

ST. MARY'S UNIVERSITY SCHOOL OF' GRADUATE STUDIES



**ASSESSMENT OF THE OPPORTUNITIES AND CHALLENGES
OF MOBILE BANKING:
CASE STUDY OF DASHEN BANK OF ETHIOPIA**

BY

**HALIMA YIMAM
ID SGS\0468\2007A**

JUNE 2016

ADDIS ABABA

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**A THESIS SUBMITTED TO ST.MARY'S UNIVERSITY, SCHOOL OF
GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE
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ADDIS ABABA

ST.MARY’S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
FACULTY OF BUSINESS

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APPROVED BY BOARD OF EXAMINERS

Dean, Graduate Studies Signature & Date

Advisor Signature & Date

External Examiner Signature & Date

Internal Examiner Signature & Date

DECLARATION

The undersigned, declare that this thesis is my original work, prepared under the guidance of Sewale abate (Phd), all sources of materials used for the thesis have been duly acknowledged, I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

.....

Student Name & ID Signature Date

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

Advisor

Signature & Date

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LIST OF ABBREVIATIONS

ATM	Automated teller machine
CBE	commercial bank of Ethiopia
DB	Dashen bank
E-banking	Electronic banking
ETC	Ethiopia Telecommunication Corporation
ICT	Information communication technology
M-banking	mobile banking
NBE	National bank of Ethiopia
POS	Point of sale

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ABSTRACT

The purpose of this study is to assess the challenges and opportunities of mobile banking in Dashen bank of Ethiopia with specific objective of assessing the current practices on both customers and the bank side, benefits and challenges realized by the bank and customers, the driving forces and opportunities in the bank for the adoption of mobile-banking . An exploratory research design was employed to conduct this study. Both primary and secondary data were collected for the purpose of this study. The collected data was analyzed by using SPSS, descriptive analysis such as table graphs and percentages. The findings of this study revealed that Dashen banks mobile banking offers services like Fund transfer, balance inquiry, bill payment, mini statement, checking account history, merchant payment, account information, alerts on account activity, check book request, status and payment, deposit and withdrawal by using short messaging and client based channels. From this services the majorities of customers use services like deposit, withdrawal, money transfer and checking account information. Attracting high value customers, increased revenue, enhanced image, larger customer coverage, cost reduction, improvement of organizational efficiency, deposit mobilization are the main benefits the bank realized and time saving, 24 hr access and physical security are the main benefits on the customers side. The main challenges that Dashen bank face when using the technology according to the finding are Network availability, security challenge, operational challenge, Chances of risk, customer's literacy and network problem, language problem, menu navigation, understanding and hardness of making payment are challenges on the customers side. The driving forces which initiate Dashen bank to adopt the technology are Deposit mobilization, revenue generation, to facilitate transaction, Existence of high competition in the banking industry, Existence of high demand, Desire to improve organizational performance, Desire to improve the relationship with customers, Desire to reduce transaction cost, Desire to cover wide geographical area, Desire to build organizational reputation, Desire to satisfy customers. The existing opportunities for the adoption of mobile banking are high penetration of mobile phone, widening network coverage, Commitment of the government to strengthen the banking industry, the level of technology, country development, Commitment of the government to facilitate the expansion of ICT infrastructure, infrastructural development of the country, the existence of high demand and Increment of educated potential customer.

Chapter one

Introduction

As an introduction of the study, this chapter presents: background of the study, statement of the problem, research questions, research objective, scope of the study, limitation of the study, significance of the study respectively.

1.1 Background of the Study

Information technologies, including Internet-based information systems, are playing vital and expanding roles in business. Information technology can help all kinds of businesses improve the efficiency and effectiveness of their business processes, managerial decision making, and workgroup collaboration, which strengthens their competitive positions in rapidly changing marketplaces. This benefit occurs irrespective of whether the information technology is used to support product development teams, customer support processes, e-commerce transactions, or any other business activity O'brien and Marakas tenth edition.

Information technologies and systems are, quite simply, an essential ingredient for business success in today's dynamic global environment but the success of an information system should not be measured only by its efficiency in terms of minimizing costs, time, and the use of information resources. Success should also be measured by the effectiveness of the information technology in supporting an organization's business strategies, enabling its business processes, enhancing its organizational structures and culture, and increasing the customer and business value of the enterprise.

It is important to realize, however, that information technology and information systems can be mismanaged and misapplied in such a way that IS performance problems create both technological and business failures. All technologies are not suitable due to affordability, accessibility, security and privacy O'brien and Marakas tenth edition.

The convergence of telecommunication and banking services has created opportunities for the emergence of mobile commerce, in particular mobile banking. Mobile banking services provide time independence, convenience and promptness to customers, along with cost savings. Mobile banking presents an opportunity for banks to expand market penetration through mobile services lee et.al,(2007). Mobile banking is used in many parts of the world with little or no infrastructure, especially remote and rural areas. This aspect of mobile commerce is also popular in countries where most of their population is unbanked. In most of these places, banks can only be found in big cities, and customers have to travel hundreds of miles to the nearest bank. For example, In Iran, Guatemala and Mexico consumers can access mobile banking with local mobile network. In 2009, Zain launched their own mobile money transfer business, known as ZAP, in Kenya and other African countries. Pakistan has also launched a mobile banking solution, in coordination with Taameer Bank, under the label Easy Paisa, which was begun in 2009. While in India, State Bank of India (SBI) provides bank accounts, deposit, withdrawal and remittance services, micro-insurance, and micro-finance facilities to its customers through mobile banking Thomas and Friedman(2010).

Mobile banking is said to be a system which allows customers of a given financial institution to conduct a number of financial transactions through the use of a mobile device (cell phone or personal digital assistant). Mobile banking could be said Quick, C. (2009).to be a facility that provides banking services like balance enquiry, funds transfer, bill payment, and transaction history through the use of mobile phone. It is averred that the earliest mobile banking services were offered over short messaging service (SMS) banking.

The remarkable progression of mobile sector all over the world has made an exclusive chance for delivering financial as well as social services through mobile network Kabir, (2013). Mobile Banking eliminates the time as well as space shortcomings from banking operations like, balance inquire and fund transfer from one account to another account without visiting bank branches Mishra and Sahoo, (2013). It enhances efficiency, offers access to financial and banking services, generates new opportunities for income generation and improves governance and gives poor people a voice.

Ethiopia is one of the last in Africa to permit mobile banking. mobile banking has proved to be profitable in the developing world where many people still do not use banks in 2011 year , the world bank reported the seventy five percent of the world's poor are unbanked that is about 2.5 billion people . Banking through mobile telephones lets people take part in financial services even if they are not near a bank office.

In Africa only Ethiopia and Zimbabwe were not provide mobile money services until 2012 but now that is changed for Ethiopia.

Belcash and m-birr are mobile banking technology providers. They have been setting up mobile banking and mobile money services in Ethiopia for the past three years or from 2009-2012.

Dutch company Belcash is working in partnership with banks to provide easy access to financing through bank accounts. Ireland-based m-birr is a mobile money service that works with micro finance groups where no registration at a bank is needed. In the past four years the number of mobile users grew from three to seventeen million and Ethiopians telecommunications provider, ethio telecom expects that number to grow to fourteen million in the next three years or 2012-2015. The government closely controls Ethiopia's telecommunication market that means there is only one provider so competition is not permitted.

The Ethiopian commercial banking system is composed of 3 state owned banks and 16 private banks.

Though it is true that traditional banking has grown steadily over the years, in terms of technological based financial service/product the Ethiopian banking sector didn't fully benefit from ICT in general and M-banking in particular Asfaw, (2015). Currently there are two commercial banks that got license to operate M-banking service during the data were collected. Hence, the study attempt to explore the major challenges facing M-banking and identify the existing opportunities for m-banking development in case of Dashen bank.

1.2 Statement of the problem

In many developing countries, 9 out of 10 people do not have a bank account or access to basic financial services. Poor people are often not considered viable customers by the formal financial sector as their transaction sizes are small, and many live in remote areas beyond the reach of banks branch networks. Informal banking services such as microfinance and village savings and loan associations remain limited in their reach Mwaura(2009).

In order for banks to view the poor as viable customers, new ways of serving them profitably need to be explored. Extending branch networks is often too expensive, but the development of appropriate technologies can provide one answer to this problem.

Offering banking products through mobile phones is one option that offers great potential for reaching poor people Mwaura ,(2009).

Many poor people already have access to mobile phones. A positive aspect of mobile phones is that mobile networks can reach remote areas at low cost. There are currently over 90 million Ethiopians dispersed across 1.2 million square kilometers of land, 80 percent of which are living in the rural areas. Financial institutions have not been able to reach a majority of those people Asfaw (2015).

Mobile banking is not practiced in Ethiopia as it should be. Dashen and commercial bank are the first to adopt mobile banking and some are recently open the service, other banks are on pilot testing. In Dashen bank there are Only 5,047 active number of mobile banking customers in all of the branches as per Dashen bank quarterly activity report. This shows the little development of the technology in the bank and in order to make the technology fully develop the current challenge and opportunity should be known and by doing this the bank can know what challenges faced by their customers in order to mitigate them and to improve their service. When the banks alleviate the problem the customers will be satisfied and the bank will have more customers, it also helps the higher authorities to clear the way for the technology to develop and generally the Ethiopian unbanked peoples can have access to banks.

The researcher was unable to get adequate local research work which is done in the field due to the immaturity of the study area excluding the thesis paper by asfaw (2015) an exploratory research which attempted to identify the major challenges and opportunities for mobile banking development in Ethiopia. Many researches which the researcher got that are done in Ethiopia mainly focused on opportunities and challenges for implementing mobile banking but does not investigate the practice after implementation and also does not consider the customers perception and most of the papers investigate by combining mobile and agent banking and this paper fill the above research gap and is different from other researches on investigating the mobile banking practice on both customers and the banks side. Many peoples does not have knowledge about it so it should be given high concern and many investigations has to be done in order to take the advantage it brings as much as possible and This study assess what the opportunities of mobile banking in Dashen bank looks like and what challenges are faced by the bank and its customers and by doing so it fills the knowledge gap about mobile banking and it recommend solutions for the problems.

With this understanding the researcher likes to pose and find answer to the following question:-

1. How looks like the current practices of mobile banking in Dashen bank?
2. What benefits does Dashen bank and its customers get by adopting mobile banking service?
3. What are the driving forces which make Dashen bank to adopt mobile banking service?
4. What are the major challenges of mobile banking service faced?
5. What are the existing opportunities for the development of mobile banking service?

1.3 Objective of the Study

1.3.1 General objective

To assess the opportunities and challenges of mobile banking service in case of Dashen bank of Ethiopia.

Specific objective

1. To assess the current practice of mobile banking in Dashen bank.
2. To find the benefits realized by the banks and customers in the adoption and practice of mobile banking.
3. To identify the driving forces towards the adoption of mobile banking service in the banks.
4. To examine the challenges of m-banking both from the bank and customer side.
5. To identify the existing opportunities for the adoption of mobile banking service.

1.4 Significance of the Study

The conduct of this research expects to contribute differently to the expectations of different groups of people who will be interested in its findings as follows:

- To the academicians and other researchers, the findings of this study will serve as a basis for further investigations in this area.
- To the bank, the study could help them to analyze and restructure their strategy to attract customers by giving insight about the challenges faced by their customers.
- To the higher authorities, help them to make things better for the technology development.
- For those interested, it helps to fill significant knowledge gaps about mobile banking in Dashen bank as it is a new phenomenon.

1.5 Scope of the Study

The study is confined to assess the opportunities and challenges of mobile-banking service of Dashen bank of Ethiopia mainly in Addis Ababa. The population defined for this study is limited to the selected three branches of Dashen bank that are found in Addis Ababa namely main, abakoran, and bole . Addis Ababa is selected because it has much diverse population than the other. Only data which is obtained from Dashen bank is used in this study. It also tries to address

Dashen bank customers from Addis Ababa who adopt mobile banking service. The study is delimited to opportunities and challenges of m-banking in Dashen bank.

1.6 limitation of the study

It was argued that “no research is free from limitations” (Katega and Mdendeni, 2004) the main constraints to this research is Inadequate research materials and facilities since there are inadequate secondary information of the problem under study especially in Ethiopia as a result of its infancy in the country. because of the study was conducted during a specified period, it may represent a snapshot of that time. In summary, the assumptions of this study related to the truthful responses of the participants to the survey questions.

1.7 Organization of the Study

The study is presented in five chapters. The first chapter which is the introduction covers the background of the study, problem statement, objectives of the study, research questions, significance of the study, as well as the scope and limitations of the study. This is followed by chapter two which reviewed the theoretical and empirical literature on the subject matter. Chapter three looked at the methodology of the research which comprises the research design, the research population, sample and sampling technique. It also considered the sources of data and data collection instruments, methods of data collection and analysis. The fourth chapter concentrated on the major findings from the investigation and discusses them. Finally, the fifth chapter finalized the study by giving summarization of findings, conclusions and recommendations based on the research findings.

CHAPTER TWO

Literature review

This chapter contains both the theoretical and empirical review of the study. The theoretical framework includes: definition of mobile-banking, technology of mobile-banking, challenges of mobile banking, mobile-banking channels, and benefit of mobile-banking, mobile-banking risks and development of mobile banking in Ethiopia respectively. In addition, it also includes empirical review of the study from different researchers in different countries.

2.1 conceptual literature Review

2.1.1 Definition of Mobile banking

Mobile banking is defined as a channel whereby the customer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant (PDA). Barnes and Corbitt (2003). Mobile banking can also be considered as the convergence of mobile technology and financial services. Chung and Kwon (2009). M-banking is a subset of banking as it allows everyone easy access to their banking operations via mobile handsets. Yu and Fang (2009). The earliest mobile banking services were offered over SMS, a service known as SMS banking. With the improvement of mobile technologies and devices, mobile banking has been considered as a salient system because of such attributes of mobile technologies as ubiquity, convenience and interactivity.

In the academic model of Tiwari and Buse, (2007) mobile banking is defined as:-

“Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct some financial transactions remotely using a mobile device such as mobile phone or tablet, the scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information. “Delivering financial services to the unbanked via mobile banking technology holds significant progress with an estimated one billion people in emerging markets that have a mobile phone but no bank account.

According to this model mobile banking can be said to consist of three inter-related concepts:

- Mobile accounting
- Mobile brokerage
- Mobile financial information services

Most services in the categories designated accounting and brokerage are transaction-based. The non-transaction-based services of an informational nature are however essential for conducting transactions - for instance, balance inquiries might be needed before committing a money remittance. The accounting and brokerage services are therefore offered invariably in combination with information services. Information services, on the other hand, may be offered as an independent module.

2.1.2 Technologies Employed to Provide Mobile Banking Services

Mobile banking services could be used through more than one channel the most commonly known are:

1) SMS-Short Messaging Service

This is where the customers communicate with the bank through their mobile devices by sending an SMS (Short messaging service) to the bank. The short messaging service (SMS) works in two ways, and it can be either a pull mode or a push mode. In the push mode, the mobile customer send a text message to the bank which Contains a service command with a predefined request code to the bank's specific number. The bank also reply with SMS containing the specific information requested from the bank while the pull mode is when the banks

Sends a text message to the subscriber (customer) to inform the customer about certain transaction that have just Taken place over the account. The message could be in the form of an MMS (multimedia message service) or SMS (short message service) they both work similarly even though the use of SMS is more popular Tiwari, R. and Buse, S. (2007). Sms is used to make mobile banking available to users of older cell phones that do not have web browsers or applications.

Sms has a variety of advantages and disadvantages for financial applications and services as per (mobile banking overview 2009):

- **Advantages:**-Easy to use, common messaging tool among consumers, Works across all wireless operators, Affordable for consumers, requires no software installation, Allows banks and financial institutions to provide real time information to customers and employees, Stored messages can be accessed without a network connection
- **Disadvantage:** -Test-only and limited to 140-160 characters per message, Does not offer a secure environment.

2) Client-Based

This method requires the customers to use software installation, and this will serve as a user interface that can allow customers to use the mobile device while offline to access some basic transactions before going online. Typing details before connecting to the internet could reduce cost. This client based application is particularly useful because it allows customers to stay offline and while preparing transaction such as entry of account details and afterwards the transmission is made by sending out the data, this banking process conducted offline reduces online connection time and cost Tiwari, R. and Buse, S. (2007)

Mobile application uses a custom-designed software application installed on a smart phone or tablet that provides for a more user friendly interface than is possible with either sms or mobile browser based banking. As such this is the fastest growing delivery channel for mobile banking(mobile banking overview 2009).

- **Advantage:** -Offers organizations more control over the user experience, with a rich user interface capability, Ability to work even when there is no connection to the wireless network, secure access can be established with applications, most applications also provide the ability to provide remote wipe-out of information when device is lost or stolen.
- **Disadvantage:** -Thousands of different combinations for devices, operating systems and development environments may prevent support for all devices, Differing handset capabilities and performance causes inconsistent user experience when using or downloading an application , Possible increase in customer service and support issues.

3) Browser-Based

Browser-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
Tiwari, R. and Buse, S. (2007)

it is an extension of the online banking channel. Customers can navigate to a website on a smart phone or tablet via the embedded browser in much the same way that they can access a site from a personal computer (mobile banking overview 2009).

- **Advantages:** -User experience of browsing the internet from a mobile device is familiar and offers a rich UI experience, Allows end users to access corporate applications, secure connection can be established on most of the mobile browsers.
- **Disadvantage:** -Many non-standard variables including handsets, browsers and operating systems, Inconsistent user experience due to varying connection speeds and handset limitations, User needs to have a data plan, which may be a barrier to adoption among price-sensitive demographics, No “offline” (out of the coverage) capability

Apart from these there are more options like USSD-based - For this type, all you have to do is dial the bank's service code and you can ask for information on your bank account. You don't need a Smartphone or high end phone to use the USSD platform, the mobile wallets, offered by telecom service provider platforms, for instance Vodafone's m-pesa, Bharti Airtel's Airtel Money and Aircel's Mobile Money. Bear in mind that even an un-banked customer can use this service. A smart phone and an internet connection are not essential Chandran, (2014).

2.1.3 SERVICES PROVIDED BY M-BANKING SYSTEMS

There is no universal form of m-banking; rather, purposes and structures vary from country to country. Mobile banking can offer services such as account information, mini statements, checking of account history, alerts on account activity (passing of set thresholds) monitoring of term deposits, access to loan statements, access to card statements, mutual funds (equity statements, stop payment on cheque, ordering cheque books, balance checking in the account.

Also, it can do payments, Deposits, Withdrawals, and Transfers such as domestic and international fund transfers, micro-payment handling, mobile recharging, commercial payment processing, bill payment processing, peer to Peer payments, withdrawal at banking agent, deposit at banking agent Ishengoma,(2010).

2.1.4 Mobile banking business models

If mobile banking is being used to attract low-income populations in often rural locations, the business model will depend on banking agents i.e. retail or postal outlets that process financial transactions on behalf of telecoms or banks.

The banking agent is an important part of the mobile banking business model since customer care, service quality and cash management will depend on them. Many telecoms will work through their local airtime resellers.

The models are primarily different from one another based on who established the relationship (Banks or the Non-Bank/Telecommunication Company) of account opening, deposit or withdrawal, borrowing, etc., with the customers Ishengoma,(2010).

1. Bank-focused model

The bank-focused model emerges when a traditional bank uses non-traditional low-cost delivery channels to provide banking services to its existing customers. Examples range from use of automatic teller machines (ATMs) to internet banking or mobile phone banking to provide certain limited banking services to banks' customers.

This model is additive in nature and may be seen as a modest extension of conventional branch-based banking Ishengoma, (2010).

2. Bank-led model

The bank-led model offers a distinct alternative to conventional branch-based banking in that customer conducts financial transactions at a whole range of retail agents (or through mobile phone) instead of at bank branches or through bank employees.

This model promises the potential to substantially increase the financial services outreach by using a different delivery channel (retailers/ mobile phones).

The bank-led model may be implemented by either using correspondent arrangements or by creating a JV between Bank and Telco/non-bank. In this model customer account relationship rests with the bank

In the bank led model, only customers of a bank can avail the mobile banking service from the bank. With these facilitates, the customers can do various banking transactions as per their convenience Ishengoma,(2010).

3. Non-bank-led model

The non-bank-led model is where a bank has a limited role in the day-to-day account management. Typically its role in this model is limited to safe-keeping of funds. Account management functions are conducted by a non-bank (e.g. Telco) who has direct contact with individual Mobile Banking Services

The Mobile Service Provider Model is totally different from bank-led model; in this the mobile customers those who don't even having the access of traditional bank account can do banking transactions through their mobile service provider Ishengoma,(2010).

2.1.5 Benefit of mobile banking

2.1.5.1 for customers

As per Aggarwal (2014) the importance of mobile banking are:-

- **Easy Accessibility:** Mobile Banking provides the customers to anytime and anywhere banking with the help of mobile telecommunication services. This facility is very easy accessible by each mobile internet users. They no longer have to go to the actual banks to make their transactions.

- Security: Mobile Banking is very safe and secure with the help of mobile pin (m-pin). Each user of mobile banking is secured by pin number which was firstly issued by the bank but we can change it many times as per the needs of the customers. All the transactions through mobile banking can be easily operated by the customers and all records will be safe in the account details.
- Less Cost: Mobile Banking is less expensive comparative to other modes of banking. There are various types of charges imposed by the banks when we use other modes of banking likes ATM facility, but through mobile banking there are very less charges will be charged by the banks.
- Speed: With the help of new technology like 3G services, the customers make their banking transactions in the fraction of seconds. Mobile Banking is done by the mobile internet users in a very fast speed as compare to another mode of banking. For Example: If we want to deposit the money in branch, firstly we have to wait for our turn in a big queue to reach the counter but these hurdles can be easily removed by the usage of mobile banking. Instead of allocating time to walk into a bank, you can check account balances, schedule and receive payments, transfer money and organize your accounts when you're on the go.
- Account Statement: If we need our account details immediately, it is only possible with the online and mobile banking. Mobile Banking provides us immediate effect of banking transaction on our mobiles with SMS and Mini statements on our mobiles. You can check your account balance, review recent transaction, transfer funds, pay bills, locate ATMs, deposit cheques, manage investments, etc.
- Always Connected: Mobile Banking gives us an option to always connect with their bank accounts for getting the updating of every minute. Some account holders have large transaction per day. With the help of downloading the mobile banking application and software of their banks, they can get the update of their account by every minute or second.
- It utilizes the mobile connectivity of telecom operators and therefore does not require an internet connection.

- Mobile banking is available round the clock 24/7/365, it is easy and convenient and an ideal choice for accessing financial services for most mobile phone owners in the rural areas.

2.1.5.2 for the banks

Increasing Customers: Mobile Banking helps the banks to increase their customers. We know that the frequency of mobile users is increasing at very high speed but the frequency of banks account holder is very less. So, mobile banking is a new technological platform to the banks to increase their customers.

Easier Expansion: Traditionally, when a bank wanted to expand geographically it had to open new branches, thereby incurring high startup and maintenance costs but now banks with a traditional customer base in one part of the country or world can attract customers from other parts, mobile banking transactions mostly do not require a physical presence.

Reduce operating cost: - With mobile banking, banks don't need to set many costly customer service desks and call centers. The cost of processing a transaction via mobile phone can be as much as 10 times lower than via ATM, and as much as 50 times lower than via physical branch.

Enhanced Image: mobile banking helps to enhance the image of the organization as a customer focused innovative organization. This image also helps in becoming effective at e-marketing and attracting young/professional customer base.

Increase market penetration: - It goes for underserved population segment. Mobile banking can serve primarily to reduce the cost of deploying customer touch points into lower income and more remotely located population segments.

- The rise of mobile banking has made the banks more competitive. It resulted in opening of better prospects and avenues for banking operations.

-The mobile banking has ensured transparency of transactions and facilitated towards removing the documentation requirements to a major extent, since majority of records under an e-banking set up are maintained electronically (google).

-Mobile banking removes space and time limitations from banking activities such as checking account balances, or transferring money from one account to another.

2.1.5.3 for the country economy

- Today, there are large portion of Africans population which has no bank account but with the help of mobile banking awareness especially young account holders will open the bank account and helps in economic development
- It has great contribution in terms of mobilizing domestic savings with these services.
- Boosting domestic savings through expansion of financial services to the poor and rural populations.
- Reduction in financial transactions costs, leading to lowering cost of doing business that will benefit SMEs and overall private sector development.
- Increased government revenues as a result increased corporate revenues from booming m-banking, improved corporate earnings, etc. Ondiege (2010).

2.1.6 Mobile banking risks

-mobile banking users are at risk of receiving fake SMS messages and scams.

- The loss of a person's mobile device often means that criminals can gain access to your mobile banking pin and other sensitive information.

-modern mobile devices like smartphone and tablets are better suited for mobile banking than old models of mobile phones and devices.

-regular users of mobile banking over time can accumulate significant charges from their banks.

-Most mobile banking apps need an internet connection to be able to operate, so if you live in a rural area or experience problems with your internet connection, then you won't be able to access your account. The same applies if your mobile phone runs out of battery.

-Many phones aren't yet compatible with anti-virus software. Most cell phones don't come standard with anti-virus protection even if they have the capacity to browse the internet. Some phones aren't even compatible with the anti-virus software available and there are known cases in which people were unable to put anti-virus software registered to them on corporate cell phones. Although identity thieves are still a few steps behind when it comes to learning to implement some of their most successful computer tricks (phishing, spamming, spreading viruses, account hacking, etc...) on a cell phone level, experts agree that is only a matter of time and people shouldn't assume that anti-virus software isn't necessary for cell phones.

- Some banks don't offer the same level of protection for cell phone banking that they do for online or in person transactions. Because the risks are still generally unknown some banks have been slow to make promises about what will or will not be covered when you use cell phone banking.

-Mobile banking users are specially concern with security issues like financial frauds, account misuse and user friendliness issue - difficulty in remembering the different codes for different types of transaction, application software installation & updating due to lack of standardization Chandran, (2014).

2.1.7 Security Technology Applicable to Control mobile banking

WIN: NEXT GENERATION THREAT INTELLIGENCE

Delivering financial services access via a mobile banking app exposes a bank to the increasing variety of mobile malware, malicious apps, data leakage, and, ultimately, financial loss. Maintaining and enhancing app security is critical to meet the demand and adoption of mobile banking. The Webroot® Mobile Security SDK allows financial institutions that offer the convenience of mobile banking to measure, manage, and minimize their security risks (the risks & rewards of mobile banking apps, 2015)

The benefits of implementing a Mobile Security SDK include:

- Invisible to the customer and doesn't require customer involvement to install or operate
- No interference or impact to customer devices
- Captures only device-specific data, not customer specific
- Increases customer retention
- Measured/managed control of each customer's device access
- Confidence that mobile banking remains secure, increasing the number of mobile banking users
- Reduction in threats presented by customer devices
- Reduction in fraud and associated costs
- Increased operational savings over non-mobile transaction methods
- No complex back end integration; can be implemented within weeks

2.1.8 Challenges of mobile banking

Handset operability: - there are a large number of different mobile phone devices and it is a big challenge for banks to offer mobile banking on any type of device, some of these devices support java ME and others support SIM application toolkit, a WAP browser, or only SMS.

Security: - as most internet connected devices, as well as mobile telephony devices, cybercrime rates are escalating year on year. The type of cyber-crimes which may affect mobile banking might range from unauthorized use to remote hacking, or jamming or interference via the internet or telephone network data streams.

Scalability and reliability: - another challenge is to scale up the mobile banking infrastructure to handle exponential growth of the customer base. With mobile banking the customer may be sitting in any part of the world and hence banks need to ensure that the systems are up and running in a true 24*7 fashion.

Application distribution:- due to the nature of the connectivity between bank and its customers, it would be impractical to expect customers to regularly visit banks or connect to a website for regular upgrade of their mobile banking application. it will be expected that the mobile application itself check the upgrades and updates and download necessary patches.

User adoption:- it should be noted that studies have shown that a huge concerning factor of having mobile banking more widely used , is a banking customers unwillingness to adopt for several reasons like learning curve associated with new technology , having fears about possible security compromises , just simply not wanting to start using technology, etc.

Personalization: - it would be expected from the mobile application to support personalization such as: - preferred language, date/time format, amount format, default transaction, standard beneficiary list, and alerts.

Illiteracy: - As most cell phone applications are designed in foreign language and the majority of unbanked societies, who have cell phone, live in rural areas, where illiteracy rate is high, there exist language barriers to execute financial transactions via mobile phones. Asfaw, (2015)

Problems of customers of Mobile banking

According to Renju Chandran(2014)

Not sure about the safety of transactions , mobile security, Network availability, Heavy charges for transactions , E-mail and web security , Identity theft , Literacy of people in rural areas , Not aware of new innovation , Handset operate ability , Application distribution , Inadequate guidance.

2.2 Empirical literature review

2.2.1 Challenges of mobile banking

According to Dr. Sarita Bahl (2012) the following are the new challenges of e banking for bank management and regulatory and supervisory authorities.

- **Regulatory challenge:** - As the Internet allows services to be provided from anywhere in the world, there is a danger that banks will try to avoid regulation and supervision. What can regulators do? They can require even banks that provide their services from a remote location through the Internet to be licensed.
- **Legal challenge:** - Electronic banking carries sensitive legal risks for banks. Banks can potentially expand the geographical scope of their services faster through electronic banking than through traditional banks. In some cases, however, they might not be fully versed in a jurisdiction's local laws and regulations before they begin to offer services there, either with a license or without a license if one is not required. When a license is not required, a virtual bank—lacking contact with its host country supervisor—may find it even more difficult to stay abreast of regulatory changes. As a consequence, virtual banks could unknowingly violate customer protection laws, including on data collection and privacy, and regulations on soliciting. In doing so, they expose themselves to losses through lawsuits or crimes that are not prosecuted because of jurisdictional disputes.
- **Operational challenge:** - The reliance on new technology to provide services makes security and system availability the central operational risk of electronic banking. Security threats can come from inside or outside the system, so banking regulators and supervisors

must ensure that banks have appropriate practices in place to guarantee the confidentiality of data, as well as the integrity of the system and the data.

- **Reputational challenge:** - Breaches of security and disruptions to the system's availability can damage a bank's reputation. The more a bank relies on electronic delivery channels, the greater the potential for reputational risks. If one electronic bank encounters problems that cause customers to lose confidence in electronic delivery channels as a whole or to view bank failures as system wide supervisory deficiencies, these problems can potentially affect other providers of electronic banking services.
- **Security challenge:** - Internet banks collect and keep some very important personal information from each client. As Internet technology advances, so does the ability of criminals to hack into an Internet bank and steal important client information, according to financial expert Steve Ellis, writing on the Computer World website.
- **Personal Information:** - Internet banks need to collect personal information in order to do business, but if they do not follow local information collection laws then there could be lawsuits and government penalties.

In addition an exploratory research done by Asfaw (2015) which attempted to identify the major challenges and opportunities for mobile banking development in Ethiopia. Lack of timely approval of new products by regulatory body, lack of interoperability system and lack of aggregators between service provider and retail agents were the major problems observed in the study. Identified poor network quality and procuring agents, as these institutions are operating in remote areas of the country there is poor network quality which inhibits the full benefits derived from mobile money. And illiteracy in general and financial illiteracy in particular was found out to be another challenge in mobile banking development.

Research done by Worku (2010) which examines the practices, opportunities and challenges of E-banking services in Ethiopia found that Low level of internet penetration and poorly developed telecommunication infrastructure, lack of suitable legal and regulatory framework for e-commerce and e-payment, high rates of illiteracy, high cost of Internet, absence of financial networks that links different banks, lack of reliable power supply, and Cyber security issues are the most important challenges for development of e-banking in Ethiopia.

An empirical study done by Iddris (2013) in Ghana to investigate the perceived barriers to adoption of mobile banking among consumers showed that The four main reasons for rejecting M-Banking were: M-banking requires knowledge and learning; M-banking attract additional banking charges; poor telecommunication network; consumer preference for traditional means of banking instead of mobile enabled banking services.

MWAURA (2009) a case study on mobile banking in developing countries with the objective of finding the extent of access to financial services, the attitudes towards mobile banking by small business and the effects and challenges of implementing mobile banking. This study revealed that security and applications updating were the major challenges facing M-Pesa and Slow speed in customer adoption, data quality and lack of interoperability were other challenges facing the M-Pesa service.

“Impact of mobile banking on traditional banking practices in Zimbabwe” by SEVERINO et.al (2015) Mobile banking has its own challenges which according to this research include mobile network failures, lack of a clear regulatory framework, systems failures and lack of trust. If commercial banks fail to manage these challenges well customers will prefer the traditional way which will be more reliable for them.

2.2.2 Opportunities of mobile banking

According to Tiwari & Buse (2007) The reasons for the development of mobile commencement can be traced back primarily to the technological innovations and some other factors, listed below

- 1) The penetration of the society by mobile phones has reached an all-time high.
- 2) The integration of world economies is leading to more mobility so that availability of mobile services is no more a luxury but a necessity for many.
- 3) The younger generations of the society seem to be fascinated by modern data and telecommunication services.
- 4) Mobile devices have become more powerful. Data transmission has become faster with the launch of new standards, such as the Universal Mobile Telecommunications System (UMTS).

2.3 M-Banking Development in Ethiopia

At the end of 2015, there were nineteen commercial banks operating in Ethiopia, of these sixteen are private commercial banks and 3 public banks including the Development Bank of Ethiopia (DBE). Despite a rapid increase in the number of financial institutions since financial liberalization, the Ethiopian banking system is still underdeveloped compared to the rest of the world.

The Ethiopian banking industry as a whole had a network of 2,323 branches as at September 30, 2014, in which the number of population being served by a single branch was around 37,861.8. Commercial bank branch (per 100,000 adults) ratio in 2012 was 2.94 which is lower than Sub-Saharan Africa, 3.71 (World Bank, 2012). With urban skewed branch network it is hard to ensure efficient flow of financial resources and optimize the contributions of the entire financial system to the development processes.

The mobile banking development in Ethiopia is at its starting stage. Currently m-banking practice in Ethiopia can be considered as accessing the core banking system within the bank. Hence, only a customer of a given bank can access some banking services via his/her mobile phone Asfaw (2015).

As of December 2015 there are about 727493 active number of mobile subscriber customers in these two (Dashen and commercial) banks.

The mobile banking development in Ethiopia is not full-fledged in terms of exhaustively utilizing all the mobile services one can get. Currently, of all the types of mobile banking services, most customers of the bank use notification or alarm inquiry Asfaw (2015).

the above literatures mainly focused on opportunities and challenges for implementing mobile banking but does not investigate the practice after implementation and also does not consider the customers perception and most of the papers investigate by combining mobile and agent banking and this paper will fill the above research gap and is different from other researches on investigating the mobile banking practice on both customers and the banks side.

CHAPTER THREE

Research Methodology

Introduction

Kothari (2000) defines research methodology as a way to systematically solve the research problems. According to Burns and Burch (1995), methodology describes in as much details as necessary, how the research was, what methods were used to achieve the research objectives.

This chapter is therefore aimed at transmitting the details procedures that is showing the steps to be taken by the researcher in collecting data, the methodological foundations and the reasons behind the researcher's choice of the research methods used.

BACKGROUND OF THE STUDY AREA

Addis Ababa is the capital and largest city of Ethiopia. It is located on a well-watered plateau surrounded by hills and mountain sat 2,380 meters above sea level, in the geographic center of the country. It is the seat of the national government with a population of 3,273,000 In 01/07/2015.

It was chosen as a study area because: the head office of the bank that represents the whole branch in the country is found there and in addition the researcher also resides there.

Dashen bank is headquartered in Addis Ababa, it is the biggest private bank in Ethiopia it operates through a network of 146 area banks, nine dedicated forex bureaus, 170 ATMs and 834 plus point of sale (pos) terminals spread across the length and breadth of the nation (website).

According to the information gotten from Dashen bank of Ethiopia Dashen bank got license to operate mobile banking in January first 2013, now with customer of 5,047

RESEARCH TYPE AND APPROACH

Kothari (2000) put it clear that there are mainly two basic approaches to research, namely quantitative approach and qualitative approach. This research considered both qualitative and quantitative approaches.

3.1.1 QUANTITATIVE RESEARCH

The quantitative research is a measure of phenomena using numbers in mathematics and statistics procedures to process data and summaries data. It involves numerical data(Kothari, 2000). The researcher used this type of research so as to enable her analysis of the collected data in a statistical procedure and process data in numerical forms to summarize the results.

3.1.2 QUALITATIVE RESEARCH

This type of research is conducted in a natural setting environment concerned, it involves collecting textual, verbal or graphical data. It refers to data that cannot be counted (Kothari, 2000).

3.2 RESEARCH DESIGN

Research design refers to the plan on how the researcher systematically collected and analyzed data needed to answer research questions. It is a framework or roadmap through which a research process is conducted to explain the social phenomena under investigation (Kothari, 2000).

In this study exploratory research design is used and considered the most suitable .According to Zikmund (2000), exploratory research is conducted to clarify and research a better understanding of the nature of the problem.

Consequently, it is appropriate to use when there is little prior knowledge of the problem being researched. Saunders & Thornhill (2003) argue that exploratory research is advantageous because it is flexible and adaptable to change. Thus, a survey technique is chosen for data collection because survey technique helps to gather relevant data from sample of respondents by using of questionnaire and interview.

3.2.1Population and sampling technique

Kothari, 2000 defined sampling design as the key consideration of which people, settings, behaviors or events to be included in the study. It deals with a selection of the population that would involve a great amount of time and resources to provide valid ideas of the study. This is the reason why a small number of cases were selected for study purpose to represent the whole population i.e. a sample.

3.2.1 POPULATION

A population consists of all the cases of individuals or things or elements that fit a certain specification. Thus the populations for this study consists of Dashen bank e-banking employees and its customers of mobile banking in Addis Ababa which are 2,647 until December 2015 based on the quarterly activity report of Dashen bank.

3.2.2 SAMPLING TECHNIQUE

Sampling techniques is defined as procedure used to select some elements of a population in such a way that they represent the actual characteristics of the total population (Cohen, 2000).

3.2.3 THE PROBABILITY AND NON-PROBABILITY SAMPLING

There are mainly two types of samplings techniques: probability and non-probability sampling techniques. Probability sampling involves the use of statistical theory in design of empirical study and the selection of sample.

Thus, it is suitable for a homogeneous population and when the researcher wants each element to have equal chance of being selected. So for non-probability sampling, this technique is purposive and subjective in nature and involves selection of a sample based on judgment and knowledge.

In this research non probability sampling technique is used due to cost and time constraint and the population may not be available for the study in certain cases specially the customers will be difficult to be reached using probability sampling.

Within the non-probability technique convenience sampling is used. Convenience sampling attempts to obtain a sample of convenient elements. Often, respondents are selected because they happen to be in the right place at the right time and in this study it is used for the customer population due to the difficulty of getting them and also cost and time limitation. The sample size is determined by using the formula developed by Yemane taro (1967) at a confidence of 95%. The researcher use this formula because it is easily understandable and widely applied.

$$n = N / (1 + N(e)^2) = 2,647 / (1 + 2,647(0.05)^2) = 347$$

Where n = sample size

N = population size

E = level of precision

By using the formula 347 customer respondents are selected and the data is collected from 300 customers and from the bank branches three was selected by using their performance which registered high mobile banking user namely Main, Abakoran and Bole according to the quarterly activity report of dahan bank from this branches the respondents are e-payment or electronic banking department employees for each branch by using purposive sampling technique, which means the selection of the respondent is made in a way to get sufficient data regarding mobile banking as they are related with the subject matter and have more knowledge (expertise) than others.

3.3 data sources

Data refers to all the information a researcher gathers for his or her study (Mugenda and Mugenda, 1999). There are mainly two types of data, namely primary data and secondary data.

3.3.1 Primary data collection

The primary data collection refers to the data collected direct from the field; it involves observation, questionnaires and interviews. The primary data enable to get the first handed data (Kothari, 2000).

The researcher relied on this type of data because it needs to get views directly from those concerned with the problem under study. The data collection methods that is used for this study are questionnaires. The questionnaire include both closed ended and open-ended questions.

3.3.1.1 QUESTIONNAIRES

Kothari (2000) argued that the person who answers the questionnaire might feel in telling the truth. This is the main reason why the researcher decides to make use of this data collection method. Also the researcher thought that the use of this data collection method together with other would be suitable due to the resource restriction that hindered the exclusive use of other methods.

In this study two type of questioners is used. For the customers' population the questioner is adopted from international finance corporation mobile banking questioner and it is written in both Amharic and English then the questioner were distributed to respondents who are mobile bank users from each of the branches of the bank and for the banks questioner of muche (2010) opportunities and challenges of e-banking is used. After the questionnaires were collected, they were checked for completeness. Questionnaires which were blank or extensively incomplete were barred from processing. Then later the gathered questionnaires is analyzed on validity and completeness. Furthermore various analyses such as frequencies, tables and descriptive performed with SPSS.

3.3.1.1.2 Reliability and Validity

Reliability (internal consistency) and validity (construct validity) are the statistical criteria used to assess whether the research provides a good measure. They are the two important concepts that should be considered when the researcher select or design the instrument. The term validity refers to the appropriateness, meaningfulness, correctness, and usefulness of any inferences a researcher draws based on data obtained through the use of an instrument (Fraenkel and Wallen, 2008). It is the degree to which an instrument measures what it is supposed to measure (Kothari, 2008). To make sure the research's validity, the research used reliable sources such as published books and recent articles written by highly praised author's .Then, the questionnaire was presented in a suitable manner by making minor modification to be applicable on the current scenario. To further refine the accuracy of the instrument the research advisor also provided invaluable comments on the questionnaire.

3.3.1.1.2.1 Pilot Reliability Test of the Instrument

According to Fraenkel and Wallen (2008) reliability refers to the consistency of scores or answers from one administration of an instrument to another and from one set of items to another. If an instrument is reliable, it provides consistent result. Reliable measuring instrument does contribute to validity, but a reliable instrument need not be a valid instrument (Kothari, 2008). To confirm whether the adapted instrument is understood or not by the respondent a pilot reliability test were conducted for only one question which use likert scale question the others are multiple questions so there is no need of reliability . A total of 50 questionnaires were distributed to the main branch customers. Then the returned 50 pilot instrument were coded and a Cranach's Coefficient Alpha test was employed by SPSS version 20.00. Thus, the SPSS output is summarized in the table.

Table: perception of customers about their mobile banking

Reliability Statistics

Variables of the study	No of respondents	No of items	Cronbach's alpha
perception of customers about their mobile banking	50	5	0.763

Source: Own survey data, 2016

As it is shown in the table above, the overall and inter item Cranach's alpha value of the variable of the study achieve the minimum requirement of reliability analysis (i.e. $\alpha > .70$). Thus, based on this finding the researcher concludes that the pilot test of the instrument (0.763) is reliable to apply in the current study.

3.3.2 SECONDARY DATA COLLECTION

Secondary data are the facts and figures that have already been recorded before the project at hand. On the other hand secondary data are those which have already been collected by someone else and which have already been passed through the statistical process (Kothari, 2000). As stated before the researcher used of secondary data that were collected through the websites of the bank, review of the reports, and magazine.

3.5 Method of Data Analysis

To analyze the data collected from the customer's questionnaires, the researcher used SPSS. SPSS is a system for statistical analysis and helps to display findings by creating charts and tables. It is one of the most widely used computer software packages for analysis of quantitative data for social scientists. In order to achieve the findings and results for the dissertation, the research used descriptive analysis to summarize the data. These methods will be numerical and/or graphical. Graphical methods are known for recognizing patterns in the data, while the numerical methods of analysis are acknowledged for giving precise measures. The analysis used consist of tables and charts to outline the responses received which was examined and discussed. The reasons for using this procedure are to make it easier for the reader to compare and understand the findings. For the bank questioner since all the information that were collected are qualitative in nature, descriptive type of analysis by using tables and percentages was employed to analyze each objective.

CHAPTER FOUR

Data analysis and Discussion

Taking the main and specific objectives of the study (assessment of challenges and opportunities of mobile banking in the case of Dashen bank) into account, this chapter presents, analyzes and interprets the responses gathered from the respondents, i.e., from Dashen bank employees of electronic banking department of the selected branches and Dashen bank customers from the three branches through on hand delivery of semi-structured questionnaires consisting both close and open-ended questions and secondary data. For this purpose, descriptive statistics like frequencies and percentages were used.

4.1.1 Demographic characteristics of the bank respondents

Table 1: Demographic characteristics of the bank respondents

No	Item	Alternatives	No of respondents	percentage
1	Sex	Female	3	30%
		Male	7	70%
		Total	10	100%
2	Educational status	diploma	0	0%
		degree	6	60%
		Masters	4	40%
		P.h.d and above	0	0%
		total	10	100%
3	Work experience	0-1	1	10%
		1-2	3	30%
		2-3	6	60%
		total	10	100%
4	Job position	Recruit professional	3	30%
		Mobile and agent banking officer	4	40%
		Mobile and agent banking head	3	30%
		total	10	100%

70% of the total respondents are males and the rest 30% females which shows the males domination on the department. Most of (60%) the respondents are degree holders and 40 % masters this indicates they have adequate educational status in order to operate the service. 60% of the respondents are well experienced or have 2-3 year experience and 30% have 1-2 year experience as the system is new and when the respondents are well experienced they have more knowledge about the area of the study and this shows the data is collected from well experienced respondents and the rest 1% belongs to 0-1 year experience. the data is collected from 40% from mobile and agent banking officers, 30% from mobile and agent banking division heads and 30% from Recruit professionals which indicates the respondents have direct relation with the study area.

4.1.2 Demographic characteristics of the customers

Figure 1: Age of the Respondents

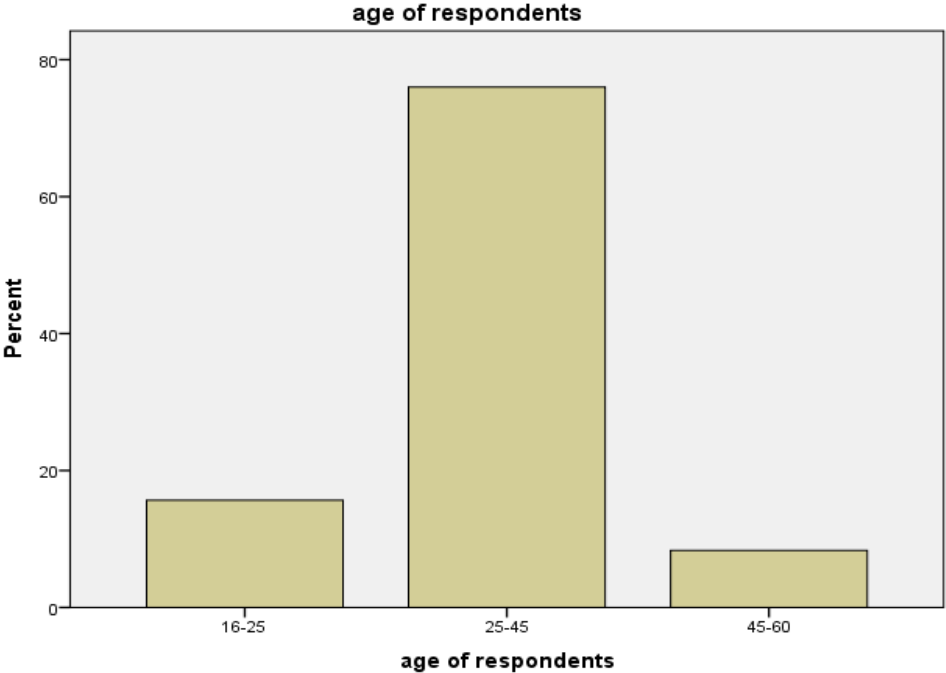


Figure 2: Back Ground Information of Respondents occupation

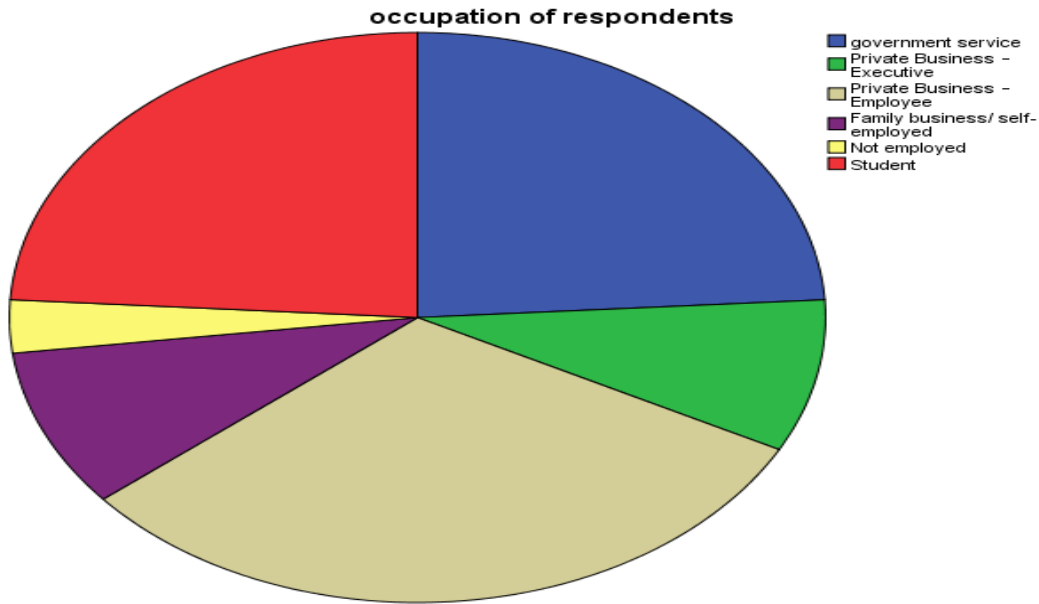


Figure 3: Back ground Information of Respondents Educational Level

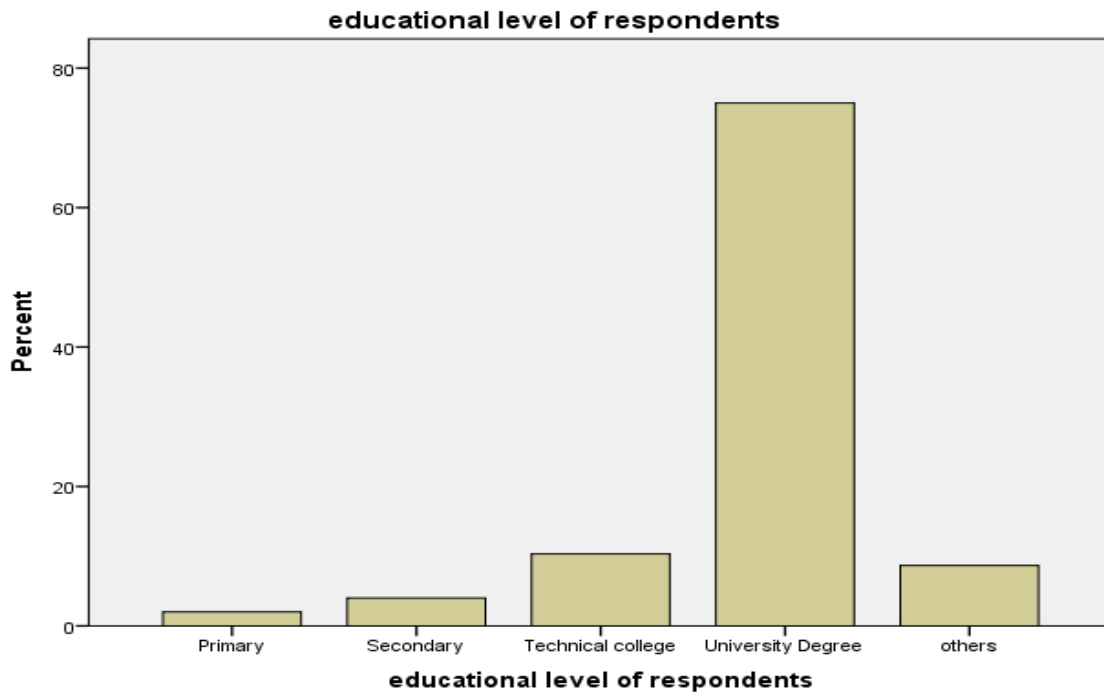
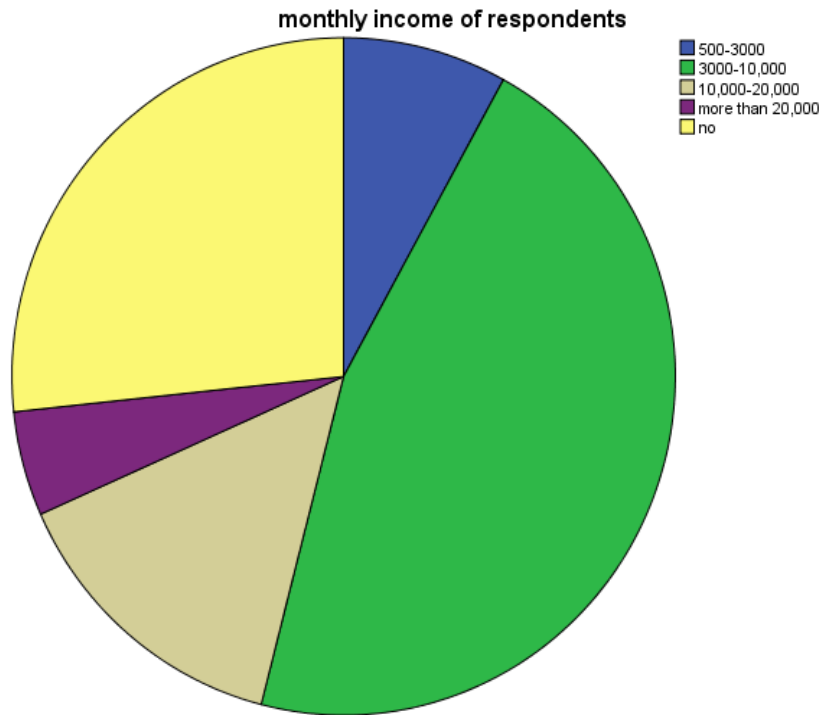


Figure 4: Back ground Information of Respondents monthly income



As stated in figure 4.2 the majority (76%) of respondents in the current study belong to the 25-45 age group this shows Young adult consumers are more likely to use mobile banking and this finding is related with Renima Malhotra (2011) who stated younger consumer is expected to be tech savvy, eager and innovative, therefore being more likely to adopt to a newer technology driven offering. 15.7% of them are in between 16-25 years and the least user of the technology are in between 45-60 years(8.3%). The inherent resistance to the adoption of newer technology by older generations can be mitigated by user friendly features and applications (morris and venkatesh, 2000).

Figure 4.3 shows 31.3% of respondents which constitute large portion are private business employees, 24% works at government service, 24 % are students, 9% are self-employed, 8% are private business executives and 3% are not employed. Totally 72.3% are workers which indicate workers are more likely use the technology.

As depicted in figure 4.4 educational level of most of the respondents are university degree holders which account for 75%, 10.3% technical college, 8.7% are PHD holders, 4% secondary and 2%

primary. In this study the researcher could not find illiterate respondents all have accomplished at least primary level and it can be concluded that educated peoples are mostly use the technology. According to kwon and Chidambaram 2000 The educated and workers are more likely to be the major users due to their needs and natural leaning towards knowledge based technology applications.

Figure 4.5 shows monthly income of respondents which are 46% have income level between 3,000-10,000 and this show more of the customers have medium level income, 26.7% doesn't have income or they are unemployed, 14.3% have 10,000-20,000 income which is assumed high income in our country standard, 8% have 500-3,000 and 5% have income of more than 20,000 which is very high.

4.2 Analysis and Discussion Related to Objective I

Practice of mobile banking

Table 2: practice of mobile banking in the bank

mobile-banking channels	Services /transactions available
SMS- short messaging service and client based	Fund transfer, balance inquiry, bill payment, mini statement, checking account history, merchant payment, account information, alerts on account activity, check book request, status and payment, deposit and withdrawal.

This table shows Dashen bank offer services like Fund transfer, balance inquiry, bill payment, mini statement, checking account history, merchant payment, account information, alerts on account activity, check book request, status and payment, deposit and withdrawal. Dashen's mobile banking offer the above services using the two channels of mobile banking which are: SMS- short messaging service and client based. in the short message channel customers can access services like bill pay, transfer, buy, account, requests by dialing *996# and also the banks notify

by sms about the account activity and it does not need internet connection and can be used in any kind of cell phones. In client based channel customers download or receive the application and install it to their phone after that they can access all the services in the above table but they should have internet connection and phones which accept the application.

Table 3: The services which customers are being charged for and their amounts:-

No	Services	Transaction amount	payment
1	Withdrawal of money using the bank agent (from wallet or bank account).	<=1000	2 birr
		>1001 and <=3000	4 birr
		> 3001	6 birr
2	Money transfer for other customers from bank account to wallet or from wallet to bank account: or from wallet to wallet and from bank account to bank account.	<=1000	2 birr
		>1001 and <=3000	4 birr
		> 3001	6 birr
3	Sending money for those who did not register wallet service.	<=1000	4 birr
		>1001 and <=3000	6 birr
		> 3001	8 birr
4	Transferring money using bank agent for those who did not register wallet service.	<=1000	4 birr
		>1001 and <=3000	6 birr
		> 3001	8 birr
5	Money transfer from Dashen account to another bank account.	<=1000	1 birr
		>1001 and <=3000	2 birr
		> 3001	3 birr
6	Purchasing	<=1000	2 birr
		>1001 and <=3000	4 birr
		> 3001	6 birr
7	Bill payment	<=1000	2 birr
		>1001 and <=3000	4 birr
		> 3001	6 birr

From all the services that Dashen bank mobile banking offers customers charged only for: Withdrawal of money using the bank agent (from wallet or bank account), Money transfer for other customers from bank account to wallet or from wallet to bank account: or from wallet to wallet and from bank account to bank account, Sending money for those who did not register wallet service, Transferring money using bank agent for those who did not register wallet service, Money transfer from Dashen account to another bank account, Purchasing and Bill payment. other services like registering for the service, changing pin code , transfer of money from bank account to wallet account, checking account history.... are for free. As stated in the table the amount that customers charged for is fair compared to the benefit it gives and the time and cost occurred when going to the bank.

Table 4: operational issues related to mobile-banking service

S.No	Operational Issues	response		
1	Is security measures or technology in place to prevent the web site/system information from being altered?	yes	10	100%
		No	0	0%
		total	10	100%
2	Does the bank has procedures in place for when there is an interruption in service of mobile banking for the customer?	yes	10	100%
		No	0	0%
		total	10	100%
3	Is mobile banking training provided to employees?	yes	10	100%
		No	0	0%
		total	10	100%
4	Do you think that the bank is sufficiently adopted the system?	Yes	5	50%
		No	5	50%
		total	10	100%

In Dashen bank there are security measures or technologies to prevent the web site/system information from being altered like through online SMS notification, security codes....

The bank also had procedures in place when there is an interruption in the service there is a checker and maker that used to protect his/her account and there is a system class that control overall system. All employees of the department took training and this help the bank to provide quick, up to date and secured services to the customer but this training is confined only to the ICT personnel's of each bank. Half of the respondents or 50% of the employees said the bank is not sufficiently adopt the system even if training is given to the employees still there is no clear know how on the team members and the technology by itself is difficult to adopt on time and half of them said the bank sufficiently adopt the system.

Practice of mobile banking by the customers

Table 5

Usage of m-banking				
	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	33	11.0	11.0	11.0
Weekly	36	12.0	12.0	23.0
Valid Monthly	60	20.0	20.0	43.0
Occasionally	171	57.0	57.0	100.0
Total	300	100.0	100.0	

As stated above 57% respondents use mobile banking occasionally this shows the customers are not friendly with the system because of its newness. 20% use it monthly 12% weekly 11% daily. This implies the customers are not using the service mostly still it is not practicing well.

Table 6

The most often method used for withdrawal					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	at the bank teller	147	49.0	49.0	49.0
	ATM	114	38.0	38.0	87.0
	point of sale	27	9.0	9.0	96.0
	Agent	12	4.0	4.0	100.0
	Total	300	100.0	100.0	

Majority (49%) of the respondents most often withdraw money at the bank teller and ATM which account for (38%) customers prefer withdrawing from bank because they are familiar and have much more trust than other methods and dashen bank branches are in many places. Only 9% and 4% who withdraw from POS and agent respectively.

Table 7

Distance of The bank branch					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	less far	207	69.0	69.0	69.0
	medium far	72	24.0	24.0	93.0
	high far	21	7.0	7.0	100.0
	Total	300	100.0	100.0	

As indicated in the table 69% and 24% of the respondents say the bank branch is less far and medium far respectively now dashen bank branches are spreading in many places of addis abeba as this reason customers does not face distance problem except some of them so unless they have good confidence on the system they prefer going to the bank directly. Only 7% of them say it is high far which may enhance them to use m-banking.

Table 8**The services accessed from the system**

	Frequency	Percent	Valid Percent	Cumulative Percent
Withdrawal	9	3.0	3.0	12.0
money transfer	27	9.0	9.0	9.0
Payment	9	3.0	3.0	15.0
Saving	3	1.0	1.0	16.0
All	9	3.0	3.0	19.0
checking account information	15	5.0	5.0	24.0
money transfer and checking account information	15	5.0	5.0	29.0
Valid deposit and money transfer	27	9.0	9.0	38.0
withdrawal and money transfer	24	8.0	8.0	46.0
deposit, withdrawal and saving	24	8.0	8.0	54.0
deposit, withdrawal and money transfer	63	21.0	21.0	75.0
deposit, withdrawal, money transfer and checking account information	75	25.0	25.0	100.0
Total	300	100.0	100.0	

The respondents were asked to indicate which services they were using under the M-Banking platform. 25% said they were using it for deposit, withdrawal, money transfer and checking account information, 21% were using it for deposit, withdrawal and money transfer, 9% had used it for fund transfer, 9% had used it for deposit and fund transfer, 8% for withdrawal and money transfer, 8% for deposit, withdrawal and saving, 5% for checking account information, 5% checking account information and fund transfer, 3% for payment, 3% for withdrawal, 3% said use all of the stated services. In this study fund transfer and checking account information are most used services and These findings agree with those of Medhi et al (2009) where funds transfer was the most used service while customers preferred to carry out activities such as payment for water and electricity bill at pay points such as post office/bank where they would be given receipts to act as physical evidence that they had actually paid the bills.

Table 9**Technics that Customers hear about the service**

	Frequency	Percent	Valid Percent	Cumulative Percent
mass media	117	39.0	39.0	39.0
Agent	3	1.0	1.0	40.0
bank directly	81	27.0	27.0	67.0
Sms	21	7.0	7.0	74.0
friends or family	21	7.0	7.0	81.0
Valid mass media and bank directly	36	12.0	12.0	93.0
mass media, agent and bank directly	6	2.0	2.0	95.0
mass media and friends or family	12	4.0	4.0	99.0
Bank directly, sms and agent	3	1.0	1.0	100.0
Total	300	100.0	100.0	

Mass media and the bank are playing high role in promoting the services for customers and 39 % percent of the respondents here the service from mass media that have the potential to reach many more potential users and 27 % from bank directly, 12% from mass media and bank directly, 7% by sms, 7% here from friends or family, 4% from mass media and friends or family, 2% from mass media, agent and bank directly, 1% from the bank agent 1% from mass media, sms and agent. Mass media and the bank played high role for getting more customers as they get many peoples ears.

Table 10**Customers preference on future communication with the bank about services**

	Frequency	Percent	Valid Percent	Cumulative Percent
person to person	69	23.0	23.0	23.0
telephone call	3	1.0	1.0	24.0
mass media	66	22.0	22.0	46.0
Sms	42	14.0	14.0	60.0
All	18	6.0	6.0	66.0
Valid person to person, telephone call and sms	3	1.0	1.0	67.0
mass media and sms	18	6.0	6.0	73.0
telephone call and sms	12	4.0	4.0	77.0
telephone call and mass media	6	2.0	2.0	79.0
person to person and mass media	63	21.0	21.0	100.0
Total	300	100.0	100.0	

The above table shows the customers preference on how they want financial service providers to communicate with them about the services and 23% of them want by person to person, 22% by mass media, 21% by person to person and mass media, 14% by SMS, 6% by all methods, 6% by mass media and sms, 4% by telephone call and sms, 2% through telephone call and mass media, 1% through person to person, telephone call and sms, 1% over telephone call.

Table 11**Services Customers want to see being offered for the future**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid salary deposit	88	29.3	29.3	29.3
pension fund management	15	5.0	5.0	34.3
Investment	3	1.0	1.0	35.3
Loans	17	5.7	5.7	41.0
All	141	47.0	47.0	88.0
salary deposit and pension fund management	33	11.0	11.0	99.0
pension fund management, investment and loans	3	1.0	1.0	100.0
Total	300	100.0	100.0	

The above table depict respondent's preference of new financial services they want to see being offered in their cell phone. 47% of the respondents said they want to see all of the stated services which are salary deposit, pension fund management, investment and loans, 29.3% want to see salary deposit, 11% want to see salary deposit and pension fund management, 5.7% want to see loan service on their cell phone, 5% want to see pension fund management and investment and pension fund management, investment and loans account for 1% and 1% respectively. All of the services are preferred by the customers as they are very useful for them.

Table 12**My mobile banking menu is very easy to navigate**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not at all true	6	2.0	2.0	2.0
not true	177	59.0	59.0	61.0
sometimes true sometimes	51	17.0	17.0	78.0
not				
True	45	15.0	15.0	93.0
very true	21	7.0	7.0	100.0
Total	300	100.0	100.0	

Table 13**My mobile banking menu is very easy to understand**

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all true	6	2.0	2.0	2.0
not true	36	12.0	12.0	14.0
sometimes true sometimes	192	64.0	64.0	78.0
Valid not				
True	42	14.0	14.0	92.0
very true	24	8.0	8.0	100.0
Total	300	100.0	100.0	

Table 14**It is easy to make transfer money**

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all true	6	2.0	2.0	2.0
not true	70	23.3	23.3	25.3
sometimes true sometimes	78	26.0	26.0	51.3
Valid not				
True	113	37.7	37.7	89.0
very true	33	11.0	11.0	100.0
Total	300	100.0	100.0	

Table 15**It is easy to make a balance inquiry**

	Frequency	Percent	Valid Percent	Cumulative Percent
not at all true	29	9.7	9.7	9.7
not true	61	20.3	20.3	30.0
sometimes true sometimes	37	12.3	12.3	42.3
Valid not				
True	123	41.0	41.0	83.3
very true	50	16.7	16.7	100.0
Total	300	100.0	100.0	

Table 16

It is easy to make a payment				
	Frequency	Percent	Valid Percent	Cumulative Percent
sometimes true sometimes not	99	33.0	33.0	33.0
not at all true	39	13.0	13.0	46.0
Valid not true	105	35.0	35.0	81.0
true	39	13.0	13.0	94.0
very true	18	6.0	6.0	100.0
Total	300	100.0	100.0	

table 12 shows as the respondents are asked to rate the statement which is “my mobile banking menu is very easy to navigate” and 59% said it is not true which means it is hard to navigate, 17% said sometimes true sometimes not, 15% it is true or easy to navigate, 7% it is very true 2% not at all true. This reflects the customers face difficulties of navigation.

Table 13 indicates the statement which is “my mobile banking menu is very easy to understand” is rated as 64% believed it is sometimes true sometimes not which means some menus are hard to understand and some of them easy, 14% said it is true that the menu is very easy to understand, 12% said it is not true or it is not very easy to understand, 8% said it is very true (very easy), 2% said not at all true or never been very easy to understand. As a whole this finding shows larger respondents believed it is sometimes true sometimes not. so it indicate there are menus which are hard to understand by the customers.

Table 14 shows the rating of “it is easy to make money transfer” statement. More of (37.7%) of the respondents said it is true or transferring money had been easy for them which indicates since it is mostly used service customers are experienced and it makes it easy for them, 26% said sometimes true sometimes not which shows at times it is hard for them due to network failure and at times when things are comfortable it has been easy, 23.3% think it is not true that it has been hard for them to transfer which may be due to the process to transfer, network failure on the middle of the transfer or transferring to another account or phone number by mistake.11% think it is very true or it never been hard for them when they transfer money and only 2% of the respondents

believed it is not at all true or it never been easy for them. Totally the finding reflects money transferring is not that much hard or it is easy for most of customers

Table 15 majority of the respondents or 41% said it is easy to make balance inquiry, 16.7% said the statement is very true, 20.3% said it is not true or it is not easy to make balance inquiry, 12.3% said it is sometimes true sometimes not and 9.7% said it is not at all true.

Table 16 shows rating of the statement “it is easy to make payment” and 35% of the respondents said it is not true which means it is hard to make a payment, 33% said sometimes true sometimes not, 13% said it is true, 13% said it is not at all true, 6% said very true. This shows the customers face difficulty when they make payment which may be due to understanding, network or other problems.

Table 17

awareness of the service cost charge

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	77	25.7	25.7	25.7
Valid no	223	74.3	74.3	100.0
Total	300	100.0	100.0	

From the field, 74.3% of respondents were not aware of the service cost charges even though they obtained M-Banking services while 25.7% were aware of the service cost charges

Table 17.1

Perception about the service cost charges

	Frequency	Percent	Valid Percent	Cumulative Percent
affordable	46	15.3	15.3	15.3
not affordable	5	1.7	1.7	17.0
Valid normal	25	8.3	8.3	25.3
i dont know	224	74.7	74.7	100.0
Total	300	100.0	100.0	

From the 74.3% of respondents who were aware of the service cost charges, 15.3% respondents seems to afford the cost, 8.3% could find the service cost just normal while 1.7% could not afford the service cost charges. Mobile Banking is less expensive comparative to other modes of banking. There are various types of charges imposed by the banks when we use other modes of banking but through mobile banking there are very less charges will be charged by the banks.

Abbie Laugtug, 2010 says that, most people have never been able to go into a bank because of the minimum deposits to be so high. It can be the first step into the formal financial system for low-income Africans with mobile phone operators to connect their payment customers to Opportunity.

4.3 Analysis and Discussion Related to Objective II

Benefits of mobile banking

Table 18: Benefits realized by banks from the adoption of mobile-banking service

Benefits
Attracting high value customers, increased revenue, enhanced image, larger customer coverage, cost reduction, improvement of organizational efficiency, deposit mobilization.

Even though the system is new Dashen bank got most of (in the above table) the benefits it brings. As it is known Dashen bank is well-known in its adopting new technologies and this system more enhanced its image and this image also helps in becoming effective at e-marketing and attracting young/professional customer base. Mobile banking eliminates location and time constraints this helps the bank to focus and enhance their reach to the unbanked or under banked who refrain from visiting banks due to paucity of time. Traditionally, banks used to roll out new branches and employ new staff in these branches. This would increase their costs to a great extent. However with the advent of technology and the subsequent introduction of advanced mobile platforms capable of performing banking transactions the pressure on infrastructure expansion has reduced to a great extent and has reduced the requirement for man power making the entire system very cost effective and also other benefits like it helps them to attract high value customers, increased revenue, larger customer coverage, improvement of organizational efficiency and deposit mobilization. It can be said that delivering banking products through mobile banking channels made the bank benefited.

Benefits realized by customers from the adoption of mobile-banking service
Table 19

Benefits realized by customers					
	Frequency	Percent	Valid Percent	Cumulative Percent	
	cost saving	6	2.0	2.0	2.0
	time saving	17	5.7	5.7	7.7
	24 hr access	3	1.0	1.0	8.7
	physical security	3	1.0	1.0	9.7
	All	81	27.0	27.0	36.7
Valid	time saving and 24 hr access	54	18.0	18.0	54.7
	time saving, 24 hr access and physical security	112	37.3	37.3	92.0
	cost saving, time saving and 24 hr access	21	7.0	7.0	99.0
	time saving and physical security	3	1.0	1.0	100.0
	Total	300	100.0	100.0	

As depicted in the above table Out of all 300 customers who had adopted M-Banking service 37.3% said it was time saving, can get 24 hr access and have physical security which indicate the system help them to save their time since it is on their hand they can use it any time without going to the bank or ATM. They can get the service any time (24/7) and there is no need to go out with cash. 27% of the respondents get all the benefits which are time and cost saving, 24 hr access and physical security this shows some of the customers get the benefit the system should give. 18% found it time saving and get 24 hr access, 7% found it cost saving, time saving and 24 hr access, 5.7% said it is time saving, 2% said cost saving 1% said 24 hr access, 1% found physical security and 1% said time saving and physical security. It can be concluded that those who use the system is getting most of the benefits.

4.4 Analysis and Discussion Related to Objective III

Driving forces

Table 20: Driving forces that initiate banks to adopt mobile-banking services

Driving forces
Deposit mobilization, revenue generation, to facilitate transaction, Existence of high competition in the banking industry, Existence of high demand, Desire to improve organizational performance, Desire to improve the relationship with customers, Desire to reduce transaction cost, Desire to cover wide geographical area, Desire to build organizational reputation, Desire to satisfy customers.

The above driving forces which make the bank to adopt the system are deposit mobilization, revenue generation, to facilitate transaction, Existence of high competition in the banking industry, Existence of high demand, Desire to improve organizational performance, Desire to improve the relationship with customers, Desire to reduce transaction cost, Desire to cover wide geographical area, Desire to build organizational reputation, Desire to satisfy customers. Banks and financial institutions are gradually recognizing mobile banking as a potential channel, or as a tool for differentiating themselves from their competitors.

4.5 Analysis and Discussion Related to Objective IV

Challenges of mobile-banking

Table 21: Challenges of mobile-banking service in Dashen bank.

challenges how
Network availability, security challenge, operational challenge, Chances of risk, customer's literacy.

Many researches like renju chndran(2014), asfaw (2015), worku... found that mobile banking besides its benefit it has challenges and also in this study the above challenges founded. Due to the countries infrastructural condition network availability is the main problem to operate the system and the customer's literacy make it hard to cover all customers that's because the system is

designed in foreign language. Operational challenge, chances of risk and security challenge are also challenges faced by the bank. As internet technology advances so does the ability of criminals to hack into an internet bank and steal important client information.

Challenges of mobile-banking service faced by the customers

Table 22

challenges faced by customers				
	Frequency	Percent	Valid Percent	Cumulative Percent
	security problem	3	1.0	1.0
	network availability	164	54.7	55.7
	heavy charges for transaction	15	5.0	60.7
	All	9	3.0	63.7
Valid	security problem and network availability	91	30.3	94.0
	network availability and heavy charges for transaction	18	6.0	100.0
	Total	300	100.0	100.0

As defined in the above table the main challenge which grasp 54.7% of the respondent is network problem when the customers try to access the service they face delay or network cut up. 30.3% said they faced both security and network availability problem, 6% faced network availability and heavy charges for transaction, 5% faced heavy charges for transaction, 3% said they faced all of the problems and 1% faced security problem. The security problems are like financial frauds, account misuse and user friendliness issue, difficulty in remembering the different codes for different types of transaction

Table 22.1

language problem				
	Frequency	Percent	Valid Percent	Cumulative Percent
	ticked	169	56.3	56.3
Valid	not ticked	131	43.7	100.0
	Total	300	100.0	100.0

As described in the above table besides the stated challenges 56.3% of respondents indicated language as a problem due to most cell phone applications are designed in foreign language there exist language barriers to execute financial transactions via mobile phones.

4.6 Analysis and Discussion Related to Objective V

Table 23: Existing opportunities for the adoption of mobile-banking services

Opportunities
high penetration of mobile phone, widening network coverage, Commitment of the government to strengthen the banking industry, the level of technology, country development, Commitment of the government to facilitate the expansion of ICT infrastructure, infrastructural development of the country, The existence of high demand, Increment of educated potential customer.

As depicted above the existed opportunities to adopt mobile banking are the country's population high usage of mobile phone with the increasing usage of smart phones, people are now more comfortable and prefer using mobile phones for processing their transactions. Almost many of those who own a mobile phone now prefer conducting their banking transaction in it. The government commitment to strength the banking industry, the country development, infrastructural development, existence of high demand. This finding relates to Tiwari & Buse (2007) the reasons for the development of mobile commencement can be traced back primarily to the technological innovations and some other factors.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary, conclusions drawn based on the findings obtained in the analysis and discussion part. Besides, it forwards the recommendations guided by research findings is also part of this chapter. Finally, it winds up by suggesting for future research directions.

5.1. SUMMARY OF MAJOR FINDINGS AND CONCLUSIONS

Based on the data analysis and interpretation provided in chapter four, summary of main findings and conclusions are presented here.

- Fund transfer, balance inquiry, bill payment, mini statement, checking account history, merchant payment, account information, alerts on account activity, check book request, status and payment, deposit and withdrawal are the services Dashen bank offer for customers by using the SMS and client based channels. Which can be concluded that Dashen bank is offering the main financial services for its customers.
- Customers are charged for only services like withdrawal at agents, money transfer for others, sending money to those who did not register, purchasing and Bill payment. Based on the transaction amount the maximum amount which customers charged is 8 birr. Mobile Banking is less expensive comparative to other modes of banking. There are various types of charges imposed by the banks when we use other modes of banking but through mobile banking there are very less charges will be charged by the banks.
- In Dashen bank there are security measures to prevent the web site/system information from being altered like through online SMS notification and security codes. There is a checker and maker that used to protect his/her account and there is a system class that control overall system which is a procedure used when there is an interruption in the service. All employees of the department are trained. Half of the respondents said the bank is not sufficiently adopt the system even if training is given to the employees still there is no clear know how on the team members and the technology by itself is difficult to adopt

on time and half of them said the bank sufficiently adopt the system. This indicates the have some difficulties for fully adopting the system.

- More than half of the customers use mobile banking occasionally only 11% use it on their day to day activity. Most of the customers most often withdraw money at the bank teller and ATM. POS and agent are the least used. For the majority of the customers the bank branch which they do business are not far or less far which is due to their residence in Addis. The services which are accessed by the majority of customers are deposit, withdrawal, money transfer and checking account information and the least used is payment. Greatest number of the customers here about mobile banking service on mass media and from the bank directly and some of them from the agent from friends and families and for the future they want financial service providers to communicate with them by person to person and by mass media . Salary deposit, pension fund management, investment and loans are the preferred services by most of the customers which they want to see being offered for the future. It can be concluded that Dashens mobile banking is not practicing well by the customers it is still at the infancy and even though the bank offer the main services still they are not sufficient in that there are services which customers want to be offered.
- For most of the customers their mobile banking menu is not easy to navigate and make payment, it is sometimes easy to understand sometimes not and finally it is easy to make transfer money and to make balance inquiry. More than half of customers are not aware of the service cost charges but those who do find the charge as affordable. The system menu is not fully comfortable for customers there are some difficulties faced and the service cost charge can be afforded by the customers.
- Even though the technology is new Dashen bank can get most of the benefits which are Attracting high value customers, increased revenue, enhanced image, larger customer coverage, cost reduction, improvement of organizational efficiency, deposit mobilization. On the customers side large portion of the customers got the benefit of time and cost saving,

can get 24 hr access and physical security. It can be concluded that Dashen bank and the customers got almost all of the benefits from the system.

- According to the finding of this study the driving forces which initiate Dashen bank to adopt the technology are Deposit mobilization, revenue generation, to facilitate transaction, Existence of high competition in the banking industry, Existence of high demand, Desire to improve organizational performance, Desire to improve the relationship with customers, Desire to reduce transaction cost, Desire to cover wide geographical area, Desire to build organizational reputation, Desire to satisfy customers.
- The main challenges that Dashen bank face when using the technology according to the finding are Network availability, security challenge, operational challenge, Chances of risk and customer's literacy. The main challenges faced by majority of the customers when using the technology are network and language problem. From this finding it can be said that besides its benefit Dashen bank and the customers faced challenges when using the system network and literacy problem are the main ones.
- The existing opportunities for the adoption of mobile banking are high penetration of mobile phone, widening network coverage, Commitment of the government to strengthen the banking industry, the level of technology, country development, Commitment of the government to facilitate the expansion of ICT infrastructure, infrastructural development of the country, the existence of high demand, Increment of educated potential customer. This indicates in Ethiopia there are good opportunities for the adoption of m-banking service.

5.2. RECOMMENDATIONS

- ❖ Ethiopia is a country where different languages are used in different parts. The mobile banking facilitates to access banking service to the rural community. This requires customer friendly banking software that can be used in their local language so the system provider should consider this.
- ❖ The awareness creation among the existing customers and providing special benefits for using the mobile banking will increase the mobile banking users. Once the customer becomes confident on technology it will automatically increase the adoption of mobile banking in mass.
- ❖ In order to meet the customers want Dashen bank should offer services of Salary deposit, pension fund management, investment and loans in addition to the existing services.
- ❖ The bank should develop more aggressive marketing activities to inform customers about the service. They should inform the customers of the conveniences and other advantages that come with the service which customers might not be aware of and also they should encourage the customers to use services besides money transfer, deposit and checking account information and it is better to inform customers personally or by mass media about the services.
- ❖ The service provider should modify the navigation and payment menu as it not easy for the customers.
- ❖ In order to mitigate the challenge faced by customers the bank should provide customer based orientation, create awareness, team working in the bank employees. The bank should have to also strength its ICT or e-banking department.

- ❖ Banking regulators and supervisors must ensure that the bank have appropriate practices in place to guarantee the confidentiality of data, as well as the integrity of the system and the data and also should use different security mechanisms as the times goes by security will be an issue.

- ❖ The National Bank of the Ethiopia should prepare various capacity building activities for banks regarding mobile-banking operation and provide incentives for banks to invest rigorously on ICT and use of m-banking. In order to improve mobile banking service Government should improve infrastructural development project in relation with ethio telecom. In order to run in smooth operation ethio telecom should enhance their service as well as the network system, should develop a wide network infrastructure coverage. And generally financial institutions, technology providers and telecom operator should work together and expand the opportunities to make the technology fully develop in the country.

Future Research

- Assessing challenges and opportunities mobile banking in Ethiopia
- Investigating in to the factors that affect the banks adoption of mobile-banking service in Ethiopia.
- Factors that affect the customer's adoption of mobile-banking service in Ethiopia.

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APPENDIX

SURVEY ITEM

Questioner for the bank

Masters of business administration

A questionnaire to be completed by Dashen bank employees

Dear Respondents;

First of all I would like to thank you for your willingness in filling out this questionnaire. This survey is aimed at Assessing the opportunities and challenges of mobile banking in case of Dashen bank. The researcher; once again, would like to thank your kind assistance in completing the attached questionnaire which would take approximately not more than 10 minutes of your valuable time.

My respondents do not fear anything; I would like to stress the fact that none of the information you provide will be used against you and thus your responses will be treated as “strictly confidential” and I want to assure you that it is for the academic fulfillment purpose only. Furthermore, if you have any doubt that you want to be clarified while completing this questionnaire, please don’t hesitate to contact me through the following means;

Mobile: 0910624283 Email: halimayimam@gmail.com

Please put the tick mark () on the appropriate space as per your choice for each closed-ended question and the appropriate reason for open-ended questions.

I. Personal Information

1. Name of the bank _____
2. Year of establishment: _____
3. Job position _____
4. Work experience _____ years
5. Gender: Male _____ Female _____
6. Educational status:

A. Diploma ___ B. Degree ___ C. Masters ___ D. PhD and above ___

II. Practice of mobile banking

7. What are the different technologies employed to provide mobile banking service to your customers? You can choose more than once!

- A. SMS-Short Messaging Service/notification _
- B. Client-Based (by installing software) _
- C. Browser-Based (website) ___
- F. Others _____

8. What options are available to the customer once they have accessed mobile-banking? You can choose more than once!

- A. Fund transfer _
 - B. Balance inquiry _
 - C. Merchant payment_
 - D. account information and alerts on account activity _
 - E. Deposits and Withdrawals _
 - F. Bill payment _
 - G. Mini statement and Checking of account history_
 - H. mutual funds _
 - I, access to loan and card statements _
 - J. Others/ mention it
-

9. Is security measures or technology in place to prevent the web site/system information from being altered?

A. yes _ B. no _ if yes, what are they?

10. What services are customers being charged for and how much?

11. Does the bank have procedures in place for when there is an interruption in service of mobile- banking for the customer?

A. yes _ B. no _ if yes, describe the procedures

12. Is mobile banking training provided to employees?

A. yes _ B. no _

13. What future plans are you contemplating offering on your mobile banking service?

14. Do you think that the bank is sufficiently adopted the system? If no why?

A. Yes _ B. No _

III. Benefit and challenges of mobile banking.

15. What are the benefits does the bank realized by using mobile-banking service? You can choose more than once!

I. Attracting high value customers _

II. Enhanced image _

III. Increased revenue _

IV. Larger customer coverage _

V. Cost reduction _

VI. Improvement of organizational efficiency _

VII. Better monitoring of their customer base _

Others (explain)

16. Is there any challenges involved because of adopting /using mobile banking channels for delivering banking services to the customer?

A. Yes B. No if yes, what are they? You can choose from the list more than once

A. network availability_

D. Reputation challenge when problem occur with the system _

B. Security challenge _

E. operating challenge_

C. customer's literacy _

Others_

What measures you are taking to minimize this challenge?

IV. Driving forces and opportunities for adopting mobile banking system.

17. Do you think that the following are among the driving forces for the adoption of mobile-banking services?

S.NO	Driving forces	agree	disagree
1	Existence of high competition in the banking industry		
2	Existence of high demand		
3	Desire to improve organizational performance		
4	Desire to improve the relationship with customers		
5	Desire to reduce transaction cost		
6	Desire to cover wide geographical area		
7	Desire to build organizational reputation		
8	Desire to satisfy customers		

Others factors if any

18. What are the existing opportunities in the country that initiates the adoption of mobile-banking? You can choose more than once.

S.NO	Opportunities _	-
1	high penetration of mobile phone	
2	Commitment of the government to strengthen the banking industry	
3	Commitment of the government to facilitate the expansion of ICT infrastructure	
4	The existence of high demand	
5	Increment of educated potential customer	

Others opportunities (if any)

19. What should be the role government to make mobile-banking service fully develop in the banking industry?

20. What should be the role of the national bank to facilitate the development of mobile-banking in the banking industry as a regulatory body of all financial institutions in the country?

21. What should be the role of the Ethiopian telecommunication corporation regarding ICT infrastructure expansion?

SURVEY ITEM (2)

Questioner for the customers

My name is Halima yimam. I am a student of ST.MARY’S University undertaking Masters of Business Administration. I am kindly asking you to answer my questionnaire which aims at partial fulfillment of Master’s Thesis on “assessment of challenges and opportunities of mobile banking in case of Dashen bank”. The information which you have provided in this questionnaire will not be given out to any person. In case of any problem please do not hesitate to call 0910624283.

Section a. practice of Mobile Banking

1. Are you registered with any of Mobile banking system?
a) Yes_ b) No_

2. How often do you use mobile banking service?
a) Daily_ b) Weekly_ c) Monthly_ d) Occasionally_

3. Where do you typically (most often) withdraw money?
a) At the bank teller_ b) Automatic teller machine_
c) Point of Sale_ d) Agent for Mobile banking (e.g., pay outlet, retail shop) _

4. How far is the bank branch where you do business?
a) Less far_ b) medium far_ c) high far_

5. What services do you access from the system? You can choose more than once.
a) Deposit_ b) Withdrawal_
c) Money transfer_ d) Payment _
e) Saving_ f) Purchasing Airtime_
g) All of the above_ h) checking account information_

6. Where did you hear about Mobile Money services? You can choose more than once.
a) Mass media (television, radio, newspaper) _ b) An Agent_
c) Bank directly_ d) SMS from Mobile Operator_ e) Friends or Family_

7. How would you prefer financial service providers to communicate with you about mobile banking services? You can choose more than once.
a) Person-to-person interaction _ b) Telephone call_
c) TV or radio adverts _ d) SMS or E-mail_

Others (please specify) _____

8. What kind of financial services do you want to see being offered via your cell phone? You can choose more than once.

Salary deposit	
Pension fund management	
Commodity dealing / investment	
Loans	

Others (Please specify) _____

9. On a scale of 1 to 5 show would you rate the following statements about your mobile banking menu on your phone?

		Rating scale				
		Not at all true	Not true	Sometimes true sometimes not true	true	Very true
1	My mobile banking menu is very easy to navigate	1	2	3	4	5
2	My mobile banking menu is very easy to understand	1	2	3	4	5
3	It is easy to make transfer money	1	2	3	4	5
4	It is easy to make balance inquiry	1	2	3	4	5
5	It is easy to make a payment	1	2	3	4	5

10. Are you aware of the service cost charges?

a) Yes_ b) No_

11. If Yes, How do you find the service cost charges? You can choose more than once.

a) Affordable_ b) Not Affordable_
c) Costly_ d) Normal_

Section b. Benefits and challenges of Mobile Banking (Utility)

12. What benefit do you get by using mobile banking? You can choose more than once.

a) Cost saving (Lower rates, transaction fees)___
b) Time saving (no need to go to bank or ATM)___
c) 24 hr Access (can make transaction any time)___
d) Physical security (no need to go out with cash)___

e) Others (please specify) _____

13. What challenges did you face when using the system? You can choose more than once.

- a) Security problem_
- b) Network availability_
- c) Heavy charges for transaction_

Others specify _____

Section c. Demographic Information

14. Please tell me your present age?

- a) 16 – 25 years_
- b) 25 - 45 years_
- c) 45 – 60 years_
- d) 61 plus years_

15. What is your Occupation?

- a) Government /Public Service_
- b) Private Business – Executive_
- c) Private Business – Employee_
- d) Family business/ self-employed_
- e) Farmer_
- f) Not employed_
- g) Student_
- Others (please specify) _____

16. What is the highest education level you have completed?

- a) Primary_
- b) Secondary_
- c) Technical college_
- d) University Degree_
- e) Others (please specify) _____

17. What is your average monthly income?

- a) 500-3000_
- b) 3000-10,000_
- c) 10,000-20,000_
- d) more than 20,000_

