercial Banks in Kenya.

ABC Bank (Kenya)

Bank of Africa

Bank of Baroda

Bank of India

Barclays Bank of Kenya

Chase Bank Kenya (In Receivership)

Citibank

Commercial Bank of Africa

Consolidated Bank of Kenya

Cooperative Bank of Kenya

Credit Bank

Development Bank of Kenya

Diamond Trust Bank

Dubai Islamic Bank

Ecobank Kenya

Equity Bank

Family Bank

First Community Bank

Giro Commercial Bank

Guaranty Trust Bank Kenya

Guardian Bank

Gulf African Bank

Habib Bank AG Zurich

Housing Finance Company of Kenya

I&M Bank

Imperial Bank Kenya (In receivership)

Jamii Bora Bank

Kenya Commercial Bank

Mayfair Bank

Middle East Bank Kenya

National Bank of Kenya

NIC Bank

Oriental Commercial Bank

Paramount Universal Bank

Prime Bank (Kenya)

SBM Bank Kenya Limited

Sidian Bank

Spire Bank

Stanbic Bank Kenya

Standard Chartered Kenya

Adapted from: 2016 Bank Supervision annual report

Appendix II: Data Collection Sheet

SECTION A: UTILIZATION RATE OF ALTERNATIVE CHANNELS

MEASURED BY NUMBER OF TRANSACTIONS CARRIED OUT OVER A PERIOD OF TIME

Month/Year	ATM	Mobile banking	Agency banking	Internet banking	Total number of transactions
Dec-09	5.81	21.69	-	0.57	28.07
Jun-10	5.19	25.03	0.10	1.21	31.53
Dec-10	10.07	29.12	2.57	2.11	43.87
Jun-11	11.72	35.82	14.98	2.09	64.61
Dec-11	11.24	41.71	20.43	2.10	75.48
Jun-12	17.47	47.87	28.53	2.13	96.00
Dec-12	28.08	41.71	30.00	2.16	101.95
Jun-13	28.89	60.03	35.79	2.19	126.90
Dec-13	27.38	69.14	42.06	2.22	140.80
Jun-14	22.88	74.03	50.41	2.20	149.52
Dec-14	18.22	85.61	57.99	2.47	164.29
Jun-15	18.93	90.67	60.08	2.31	171.99
Dec-15	19.71	107.44	79.62	2.50	209.27
Jun-16	17.43	121.81	82.39	2.73	224.36
Dec-16	18.15	146.20	104.19	3.20	271.74
Jun-17	17.52	150.29	124.62	4.50	296.93

Sources: Kenya Bureau of Statistics Economic survey 2016, CBK reports and Bank Supervision reports, 2009 to 2017.

**SECTION B: OPERATIONAL PERFORMANCE MEASURED BY
COST/INCOME RATIO, CHANNEL UPTIME (RELIABILITY/AVAILABILITY)
AND SPEED OF SERVICE**

	KES Billions	KES Billions	Ratio
Month/Year	Expense	Income	Expense to income ratio
Dec-09	123.50	172.50	0.72
Jun-10	129.70	198.50	0.65
Dec-10	137.50	211.70	0.65
Jun-11	152.00	234.10	0.65
Dec-11	166.90	256.30	0.65
Jun-12	202.70	306.20	0.66
Dec-12	248.40	356.30	0.70
Jun-13	232.90	325.90	0.71
Dec-13	236.40	362.20	0.65
Jun-14	241.80	398.10	0.61
Dec-14	277.60	418.70	0.66
Jun-15	299.50	425.70	0.70
Dec-15	322.80	456.80	0.71
Jun-16	333.40	457.20	0.73
Dec-16	354.90	504.00	0.70
Jun-17	425.00	560.00	0.76

Average uptime of selected alternative banking channels					
Month/Year	ATMs (%)	Mobile (%) banking	Agency Banking (%)	Internet banking (%)	Average uptime (%)
Dec-09	90.4	96.0	95.0	97.2	94.65
Jun-10	90.5	96.0	95.1	97.2	94.70
Dec-10	92.0	96.2	95.1	98.2	95.38
Jun-11	93.0	96.2	95.1	97.9	95.55
Dec-11	93.9	97.0	95.3	97.1	95.83
Jun-12	95.0	97.0	95.9	98.0	96.48
Dec-12	95.0	97.5	96.0	98.6	96.78
Jun-13	95.2	97.9	96.0	98.3	96.85
Dec-13	96.9	98.7	96.3	97.9	97.45
Jun-14	97.6	98.6	97.5	97.2	97.73
Dec-14	97.1	98.2	97.6	97.2	97.53
Jun-15	98.5	99.0	98.6	98.1	98.55
Dec-15	98.5	99.6	98.6	98.0	98.68
Jun-16	98.7	99.7	99.7	98.7	99.20
Dec-16	99.6	99.8	99.9	99.4	99.68
Jun-17	99.0	99.9	99.9	99.7	99.63

Average service speed of selected alternative channels					
Month/Year	ATMs (sec)	Mobile Banking (sec)	Agency Banking (sec)	Internet banking (sec)	Average time (sec)
Dec-09	55	90	300	79	131.00
Jun-10	52	87	280	82	125.25
Dec-10	52	85	276	64	119.25
Jun-11	49	85	231	63	107.00
Dec-11	47	84	222	55	102.00
Jun-12	48	72	219	53	98.00
Dec-12	45	99	210	57	102.75
Jun-13	42	82	158	55	84.25
Dec-13	42	78	142	52	78.50
Jun-14	39	59	139	52	72.25
Dec-14	37	60	122	49	67.00
Jun-15	35	33	101	48	54.25
Dec-15	33	47	94	55	57.25
Jun-16	33	20	89	46	47.00
Dec-16	32	15	72	47	41.50
Jun-17	32	13	60	45	37.50

Appendix III: Questionnaire: Managers

Alternative channels under study include; ATMs, Internet banking, Agency banking, Mobile banking

SECTION A:

(Please complete this section by checking the correct answer)

1. What is your gender?

Male () Female ()

2. What is your age Bracket?

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

3. What is your level of education?

- Certificate level ()
- Diploma level ()
- Bachelor level ()
- Masters level ()
- Doctorate level ()

4. How long have you worked in the banking industry?

- 0-4 years ()
- 5-9 years ()
- 10-14years ()
- 15-20 years ()
- Over 20 years ()

5. What department do you work for in the bank?

6. Which of the following Alternative Banking Channel in your opinion is the most popular among customers? (Tick appropriately).....

- Mobile Banking ()
- Internet Banking ()
- Agency banking ()
- ATMs ()

SECTION B:

- **FACTORS HINDERING THE UPTAKE OF ALTERNATIVE CHANNELS**

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Alternative channels improve operational performance of the bank.					
Customers are increasingly adapting to alternative channels					
Convenience is a factor that increases the adaptability of alternative channels by customers.					
Channel reliability is a factor that increases the uptake of alternative channels					
Financial crime is a factor that hinders the uptake of alternative channels, e.g Internet and mobile					

hacks					
Transaction errors are common when using alternative channels.					
Systems that support alternative channels fail often					
Customers complaints on alternative channels are numerous					
Ease of use of alternative channels is a factor affecting the uptake of alternative channels					
We train our customers on the use of alternative channels					
Most of our customers know how to use the alternative channels we offer					
Alternative channels are secure to use					
Increase in the uptake of alternative channels will increase operational efficiency					

Appendix IV: Questionnaire: Customers

Alternative channels include; ATMs, Internet banking, Agency banking, Mobile banking

SECTION A

(Please complete this section by checking the correct answer)

1. What is your gender?

Male () Female ()

2. What is your age Bracket?

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

3. What is your level of education?

- Certificate level ()
- Diploma level ()
- Bachelor level ()
- Masters level ()
- Doctorate level ()

4. How long have you banked with your current commercial bank?

- 0-4 years ()
- 5-9 years ()
- 10-14years ()
- 15-20 years ()
- Over 20 years ()

5. State the bank (s) you bank with.

.....

6. Which of the following Alternative Banking Channel do you use the most? (tick appropriately).....

- Mobile Banking ()
- Internet Banking ()
- Agency banking ()
- ATMs ()

SECTION B

FACTORS HINDERING THE UPTAKE OF ALTERNATIVE CHANNELS

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I have access to alternative channels					
Alternative channels are affordable					
I have the knowledge to use alternative channels					
I don't know how to use all alternative channels.					
Alternative channels are easy to use					
I often use alternative channels					
I often get transaction errors when I use alternative channels					
It is quite easy to sign up for					

alternative channels					
Alternative channels are quite useful					
Alternative channels are secure					
Alternative channels are reliable					
Alternative channels are faster in service delivery than the branch					
Alternative channels are designed for my needs					
I send money via alternative channels					
I pay bills using alternative channels					
I use the alternative channels advertised on TV/Radio.					
I'm afraid of losing money through alternative channels.					
Alternative Channels are prone to Fraud.					
I would recommend the use of alternative channels to my friends					