



ASSESSMENT OF OPPORTUNITIES AND CHALLENGES OF ETHIOPIAN BANKING IN ADOPTING *E-SERVE*

Dr. Shaik Abdul Majeed Pasha

Professor of Finance, Dept. of Acct. & Fin. College of Business and Economics, Arba Minch
University, Ethiopia.

Ato. Lisanework Amare

Lecturer in Dept. of Acct. & Finance, College of Business and Economics, Arba Minch
University, Ethiopia.

ABSTRACT

Researchers investigated the challenges and opportunities of adopting E-services in Commercial Bank of Ethiopia. The study conducted based on the data gathered from four branches of CBE, one district office and head office. Statistically analyzed data was obtained from a self administered questionnaire that was distributed to the targeted respondents on 80 customers and 50 employee were sampled using non- probability sampling techniques. The study employed both qualitative and quantitative approach. The study found the opportunities that are environmental factors to adopt E-banking services in CBE includes government support, competitive pressure, legal framework, the national Information Communication Technology(ICT) infrastructure, and government programs on raising ICT awareness. Further, this paper considered technological factors as opportunity to adopt E-banking in CBE. The study also identified environmental factors that are considered as challenges faced by CBE in adopting the new technology and these are high rate of illiteracy, low level of internet penetration, poorly developed ICT infrastructure, high cost of internet, and lack of financial networks that link different banks,

frequent power interruption technical problems on E-banking products, and no immediate solution to technical problems. At the end, researchers' suggested some measures, which could be taken by the bank and government. The suggestions include: the bank should try to utilize all opportunities that are identified in this research, should focus on informing customers the benefit of using E-banking by using medias and the government should support the bank by developing ICT infrastructure and establish strong legal framework on use of E-banking services.

Key words: Customers, E-banking, ICT infrastructure, challenges, opportunities, CBE.

Paper type: Research paper.

1. Introduction

Commercial Bank of Ethiopia (CBE) was established in 1942. It is the first bank to introduce modern banking in Ethiopia and noted as one of the leading bank in African with assets of 384.6 billion Birr at the year-end June 2016. Currently, the bank has more than 29,000 talented and committed employees in above 1140 branches stretched across the country. Currently CBE has more than 13.3 million account holders and it opened 4 branches in South Sudan, the bank that has a greatest market share among all banks in Ethiopia.

This bank has been providing almost all modern banking services to its customers along with its basic functions like deposit mobilization and lending of various types of loans, from the early establishment till now. Moreover, the bank is providing many modern innovative banking services by making strong correspondent relationship with more than 50 renowned foreign banks like ICICI Bank, Royal Bank of Canada, City Bank, HSBC Bank. Four international banking services provided by CBE are: trade service, Forex service, money transfer and correspondent bank services. CBE is the first bank in Ethiopia to introduce Western Union Money Transfer (WUMT) and Moneygram services.

The bank is pioneer in providing modern banking services like Automated Teller Machine (ATM) in Ethiopia. Currently, electronic banking systems adopted by CBE for its customers are: ATM, Point of Sale Terminal (POS), Card Banking and Mobile Banking.

There are more than 850 ATM machines located at convenient places including branches, hotels, malls and other public places around the country. The ATMs has enabled customers to use

banking services like cash withdrawal, bill payment, forex, fund transfer, mobile top up and balance inquiry in 24 hours a day and 7 days a week (24x7).

CBE reliable Visa card, that is a carding banking services provided by CBE, have enabled card holders in order to facilitate the exchange of funds without paper. The card holders can purchase goods and services by transferring the sum of money needed from their account to suppliers' account using POS terminals. Using mobile banking has saved customers from theft, loses of money and their valuable time. The last E-banking service provided by CBE is mobile banking that is functional in any place and time if internet network available. The service has enabled customers to access their bank account, make fund transfers, payments and balance inquiries.

2. Background of the study

Banking institutions have become an essential component of most economies whether they are described as “engines for economic growth” or as acting as “conduits towards promoting economic growth”. There are not many inventions that have changed the business of banking as quickly as the e-banking revolution. World over banks are reorienting their business strategies towards new opportunities offered by e-banking. E-banking has enabled banks to scale borders, change strategic behavior and thus bring about new possibilities. (Mohamed 2010)

The term electronic banking can be described as the provision of information or services by a bank to its customers, via a computer, television, telephone, or mobile phone. It is also defined as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. (Daniel, 1999) Furthermore, electronic banking is said to have four different channels for electronic banking: PC banking, Internet banking, managed network, and TV-based banking. Electronic banking is the newest delivery channel in many developed countries and there is a wide agreement that the new channel will have a significant impact on the bank market (Daniel, 1999).

It not only made financial institutions provide their services online but also facilitated their customers with easy access and other value-added benefits. Thus, the banking industry gained the opportunity to improve the quality of services offered to their customers. This in turn creates competition among banks and non-bank financial institutions. The adoption of E-banking system increases the loyalty of customers to banks. It is because; the usage of E-banking provides

benefits to customers in terms of cost savings, no limit on time and space, quick response to customer complaints, and better services/products. Such benefits are believed to elevate customer satisfaction.

The Manual Banking Systems have some degree of inefficiency in their business operations and performance, especially with regard to managing the quality of bank- customer relationships and product and service marketing strategies. The customer movement from traditional banking to E-Banking has meant that new strategies to attract customers and retain existing ones became more critical (Karjaluo, 2002).

However, the adoption and diffusion of electronic banking system is not well developed in Ethiopia. Banks in Ethiopia, they are also undeveloped when compare with developed and most African countries, are too late to move with technological advancement. The appearance of E-banking in Ethiopia goes back to the late 2001, when the largest state owned, commercial bank of Ethiopia (CBE) introduced ATM to deliver service to the local users. Currently, almost all banks operating in Ethiopia are adopting E-banking instruments such as ATMs, credit and debit cards, mobile/telephone/internet. (Mohamed, 2014)

Before the introduction of E-banking in Ethiopia, all banks operated in Ethiopia had provided service to customers by using traditional systems. Bank customers were highly dissatisfied by the time wasted in travelling for search of bank branches and the long waiting time to access the account. (Mohamed, 2014) The customers were expected to physically visit the branch in which an account has been opened.

Although the shift from traditional banking system to E-banking has been benefiting banks and customers in various ways, the system has faced challenges that hinder its development. As it is stated in different E-banking literature some of the problems related with adoption of E-banking in Ethiopia are: Low level of internet penetration , poorly developed telecommunication infrastructure, lack of legal framework regarding E-banking system at national level, lack of competition among local & foreign banks and social awareness on the E-banking system . (Ayana 2014)

However, there are favorable environments available to expand E-banking in Ethiopia such as school net program, late adopter opportunity, support of UNECA, World Bank, and UNCTDA to developing countries, and government commitment (Getachew 2009). The benefits of E-banking both to the bank and customers such as ease of use, time saving and cost reduction considered as the driving force for the adoption of the system (Ayana 2012).

In order to promote the growth of E-banking in Ethiopia, a better understanding of the opportunity and challenges impacting E-banking adoption is critical. However, there are only limited researches available in Ethiopia that identifies factors that influence banks to adopt E-banking and that hindered its development in spite of obtaining understanding of these factors. Therefore, to fill this gap, this study has investigated the opportunities available and barriers encountered of adopting E-banking system in Commercial Bank of Ethiopia and recommend appropriate actions to be taken to promote E-banking system in the bank.

2.1. Problem of the statement

Prior to the introduction of technologies in financial sectors, there is only traditional payment system that had been applied in all banks for making payments. However, there were a lot of grievances against manual payment system such as delay in withdrawal and processing. The customers has to wait a long hours to get any banking services and hence waste their precious time. Having electronic payment system in banking industry; it has made the transaction of money easier, time saving and convenient and created value for banks and customers. E-banking is a form of banking service where funds are transferred through an exchange of electronic signals between financial institutions, rather than exchange of cash, cheques and other negotiable instruments (Melak 2007). E-banking is widely expanding throughout both developed and developing countries with rapidly growing advanced information technologies.

Ethiopian banks industry, although it is undeveloped when compared with other developed nations, cannot be remaining an exception in expanding the use of the system. The modern E-banking methods like Automatic Tailor Machine (ATM), Debit Card, Credit Card, Tele Banking, Mobil Banking and others are new to the Ethiopian banking sector.

However, customers and banks in Ethiopia were missed to enjoy with this new technology unlike developed and other developed African countries. This is due to lack of awareness in technology, undeveloped ICT infrastructures, low internet access and others. (Ayana, 2014)

On other hand, there are some opportunities created to widely expanding the use of E-banking methods such as increased awareness of the students on ICT, government commitment on new technology, UNECA, World Bank and UNCTDA support to developing countries on ICT (UNCTDA 2004). Moreover, the benefits derived from the adoption of E-banking are also

considered as additional opportunity to the banks. In spite of better opportunities created relative to 10-15 years back, E-banking service has not been able to diffuse in to society in Ethiopia given low internet access. In some advanced 4G internet facilities also providing by the banking sector in E-banking services area.

Commercial Bank of Ethiopia is the pioneer to introduce Automated Teller Machine (ATM) services to local users in 2008 with 8 ATM machines located in Adis Abeba. Currently, the bank provides electronic banking systems including ATM, Point of Sale Terminal (POS), Card Banking and Mobile Banking. Therefore, this research is intended to identify opportunities and challenges faced by Commercial Bank of Ethiopia in providing the above E- banking services based on the research problems discussed above.

2.2. Objectives of the study

The main objective of the study is to assess the opportunities and to identify the main challenges of CBE facing in adopting E-banking, along with specific objectives. These are:

- a) To Identify the main opportunities available to adopt and implement E-banking In CBE
- b) To investigate the main challenges that hinders the bank to adopt E-banking in delivery of services to the customers.
- c) To find the main challenges faced and benefits obtained by the customers of CBE on using E-banking system.

2.3. Significant of the study

The researcher has investigated the opportunities as well as prevailing problems of E-banking system in CBE and came up with possible and reliable solutions. In general the study had the following significance:

Identification of benefits, challenges and opportunities of E-banking system can positively affect on the performance of the bank and enhance customer satisfaction that had adopted E-banking. The findings will be an input for the companies and the customers to plan for the future as per challenges and opportunities.

It provides opportunities for the decision makers of the bank to consider and evaluate the opportunities and problems observed, in order to take corrective measures. The study will also serve as additional source of reference for further study

2.4. Scope and limitation of the Study

From entire financial institutions working in Ethiopia, the researcher selected to discuss the activities of E-banking in state owned Commercial Bank of Ethiopia of Wolayta Soddo district. The paper was confined to discuss about the challenges and the opportunities that available to adopt E-banking in Arba minch and Wolayta Soddo districts of SNNPR in Ethiopia. Shortage of reference materials about E-banking data enforced the researcher to depend largely on primary data source.

2.5. Data Sources

For the successful attainment of the objective of the study the researcher used primary data source. A self administered questionnaire was distributed to the targeted respondents and an interview was conducted with E-banking department head at head office.

2.6. Population and Sample size

A total of 60 questionnaires were distributed to selected four CBE branches which are near Arbaminch and South Ethiopia district employees and 120 questioners to customers of CBE of selected branches. Out of the total 60 distributed to employee, 50 useable questionnaires were obtained (83% response rate). While it is 75% of questionnaires (90) were obtained from 120 questionnaires distributed to customers. In addition to questionnaire, the researcher conducted an interview with manager at four branches and one E*banking manager at CBE head office in Addis Ababa. In order to analyze the research results, Statistical Package for the Social Sciences (SPSS) version 16 software was used.

2.7. Sampling technique

The sampling technique employed in this study was non-probability sampling technique; in which judgmental sampling was employed to access the necessary information from the

respondents. The rationale for using the above sampling technique is, the researcher selected the respondents based on some criteria such as they were readily available and convenient.

3. Results and discussion

After the previous step, the data collection what it was collected is analyzed by researchers and has been presented. On the other hand, this part presents the results and analysis of data collected via questionnaire, interviews and document analysis. 3.1 disclosed main opportunities available to adopt and implement E-banking. Section 3.2 presents main challenges that hinder the bank to adopt E-banking.

3.1. Opportunities available to adopt E-banking in CBE

The result of the data is presented in tables beginning with demographic variables and then research questions that are formulated to guide the research. Regarding the nature of the data collected, majority of items were closed ended with some measured on a 5-point likert scale.

The availability of factors influencing banks to adopt E-banking system is considered in this research as opportunities. Based on the conceptual framework, the following sections analyzed factors that are available to adopt and implement e-banking regarding environmental factor and technological factors.

3.1.1. Environmental factors

The environmental factor refers to the external environment in which an organization operates and its condition for supporting the development of E-banking services. The factors considered as external in this study were Government support, competitive pressure, legal framework, the national ICT infrastructure, to be benefited from late adopter opportunity, and government programs on raising ICT awareness. In the case of CBE, the factors or the reasons that are external and favorable conditions created will be discussed in this title.

As the result of analysis revealed at least 72 per cent of the respondents agree and strongly agree that the factors influenced CBE to adopt e-banking are government support, competitive pressure, legal framework, the national ICT infrastructure, to be benefited from late adopter opportunity, and government programs on raising ICT awareness. Among the above factors which the bank took as an opportunities to adopt e-banking, government support and competitive pressure take the highest percentage that is 92 percent and 88 percent respectively. Whereas

among the sampled employees of CBE for this research, 22 percent, 22 per cent and 26 per cent strongly disagree and disagree on government programs on raising ICT awareness, late adopter opportunity and the national ICT infrastructure respectively to be considered as opportunities for adopting e-banking. These were also supported by the survey result shown on table 3.1 as follows.

Table 3.1. Environmental factors

		governme nt support	competiti ve pressure	legal framework, k,	the national ICT infrastruc ture	late adopter opportuni ty	government programs on raising ICT awareness.1q
N	Valid	50	50	50	50	50	50
	Missing	0	0	0	0	0	0
	Median	1.00	1.50	2.00	2.00	2.00	2.00
	Mode	1	1	1	2	1	1

Source: survey result

The result presented in the above table shows that, the median and mode value for the first question is 1.00, median and mode value is 1.5 and 1 respectively for second, median and mode value is 2 and 1 for third, fifth and sixth respectively and 2 for fourth questions. Therefore, all factors considered as external environments in this research were opportunities for CBE to adopt e-banking regardless of their influence rate because their mode and median value are between 1 and 2. Similarly, an interview result also indicates that CBE have taken all external factors except legal framework, as an opportunity to adopt E-banking technology. The manager has given more attention to competitive pressure and the national ICT infrastructure; it is growing in spite of its poorness.

3.1.2. Technological factors (Perceived benefits)

The perceived benefits are the benefits that the E-banking provides to the bank by adopting it and the customers in using it. Perceived benefits of adopting E-banking system considered in this study and presented in this section were: customer service and satisfaction, efficiency and

potential to increase the profit of the bank while other benefits are create better relationship among banks and clients, additional services and information control tools, customer base, image building, and low transaction cost in the long run.

3.1.3. Customer service and satisfaction

The adoption of E-banking provides better and faster options and this will surely be able to create better customer relations and satisfaction to CBE. This will create an opportunity to the bank to increase the number of customers who have information on the benefits. The research sought to find out whether customer service and satisfaction was the factor that influenced CBE to adopt e-banking. The results showed that a total of 44 respondents representing 88 per cent agreed and strongly agreed that better customer service and satisfaction was the opportunity to CBE to adopt and implement e-banking. On the other hand, a total of 5 participants representing 6 per cent disagreed and strongly disagreed while 2 per cent remain neutral. Given the result, better customer service and satisfaction that is one of the perceived benefits of e-banking services was an opportunity that influenced CBE to adopt the service. The interview result also confirmed that customer service and satisfaction was one of opportunities to adopt E-banking. See details in Table 3.2 below:.

Table 3.2 Customer service and satisfaction

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	20	40.0	40.0	40.0
2	24	48.0	48.0	88.0
3	1	2.0	2.0	90.0
4	4	8.0	8.0	98.0
5	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.1.4. Efficiency

Since e-banking system is almost paperless, banks can become more efficient than they already are by providing e-banking access for their customers. The need to become more efficient in service provision influences the bank to adopt e-banking. Based on this fact, the research tried to find out whether efficiency was an opportunity to CBE to adopt e-banking. As the result shows in below table 3.3, the highest per cent of the respondents that forms 94 percent agreed and strongly agreed that efficiency is the cause for adopting e-banking. Therefore it can be concluded that the need to become more efficient in service provision influenced the bank to adopt e-banking. Similarly, it has also been identified in the interview result that efficiency was one of opportunities available for CBE to adopt e-banking services.

Table 3.3 Efficiency

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	25	50.0	50.0	50.0
2	21	42.0	42.0	92.0
3	1	2.0	2.0	94.0
4	2	4.0	4.0	98.0
5	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.1.5. Potential to increase the profit of the bank

It was revealed that adopting E-banking system in banking industry reduce the total cost in long run and increase the revenue by raising the number of customers who are influenced by the benefit. Thus, it increases the profit of the bank. Since the goal of every business is to increase profit, the opportunity created by e-banking technology could influence banks to adopt it. The research tested whether the above fact is valid in CBE. The result shows that 46 respondents representing 92 per cent agree and strongly agree with the statement while 3 respondents representing 6 per cent disagree and strongly disagree with the statement with 2 per cent remaining neutral. Therefore, the lion share of the respondents accepted that the potential to

increase the profit of the bank was considered as an opportunity to adopt e-banking system. The interview result has also shown the same result that potential to increase the profit was one of opportunities available for CBE to adopt e-banking services. See table 3.4 for detail.

Table 3.4 Potential to increase the profit of the bank

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	21	42.0	42.0	42.0
2	25	50.0	50.0	92.0
3	1	2.0	2.0	94.0
4	2	4.0	4.0	98.0
5	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.1.6 Other benefits

The other benefits that banking industry can attain from adoption of E-banking system and investigated in this study are, create better relationship among banks and clients, additional services and information control tools, customer base, image building, and low transaction cost in the long run.

The respondents were asked whether they are agreed, strongly agreed, disagreed, strongly disagreed or neutral on other benefits to be considered as opportunity for the adoption of E-banking system and the result obtained from survey were shown on the following table.

Table 3.5 Other benefits

		Create better relationship among banks and clients	Additional services and information control tools	Customer base	Image building	Low transaction cost in the long run	reduce number of customers come to banking hall	improving of customer satisfaction	it reduces the work load of bank staff	create better relationship among banks and clients
N	Valid	50	50	50	50	50	50	50	50	50
	Missing	0	0	0	0	0	0	0	0	0
Median		2.00	2.00	1.00	2.00	2.00	2.00	2.00	1.50	2.00
Mode		2	1	1	1 ^a	2	3	1	1	2

Source: survey result

at least 62 percent of the respondents are agreed and strongly agreed that CBE have taken all other perceived benefits of e-banking as opportunity to adopt the technology. When comparing the responses, the benefits such as creates better relationship among banks and clients, customer base and image building takes the highest percentage that forms 92 per cent, 92 per cent and 94 per cent respectively. The above table 4.7 also shows that the median and mode value for all questions except for the equation related with reduce number of customers come to banking hall is between 1 and 2. Therefore one can conclude based on the result that the perceived benefits such as create better relationship among banks and clients, additional services and information control tools, customer base, image building, low transaction cost in the long run, improving of customer satisfaction, it reduces the work load of bank staff and create better relationship among banks and clients are considered as opportunities to CBE in adopting e-banking. Similarly, the interview result also indicates that all other benefits were considered as an opportunity. However, reduce number of customers come to banking hall is not considered as opportunity to CBE.

3.2. Challenges of adopting E-banking in CBE

Although E-banking provides a lot of benefits to the bank and customers as well, there are also obstacles of adopting the technology that prevents the banking industries from enjoying the

benefits. In Ethiopia, the adoption of e-banking in the banking industry is not developed as compared to other developed African countries. The following sections discuss the challenges of adopting e-banking in CBE related with environmental factors and resistance to change.

3.2.1 Environmental Factors

External environments considered in this research include: High rate of illiteracy, low level of internet penetration, lack of suitable legal frame works, poorly developed ICT infrastructure, high cost of internet, absent of financial network and frequent power interruption. The result obtained from survey and interview regarding the above issues were presented in the following sections.

3.2.1.1 High rate of illiteracy

Low literacy rate is a serious impediment for the adoption of E-Banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-Banking, they should not only know how to read and write but also possess basic ICT literacy (Getachew Worku, 2008). The employees of the CBE were asked whether a high rate of illiteracy was one of challenges to CBE in adopting e-banking. According to their response that displayed on table 3.6., 72 per cent of them agreed and strongly agreed that high rate of illiteracy was considered as challenge, 24 per cent disagree and strongly disagree and the rest 4 percent are remain neutral. Therefore, a high rate of illiteracy is considered as one of barriers of adopting e-banking and as risk factor for achieving the vision of creating cashless society.

3.6 High rates of illiteracy

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	21	42.0	42.0	42.0
2	15	30.0	30.0	72.0
3	2	4.0	4.0	76.0
4	10	20.0	20.0	96.0
5	2	4.0	4.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.2.1.2 Low level of internet penetration

Since e-banking needs internet service, the availability and level of internet is the basic factor that determines the service quality of adopting e-banking services. As the result of the survey indicates, low level of internet penetration was one of the challenges for CBE to adopt E-banking. The interview result also revealed that low level of internet penetration and absent of internet service in most rural part of the country were the major challenges in adopting E-banking. The response of selected CBE employees, on whether low level of internet penetration is the barrier on adopting e-banking, is presented on below table 3.7.

The result of the below table indicate that 37 respondents representing 74 percent of the respondents agreed and strongly agreed, 18 per cent disagreed and strongly disagreed while 8 percent were neutral. Therefore, the study revealed that low level of internet penetration is the major challenges to CBE on adopting e-banking

Table 3.7 Low level of internet penetration

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	17	34.0	34.0	34.0
2	20	40.0	40.0	74.0
3	4	8.0	8.0	82.0
4	8	16.0	16.0	98.0
5	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.2.1.3 Lack of suitable legal and regulatory framework

Every economic activity need suitable legal and regulatory framework to meet its goal. In banking industry, the adoption of e-banking needs legal and regulatory framework that prevents any challenges related to security before happening. This research tried to asking selected employees whether lack of legal and regulatory framework was considered as a challenge for CBE by asking CBE employees. The result is displayed in below table 3.8

From the Table 3.2 one cannot easily conclude that lack of suitable legal and regulatory framework is one of the main challenges that hindered the adoption of e-banking in CBE. The interview result showed that there is no suitable legal framework that prevents problems related with security as the technology is new to Ethiopia. As the table showed, 50 per cent of the respondents agreed and strongly agreed on the issue, 38 per cents are disagreed and strongly disagreed and the rest 12 percents are neutral. Moreover, as the result revealed that the medium of the response is 2.5 while the mode is 1.

Table 3.8 Lack of suitable legal and regulatory framework

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	17	34.0	34.0	34.0
2	8	16.0	16.0	50.0
3	6	12.0	12.0	62.0
4	17	34.0	34.0	96.0
5	2	4.0	4.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.2.1.4 Poorly developed ICT infrastructure

The availability of developed ICT infrastructure creates conducive environment to banking industry by removing challenges in adopting e-banking. It is thought that there is poorly developed ICT infrastructure especially in least developed countries such as Ethiopia. Based on this fact, this research asked the respondents whether poorly developed ICT infrastructure is considered as challenge to CBE in adopting e-banking. Results presented in below table 3.9 shows that 40 respondents representing 80 per cent agreed and strongly agreed on the issue that poorly developed ICT infrastructure were considered as challenge for CBE while 9 respondents representing 18 percent disagreed and strongly disagreed and the rest 2 percent are neutral. Therefore, it can be concluded based on the result that poorly developed ICT infrastructure constructed by the government was one of the major challenges for CBE in adopting e-banking. Similarly, the interview result also indicated that an ICT infrastructure that was developed by

Ethio Tele was so poor that it became a challenge to adopt the technology, so there is need to develop more, and then it can provide more facilities to the society.

Table 3.9 Poorly developed telecommunication infrastructure

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	20	40.0	40.0	40.0
2	20	40.0	40.0	80.0
3	1	2.0	2.0	82.0
4	8	16.0	16.0	98.0
5	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.2.1.5 High cost of Internet

Compared to the developed countries, there are higher costs of entry into the e-banking market in Ethiopia. These include high start-up investment costs, high costs of computers and internet and licensing requirements (Getachew Worku, 2008). This research asked the respondents whether high cost of internet is a challenge to CBE in adopting e-banking. The result of the survey presented in below table 3.10 shows that 56 per cent agreed and strongly agreed while 18 percent disagreed and strongly disagreed and the rest 2 percent are neutral on the issue. Since the number of the respondents who said that high cost of internet is a challenge is only slightly greater than average, we can conclude that high cost of internet is not a major problem to CBE in adopting e-banking.

Table 3.10 High cost of Internet

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	24	48.0	48.0	48.0
2	4	8.0	8.0	56.0
3	1	2.0	2.0	58.0
4	16	32.0	32.0	90.0
5	5	10.0	10.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.2.1.6 Absent of financial networks

In examining the challenges of adopting e-banking in CBE, the research also sought to find out whether absent of financial networks was considered as a challenge. From the responses, it was observed that absent of financial networks that links different banks were considered as a major challenge to adopt e-banking service in CBE. The results showed that a total 29 respondent representing 56 per cent agreed and strongly agreed that absent of financial networks that links different banks was a challenge to adopt E-banking. On the other hand, a total of 17 participants representing 34 per cent disagreed and strongly disagreed while 8 per cent remain neutral. See details in Table 3.11 below.

Table 3.11 Absence of financial networks

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	21	42.0	42.0	42.0
2	8	16.0	16.0	58.0
3	4	8.0	8.0	66.0
4	12	24.0	24.0	90.0
5	5	10.0	10.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.2.1.7 Frequent power interruption

The study revealed that one of the challenges for CBE in adopting e-banking is frequent power interruption. The majority of respondents representing 68 per cent agreed and strongly agreed that frequent power interruption in adopting e-banking became the major challenge. On other hand, 26 per cent were disagreed and strongly disagreed and the rest 6 per cent were neutral. See table 3.12 below for detail.

Table 3.12 Frequent power interruption

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	16	32.0	32.0	32.0
2	18	36.0	36.0	68.0
3	3	6.0	6.0	74.0
4	12	24.0	24.0	98.0

5	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Source: survey result

3.2.2. Technological factors (perceived risks)

The issues raised in this study in relation with technological factor are the relative advantages (perceived benefit) the firm gained from adoption of E-banking system and the relative disadvantages (perceived risk) which hinder banking industries from the adoption of new technological innovations. This section discussed the relative disadvantage of adopting E-banking in CBE. Factors considered as technological barriers in the study are challenges related with resistance to change to new technology.

3.2.2.1 Challenges related with resistance to changes in technology

One of the basic challenges in adoption of any new technology especially in least developed countries like Ethiopia is resistance to use new technology among societies. This is could be because of so many reasons but this research lists potential causes such as lack of awareness on the benefits of new technologies, fear of risks, tendency to be content with the existing structures, people may be resistant to new payment mechanisms and cyber security issues. The result of the survey by asking selected employees four different questions was presented in below table 3.13:

Table 3.13 Challenges related with resistance to changes in technology

		lack of awareness on the benefits of new technologies	Fear of risks	Tendency to be content with the existing structures,	Resistant to new payment mechanisms	Cyber security issues
N	Valid	50	50	50	50	50
	Missing	0	0	0	0	0
	Median	1.50	2.00	1.00	2.00	3.00
	Mode	1	1	1	1	1 ^a

Source: survey result

Regarding lack of awareness on the benefits of E-banking system revealed, the highest percentage of respondents that is 82 per cent agreed with the idea. On other hand, 70 per cent of the

respondents agreed on fear of risks while 72 per cent and 60 percent of the respondents agreed on the third and fourth question respectively. However, 44 percent of the respondents disagreed and 10 per cent were neutral on cyber security issues. As the descriptive statistics result shown in the above table 3.1 indicates, median and mode value for the first question is 1.5 and 1 respectively while median value is 2 and mode value is 1 for question two and four, and for third question median and mode value is 1. The table also shows that the median and mode value is 3 and 1 respectively for the question related to cyber security issue. These results revealed that lack of awareness on the benefits of new technologies, fear of risks, tendency to be content with the existing structures, and people may be resistant to new payment mechanisms are considered as challenges for the adoption of E-banking system in CBE. On other hand, cyber security issue is not challenge to CBE in adopting e-banking services.

4. Conclusion, Findings and suggestions

To achieve the proposed objective conceptual frame works were used; Technological factors and environmental factors. On the other hand, the study used both quantitative and qualitative (mixed) approach.

The study has identified a lot of opportunities that are the driving force to adopt E-banking in CBE. The use of environmental factors available in the country can be an additional force in adopting E-banking. Technological factors (perceived benefits) identified as opportunity of adopting E-banking in this research could be great potential for the bank to improve customer satisfaction.

Further, researchers' identified major challenges that hindered the development of E-banking in CBE. Among major challenges that came from external factors and identified in this study, poorly developed ICT infrastructure and frequent power interruption are the two basic factors affecting adoption of E-banking in CBE.

All challenges related with technological factors that were identified in this research were also other challenges that hindered the development of E-banking system in CBE. However, cyber security issue is not considered as challenge.

Among technological benefits provided by adopting E-banking services in CBE, save their time and improve their cash management habit, are the basic factors to increase customer satisfaction. However, the challenges faced by the customers using E-banking services including frequent power interruption, network interruption, and technical problems would decrease customer

satisfaction. On the other hand, security problems and errors were not considered as barriers in using E-banking services to customers.

Recommendations

Based on the above conclusion, the researcher s'has recommended the following key points:

- ✓ In order to adopt and further expand E-banking services, CBE have to fully utilize opportunities, which are available in the country, through incorporating in business plan of the bank and should develop awareness raising program to potential customers (society) on benefits of E-banking services relating with traditional system.
- ✓ CBE has try to increasing customer satisfaction and improve public image ,hence it should focus on informing customers (who are using only manual system) the benefit of using E-banking by using latest modes/medias in order to solve challenges related with resistance to changes in technology by customers,
- ✓ Finally, the government should support the bank by developing ICT infrastructure to meet the need of growing customers and establish strong legal framework on use of E-banking services for successfully adoption of modern technology. The government should bring awareness, not only customers but also whole society, on the benefits of E-banking technologies so as to create cashless society and it will lead to control block money also.
- ✓ In order to increase customer satisfaction and attract new E-banking users, CBE needs to assign trained personnel who are available all time for all at ATM machines and should replace the malfunctioning ATM machines with new one.
- ✓ Better to introduce new ATM machines with multiple functions like both cash deposits and withdrawals. Then customers can go only to E-services centers instead of bank branches.
- ✓ There is a lot of scope for further research in this banking e-services area for new finding of problems and can try to find the solution, which is very useful to our Ethiopian society.

BIBLIOGRAPHY

1. Abreazhevich, D. (2004). *E-payment Systems: a User-Centered Perspective and Interaction Design* . Eindhoven: Universiteitsdrukkerij Technische .

2. Bony, S. Z. (August,2012). *Practice of E-banking in commercial bank: An empirical study in Bangladesh*. Dehaka, Bangladesh : Unpublished .
3. *Comercial Bank of Ethiopia 2014, Annual Report, Avaiable at <http://www.combanketh.et/>.*
4. Chavan, J. (June 2010). *Internet Banking and Challenges in Emerging Economy* (Vols. 1,Issue 1). International Journal of Reseaech in Business Managment (IJRBM).
5. Daniel, E. (1999). *Provision of Electonic Banking in the Uk and the Republic of Ireland* (Vol. 17). UK: International Journal of Bank Marketing.
6. Deribie, B. D. (December 2012). *Evaluation of Customer Satisfaction on Bank Service .* Jimma, Ethiopia : Jimma University.
7. Gemechu, A. (June 2014). *Factors Affecting Adoption of E-Banking System* (Vol. 1). Addis Abeba, Ethiopia : Journal of Management Information System and E-commerce.
8. Getie, Z. (2010). *The Assessment on the contribution of Commercial Bank of Ethiopia Jimma Branch*. Jimma, Ethiopia: unpublished.
9. Karimzadeh, M. (2012). *Electronic Banking Challenges in India: An Empirical Investigation* (Vol. 4). Aligarh,India: Interdisplinary Journal of Cotemporary Research in Business.
10. Koskosas, I. (December, 2011). *The Prons and Cons of Internet Banking: A Short Review .* Kozani, Greece: Business Excellence and Managment .
11. Menson, E. (2010). *E-banking in Developing Economy: Empirical Evidence From Nigeria* (Vol. 5). Abuja: Centre for policy and Economic Research.
12. Mola, B. A. (June 2012). *Electonic Commerce: Opportunities and Challenges of General Importers in Addis Abeba*. Addis Abeba .
13. Otaif Hadadi, Y. F.-A. (2012). *E-Banking Benefits and Challenges*. Jizan : Jizan University.
14. Rahimuddin, M. (2010). *E-banking System in Pakistan*.

15. Shaikh, M. A. (2014). *Ethiopian Banker's Perception of Electronic Banking in Ethiopia* (Vol. 4). Adama: International Journal of Scientific and Research Publications.
16. Takele, Y. (2013). *Analysis of Factors Influencing Customers' intention to the adoption of E-banking* (Vol. 9). Axum, Ethiopia: European Scientific Journal.
17. Terefe, S. (2013). *Prospectives and Challenges of Privet Commercial Banks in Ethiopia*. Addis Abeba, Ethiopia: Unity University.
18. Tsegai, W. a. (2005). *E-paymeny: Challenges and Opportunities in Ethiopia*. Gonder: Unpublished.
19. Wisdom, K. (July 2012). *The Impact of E-Banking on Service Delivery to Custmers* . Akra, Ghana : Unpublished.
20. Worku, G. (2010). *Electronic Banking in Ethiopia-Practices, Opportunities and Challenges*. Gonder: Gonder University.