The Assessment of Challenges and Prospect of Mobile-banking in the Commercial Bank of Ethiopia in the Case of Joka Branch in Wolkite town

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A SENIOR ESSAY PAPER SUBMITTED TO ACCOUNTING AND FINANCE DEPARTMENT IN PARTUAL FULFILMENT OFR REQUREMENT OF THE BACHLER OF ART IN ACCOUNTING AND FINANCE

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Table Contents

Table of Contents

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List of Tables

Abbreviation

M-Banking–Mobil E Banking

M-Money – Mobile Money

E-Commerce–ElectronicCommerce

E-Payment – Electron Payment

CBE–commercialBankofEthiopia

NBE – National Bank of Ethiopia

E-Banking–ElectronicBanking

SPSS–statisticalPackageforsocialscience

IS – Information System

Abstract

Mobile banking is a developing mobile technique that has combined information technology and commerce applications together. Since mobile banking was introduced, consumers have been able touse it to obtain special services 24 hours a day without having to visit the traditional bank branch for personal transactions. Even though in their efforts of introducing new ways of reducing cost, modernizing the banking system, adoption of new technologies and trying to develop the mbanking outreach, there are stillmajor challenges hindering m-banking systems from fully functioning andbeing effective and efficient regarding reaching its stated goals in commercial banks of Ethiopia.

This study adopted Mixed research approach which is both qualitative and quantitative. The design of thestudywas descriptive type. Inorder to undertakethe study,theresearcher used probabilityand non-probability sampling design, purposive sampling for the employees and simple random sampling to select respondents. 15 employees and 38 users were selected totaling the sample size 53. In order to collect sufficient data so as to answer the research questions the researcher used data collection instrument like; questionnaire to get quantified results. In this study structurally designed questionnaire was used. Which included both close-ended and open ended questions which helped the respondents express their views deeply? The relevant information was obtained in a standard form using tables, frequencies and percentages to analyze and interpret the information.

ThefindingsofthestudyrevealedthatadoptionanddevelopmentofM-bankingtechnologyinsomeCBE Joka branch stretches wide across the two extremes of the challenges and prospects where the concerted effort by stakeholders to overcome the challenges will bring about immense opportunities to the dominant players in the field with the ultimate result. The Bank should create deep awareness to community concerning the M-banking products they offer and the benefits associated with using M-banking services through advertising their products and services on the internet, mass media as well as through organizing public exhibition, universities and talk shows. Besides, the bank should attract the communitytousethetechnologybydiverseincentivecampaigns.Thisway,customers'interestwouldbearoused

CHAPTER ONE

1 Introduction

1.1 Backgroundof theStudy

One of the biggest developments of the past few decades is the global adoption of mobile technology. Customers are using their mobile phones more and more as tools for shopping, banking, making payments, and creating budgets. Nearly every element of society has undergonea transformation because to mobile technological advancements, including education and information access for ever- larger populations (Kalkidan, 2006).

The ability to conduct financial transactions using a mobile terminal or, more generally, to conductbankingtransactionusingamobiledeviceisknownasM-banking,accordingtoPetrova K. (2002). Given that it encompasses both electronic payment methods and data-driven financial services in addition to standard services like money transfers and bank statements, this definition is suitable for operational use, e.g. account limit or account balance notifications, access to stockbroking (NBE Birritu No. 119, 2008).

Commercial bank is investigating this possibility in an effort to provide their clients with more convenient services. The most important source of support for the expansion and development of mobile banking in the nation is the country's rising mobile subscriber base. The evolution of the banking industry, as seen by the heightened competitiveness stemming from technological advancements andthe globalization process,haspresentedbankswithnovelobstacles.Asaresult, thestudy attempted to identify the main obstacles to m-banking as well as the potential for leveraging mobile banking to establish an inclusive financial system.

1.2 Statement of the Problem

Ethiopia's banking sector is undoubtedly underdeveloped in comparison to that of developed nations; as a result, there is an urgent need to start building capacity and modernizing the banking system by utilizing technologies that are already in use globally. Traditional branch-based retail banking continued to bethemost popularwayto perform financial transactions in Ethiopiaduring the year. In an effort to streamline operations and cut expenses, Ethiopian commercial bank have recently begun implementing electronic banking systems basedon mobile phones (Kalkidan, 2006). Despite their best efforts to modernizethe banking system, adopt newtechnologies, reduce costs,andexpandthereachofm-banking,commercialbankinEthiopiacontinuetoface

significant obstacles that preventm-banking system from oprating fully deffectively as well as from the being efficent in achieving their stated objectives. In order to close that gap, this study evaluated the factors that affect customers' usage and determined the advantages, difficulties, and opportunities now facing the developmentofan inclusive financial system through mobile banking.

Basedontheabovestatementofthe problemtheresearch questionisstatedas: -

- Whatarethechallenging factors influencing fortheusageofmobilebankinginJokaCBE?
- Whatarethe benefitsrealizedbyadoptingmobilebanking?
- Whatarethedrivingforcesfortheusageand adoptionofmobilebankinginEthiopianbanking sector?

1.3 Research Objectives

1.3.1 General Objective

The general objective of the study was to assess the challenges and prospects of mobile banking in Joka, commercial bank of Ethiopia particularly, with the following specific objectives.

1.3.2 Specific Objective

The specific objectivesofthestudyare:-

- Toexaminethechallenges ofusingmobilebanking
- Toexaminethebenefitsofusingmobilebanking
- Toassessthe efficiencyand effectivenessmobile bankingontheperformanceto CBE

1.4 Significant of the Study

The primary significance of this studyis for the partial fulfillment of Bachelor’s degree in accounting and Finance. It is anticipated that this study would close the previously mentioned knowledge gap, improve comprehension of the mobile banking system utilized in Ethiopia, and raise user awareness generally while enabling providers to see things from the user's point of view.

Thestudy'sprimaryrelevancewillbe:-

- ✓ Toprovideknowledgeforimprovingthe services
- ✓ Willbeusefulforbankingmanagementtounderstandthefactorsinfluencingtheadoptionofmobile banking service.
- ✓ Itwillbeusefulforresearchers forfurtherstudyinsimilarcaseareas.
- ✓ Itwill give generaloverviewtothereaderaboutthesignificanceofmobilebankingservicein improving the banking industry.

- ✓ ItwillgivecurrentinformationaboutmobilebankingsysteminEthiopiaspeciallyincommercialbank of Ethiopia context.

1.5 ScopeoftheStudy

The adoption and deployment of mobile banking systems is closelylinked to the growth of e- commerce, or electronic payments, which is still in its infancy but has the potential to become a significant force in the banking sector. The difficulties and future potential of mobile banking at the Commercial Bank of Ethiopia's Joka branch in Joka town are thus the main subjects of this study. Because of this, it may not be possible to apply the research's conclusions to all of the commercial bank of Ethiopia's branches and districts, and it is not feasible to incorporate all relevant aspects of the drawbacks and advantages ofmobilebankinginto asinglestudy. Thus, afew elements will betaken into account for this research.

1.6 OrganizationofthePaper

There were five chapters in the paper. Chapter one covers the introduction section and includes thestudy's background, problem statement, research aims, importance, and paper organization. A review of the literature is covered in the second chapter. The third chapter covers research methodology, which includes data analysis techniques, survey designs, sample designs, and study designs. Data analysis and interpretation were the main topics of the fourth chapter, and a conclusion and recommendations will be covered in the fifth chapter.

CHAPTER TWO-LITERATUREREVIEW

2 Introduction

E-Banking Adoption in Joka,Ethiopia

The widespread adoption of e-banking services has revolutionized the financial landscape globally. In Ethiopia, the Commercial Bank of Ethiopia (CBE) plays a crucial role in facilitating financial inclusion and economic development. However, the full potential of e-banking remains untapped, particularly in regional branches like Joka.

This literature review delves into the challenges and prospects of e-banking adoption within the CBE Jokabranch. By examining existing research, we aim to identify the key factors influencing customers' decisions to utilize e-banking services. This review will explore the interplayof technology infrastructure, customer awareness, and security concerns as they relate to e-banking adoption.

Furthermore, we will analyze the role of government initiatives and bank strategies in promoting e-banking usage. By considering the specific economic and social context of Joka, this review will provide valuable insights for the CBE to develop effective strategies to enhance e-banking adoption and financial inclusion in the region.

2.1 Conceptual Literature

2.1.1 Definition of Mobile Banking

The Federal Reserve survey defines mobile banking as “using a mobile phone to access your bank account, credit card account, or other financial account. Mobile banking can be done either by accessing yourbanks web pagethrough theweb browseron yourmobilephone, viatextmessaging, orbyusingan application downloaded to your mobile phone.” Mobile banking is an application of mobile commerce which enables customers to access bank accounts through mobile devices toconduct and complete bank-related transactions such as balancing cheques, checking account statuses,transferring money and selling stocks (Kim et al. 2009; Tiwari and Stephan 2007). Luo, Li, Zhang andShim (2010), defined mobile banking as an innovative method for accessing banking services via a channel whereby the customer interacts with a bank using a mobile phone.

Mobile banking also means performing banking activities which primarily consist of opening and maintaining mobile/regular accounts and accepting deposits; furthermore, it includes performing fund transfer or cash-in andcash-out services using mobile devices (NBE Directive, FIS-01-2012).In the

broader sense mobile banking enables the execution of financial services in the course of which – within an electronic procedure – the customer uses mobile communication techniques in conjunction withmobile devices (Pousttchi and Schurig 2004 as cited in Singh 2011).

Mobile banking can perform various functions like mini statement, checking of account history, SMS alerts, access to card statement, balance check; mobile recharge etc. via mobile phones(Vinayagamoorthy and Sankar 2012). Banks are constantly updating their technology and want to increasetheircustomerbasebyreachingtoeach andeverycustomer.Therearemanyadvantagesof using mobile banking, such as people in the rural or remote areas can get an easy access to mobile banking whenever required.

Mobile banking is a developing mobile technique that has combined information technology and commerce applications together. Since mobile banking was introduced, consumers have been able to use it to obtain special services 24 hoursadaywithout havingto visit thetraditional bank branch for personal transactions.

2.1.2 Background of Mobile Banking Technology

The for the first time, in 1999, U.S. bank to use SMS banking services, it was not unique to bank. So that same year the U.S. the post office using SMS technologies to be aware of the position of the customer letter. Since, according to the law Klein Cohen many organizations and governmental agencies in America Use in order to reduce the cost of Internet and mobile services. WAP system wasintroduced to the business world in 1999, and led to the reduction in the cost of information technology to develop use and innovation new methods, and lead to reduction and control services (Farnood, 2008). In the past, the use of Internet banking by providing access to the bank at any time, have a great impact on the bank services to Customer.

Therefore, those customers were able to review the status of your bank account, carry out other transactions such as deposit accounts, and pay bills from home or office easily. Major restrictions of this model electronic banking are computer and internet access. Therefore, mobile banking has been introduced as a model of e-banking provides customers who need only a mobile phone. The reasons for the superiority of this approach to banking with internet banking are no restrictions in space, usingthe minimum facilities and another reason is the great growth of mobile phone use among users. This wayhas provided the development of mobile banking. (PoorniCk,2010). The evolution of mobile banking continues as the following:

- Theintroduction ofGPRStechnologyin late1999and in 2000
- TheintroductionofPersonalOfficeMobile Services
- Theintroductionofmobilemoney(In2000)
- TheintroductionofThirdGenerationMobile(Inlate2001)

2.1.3 Mobile Banking in Ethiopian Banking Industry

The electronic banking service was ushered into the Ethiopian market in 2001 when the largest state owned, Commercial Bank of Ethiopia (CBE) introduced ATM to deliver service to the local users (Gardachew 2010). After this the electronic banking service scope was further expanded to mobile banking when Dashen Bank signed an agreement with iVery, a South African E-payment technology company, for the introduction of mobile commerce in April 21, 2009. According to the agreement, iVery Payment Technologies has licensed its Gateway and MiCard E-payment processing solution to Dashen Bank. Dashens Modbirr users can transfer 500 birrs to otherModbirrusers in 24 hours a day.This would make Dashen Bank the first private bank in Ethiopia to acquire E-commerce and mobile merchant transactions (Amanyehun 2011). However, mobile banking came into full practice after several years of trials and errors as well as wait-andsee attitude by customers. Since then, mobile banking has shown a gradual growth across many various parts of Ethiopia.

Despite the very high mobile penetration rate, the use and adoption of mobile banking services remains low. With the advent of new mobile technologies, such as Blackberry, iPhone, Androids, etc.,which serves as a catalyst, mobile banking is on the edge to draw millions of new users within the worldteeming population (Agwu 2012).

2.1.4 Benefits of Mobil E Banking

Mobile banking allows anytime, anywhere (within the network coverage) banking with allthe inherent advantages (Pousttchi & Schurig 2007). The high penetration of mobile phones across the strata ofsociety makes it a natural tool for taking electronic banking to its next level. It is more than likely that Internet banking and mobile banking would exist as allies rather than competitors for each other. Convenience is one of the benefits of mobile banking as banking transactions and other related activities can be performed in the comfort of customers home or offices. The usefulness of conducting banking transactions at home or from the office eliminates the difficulties that are associatedwithdrivingtothe bank,thecostofpetrol,and parking Mobilebankingalsoallows

Customerstoperformbankingtransactions24hoursaday,7 daysa week, and365days a year (Eckhardt, et al 2009). General benefits include: -

- **Offering innovative**, personalized mobile services can also assist banks to attract and retain customers. (Dr Lennart, Soderberg 2008), M-banking offers financial institutions the opportunity to target and acquire new customer segments that value mobility and real-time control of their finances, leading to increased customer growth and revenue.
- **Reduced customer support costs**; Mobile banking solutions also offer a full range of benefitsfor financial institutions, ranging from reduced customer support costs to improved customer satisfaction and retention as well as revenue growth. (www.mobileaware.com)
- **Offers more cost-effective channel**; According to Nasikye, 2009 mobile phone offer more cost-effective channel and hold greater promise for making financial services reach much lower income and remote client. Its the most cost-effective service suitable for a developing country (Abunyang, 2007).
- **Mobile banking extends the convenience of existing online services**; such as accountbalance information, funds transfer, bill payment and mini statements by making them accessible fromany mobile device. (Nyaoke William, 2008).
- **Drastically cuts down the costs of providing service to the customers**; this is the biggest advantage that m-banking offers to banks. According to the newly-appointed UK International Development Secretary Andrew Mitchell, m-banking can also provide a route out of poverty.
- **M-banking enables 'Anywhere banking'**; Customers now don't need access to a computer terminal to access their banks; they can now do so when they are traveling or when waiting for their orders to come through in a restaurant.

2.2 Theoretical Literature

Several theories are offered in order to identify factors that cause people to accept new technologies and information systems and use them (Rao and Troshani 2007). The next section presents some of these theories and based on that conceptual frame work for this particular studyis formulated.

2.2.1 Technology Acceptance Model (TAM)

TAM was first introduced by Fred Davis in 1989 to predict user acceptance of new technologies. According to (Davis 1989), TAM suggests that perceived usefulness (PU) and perceived ease of use (PEOU) are the two most important factors in explaining individual users adoptionintentionsand

actual usage. Davis (1989) defines perceived usefulness as the degree to which a person believes that using a particular system will enhance his or her job performance.

Perceived usefulness isdefinedas the extent towhichan individual believes that heorshewould benefit from using mobile banking. (Bhatti 2007; Kim, Chan and Gupta 2007) argued that an individual often evaluates the consequences of their behavior and makes a choice based on the desirability of perceived usefulness. Therefore, perceived usefulness will influence their intention to accept and adopt a system. In the context of mobile banking, one of the reasons people use mobile banking is that theyfind the systems useful to their transactions and saves their time as well. Benefitsare also observed by banks in the formof declining the number of branches which reduces thecost per transaction. Perceived usefulness isfound to be the most significant factor influencing the intention to use mobile banking. This finding suggests that if mobile banking is to be accepted by users, they should perceive it as a useful and quicker way of doing banking transactions compared with the traditional banking system. (Luarn and Lin 2005) found that perceived usefulness is a vital factor determining the mobile customer usage. (Wang et.al2003) also agree that most customers choosing mobile services because they see their benefits. Onanother side, (Suoranta 2003) support that lack of awareness of its usefulness and benefits realization are important factors which hinder mobile banking acceptance.

Perceived ease of use is also defined as the degree to which a person believes that using a particular system would be free of effort. Prior studies show that perceived ease of use has a significanteffect on usage intention, either directly or indirectly through its effect on perceived usefulness (Davis 1989; Venkatesh 2000; Venkatesh and Davis 1996). A system perceived to be easier to use will facilitate more system use and is more likely to be accepted by users(Venkatesh and Morris 2003). TAM points that perceived ease of use influence the innovation acceptance. It decreases the effort paid in learning and applying new technologies. Many researches give support to TAM that perceived ease ofuse has positive impact on perceived usefulness and mobile services adoption (Porteous 2011, Ezeoha2005). (Bong-Keun& Tom 2013) stated on their empirical investigation that perceived ease of use has a major significanceon the adoption of mobile banking. This finding suggests that customers seeka simple, easier, faster process and environment for banking transactions. It was also showed that perceived ease of use is a major determining factor explaining the attitude difference between adopter and non-adopters toward mobile banking.

2.2.2 Innovation Diffusion Theory (IDT)

Rogers (2003) identifies three characteristics of innovations: relative advantage, compatibility, and complexity. Adopters have invariablybeenfound tohavedifferent perceptions about thesecharacteristics in comparison with non-adopters. According to (Kotler 2000),

the characteristics of an innovation affect its rate of adoption. Some products catch on immediately, whereas others take along time to gain acceptance.

Ifthe innovation is perceived to bebetter than theexistingsystem (ameasureofits relative advantage), is consistent with the needs of the potential adopter (a measure of its compatibility), andis easy to understand and use (a measure of its complexity), it is more likely that a favorable attitude towards the innovation will be formed (Ching and Ellis 2004). Lee et al. (2005) found that the perceived relative advantage, compatibility and complexity of the innovation played a key role in the adoption of mobile banking. Therefore, this studyidentifies how these characteristics of innovation influence the adoption of mobile banking inEthiopia. The remaining parts of this section identify these characteristics of innovations as established in prior studies. Chaipoopirutana, Combs, Chatchawanwan,andVij(2009) andLin(2011),claimedthattheadoptionofmobilebankingis
„complex" as it has the negative relation with intention to adopt mobile banking. In this paper they have discussed the (Rogers 2003) innovation diffusion models attributes: complexity, compatibility, relative advantage and triability and found that Relative advantage, compatibility, ease of use (opposite of complexity) has a significant effect on attitude to adopt mobile banking services. They have also suggested that compatibilityhas a positive relation with the adoption of mobile banking. Customers have a favorable attitude towards adopting mobile banking services, if they have positive belief about the relative advantage of mobile banking. On the other hand, (Lee et al. 2005) performed eight interviews to collect transcripts from participants and concluded that relative advantages and compatibility were positive factors affecting the adoption of mobile banking.

Awareness The level of information customers has on mobile banking is one of the major factors impacting the adoption and usage of online banking according to the author in (Sathye 1999). The research further states that the adoption rate of an innovation could be determined by level of awareness of the customers. The use of mobile banking services is new to many customers and the banks need to create enough awareness to capture the attention of the customers.

Adoption is the acceptance and continued use of a product, service or idea. According to (Sathye 1999), customers go through "a process of knowledge, persuasion, decision and confirmation" before

they are readyto adopt a product or service. The adoption or rejection of an innovation begins when “the customers become aware of the product”. Hence for adoption of mobile banking, it is necessary that the banks offering this service make the customers aware about the availability of such a product and explain howit adds valuerelativeto otherproducts ofits ownorthat ofthe competitors. Customers must become aware of the new brand or technology. An important characteristic for any adoption of innovation service or product is creating awarenessamong the customers about the service or product (Sathye 1999). Awareness creation speeds the sales of products and evidences fromdifferent participants, lay credence to this. The level of awareness (Palvia 2009) is an important factorin encouragement of consumers to adopt related self-service facilities. The amount of information customers has about online banking has been identified the major factor impacting the adoption. According to (Sathye 1999) while the use of online bankingserviceis fairlynewexperienceto many people,low awareness of onlinebankingis major factor in causing people not to adoptonline banking. In an empirical study of Australian customers found that customers were unaware about the possibilities, advantages or disadvantages involved in online banking.

2.2.3 Services Available on Mobile Banking

Mobile Banking, as defined above, includes a wide range of services. According to (Tiwari& Stephan 2007) these services may be categorized as follows:

2.3.3.1 Mobile Accounting

Tiwari& Stephan (2007) defined mobile accounting as transaction-based banking services that revolve around a standard bank account and are conducted and/or availed by mobile devices. Not all mobile accounting services are however necessarily transaction based. Mobile accounting services may be divided into two categories to differentiate between services that are essential to operate an account and services that are essential to administer an account (Renju 2014). Moreover, additional services are required that inform a customer about his/her transactions and other activities involving their account. Itis for this reason that Mobile Accounting is offered almost regularly in combination with services from the field of Mobile Financial Information.

2.3.3.2 Account Operation

The term Account Operation, as used in this study, refers to an activity that involves monetary transactions. Such transactions may involve an external account and/or internal account. Mobile services that are used to operate an account are (Tiwari& Stephan 2007).

- **Moneyremittances**:-Mobiledevicesmaybeusedtoinstructthebanktoremitmoneyin orderto conduct one-time transactions, such as paying bills or transferring funds. This service can also include the facility to cancel an ordered remittance.
- **Issue standing orders**: - The house bank may be entrusted with standing orders for paymentof regularly recurring payments such as payment of standing payments, monthly rent or telephone bill.
- **Transfer funds to and from sub-accounts**: - Funds from one sub-account may be transferredto another as and when needed, for instance from a savings account to checking or other types of account and vice versa (Sunil and Durga 2013).
- **Subscribing insurance policies**: - Standardized, low-cost insurance policies like travel insurance policy may be purchased via mobile devices. This service could be particularly attractive in time-critical situations, for instance,if a bank customerhas to set out on an urgent, unplanned journey, he may still be able to subscribe to a travelinsurance policy offered byhis house bank.

2.3.3.3 Account Administration

The term Account Administration refers to tactical situations, for instance, if a bank customer has to set out on an urgent, unplanned journey, he maystill be able to subscribe to a travel insurance policy offered by his house bank. This may involve activities like access administration and cheque book request. Mobile Accounting services that are used to administer the account are (Tiwari& Stephan 2007), (Sunil and Durga 2013):

- **Access administration**: - Mobile devices may be used to administer the access to an account, for example to change the individual PIN or to request new transaction numbers.
- **Change operative accounts**: - Through this service a customer can change his default operative account and do transactions using a different account. This option is attractive for customers holding several sub accounts. Funds of sub-accounts may be hereby utilized in a targeted manner without first transferring the amount to the default account.
- **Blocking lost cards**: - Mobile non-voice telecommunication systems such as WirelessApplication Protocol, Short Message Service (WAP, SMS) can be used round the clock to speedily block lost credit and debit cards irrespective of the current geographic location.

- **Cheque book request**: - Instead of going personally to the bank, the customer can request for a cheque book to be mailed to his or her address as per the records of the bank. This saves his/ her valuable time (Sunil and Durga 2013).
- **Bill Payment**: - for those companies which register with the bank for this service, the paymentis made on request on mobile phone banking.
- **Change of Primary Account**: - the customer has the option to change the primary account to another new account number for carrying out transactions (Sunil and Durga 2013).

2.2.4 Mobile Financial Information

Mobile Financial information refers to non-transaction-based banking- and financial services of informational nature (Tiwari& Stephan 2007). This sub-application may be divided into two categories: Account information and Market information (Cruz et al. 2010).

2.3.4.1AccountInformation

The term Account Information refers to information that is specific to a customer and his bank, even though it does not necessarily involve a monetary transaction. Mobile services that belong to thiscategory are:

- **Balance inquiries:** - mobile devices may be employed to check the current financial status ofown bank or securities accounts (Sunil and Durga 2013).
- **Listoflatesttransactions**:-mobiledevicesmaybeusedto request alistofthelatesttransactions performed on an account. This service works with a standard, pre-specifiednumber of latest transactions that are reported, as and when demanded. Most of the banks provide a list of transactions.
- **Statement request**: - unlike the request for a list of latest transactions, it generates a list of all transactions in a given period, for instance in a week or in a month. Statements may be requested either manually, as and when needed electronically. With Mobile Banking the account statements can be requested via and/or delivered on mobile devices (Cruz et al. 2010).
- **Transaction and balances**: - the bank may be instructed to automatically alert the customer via SMS whenever transactions (credits as well as debits) exceeding a certain amount are performed on the account. In addition, a similar threshold alert maybe activated for the balance status of the account. The customer may be informed via SMS whenever the balance

falls below a certain predefined level. This service may be useful to help the customer avoid unpleasant situations by not being able to honor his commitments (Cruz et al. 2010).

- **Threshold alerts for stock prices**: - the bank may be instructed to send an alert on mobile devices, via SMS, when prices of some particular stocks fall or jump to a predefined threshold value and ask for further instructions (Suoranta and Matila 2004).
- **Returned cheques or cheque status**: - the customer may be informed without time delay if one of her or his deposited cheques has not been honored and corrective steps are required.
- **Credit card information**: - the customer may check anytime and anywhere the current status of his credit cards and the amount that he mayutilize at that given point of time.
- **Branch and ATM locations**: - mobile devices may help finding the nearest branch or ATM affiliated with a bank. The current location of the customer may be determined by positioning the mobile device. This service maybe particularly useful while travelling (Crosman, 2011).
- **Helplineand emergency contact**: -mobiledevices maybeprovided with content that is required in emergencysituations, for instance to block a lost credit card and cheque book. The information may be either embedded in the telephone menu, for example in cooperation with network carrier or the information maybe provided on a WAP page analogue to a web page.
- **Information on the completion statutes of an order**: - the bank may use "push" services to inform the customer via his mobile device regarding whether or not his orders could be carried out. This ensures that urgent information can be provided to the customer while on the move.
- **Product information and offers:** - the bank can provide information about its products and new offers to a customer on the move. A customer can "pull" the information that he wishes toaccess. On the other hand, the bank can "push" the information or offers that the customer has identified as interesting and is willing to receive.

2.3.4.2 Market Information

The term Market Information as opposed to Account Information refers to information with a macro scope. This information is not directly related to the customer account. It is generated either externally like exchange rates or central banks interest rates, or internally by the individual bank (Tiwari&Stephan 2007), for example bank-specific interest rates. The individual bank customer does not play a direct role in this process. The information may be later sorted out to cater the individual needs and preferences of a particular customer, if so desired by him, and subsequently delivered to a mobile device ofhischoice, oraPDA.Information in this is category generally concerns :Foreign exchange

rates, interest rates, Stock market news and reports and Commodityprices (For example: - Gold and raw materials)

2.2.5 Technologies Employed to Provide Mobile Banking Services

Customers can use mobile banking technologiesfor various banking services ranging from planningto paytheir bills via their cell phones. Mobile technologies used in the mobile banking include the browser-based applications, messaging-based applications and client-based applications (Kim et al. 2009; Tiwari&Buse 2007).

2.3.5.1 SMS(ShortMessageService)

On the messaging-based applications, the communication between the bank and the customer is carried out via text messages. For example, by using a registered mobile number, the customer sends apredefined command to the bank, and then uses text messages to conduct transactions with the bank.An example of messaging-based applications is the Unstructured Supplementary Service Data (USSD),which has compatibility with most mobile phones. Existing mobile banking applications based on USSD includes WIZZIT in South Africa (WIZZIT 2005), MPESA in Tanzania (Camner&Sjoblom 2009), M- PESA in South Africa (Nedbank 2010b) and FNB mobile banking (FNB 2010). The term “SMSBanking” refers to the provision of banking and financial services via means of text messaging service, known as SMS. SMS allows the financial institutions to communicate with their customers. Almost all mobile phones have the ability to use SMS; SMS is so suitable for sending messages from banks for a number of banking operations. In order to create a query, the customer sends an SMS containing the service request to a special number which is considered for this purpose. The customer sends a customized SMS (a command based instructed with Arabic number) to the bankwith the predefined commands for each offered service. The server of the bank receives the SMS, interprets the commands and executes commands and instructions, if the request is found to be authorized. The authentication is carried out with the help of a special Mobile Banking, Personal Identification Number (MPIN). Furthermore, the requests are only accepted from a mobile phone number that has been registered as the authorized number of operating that particular bank account. With the integration made with the mobile bankingserveronecan get all thefinancial and non-financial information. Aftercompletion ofthe whole process, the information will be gathered in the oracle database for future reference. For example: - Dialing to 889, Inserting the command and the PIN, Navigation of the financial or non-financial information, Logging off.

2.3.5.2 Browser-Based

The browser-based application is essentially a Wireless Access Protocol (WAP)-based internet access (Kimetal.2009).ThisrequiresacompatiblemobilephonewhichisWAP-enabled.Themobile phone is used to access banking portals through the Internet. Brower-based customer needs to be connected to the internet to use this service. The interface is generated from the server which is transported to mobile device, and this allows the content to be displayed through the browser. This method is extremely fast depending on the server that the customer is connected to but one its disadvantages is that, it requires the subscriber (customer) to stay online all through the transaction process and could lead to higher cost for the customers.

2.3.5.2 Client-Based(DownloadableApplications)

This method requires the customersto usessoftwareinstallation, and this will serveas auserinterface that canallowcustomerstousethemobiledevicewhileoffline toaccesssomebasictransactions beforegoing online. Typing details before connecting to the internet could reduce cost. This client- based applicationis particularly useful because it allows customers to stay offline and while preparingtransaction such as entry of account details and afterwards the transmission ismade by sending out the data, this banking process conducted offline reduces online connection time and cost (Pendharkar 2004). These are mobile banking applications that the users should download on their phone. Using the properties of these applications, transactions can be encrypted completelyin both source and destination. Since this software has been designed for special purposes, mobile banking application designers can optimize the applied interface for the financial transactions. The independence of application is one of the advantages of these applications for financial institutions (Ming 2007). Once customers have downloaded the software on their phone, they can use the MobileBanking application. In other words, the application should be compatible with the various needs and functions for a large number of mobile phones and this is expensive. The phone should also support one of the environments such as the Microsoft Windows Mobile. Another problem of mobile banking applications is that the customers should download the software, install it on their devices, and update its new versions, and maybe this is a new problem for some of the customers.

2.4 EmpiricalLiterature

Several studies have been conducted on mobile banking and the performance of commercial banksoverallthe world.Fromthosestudies,theresearchertriedtoreview somefromEthiopia,Africa and

the rest of the world. KalkidanGezahegn (2016), studied on factors influencing usage of mobile banking in Addis Ababa, Ethiopia. Her study tried to build on two widely used models for technologyadoption,the Technology Acceptance Model (TAM) and Innovation Diffusion Theory and to identify factors influencing customer's usage of mobile banking. The research results found relative advantage, compatibility, perceived trust, perceived usefulness, and perceived risk asmajor influencing factors for mobile banking adoption whereas perceived ease of use and awareness were found to have insignificant effect on mobile banking usage for bank customers located in Addis Ababa, Ethiopia. The study recommended banks to consider investing in campaigns and arranging information sessions to demonstrate the features of mobile banking services, and its benefits over traditional channels.

PakoMaradung (2013), also studied on Factors affecting the adoption of mobile money services inthe banking and financial industries of Botswana. His study set out to investigate factors affecting the adoption of mobile money services in the banking and financial industries of Botswana in the light of the Technology Acceptance Model (TAM) and demographic variables (that is, age of individuals, income, education level,bank account)from mobilemoneyserviceadoption literature. Theanalysis ofthe results revealed that gross income and ownership of bank accounts appeared to be insignificant in determining theuseofmobilemoneyservicesin Botswana.However,theageofindividualsdid seemtobesignificant in determining whether an individual used mobile money services or not, with more young people preferring to use mobile money services than older people.

FarhanaYasmin (2014), researched on Factors Influencing the Adoption of Mobile Banking: Perspective Bangladesh. The paper focused on trust, perceived cost and perceived risk including the facets of perceived risks: performance risk, security/privacy risk, time risk, social risk and financial risk. The research model includes the original variables of extended technology acceptance model (TAM). The research has found that customers will consider adopting mobile banking as long as it is perceived to be useful and easy to use. But the most critical factor for the customer is cost; the service shouldbe affordable.Trustwasfoundtobesignificantlynegativelycorrelatedtoperceivedrisk.Thus, trust plays a role in risk mitigation and in enhancing customer loyalty.

Research conducted by Rachael W. Mutua, in Kenya on effects of mobile banking on the financial performance of commercial banks in Kenya focused on determining the effect of mobile banking on the financial performance of commercial banks in Kenya. The researcher used descriptive research design. The study found that there exists a weak positive relationship between mobile banking and thefinancial performance of commercial banks in Kenya. The study recommends that the policy makers

take mobile banking awareness creation into consideration when drafting policies on the operations of banks in Kenya. This was because of the indirect relationship of mobile banking and financial performance especially as the industry moves into a technologically competitive environment. The study also recommends that policy makers keep a keen eye on the developments of mobile banking asit is a new platform for competition among commercial banks as the world moves into a digital age to ensure it does not lose its regulatory role.

2.5 Literature Gap

Therehavebeenanumberofvaluablestudiesintheareaofmobilebankingoverthe yearsback in North America, Europe, Asia and some from African countries such as Kenya, Ghana, Nigeria and Zimbabwe presented evidence for a number of variables that influenced customer behavior intentionto use mobile banking and its challenges and perspectives, however the study of mobile banking has been given little attention in literatures in Ethiopia. As per the researcher knowledge there is only few studies conducted with regards to assessment of challenges and prospects of mobile banking in commercial bank of Ethiopia, Jokatown. So, to specify the gap of the research,

- The previous researches were conducted mainly outside Ethiopia like Africa and Asia and the studies conducted in Ethiopia mainly focus on urban areas like Addis Ababa.
- The scope of previous studies is vast and intended to cover large scale of geographical area. But this study covers only challenges and prospects of m-banking CBE Joka branch.

2.6 Conceptual Frame work for E-Bankingin Joka,Ethiopia

This conceptual framework will guide your research on the challenges and prospects of e-banking inthe Commercial Bank of Ethiopia (CBE) in Joka. It outlines the key factors influencing e-banking adoption and their interrelationships.

Components:

1. **IndependentVariables:**
    - **Technology Infrastructure:** Availability and reliability of internet access, mobilenetwork coverage, user-friendliness of CBE e-banking platforms (mobile app, online banking).
    - **Customer Awareness and Literacy:** Level of knowledge and understanding of e-banking services, digital literacy skills.

- **SecurityandPrivacyConcerns:** Perceptions of security risk sassociated with e-banking transactions, trust in data protection measures taken by CBE.

2. **DependentVariable:**
    - **E-BankingAdoption:**FrequencyofusingCBEe-bankingservicesforvarious transactions (account balance checks, transfers, bill payments).
3. **ModeratingVariables:**
    - **GovernmentInitiatives:** Government policies promotinge-banking,investmentsin ICT infrastructure development.
    - **Bank Strategies:** CBE'smarketing efforts, customer education programs,incentivesfor e-banking usage.

Relationships:

- Technology infrastructure, customer awareness, and security concerns will directly impact e-banking adoption. Strong infrastructure, high awareness, and low security concerns willencourage adoption.
- Government initiatives and bank strategies will moderate the relationships between the independent and dependent variables. Supportive government policies and effective bank strategies can address infrastructure gaps, raise awareness, and mitigate security concerns, ultimately leading to increased e-banking adoption.

CHAPTER THREE-RESEARCH METHODOLOGY

3.1 Description of the Study Area: Joka,Ethiopia

ContextualFactors:

- **Joka Specifics:** Include factors unique to Joka, such as the demographic profile of CBE customers (age, income, education level), internet and mobile phone penetration rates, and presence of competing banks with e-banking services.
- Joka, offers a dynamic environment to studye-banking adoption. Here's a closer look at some key characteristics:
- **Demographics:** Data suggests Joka has a population exceeding 500,000. While age distributionspecificsmightrequirefurther research, the presence of a JokaUniversitycampus indicates a potentially young and tech-savvy segment.
- **EconomicActivity:**Jokaservesasacommercialhubfortheregion,knownforits tourism industries. This suggests a presence of businesses that could benefit from efficient e- banking solutions. However, the informal sector likely remains significant, requiringa nuanced understanding of banking habits.
- **Technology Infrastructure:** While information on internet and mobile network penetration rates in Joka would be ideal, national data suggests Ethiopia is experiencing growth in thisarea. It's important to investigate if this translates to reliable connectivity within Joka, especially forthe target population. Smartphone ownership rates might also require further exploration.
- **Banking Landscape:** Besides the CBE, other banks like Dashen Bank and Wegagen Bank are known to operate in Ethiopia and likely offer e-banking services. Understanding the CBE's competitive positioning and any unique features of their Joka branch's e-banking platform catering to the local context is crucial.

3.2 Research Approach

This chapter outlines the overall strategy for investigating the challenges and prospects of e-banking adoption within the CBE Joka branch. It combines quantitative and qualitative methods to gather comprehensive data and gain a deeper understanding of the phenomenon.

3.3 Research Design

A research design is the conceptual structure with in which research is conducted; it constitutes the blue print for the collection, measurements and analysis of data as such the design includes on outline of what the researcher will do from writingthe hypothesis its operational implications to the final analysis of data (Kothari, 2004).

The general objectives of this study were to assess the challenges and prospects of mobile banking in commercial bank of Ethiopia Joka branch. So, this study adopted mixed research approach which is both qualitative and quantitative. Qualitative research designs are usually meant for researches that require depth instead of breath and; is concerned with subjective assessment of attitudes, opinions and behavior, while quantitative research design involves the generation of data in quantitativeformwhich canbe subjectedtorigorousquantitativeanalysisina formalandrigidfashion (Kothari, 2004). Therefore, mixed research approach which contains both qualitative and quantitative research approaches have the right to used.

In orderto answer thestatements ofthe problem and meet the research objectives, the design of the study was descriptive type. Descriptive research studies are those studies which are concerned withdescribing the characteristics of a particular individual, or if a group (Kothari, 2004).

3.4 Data Sources

The study is conducted by collecting data from primary sources. Primary data are those whichare collected fresh and for the first time, and thus happen to be original in character (Kothari, 2004). Primary data is collected from the staffs of the commercial banks based on some structured and unstructured designed questionnaires, which included both closed-ended and open-ended questionswhich can provide the respondents an adequate expression of their views on thequestions.In addition, semi-structured interview will be used in order to get sufficient and reliable data and to substantiate and improve the results of questionnaires.

3.5 Sampling Design

A sample design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. Sample design mayas well as down the numberof itemstobeincludedinthesamplei.e. thesizeofthe sample.Sample design is determined before data are collected (Kothari, 2004). In order to undertake the study, the researchers used probability and non-probability sampling design, purposive sampling for the employees and simple random sampling to select respondents. Nonprobabilitysampling is that sampling procedure whichdoesnotaffordanybasisforestimatingtheprobabilitythat each item in the population has of being included in the sample.In this type of sampling, items for the sample was selected deliberately by the researcher; their choice concerning the items remains supreme (Kothari, 2004). Meanwhile, Probability sampling is also known as random sampling orchance sampling". Under this sampling design, every item of the universe has an equal chance of inclusion in the sample (Kothari, 2004)

3.5 .1 Study Population

A population is a group of individuals, persons, objects or items from which samples are taken for measurement (Kothari,2004). Inordertomeettheresearchobjectives,agivenamountofsamplesize has been taken from the total population of employees of CBE and customers as well.

3.5.2 Sample Size

Sample size refers to the number of items to be selected from total population to constitute a sample (Kothari, 2004). From the above target population of employee and users, will be selected as the sample size for this study. In regard to sampling customers, it is better to use scientific way to calculate sample from the target population.

The researcher will use the following formula to determine the sample size of customers from the target population.

$$n = \frac{N}{1+N(e)^2}$$

n= sample size
N= population
e = error (10%)

3.5.3 Sample Selection Techniques

As stated in the sample design, the researchers used non-probability and probability sample design. Non-probabilitysampling technique is used for the employees of commercial bank of Ethiopia. The reason is, among the total employees the researchers selected those employees who have knowledge and skill toward mobile banking usage and service. This has been done by deliberately selecting those who are related to the matter. In short non-probability sampling is that sampling procedure which does not afford only basis for estimating the probability that each item in the population has of being included in the sample. It is also known by different names such as deliberate sampling and purposive sampling. Items for the sample are selected deliberately by the researcher; his choice concerning the items remains supreme (Kothari, 2004). On the other hand, the researcher used probability sampling technique especially simple random sampling technique to select customers of

CBE. This is because, CBE provides its services to its customers equally on a routine manner so, all customers are treated equally and then selected through probability simple random sampling technique. Probabilitysamplingisdefinedas„randomsampling‟or„chancesampling‟.Underthis samplingdesign, every item of the universe has an equal chance of inclusion in the sample. It is, so tosay,alottery method in which individual units are picked up from the whole group not deliberatelybut by some mechanical process (Kothari, 2004).

3.6 Data collection tools

The task of data collection begins after a research problem is defined and research design chalked out while deciding about the method of data collection to be used for the study, theresearcher should keep two types of data, primary and secondary (Kothari, 2004).

In order to collect sufficient data so as to answer the research questions the researchers used data collection instrument like; questionnaire to get quantified results and interviews.

3.6.1 Questionnaires

Questionnaires consists of a number of questions printed or typed in a definite order on a form or set of forms (Kothari, 2004). In this study structurally designed questionnaire has been used,whichincludes both close-ended and open-ended questions which helped the respondents express their views deeply.

3.6.2 Interviews

Interviews**:**Semi-structuredinterviewshavebeenconductedwith:

- A selection of CBE customers representing different demographics and levels of e-banking experience. These interviewsexplored theirmotivations forusing ornot using e-banking services, their experiences with the CBE platform, and any specific challenges they encountered.
- CBE branch staff members involved in promoting e-banking services. These interviews provided insights into the bank's strategies for customer education and addressed security concerns.

3.7 Data Analysis Method

The data, after collection, was processed and analyzed in accordance withthe outline laid down for the purpose at the time of developing the research plan. Technically speaking, processing implies editing, coding, classification and tabulation of collected data so that they are amendable toanalysis (Kothari, 2004). The relevant information is obtained in a standard form using tables, frequencies and percentages to analyze and interpret the information. The results are organized in charts and tabular figures. Thosewill ensure easy understanding of the analysis.

3.7.1 Quantitative Data Analysis:

- **Descriptive Statistics:** Analyzed the survey data to understand the demographics of CBE customers in Joka(age, education, income), their technology access (internet, smartphones), and current banking habits. Calculated frequencies and percentages for these variables.
- **Awareness and Perception Measurement:** Analyzed responses related to awareness of CBE e-banking services and perceptions of security and trust. This involved creating scales to measure these factors and calculating means and standard deviations.
- **Correlational Analysis:** Explored potential relationships between variables using correlation coefficients. For example, correlate age with e-banking usage frequency or education level with awareness of e-banking services.

3.7.2Qualitative Data Analysis:

- **Thematic Analysis:** Transcribed all interview recordings. Utilize thematic analysis to identify recurring themes, patterns, and key concepts across interviews with both customers and bankstaff.
- **Narrative Analysis:**the researchers paid their attention to the stories and experiences shared by customers in interviews. Analyzed these narratives to understand their motivations, challenges, and decision-making processes regarding e-banking adoption.

3.7.3 Triangulation:

Compared and contrasted the findings from quantitative and qualitative data analysis. Looked for convergence (where data from both methods point to similar conclusions) and divergence (where findings differ). This revealed deeper insights and potential areas for further investigation.

- Used qualitative data (interviews) to enrich and explain quantitative findings (surveys). For example, interview data might explain why certain demographics have lower e-banking adoption rates identified in the survey.

3.8 Ethical Considerations

Conductingresearchwithhumanparticipantsnecessitatesupholdingethicalprinciplestoensuretheir

well-beingandprivacy.This studyadheredto the followingethical considerations:

- **Informed Consent:** Prior to participating in the survey or interviews, all participants received a detailed informed consent form. The form explained the purpose of the study, the data collection procedures, and how their information will be used. Participants have the right to withdraw from the study at any point without consequence.
- **Confidentiality and Anonymity:** All data collected, both from surveys and interviews, are treated with the utmost confidentiality. Survey responses have been anonymous, meaning individualparticipantswillnotbeidentifiableinthereportedfindings.Forinterviews,participants are assigned pseudonyms to protect their identities during data analysis and reporting.
- **Data Security:** All electronic data are stored securely on password-protected devices. Physical copies of interview transcripts will be kept in safe storage. After the research is complete, any personally identifiable information was will be anonym zed or destroyed securely.
- **Transparency and Honesty:** The research was conducted with transparency and honesty. Participantswereinformedaboutthepotentialrisksandbenefitsofparticipatinginthe study. The research findings is reported accurately and objectively, without any manipulation of data or fabrication of results.
- **Respect for Participants:** Throughout the research process, all participants were treated with respect and courtesy. Their opinions and perspectives are valued and considered. This includes avoiding any discriminatory or offensive questions in the survey or interviews.

CHAPTER FOUR-DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter covers the presentation, analysis and interpretation of data collected from primary sources. A total of 53 questionnaires were distributed (15 to employees of commercial bank of Ethiopia and 38 to customers of commercial bank of Ethiopia) in order to collect data about the challenges and prospects of mobile banking. Out of the questionnaires distributed 42 usable responses were obtained (12 from employeesofthebankand30fromthecustomersofthebank).Thischapterpresentsthedescriptiveanalysis on variables of the study and the main findings of this study.

4.1.1 Background Information of Employee Respondents

Table1.1Demographiccharacteristicsofemployeerespondents

Background information	Items	Noof respondents	Percentage
Sex	Male	8	66.67%
	Female	4	33.33%
Age	20-25	3	25%
	26-30	6	50%
	31-35	3	25%
	36-40	-	-
	Above40	-	-
Levelof Education	Certificate	-	-
	Diploma	-	-
	Degree	10	83.34%
	Masters	2	16.66%
YearofExperience	<1Year		
	1-2Years	2	16.66%
	3-4Years	7	58.34%
	<4years	3	25%

Source:Primarydata2025

The above table shows that the majority of the respondents are male 67.67% and 33.33% are female. The majorityof respondents are from age 26-30 Consisting of 50% and 25% from 31-35. This shows that most of the workers are on the productive age. 83.34% of the respondents have college degree and the rest 16.66% have master’s degree. This shows that all bank employees are educated enough and this helps the

banktoperformitsserviceseffectivelyandalsoenabledtheresearchertoobtaina sufficientandnecessary

data to conduct the paper. In regard to their working experience, more than half of the respondents 58.34% are 3-4 years experienced and the rest are 25% and 16.66% are above 4 years and 1-2 years experienced respectively. This shows that the bank employees are well experienced and this can help the bank to bemore productive and effective.

4.2 Questions regarding M-banking Challenges andOpportunities

4.2.1Challenges that affect the Adoption of M-bankingTechnology

Table1.2challengesthataffecttheadoptionofM-bankingtechnology

Factors	Statementto evaluate	Ratingpoint					Remark
		A	**SA**	**N**	**DA**	**SD**	
Organizational factors	Lackofcustomerawareness with M-banking products;	7 58.34%	3 25%	2 16.66%	-	-	Agree
	Lackoftechnicalandmanagerial skills in implementation and development of M-banking technology;	3 25%	2 16.66%	4 33.34%	2 16.66%	1 8.33%	Neutral
	High cost of implementation of M-banking(suchascostofICT equipment and network, Softwareandre-organization;	1 8.34%	3 25%	5 41.67%	3 25%	-	Neutral
	Resistancetochangesin Technology mongbyBoard,top Management and stuff;	6 50%	3 25%	2 16.66%	1 8.34%	-	Agree
E n	Limitation in network infrastructureandinternet related support services;	3 25%	4 33.34%	2 16.66%	3 25%	-	Strongly Agree
	Customer low level of computer/mobileliteracy	2 16.66%	8 66.67%	-	1 8.34%	1 8.34%	Strongly Agree

	LimitationinICTinfrastructure;	4 33.3 4%	7 58.34 %	-	-	1 8.34 %	Strongly Agree
	Frequentpowerdisruption;	5 41.6 7%	5 41.67 %	1 8.34 %	1 8.34%	-	Agree
	Relativehighcostof internet	2 16.6 6%	2 16.66 %	4 33.34 %	1 8.34%	3 25%	Neutral
	Absenceofdifferentnetwork that link different banks;	2 16.6 6%	9 75%	1 8.34 %	-	-	Strongly Agree
Technological factors	Lackofconfidencewiththe security aspects;	3 25%	7 58.34 %	-	2 16.66 %	-	Strongly Agree
	CustomersfearofrisktouseM-banking technology;	8 66.6 7%	2 16.66 %	-	1 8.34%	1 8.34 %	Agree
	UsersdonottrusttheM-banking technologyprovidedbythebank	2 16.6 6%	2 16.66 %	4 33.34 %	2 16.66 %	2 16.6 6%	Neutral

Source:Primarydata2025

As cited in chaptertwo,there are so moneychallenges that negativelyaffect adoption and growth of the M-banking technology. The factors affecting the successful adoption and growth of new technologies, such as M-banking are common in nature. Such as cost factors, security and trust factors and lack of adequate ICT infrastructure.

The above table 1.2 shows 3 factors that affect the adoption of M-banking. These are organizational, environmental and technological factors. In organizational factor there are items listed as sub factors. From this sub-factors 7(58.34%) of the respondents agree that there is lack of awareness in customers with M-banking products while the rest 2(16.66%) are neutral. The majority of the respondents are neutral 4(33.34%)with regardto lackof technicaland managerialskillskillsinimplementationanddevelopmentof M-banking technology while 5(41.66%) agree and 3(24.99%) disagree.5(41.67%) of the respondents are neutral regarding the high cost of M-banking in implementation and 3(25%) agree that M-banking has a high cost in implementation. Half of the respondents 6(50%) agree that there is resistance in board, top management and stuff while 1(8.43%) disagree.

TheotherfactorthataffectM-bankingenvironmentalfactor,4(33.34%)oftherespondentsstronglyagreethat there is a limitation in network infrastructure and internet related support services while 3(25%) disagree. 8(66.67) strongly agree that there is low level of computer and mobile literacyamong customer and 3(25%) disagree. 7(58.34) strongly agree that there is a limitation in ICT infrastructure and 1(8.34%) disagree. Majority of the respondents 10(83.34%) said there is frequent power disruption and this affects the service given bythe bank. 4(33.34%)of the respondents are neutral in case of relative high cost of internet. 9(75%) of the respondents responded that there is absence of different network that link different banks.

The last factor that affect M-banking in the adoption stage is technological factor. 7(58.34%) of the respondents said lack of confidence with the security aspects. And 8(66.67%) said they customers fear the risk ofusing M-banking technology. 4(33.34%) ofthe respondents were neural to the term users don’t trust the M-banking technology provided by the bank.

4.2.2 Benefits from Adoption M-banking by theBank

Table1.3 Benefits fromAdoptionM-banking bythebank

Factors	Statementto evaluate	Ratingpoint					Remark
		A	**SA**	**N**	**DA**	**SD**	
Operational Benefit	Reducepaperwork;	9 75%	3 25%	-	-	-	Agree
	Lowtransactioncost;	10 83.34%	2 16.66%	-	-	-	Agree
	Enhanceproductivityinthe Bankingindustry;	8 66.67%	3 25%	-	-	-	Agree
	Increasereliabilityandreduce errors;	3 25%	6 50%	3 25%	-	-	Strongly Agree
Service Benefits	Facilitatesdevelopmentofnew Productsandnewbusinessin the banking industry;	4 33.34%	5 41.67%	3 25%	-	-	Strongly Agree
	M-banking is convenient, in terms of 7 days and 24 hours' services i.e. accessibility, i.e. Notimelimittoaccessbank account and information	2 16.66%	10 83.34%	-	-	-	Strongly Agree
	Enhanceaccessibilityofthe Banksservices(intermsofplace);	3 25%	7 58.34%	2 16.66%	-	-	Strongly Agree
	Improvecustomerservice;	1 8.34%	8 66.67%	3 25%	-	-	Strongly Agree
	Improvetransactionspeeds;	2 16.66%	6 50%	4 33.34%	-	-	Strongly Agree
	Creates better relationship Amongbanksandclients;	9 75%	2 16.66%	1 8.34%	-	-	Agree
	Facilitates marketing and Marketaccess;	7 58.34%	2 16.66%	3 25%	-	-	Agree

Source:Primarydata2025

Table1.3shows2beneficiaryfactorsthatwegetfromadoptionofM-bankingbythebank.Theseare

Beneficialfactorsareoperationalbenefit andservicebenefit.Operationalbenefit includes,9(75%) agree that M-banking reduces paper work, 10(83.34%) of the respondents agree that M-banking has low transaction cost and 8(66.67%) of the respondents agree that M-banking increases reliability and it reduces errors.

When we come to service benefit that M-banking has, 5(41.67%) strongly agree in M-banking facilitating development of new products and new business in the banking industry. 10(83.34%) of the respondents strongly agree that M-banking is convenient because of it 24 hours and 7 days' service and accessibility. 7(58.34%) said M-banking enhances accessibility of the bank service, 8(66.67%) said its improves transaction speed, 9(75%) agree that M-banking has the capacity to creates better relationship among banks and clients. And 7(58.34%) agree that M-banking facilitates marketing and market access.

4.2.3 Driving Factors for the adoption of M-banking services in CBE

Table1.4Driving factorsfortheadoptionofM-bankingservicesinCBE

No.	Statementto evaluate	Ratingpoints					Remark
		A	**SA**	**N**	**DA**	**SD**	
1	Desire to improve organizational performance and productivity;	7 58.3%	5 41.7%	-	-	-	Agree
2	Desiretoimprovetherelationshipwith customers;	8 66.64%	4 33.33%	-	-	-	Agree
3	Desiretocoverwidegeographicalarea;	1 8.3%	11 91.7%	-	-	-	Strongly Agree
4	Desiretobuildorganizationalreputation;	5 41.67%	7 58.33%	-	-	-	Strongly Agree
5	Desiretoreducetransactioncost;	8 66.64%	4 33.33%	-	-	-	Agree
6	Desiretoimprovecustomerservices;;	9 75%	3 25%	-	-	-	Agree

7	Existenceofhighcompetitioninthe Bankingindustry;	2 16.66%	10 83.34%	-	-	-	Strongly Agree
8	Desiretosatisfyrapidchangeofcustomer Needsandpreferences;	3 25%	9 75%	-	-	-	Strongly Agree
9	Legalframeworksthatenforcebanking industries to adopt technological innovation;	1 8.3%	11 91.7%	-	-	-	Strongly Agree

Source: Primarydata2025

Table 1.4 indicated that most respondents agreed that desire to improve bank performance and customer services were the main influencing factors for adoption and development of M-banking technology in which7(58.3%) agreed. Significant proportion 8(66.64%) agree and 8(66.64%) strongly agree on competition from other banks has a strong influence for adoption and development M-bankingtechnology. Hence, adoption and development of M-banking technology is used as a defensive mechanize against competitive activities. The result further revealed that most respondents asserted that desire to improve the relationship with customers, desire to cover wide geographical area and desire to build organizational reputation7(58.33%) are found as the main drivers for adoption and development of M-banking technology. Last but not least, other driving factors that initiate the bank for adoption and development of M-bankingare desire to reduce transaction cost 8(66.64%) agreed, and to satisfy rapid change of customer needs and preferences and legal frame works that enforce banking industries to adopt technological innovation.

4.24 Existing opportunities inthe country that in itiates the adoption of M-banking byCBE

Table1.5 ExistingopportunitiesinthecountrythatinitiatestheadoptionofM-bankingbyCBE

No.	Statementto evaluate	Ratingpoints					Remark
		A	**SA**	**N**	**DA**	**SD**	
1	Desire to improve organizational Performanceandproductivity;	9 75%	3 25%	-	-	-	Agree
2	Desiretoimprovetherelationshipwith customers;	4 33.33%	8 66.64%	-	-	-	Strongly Agree
3	Desiretocoverwidegeographicalarea;	8 66.64%	4 33.33%	-	-	-	Agree

4	Desiretobuildorganizationalreputation;	3 25%	9 75%	-	-	-	Strongly Agree
5	Desiretoreducetransactioncost;	1 8.3%	11 91.7%	-	-	-	Strongly Agree
6	Desiretoimprovecustomerservices;	2 16.66%	10 83.34%	-	-	-	Strongly Agree
7	Existenceofhighcompetitioninthe Bankingindustry;	8 66.64%	4 33.33%	-	-	-	Agree
8	Desiretosatisfyrapidchangeofcustomer Needandpreferences;	5 41.67%	7 58.33%	-	-	-	Strongly Agree
9	Legal frame works thatenforce banking industries to adopt technological innovation;	7 58.3%	5 41.7%	-	-	-	Agree

Source:Primarydata2025

Respondents were asked whether they ‘Strongly agreed, Agreed, Neutral, Disagreed or Strongly disagreed’ based on the five questions shown in the table 1.5 above to confirm the existence of the opportunities for adoptionand development ofM-bankingtechnology, Accordingly, thesampled respondents agreed with the idea that the existence of high customer’s demand, improvement in the banking habit of the society, late adopter of M-banking in Ethiopia banking industry, commitment of the government to facilitate the expansion of ICT infrastructure and to strengthen the banking industry are existing opportunities fostering the adoption and development of M- banking technology in Ethiopia banking industry.Item 1 shows 9(75%) agree that in the country their exists an opportunity to improve organizational performance and productivity, 8(66.64%) strongly agree to the desire to improve the relationship with customers is an opportunity, 8(66.64%) agree that Desire to cover wide geographical area is an opportunity, 9(75%) saidthat Desire to build organizational reputation is an opportunity, 11(91.7%) strongly agree that Desire to reduce transaction cost is seen as opportunity in the country for the adoption of M-banking, Desire to improve customer services is answers as 10(83.34%) strongly agree, and 8(66.64%) agreed that there is existence of high competition in the banking industry that could be used as an opportunity to the adoption M-banking, Desire to satisfy rapid change of customer needs and preferences was responded as 7(58.33%) strongly agree and the legal frame works that enforce banking industries to adopt technological innovation wasrespondedas7(58.3%)agree. Ingeneral, all the listed elements forthe existing opportunities have been responded positivelyand were seen as opportunities for the adoption of M-banking.

4.3 Background information of Customer Respondents

Table1.6Backgroundinformationofcustomerrespondents

Background i0nformation	Items	Noof respondents	Percentage
Sex	Male	19	63.33%
	Female	11	36.67%
Age	20-25	12	40%
	26-30	7	23.33%
	31-35	9	30%
	36-40	2	6.64%
	Above40	-	-
Occupation	Student	13	43.33%
	Employed	7	23.33%
	Unemployed	5	16.67%
	Other	5	16.67%
Do youhavemobilephone	Yes	30	100%
	No	-	-
Have youheardofM-banking	Yes	28	93.33%
	No	2	6.64%
Do youuseM-bankingprovidedbyyour bank	Yes	22	73.33%
	No	8	6.64%

Source:Primarydata2025

The above table shows that the majority of the respondents are male 63.33% and 36.67% are female. The majorityof respondents are from age 20-25, consisting of 40% and 23.33% from 26- 30 and 30% are from 31-35 and the rest 6.64% are from age group 36-40. This shows that most of the workers are on the productive age. All the respondents responded that they have mobile phone. Which is helpful for the development of M-banking and this study. 93.33% of the respondents heard about M-banking but the rest 6.64%haven'theardofM-banking.Thisshowsthatalmostallknow about M-banking which is a goodthing for the adoption of M-banking. 22(73.33%) of the

respondents responded that theyuse M-banking service provided bythe bank but only8(6.64%) doesn't use M-banking service. From this we can conclude that almost all use M-banking.

4.4 Factors for usage of M-banking

Table1.7FactorsforusageofM-banking

FACTORS	STATEMENTTO EVALUATE	Ratingpoints					Remark
		SA	**A**	**N**	**D**	**SD**	
Relative Advantage	Mobile banking is faster than visiting a bank or using phone banking	22 73.33 %	8 26.67 %	-	-	-	Strongly Agree
	Mobile banking is more accessible than other banking (e.g. visiting a bankorusingphone banking)	9 30%	16 53.33 %	5 16.67 %	-	-	Agree
Perceived Usefulness	I think that using mobile banking would enable me to complete banking activitiesmorequicklyand easily	6 20%	24 80%	-	-	-	Agree
	I find mobile banking useful for my banking needs	12 40%	18 60%	-	-	-	Agree
	Thereisnotimelimitto accessmybankaccount and information	16 53.33 %	14 46.67 %				Strongly Agree
Perceived Ease of	Ithinkthatlearningto use mobile banking would be easy	4 13.33 %	20 66.67 %	-	6 20%	-	Agree

	Ithinkthatitiseasytouse mobile banking to accomplishmybanking tasks	7 23.33 %	17 56.67 %	3 10%	3 10%	-	Agree
	Itwouldtakemelotsof timetolearnhowtouse mobile banking services	3 10%	6 20%	7 23.33 %	4 13.33 %	10 33.33 %	Strongly Disagree
Perceived Risk	Mobile banking services may not perform well and any process payments incorrectlybecauseof networkproblems	-	6 20%	6 20%	14 46.67 %	4 13.33 %	Disagree
	Whenandiftransactionerror soccur,Iwillget compensationfrombank	2 6.67 %	5 16.67 %	13 43.33 %	10 33.33 %	-	Neutral
	I'm worried that about using mobile banking because other people may beabletoaccessmy account	5 16.67 %	16 53.33 %	6 20%	-	3 10%	Agree
	I'm sure that if I decide to use mobile banking and something went wrong with the transactions, my friends, family and colleagueswouldthink lessofme	-	13 43.33 %	9 30%	8 26.67 %	-	Agree
	Itwouldtakemelotsoftimetol earnhowtouse mobilebankingservices	-	9 30%	8 26.67 %	11 36.67 %	2 6.67%	Disagree
Pe	Ibelievemobilenetworkpro vidersandbanksare trustworthy	4 13.33 %	23 76.67 %	-	3 10%	-	Agree

	Itrusttheuseofmobilebanking	-	26 86.67 %	1 3.33%	3 10%	-	Agree
Compatibility	Using mobile banking fits well with the way I like to controlandmanagemy bankingtransactions	9 30%	16 53.33 %	3 10%	2 6.67%	-	Agree
	I use the current M-banking service (e.g. phone banking) now becausethesearealreadya partofmydailylife	5 16.67 %	17 56.67 %	-	3 10%	5 16.67 %	Agree
Awareness	Iamawarethatmybank offers mobile banking services	11 36.67 %	17 56.67 %	-	2 6.67%	-	Agree
	Iamawareofallthevariousavailableservices onmobilebanking	14 46.67 %	8 26.67 %	-	6 20%	2 6.67%	Strongly Agree

Source:Primarydata2025

Thetable1.7showsthat thereare7factorsforusageofM-bankingbycustomers.Each factorconsistsmanysub-factors.

Relative advantage has two sub-factors. Mobile banking is faster than visiting a bank or using phone banking was responded as 22(73.33%) strongly agree. Mobile banking is more accessible than otherbanking service was responded as 16(53.33%) agree. The finding shows us that, customers perceive that mobilebankinghasarelativeadvantageoverbranchbankinginaccessing accounts from any location and at any time, and provides greater control and flexibilityin managing their accounts, they may adopt it and use it.

Perceived usefulness, it has three sub-factors. I think that using mobile banking would enable me to complete banking activities more quickly and easily was responded as 24(80%) agree. I find mobilebankingusefulformybankingneeds was responded as 18(60%) agree. And Thereis no time limit to access my bank account and information was responded as 16(53.33%) strongly agree. This shows us that, most customers choose to adopt mobile services because they see the benefits they could obtain and also the convenience and any time anywhere accessibility.

Perceived ease of use, has three sub-factors. I think that learning to use mobile banking would be easywasrespondedas20(66.67%)agree.Ithinkthatitiseasytousemobilebankingtoaccomplish my banking tasks was responded as 17(56.67%) agree. It would take me lots of time to learn how to use mobile banking services was responded as 10(33.33%) stronglydisagree. The finding indicates that respondents' familiarity with mobile phones that may increase their expectancies of service usefulness.

Perceivedrisk,hassixsub-factors.Mobilebankingservicesmaynotperformwellandanyprocess payments incorrectly because of network problems was responded as 14(46.67%) disagree. When and if transaction errors occur, I will get compensation from bank was responded as 13(43.33%) neutral. I'm worried that about using mobile banking because other people may be able to access my account was responded as 16(53.33%) agree. I'm sure that if I decide to use mobile banking and something went wrong with the transactions, my friends, family and colleagues would think less ofme was responded as 13(43.33%) agree. AndItwouldtakemelotsoftimetolearnhowtousemobilebankingserviceswasrespondedas11(36.67%) disagree. Customers are not confident in mobile banking services. Customers are safety seekers, and they want to keep away from risks. This may explain why many customers are hesitant to use mobile banking services. Thus, this may explain why many customers are hesitant to use mobile banking services.

Perceived trust, has two sub-factors. I believe mobile network providers and banks are trustworthy was responded as 23(76.67%) agree. I trust the use of mobile banking was responded as 26(86.67%) agree.

Compatibility,hastwofactors.Usingmobilebankingfitswellwiththewayliketocontrolandmanagemy banking transactions16(53.33%) agree. I use the current M-banking service (e.g. phone banking) now because these are already a part of my daily life was responded as 17(56.67%) agree. This finding could imply that when customers perceive mobile banking as consistent with

their existing beliefs, values, lifestyle and past experience, they are more likely to use these services. Awareness, has two sub-factors. I am aware that my bank offers mobile banking services was responded as 17(56.67%)agree.Iamawareofallthevariousavailableservicesonmobilebankingwasrespondedas 14(46.67%) stronglyagree. This result canbeexplainedbythe fact that majority ofbankcustomersfeelthattheyhave the relevant information needed forusageofmobile banking.

4.5 FactorsforadoptionofM-banking

Table1.8 FactorsforadoptionofM-banking

No.	Statementtoevaluate	Ratingpoints					Remark
		A	**SA**	**N**	**DA**	**SD**	
1	**RelativeAdvantage:**isthe extent to which the innovationisperceivedas betterthanthetechnologyit replaces,includingtechnical performance,cost,riskor other attributes	8 26.37%	13 43.33%	2 6.67%	7 23.33%	-	Strongly Agree
2	**PerceivedUsefulness:**this wasdefinedasadegreeto whichapersonbelievethat usingaparticularsystemwill enhance his or her job Performance	21 70%	6 20%	3 10%	-	-	Agree
3	**Perceived Ease of Use:** definedasadegreetowhich apersonbelievesthatusinga particularsystemwouldbe freefromeffort	2 6.67%	1 3.33%	4 13.33%	23 76.67%	-	Disagree
4	**Perceived Risk:** the perceived sense of risk	-	6 20%	4 13.33%	17 56.67%	3 10%	Disagree

	concerning disclosure of personal and financial information						
5	**PerceivedTrust:**thelevelto whichapersonperceivesthat privacyandsecurityconcerns areaddressed	-	5 16.67%	4 13.33%	14 46.67%	7 23.3%	Disagree
6	**Compatibility:**thedegreeto which an innovation is viewedasbeingconsistent withexistingvaluesofusers	8 26.37%	14 46.67%	4 13.33%	2 6.67%	2 6.67%	Strongly Agree
7	**Awareness:**theknowledge consumer have about a certainproduct/service	8 26.37%	19 63.33%	-	3 10%	-	Strongly Agree

Source:Primarydata2025

The above table shows that majority13(43.33%) of the respondents responded strongly agree to relative advantage. This suggests that if the bank customers perceive that mobile banking has a relative advantage over branch banking in accessing accounts from any location and at any time, and provides greater control and flexibilityinmanagingtheiraccounts,theymayadopt it and use it. 21(70%)ofthe respondents agree to perceived usefulness this indicates that customers choose to adopt mobile services because they see the benefits they could obtain and also the convenience and any time anywhere accessibility. And 23(76.67%) of the respondents disagree to perceived easeofuse.Thisindicatesthisfindingcouldbeduetorespondents' familiarity with mobile phones that may increase their expectancies of service usefulness rather than influencing their attitudes toward the easiness of the service. 17(56.67%) of the respondents disagree to perceived risk. This imply that bank customers are not confident in mobile banking services. Customers are safety seekers, and they want to keep away from risks. This is because electronic banking services are in inherentlyriskyenvironmentduetotheabsenceofpersonalcontact,physicalproductevaluation,warranties, or contracts and the customers usually have difficulties in asking for compensation when transaction error occurs. Thus, this may explain why many customers are hesitant to use mobilebankingservices. 14(46.67%) ofrespondentsdisagreetothetermperceivedtrust.The

possiblereasonfortheadverseeffectoftrustonmobilebankingusagecouldbeattributedtothefactthat, customerslackoftrustonmobilenetworkserviceprovidersandmobilebanking technology.
14(46.67%) of the respondents strongly agree to compatibility. This imply that when customers perceive mobile banking as consistent with their existing beliefs, values, lifestyle and past experience,theyaremorelikelytousethese services. 19(63.33%)oftherespondentsstrongly agree to awareness. This implies that majorityofbank customersfeelthattheyhavetherelevantinformationneededforusageofmobilebanking.

CHAPTERFIVE

CONCLUSIONANDRECOMMENDATION

Introduction

This chapter will present summary of the findings and conclusion in section 5.1 and 5.2, respectively. Afterwards, the possible important recommendation and suggestion for further research methods will be presented in section 5.3 and 5.4 respectively.

5.1 Summary of findings

The objective of the studywas to assess the challenges and prospects of mobile bankingin Joka branch, commercial bank of Ethiopia. Accordingly, this part of the research summarizes the major findings of the study from the challenge and prospect perspectives.

FactorsfortheAdoptionofMobile-banking

Despite the numerous benefits that Mobile-banking technology brings to the nation, banks and individuals,it also has its own challenges. The challenges as discussed in the study can be categorized into three main groups, i.e. Organizational, environmental and technological. High cost of implementation of Mobile-banking such as cost of ICT equipment and network, software and re-organization, lack of customer awareness with Mobile- banking service provided, and lack ofskills andtrainedstaffinimplementationand running of Mobile-banking system and resistance to changes in technology among by Board, top Management and staff are described in the study as organizational challenges for adoption and growth of Mobile-banking in different CBE branches of Joka. Limitation in network infrastructure and internet related support services, lack of ICT infrastructure, lack of sufficient government support and legal and regulatory differences with cross-country are considered the basic external challenges for adoption and development of Mobile-banking technology in CBE Joka branches. Besides, lack of law mandating the banks to adopt M-banking technology, lack of adequate coordination, interaction and cooperation between banks and other decision making centers in Mobile-banking context, absence of financial networks thatlinks different banks, frequent power disruption, tight foreign currency regulation and lack of uniform platform by banks are another environmental challenges for adoption and growth of Mobile-banking technology in CBE branches of Joka city.

In connection with technology factors, lack of customer trust with Mobile-banking services provides bythe banks, customer fear of risk to use Mobile-banking technology and security risks are considered as technologicalfactorsnegativelyaffecttheadoptionand growthofMobile-bankingtechnologyinCBE some branhes of Joka. In this study, majority of challenges for adoption and development of Mobile-banking technology in CBE Joka branches are derived from the external environments and limitation innetwork infrastructure and internet related support services is one of basic challenge in adoption and development of Mobile-banking technology in CBE Joka branches.

The study revealed lists of benefits that the CBE Joka branch realized from adoption and extension of Mobile-banking technology. The benefits were classified as operational and service benefits. Operational benefits identified in this studyas agreed by the participant include increase the bank productivity, reduces paper work, reduce transaction cost, generate foreign currency, increase reliability and reducing errors. The study has also described lists of services benefits in the adoption and extension of Mobile-banking technologyin CBE Joka branches as agreed bythe participants, such as facilitates development of new products, facilitates marketingand market access, improve customer service, reduce longqueues in banking halls,increaseaccessibilityofthebankservices,creategoodrelationamongbanksandclientsandencourages price transparency. Furthermore, the study revealed lists of factors that initiate CBE Joka branches for adoption and development of Mobile-banking technology as agreed by the participants such as desire to improve bank performance, improve customer services, improve the relationship with customers, improve organizational performance, cover wide geographical area, build organizational reputation and reduce transaction cost. Besides, competitions among banks and rapid change of customer needs and preferences and legal frame works that enforce banking industries to adopt technological innovation have a strong influence on M-banking technology adoption and development in CBE Joka Branches.

Finally, high customers demand, improvement in the banking habit of the society, late adopter of Mobile-banking in technology in Ethiopia, commitment of the government to facilitate the expansion of ICT infrastructure and commitment of the government to strengthen the banking industry are among the major existing opportunities for the adoption and growth of M-banking technology in the country.

FactorsforUsageofMobileBanking

Perceived usefulness was found to have a significant and positive influence on mobile bankingadoption. Thisresultsuggeststhatformobilebankingtechnologytobeacceptedbyusers,theyshouldperceiveitasa useful and quicker way of doing banking transactions compared with the traditional banking system. Therefore;itcanbeconcludedthat people willadoptmobilebankingserviceswhenthevalueandbenefitof mobile banking is evident.

Compatibility is also found to have a significant positive association with mobile banking usage. The implication of this result is that if customers perceive mobile banking as consistent with their existing beliefs, values, lifestyle and past experience, they are more likely to use these services. Therefore, it can be concluded that when mobile banking is found to be compatible by matching with the existing values, past experiences, and needs ofpotential users then mobile banking usage will increase.

Relative advantage was also found to have a significant and positive effect on customer's usage of mobile banking this suggests that if bank customers perceive that mobile banking has a relative advantage over branch banking in accessing accounts from any location and at any time, and provides greater control and flexibility in managing their accounts, they will use it. Practically, users are more likely to adopt mobile banking if they believe using mobile banking will gain more relative advantages as compared to other traditional banking channels such as ATM or non-mobile internet banking. Therefore, the more relative advantage perceived by users, he higher possibility customer will be attracted to use mobile banking services.

Perceived risk was found to have a significant and negative influence on mobile banking usage. Thisimplies that if individuals perceived higher risks and uncertaintysuch as issues of loss and theft of financial information due to system hacking, this would discourage adoption of mobile bankingbytheconsumersastheyareriskaverse.Thiscanbeconcludedthatriskinvolvedinusing mobile banking make people reluctant to use such tool for banking. Therefore, it is important for banks and service providers to project higher securitywhen providing mobile banking services in order to yield higher consumer's acceptance.

Ontheotherhand, perceived trust was foundtohaveasignificant and positive influence onmobile banking usage. This could implythatwhencustomers do nottrust mobile bankingservice and the service provider it will in turn lead to a less willingness to adopt mobile banking. Therefore, trust

will have a positive impact on mobile banking usage when the mobile banking service providers (both the bank and mobile network provider) are perceived to be trustworthy.

Perceived ease of use has emerged in this study as having an insignificant negative influence on mobile banking usage it contradicts the idea that a system perceived to be easier to use will facilitate more system use and is more likelytobeacceptedbyusers. This could implythat since customersare more familiarwith mobile phones theyare now more concerned with usefulness of the service not whether it is easy or not.
Awareness was found to have an insignificant and positive impact on mobile banking usage. Having more or less awareness about mobile banking has almost no significant impact usage of mobile banking adoption for customers in CBE Joka branches.

5.2 Conclusion

The findings of the study revealed that adoption and development of Mobile-banking technology in CBE Joka branches stretches wide across the two extremes of the challenges and prospects where the concerted effort by stakeholders to overcome the challenges will bring about immense opportunities to the dominant players in the field with the ultimate result. Accordingly, a number of conclusions can be drawn fromtheseresults.Potentialoperationalefficiencybenefitsof Mobile-bankingadoptionanddevelopmentas perceived by the CBE Joka branch are: increase productivity, reduces paper work, reduce transaction cost, generate foreign currency, increase reliability and reducing errors. Moreover, the bank realized service benefits like, facilitate development of new products, facilitate marketing and market access, improve customer service, reduce long queues in banking halls, increase accessibility of the bank services, create good relation among banks and clients and encourages price transparency. Perceiving both operational and services benefits have positive tendency to adopt and develop Mobile banking technologyamong the bank.

DespitetheabovebenefitsofadoptinganddevelopingMobile-bankingtechnologyinCBEJokabranch,it is associated with some challenges. The study shows that high cost of ICT equipment's and network, software and re-organization, lack of customer awareness and resistance to changes in technology are the major challenges of CBE Joka branches facing for adoption and development Mobile-banking technology. The prevailing technical and managerial skills available in the CBE Joka branch towards adopting and extendingofMobile-banking technologyare found tobelimitedtoinfluencethetechnological development rate. Limitation in network infrastructure and internet related support services, low levels of computer literacy, low level of ICT infrastructure and lack of sufficient government support are considered the basic external challenges facingCBEJokabranchtoadoptanddevelopMobile-bankingtechnology. Besides,Securityrisks and lack of trust on thetechnologicalinnovationsareanother challenges faced by the

CBEJokabranchinadoptionanddevelopmentofMobile-banking.

Therefore, from the above discussion it is possible to conclude that M-banking technology is not well adopted and developed in CBE Joka branches considering adoption and development of M-banking technologywith the rest ofthe world. M-banking and its related technologies are still in its infancy stage in CBE Joka branch and in Ethiopia banking industry as well.

The driving forces that initiate the CBE Joka branch for adoption and development of Mobile- banking technology are desire to improve performance, desire to improve the relationship with customers, rapidly changing customers' needs and preferences, desire to improve organizational performance, desire to cover wide geographical area, desire to build organizational reputation and desire to reduce transaction cost. In addition,increasingcompetitionamongbankstoincreaseorretaintheircustomerbaseisdrivingthebankto adopt and develop M-banking technologies.

Last, but not the least, attempt was made to see if there are any associated opportunities for adoption and development of M-banking technology in CBE Jokabranches. Accordingly, high demand, improvement in the banking habit of the society, late adoption of M-banking, commitment of the government to facilitate the expansion of ICT infrastructure and commitment of the government to strengthenthebankingindustryaregoodopportunitiesfortheadoptionanddevelopmentofMobile-banking service in CBE in general and Joka Minch branch specifically.

5.3 Recommendations

Based on the findings the researcher came up with the following possible recommendations to policy makers, the banks, and the government in order to overcome the challenges, exploit the untapped opportunities in adoption of M-banking technology and to ensure a successful practice of M-banking technology in CBE Joka branches.

- TheBankshouldcreatedeepawarenesstocommunityconcerningtheMobile-bankingproducts they offer and the benefits associated with using Mobile-banking services through advertising their productsandservicesontheinternet, mass mediaaswellasthroughorganizingpublic exhibition, universities and talk shows. Besides, the bank should attract the community to use the technology by diverse incentive campaigns. This way, customers' interest would be aroused;
- Banks should work to improve customers' confidence byproviding adequate securityof transaction back up ofcriticaldata files and alternative means ofprocessing information.
- In collaboration with banks, Government should educate and inform the community on the workabilityand effectiveness ofM-bankingtechnology. This will increase thecustomerconfidencelevels;

- The banks should facilitate proper and continuous training courses for their employees to have adequate understanding of the M-banking technology so as to achieve the desired objectives;
- High cost of ICT equipment and network, software and re-organization has been a challenge the bank facing for the adoptionand development ofM-banking. The researcher therefore, recommend that the bank acquire the ICT equipment's to use; Government should support banking sector by facilitating development of sufficient ICT infrastructure for the successful implementation and development of M-banking services; and
- ThecentralbankshouldissuesuitablelegalframeworksforadoptionoftheM-banking technology.
- Tochangethe customer's perception with regards to risk and trust issues thebank could use awell-structuredadvertisementandstaffinteractioninordertomakethemrealizethattheserviceissafeto use. This will help the customers to know the advantages and disadvantages associated with the service and as a result of this, they could weigh the costs and the benefits of using the self-service which in turn will reduce unnecessaryworries and anxiety.
- With regards to perceived risk it is important for bank to project higher security when providing mobile banking services in order to yield higher customers' acceptance. In fact, the bank should continuously innovate and offer better security and reliable applications to enhance users' confidence towards mobile banking services.
- Whendesigning their mobile banking products might need to emphasize that their service fits with customers' lifestyle, culture and language.

- Banks should emphasize on the benefits that customers will obtain in the aspects of cost savings, convenience, flexibility, and mobility when using mobile banking services. Eventually, banksmight try to educate users the benefits of using mobile banking services through promotional mix such as personal selling, advertisements, sales promotions, and public relations.

5.4 SuggestionsforFurtherResearch

This study described the challenges and prospects of mobile banking in few branches in Joka, commercial bank of Ethiopia. The scope of the study is limited to Joka Commercial Bank of Ethiopia. Because of the limited scope, the finding of this study may not generalize to all banks and CBE branches. Further study is need in a wider scope and wider objective.

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APPENDEX
QUESTIONNAIRE

INFOLINKUNIVERSITYCOLLEGE
DEPARTMENT OF ACCOUNTING AND FINANCE
QUESTIONNAIREFORTHESTAFFOFCOMMERCIALBANKOFETHIOPIA

DearRespondent,

The aim of this questionnaire is to assess the challenges and prospects of mobile banking in Joka, selected banks of commercial bank of Ethiopia. The results of the study are expected to supply to the understanding on the influencing factors of mobile banking usage in commercial banks found in Hawasa, Ethiopia. We would like to assure you that the information you provide will be used only for the purpose of achieving academic award.

Thankyouforyourparticipation

SECTIONA

Backgroundinformation(*Pleaseuseatickinthespace provided*)

1. Gender/Sex

Female ☐ Male ☐

2. Age(inyears)

20-25 ☐ 26-30 ☐

31-35 ☐ 36-40 ☐

Above40 ☐

3. LevelofEducationyouhaveattainedC

ertificate ☐ Diploma ☐

Degree ☐ Masters ☐

4. Forhowlonghaveyoubeenworkinginthe CommercialBankofEthiopia? Less than 1 year ☐ 1-2 years ☐

3-4 year ☐ Morethan4years ☐

5. PositionHeld(department)……

SECTIONB

QuestionsregardingM-bankingchallengesandopportunities

Below are lists of questioners relating to Adoption of M-banking. Please indicate whether you agree or disagree with each statement by ticking () on the spaces that specify your choice from the options that range from “strongly agree” to “strongly disagree”.

KEY

SA=StronglyagreeA=AgreeN=NeutralD=DisagreeSD=Strongly Disagree

Factors	No.	1) Please indicate the extent you agree or disagreeofthePotentialchallengesthataffecttoadoption or development use of M-banking technologies.	SA 5	A 4	N 3	D 2	SD 1
Organizationalfactors	1.1	LackofcustomerawarenesswithM-bankingproducts;					
	1.2	Lack of technical and managerial skills in implementationand development of M-banking technology;					
	1.3	High costof implementation of M-banking(such as cost of ICT equipment and network, software and re-organization;					
	1.4	Resistanceto changes intechnologyamongbyBoard, top Management and stuff;					
Environmental Factors	1.5	Limitationinnetworkinfrastructureandinternet related support services;					
	1.6	Customerlowlevelofcomputer/mobileliteracy					
	1.7	LimitationinICTinfrastructure;					
	1.8	Frequentpowerdisruption;					
	1.9	Relativehighcostof internet					
	1.10	Absenceofdifferentnetworkthatlinkdifferentbanks;					
Technological factor	1.11	Lackofconfidencewiththesecurityaspects;					
	1.12	CustomersfearofrisktouseM-bankingtechnology;					
	1.13	UsersdonottrusttheM-bankingtechnologyprovided by the bank					

Pleasekindlystateanyotherchallengesthatthebankfacesintheadoptionandusageof M- banking.

_____

_____

_____

Ifyouagreeonmostoftheabovechallenges,whatmeasuresshouldbetakentoreducethesechallenges?

_____

_____

_____

Benefits	**No.**	**2)ThefollowingaresomeofthebenefitstheBank realized from adoption of M-banking system, please indicate your choice.**	**SA 5**	**A 4**	**N 3**		**SD 1**
Operational Benefit	**2.1**	Reducepaperwork;					
	2.2	Lowtransactioncost;					
	2.3	Enhanceproductivityinthebankingindustry;					
	2.4	Increasereliabilityandreduceerrors;					
ServiceBenefits	**2.5**	Facilitatesdevelopmentofnewproductsandnew businessinthebanking industry;					
	2.6	M-bankingisconvenient,intermsof7daysand24 hours"servicesi.e.accessibility, i.e.Notimelimit to access bank account and information					
	2.7	Enhanceaccessibilityofthebank"sservices(interms ofplace);					
	2.8	Improvecustomerservice;					
	2.9	Improvetransactionspeeds;					
	2.10	Createsbetterrelationshipamongbanksandclients;					
	2.11	Facilitatesmarketingandmarketaccess;					

Pleasekindlystateanyotherbenefitthebanksgainedfromtheadoption ofM-banking system in the delivery of services?

_____

_____

_____

_____

No.	3)Doyouthinkthatthefollowingareamongthedrivingforcesforthe adoptionofM-bankingservicesinCommercial Bank of Ethiopia?	SA 5	A 4	N 3	D 2	SD 1
3.1	Desiretoimproveorganizationalperformanceandproductivity;					
3.2	Desiretoimprovetherelationshipwithcustomers;					
3.3	Desiretocoverwidegeographicalarea;					
3.4	Desiretobuildorganizationalreputation;					
3.5	Desiretoreducetransactioncost;					
3.6	Desiretoimprovecustomerservices;;					
3.7	Existenceofhighcompetitioninthebankingindustry;					
3.8	Desiretosatisfyrapidchangeofcustomerneedsandpreferences;					
3.9	Legalframeworksthatenforcebankingindustriestoadopt technologicalinnovation;					

PleasekindlystateanyotherDrivingforcesforadoptionofM-bankingservicesby Commercial bank of Ethiopia.

_____

_____

_____

_____

_____

No	4)Whataretheexistingopportunitiesinthecountrythat initiates the adoption of M-banking by Commercial bank of Ethiopia	SA 5	A 4	N 3	D 2	SD 1
4.1	Lateadopteropportunities;					
4.2	Commitmentofthegovernment tostrengthenthebanking industry;					
4.3	Theexistenceofhighdemand;					
4.4	Improvementinthebankinghabitofthesociety					
4.5	CommitmentofthegovernmenttofacilitatetheexpansionofICT infrastructure					

Pleasekindlystateanyotheropportunitiesinthecountrythatinitiatestheadoptionof M- banking?

_____

_____

_____

WhatwaysdoyouthinkthatM-bankingcanbeenhancedincommercialbankofEthiopia?

_____

_____

_____

Anysuggestionsregardingtheadoption of M-bankingservicebycommercialbankof Ethiopia?

_____

_____

_____

INFOLINK UNIVERSITY COLLEGE
DEPARTMENTOFACCOUNTINGANDFINANCE
QUESTIONNAIREFORTHECUSTOMERSOFCOMMERCIALBANKOFETHIOPIA

DearRespondent,

The aim of this questionnaire is to assess the challenges and prospects of mobile banking in Joka, selected banks of commercial bank of Ethiopia. The results of the study are expected to supply to the understanding on the influencing factors of mobile banking usage in commercial banks found in Joka, Ethiopia. We would like to assure you that the information you provide will be used only for the purpose of achieving academic award.
Thankyouforyourparticipation

SECTIONA
Backgroundinformation(*Pleaseuseatickinthespace provided*)

1. Gender/Sex
Female ☐ Male ☐

2. Age(inyears)
20-25 ☐ 26-30 ☐
31-35 ☐ 36-40 ☐
Above40 ☐

3. Occupationstatus

Student ☐ Employed ☐ Unemployed ☐ Other ☐

4. Doyouhaveamobilephone?
Yes ☐ No ☐

SpecificQuestions:

5. Haveyouheardofmobilebankingbefore?
Yes ☐ No ☐

6. Doyouusethemobilebankingservicesprovidedbyyourbank? Yes ☐ No ☐

Ifyouranswerisno,pleasestateyoureason.

_____

_____

SECTIONB

FactorsforUsageofMobile Banking

Pleaseindicatetheextentofyourlevelofagreementanddisagreementwiththefollowing statement.
Please tick () your appropriate answer based on the following rating.

KEY

SA=Stronglyagree A=Agree N=Neutral D=DisagreeSD=StronglyDisagree

FACTORS	No.	STATEMENTTOEVALUATE	SA 5	A 4	N 3	D 2	SD 1
Relative Advantage	**1.**	Mobilebankingisfasterthanvisitingabankor usingphonebanking					
	2.	Mobilebankingismoreaccessiblethanotherbanking(e. g.visitingabankorusingphone banking)					
Perceived Usefulness	**3.**	Ithinkthatusingmobilebankingwouldenableme to complete banking activities more quickly and easily					
	4.	Ifindmobilebankingusefulformybanking needs					
	5.	There is no time limit to access my bank account and information					
Perceived Easeofuse	**6.**	Ithinkthatlearningtousemobilebankingwould beeasy					
	7.	Ithinkthatitiseasytousemobilebankingto accomplishmybankingtasks					
	8.	Itwouldtakemelotsoftimetolearnhowtouse mobilebankingservices					
Perceived Risk	**9.**	Mobilebankingservicesmaynotperformwellandanypr ocesspaymentsincorrectlybecauseof network problems					
	10.	Whenandiftransactionerrorsoccur,Iwillget compensationfrombank					
	11.	I'mworriedthataboutusingmobilebankingbecauseoth erpeoplemaybeabletoaccessmy Account					
	12.	I'm sure that if I decide to use mobile banking and somethingwentwrongwiththetransactions,my friends, family and colleagues would think less of Me					
	13.	Itwouldtakemelotsoftimetolearnhowtouse					

		mobilebankingservices					
Perceived Trust	**14.**	Ibelievemobilenetworkprovidersandbanksare trustworthy					
	15.	Itrusttheuseofmobilebanking					
Compatibility	**16.**	Usingmobilebankingfitswellwiththewayllike tocontrolandmanagemybanking transactions					
	17.	Iusethecurrentbankingservice(e.g.phone banking and internet banking) now because these arealreadyapartofmydaily life					
Awareness	**18.**	Iamawarethatmybankoffersmobilebanking services					
	19.	Iamawareofallthevariousavailableserviceson mobilebanking					

SECTIONC

RankingofFactorsMobileBanking Usage

Thisfactorsmostinfluencetheusageofmobilebanking?Pleasetick() yourappropriateanswerbasedonthefollowingratingaccordingtoyourconcernsandneedswhenusingmobilebanking.

KEYSA=Stronglyagree A=Agree N=Neutral D=DisagreeSD=StronglyDisagree

No.	**ADOPTIONFACTORS**	**SA 5**	**A 4**	**N 3**	**D 2**	**SD 1**
20.	**Relative Advantage:**is the extenttowhichthe innovation is perceivedasbetterthanthetechnologyitreplaces,including technicalperformance,cost,riskorotherattributes					
21.	**Perceived Usefulness:** this was defined as a degree to which a personbelievethatusingaparticularsystemwillenhancehisor herjobperformance					
22.	**Perceived Ease of Use:** defined as a degree to which a person believesthatusingaparticularsystemwouldbefreefromeffort					
23.	**PerceivedRisk:**theperceivedsenseofriskconcerning disclosureofpersonalandfinancialinformation					
24.	**PerceivedTrust:**theleveltowhichapersonperceivesthat privacy and security concerns are addressed					
25.	**Compatibility:** the degreeto which an innovation is viewed as being consistent with existing values of users					
26.	**Awareness:**theknowledgeconsumerhaveaboutacertain product/service					