



## **Opportunity and Challenges of Electronic-Banking System in Commercial Bank of Ethiopia (A Case Study on Gurage Zone)**

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E-Banking, Information Technology, Opportunities, Challenges.

### **Jel Classification**

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### **Abstract**

This study is conducted with the purpose of analyzing the opportunities and challenges of electronic banking system in commercial bank of Ethiopia founds at Gurage zone. It was conducted based on data mainly collected from staff and customers of the bank through questionnaires and focused group discussion. The study identified benefits of electronic banking that a customer gets as a result of using e-banking services as well as the benefits the bank gets as a result of providing e-banking services. It also investigated the major challenges for the electronic banking services in commercial bank of Ethiopia as of infrastructural, legal and regulatory, socio-cultural, and illiteracy related challenges. To address various challenges identified on the study, the study suggests a series of measures which could be taken by government as well as commercial bank of Ethiopia.

## **1. Introduction**

In this era of globalization, with increased competition around the globe in all sectors, a strong banking industry is important in every country and can have a significant effect in supporting economic development through efficient financial services; as a result, many banks in the world are modifying their strategies to reach customers worldwide more easily and cheaply. Therefore, banks are developing the technologies that will help them deliver banking products and services by the most cost-effective channels and one of such channel is adoption of e-banking or internet banking. The transaction costs of providing these services are lower than the traditional approach. (Booz & Hamilton, 1997:4).

The rapidly growing information and communication technology is knocking the front door of every bank in the world, where Ethiopian banks would never be exceptional. Electronic Banking has been widely used in developed countries and is rapidly expanding in developing countries. In Ethiopia, electronic payment systems are at an evolving stage. In the face of rapid expansion of electronic payment systems throughout the developed and the developing world, Ethiopia's financial sector cannot remain an exception in expanding the use of the electronic banking system (Michael, 2004:1).

E-banking services are at an infant stage in Ethiopia; even though expansion of e-banking throughout the developed and the developing world is rapid, Ethiopia's financial sector remain behind in expanding the use of the service. Certainly, the banking industry is not well developed with a growing number of international trades; increase the demand of the customer and international relations. The today's banking system has problems of offering efficient and dependable services (Garedachew, 2010:9).

By considering that the Ethiopian banking system is underdeveloped compared to the rest of the world, there is an immediate need to embark on capacity building arrangements and modernize the banking system by employing the state of art of technology being used in anywhere in the world. With the growing number of import-export business, and increasing international trades and international relations, the current banking system is short of providing efficient and dependable services. Cash is still the medium of exchange. The use of checks is mostly limited to governmental institutions, non-governmental organizations and some private businesses. As a result, the country has not yet realized the full benefit of technological advances in electronic banking system (Garedachew, 2010:5).

The electronic banking service in Ethiopia is having been in operation for small period of time as a result, the Ethiopian financial sector has not been studied to any great extent, from the perspective of provision of electronic banking service. Therefore, more studies are still required to analyze the challenges and opportunities of E-banking in the country. Thus, to fill this gap and contributes to the literature on the electronic banking service in Ethiopia the study focused on analyzing opportunity and challenges of E-banking technology in Banking industry specifically in commercial bank of Ethiopia.

## **2. Literature review**

Abid and Noreen (2006:4) defined it as any use of information and communication and technology and electronic means by a bank to conduct transaction and have interaction with stake holders. Services offered by banks using the internet include: Mobile banking, PC banking, electronic fund transfers, e-payments and ATM cards. Of all e-banking services on offer, currently technological advancements is broadening the frontier of possibilities in all human endeavor's and thus more e-banking services are being developed and introduced. The rapid spread of information and communication technology (ICT) has made electronic banking the best channel to provide banking services/products to customers. The quality of online banking services has become a major area of attention among researchers and bank managers due to its strong impact on business performance, profitability and customer service delivery. Hence, banks now consider online banking as part of their strategic plan (Alhaji. A, & Josu. T, 2014:562).

Adoption of ICT has influenced the content and quality of banking operations. From all indications, ICT presents great potential for business process reengineering of banks. Investment in information and communication technology should form an important component in the overall strategy of banking operators to ensure effective performance. It is imperative for bank management to intensify investment in ICT products to facilitate speed, convenience, and accurate services, or otherwise lose out to their competitors (Agboola, 2004:19).

The study of Mwangi (2007:31) found that Internet banking has playing great role in saving costs and has encourage the competition severely, making the banking industry highly

demanding and critical for customers, decreases operational costs, increases customers' satisfaction and increases firms' overall profile.

A previous study by Joze, Julie & Angela (2002:1607) investigated that the major benefits of e-commerce adoption not anticipated by the sector are business efficiency, improved image, competitive advantage, increased automation of processes and increased business turnover. Also, the key challenges identified for the sector are the costs of the technology, the lack of knowledge of e-commerce, managing the change, budgeting and issues associated with linking back end systems.

Gardachew (2010:8) conducted a research on the opportunities and challenges of E-banking in Ethiopia and found that lack of suitable legal and regulatory frameworks for E-commerce and E payments, political instability in neighboring countries, frequent power interruption, lack of trained personnel's in key organizations, high rates of illiteracy and absence of financial networks that link different banks are the major challenges. The research output showed Opportunities offered by ICT through e-learning programs and Commitment of the governments on development of ICT infrastructures is considered as drivers of using E-commerce and E-payment systems

Wondwossen and Tsegai (2005:44) found that the main obstacles to the development of E-payments are lack of customers trust in the initiatives, unavailability of payment laws and controlling system especially for E-payment, lack of skilled manpower and frequent power disruption.

The study of Bultum (2014:2) aims to identify factors that affect adoption of e-banking in the Ethiopian banking industry. The result of the study also indicated that, the major barriers Ethiopian banking industry faces in the adoption of electronic banking are: security risk, lack of trust, lack of legal and regulatory framework, lack of ICT infrastructure and absence of competition between local and foreign banks.

Vaithianathan, (2010:84), found that security and data confidentiality issues, trust, quality of Internet, cost of implementation, lack of technological infrastructure and awareness, lack of skilled human resources, lack of government initiatives, low Internet usage, non-familiarity with technology and lack of top management support have been a major barrier. Since electronic banking service is having been in operation for a small period of time, the Ethiopian financial sector has not been studied to a great extent from the perspective of

provision of electronic banking service. A very limited number of studies has been conducted on electronic banking system in Ethiopia, and these studies mainly focused on factors influencing adoption of E-banking technology. Also there is no previous study done on the opportunity and challenges of e-banking system in Gurage zone therefore, more studies are still required to analyze the challenges and opportunities of E-banking in the country. Thus, the study aims to fill this gap and contributes to the literature on the E-banking industry in Ethiopia by analyzing opportunity and challenges of E-banking technology specifically in commercial bank of Ethiopia that currently operating on Gurage zone.

### **3. Methodology**

The study is descriptive in nature. The target population of the study consists managers, staffs and customers on 22 branches of commercial bank of Ethiopia founds in Gurage zone. Data used in this study was collected from primary and secondary sources. For this study, mainly primary data was used. This data's have been collected through well-structured Likert scale questionnaire and focused group discussion. Structured questionnaire was used to collect a data from managers and staffs of commercial bank of Ethiopia. The respondent staffs and managers were selected via simple random sampling procedure. For the purpose of gathering reliable and accurate information, focused group discussion was made with the purposively selected customers of commercial bank of Ethiopia founds in Gurage zone. After data were collected, it was coded and analyzed using descriptive statistics.

#### 4. Results and discussions

##### 4.1 Demographic characteristics` of the respondents

**Table 4.1** Demographic characteristics` of the respondents

	Description	Frequency	Percentage
<b>1. Gender</b>	A, Male	89	74.1%
	B, Female	31	25.9%
	<b>Total</b>	120	100%
<b>2. Age</b>	20-30	84	70%
	31-40	29	24.2%
	41-50	7	5.8%
	50 above	-	0%
	<b>Total</b>	120	100%
<b>3. Educational status</b>	Diploma	8	6.6%
	Degree	96	80%
	Master's degree	16	13.3%
	<b>Total</b>	120	100%
<b>4. Work experience</b>	< 2 years	24	20%
	3-5 years	72	60%
	6-10 years	24	20%
	> 10 years	-	0%
	<b>Total</b>	120	100%

Source questionnaire, (2018)

As it is shown on the above table, 89 respondents, representing 74.1% are males and only 31 respondent, representing 25.9% is female. This shows the gender distribution for male employees are very large than the female employees. In the case of classification of respondents by age, 70% of respondents, are their age between 20 – 30 years and 29 respondents, representing 24.2% are their age between 31- 40 years. This indicates that majority of employee's age is lies between 20 – 30 years. With regard to educational level of respondents, the table shows that 96 respondents, representing 80% of the employees are degree holders, 8 employee's holds diploma and the remaining 16 employees are master degree holders, on the other hand there is no other educational level from the sample. This shows that the highest percentages of employees are degree holders. In relation to work experience of employees, the table shows that 24 respondents, representing 20% of the employees have an experience of 0-2 years, 72 respondents, representing 60% of the employees have an experience between 3-5 years, and 24 respondents, representing 20% of the employees has an experience of 6 – 10 years.

## 4.2 Opportunities of e-banking

### 4.2.1 Benefits of e-banking to the bank

E-banking is use of information and communication and technology and electronic means by a bank to conduct transaction and have interaction with stake holders. Understanding e-banking service is also very important for several stakeholders, since it helps them to derive benefits from it. Many banks and other organizations have already implemented e-banking because of the numerous potential benefits associated with it.

**Table 4.2** Benefit of E-banking to the Bank

Items	Strongly Agree		Agree		Neutral		Dis Agree		Strongly Disagree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Improves relationship with customers	92	76.7%	28	23.3%	0	0%	0	0%	0	0%
Enables the bank to expand its service provision easy.	72	60%	48	40%	0	0%	0	0%	0	0%
E-banking enables 24 hour accessibility to the bank service.	36	30%	56	46.7%	0	0%	28	23%	0	0%
Increase efficiency of the bank.	72	60%	48	40%	0	0%	0	0%	0	0%
Enhance the image of the bank.	100	83.3%	20	16.7%	0	0%	0	0%	0	0%
Increase Revenues of the bank.	84	70%	36	30%	0	0%	0	0%	0	0%
Helps to perform transaction at lower cost	88	73.3%	32	26.7%	0	0%	0	0%	0	0%
Increases the productivity of the bank.	99	82.5%	21	22.7%	0	0%	0	0%	0	0%
Reduces paper work	108	90%	12	10%	0	0%	0	0%	0	0%
Reduce queues in the banking hall	36	30%	52	46.7%	8	6.7%	20	16.7%	0	0%

**Source: questionnaire (2018)**

The result of the finding shows that, there are so many benefits the bank deriving from delivering e-banking services. Some of these major benefits the bank derives from provision of E-banking services are; Improving customer services, Facilitating the work to be done fast, helping to facilitate work with minimum error, Simplifying the activity of employees of the bank in the delivery of services to customers, Enhancing the image of the bank, improving efficiency, reducing paper work, reduces queues in the banking hall, Increasing Revenues of the bank, reduction of cost, and improves relationship with customers. Almost all respondents agree and strongly agree with that of the above listed benefit of e-banking to

the bank. As a result, all are considered as the benefit of the bank resulted from provision of e-banking services in commercial bank of Ethiopia.

This finding is consistent with the result of focused group discussion as well as some existing findings in the literature. Such as (Yonas, 2017), Dawd, (2009), Olga, (2003), Shah and Clarke, (1997) and Devamohan, (2002). Mainly A study done by Shah and Clarke (1997) have revealed that almost all the above listed benefits as the benefit the bank derived from providing e-banking services.

#### 4.2.2 E-Banking Benefits to the Customers

E-banking is a form of banking service where funds are transferred through exchange of electronic signal between financial institutions, rather than exchange of cash, checks, or other negotiable instruments. In this competitive world, E-banking helps the banks to attract more number of customers and tackle the competition from other banks. Therefore, those banks beyond the benefit they acquire from provision of the service, they provide variety of benefits to their customers that uses the e-banking services.

**Table 4.3** Benefit of E-Banking to the Customers

Items	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
E-banking enables 24 hour accessibility to the bank service.	32	26.7 %	56	46.7%	0	%	24	20%	8	6.7%
E-banking enables customers to use bank services conveniently	52	43.3 %	40	33.3%	0	0%	20	16.7 %	8	6.7%
E-banking system saves time of customers	55	45.8 %	48	40%	0	0%	17	14.2 %	0	%
E-banking services enable users to complete banking activities more easily.	80	66.7 %	32	26.6%	0	0%	8	6.67 %	0	0%
E-banking banking service increase customer satisfaction.	88	73.3 %	32	26.7%	0	0%	0	0%	0	0%

**Source: questionnaire (2018)**



The result obtained from questioner as shown on the above table finds that the general system of e-banking provides variety benefits to the customers. This includes; 24-hour accessibility to the bank services, convenience, ease of use, time saving, and enhancement of customer satisfaction.

The focused group discussion respondents agreed and explained the benefits of e-banking. They concluded that, the customers can transact in their account at anytime and anywhere throughout the country or outside the country. There is no time and place restriction. The customers need not visit a branch for each and every transaction and no need to wait in the long queue, by this they can save the time. The customers can avail 24 hours a day and 7 days a week access to banking services at anywhere. With the help of e-banking, the easy access to the banks will be another advantage to the customers. Moreover, payment cards can make life easy for people who want to travel abroad as it minimizes the volume of cash one needs to carry and the associated risk of theft. From merchants' point of view, those merchants who accept cards enable to increase their sales as card holders prefer merchants who can accept their card for a payment. Moreover, by reducing the amount of cash on hand, merchants can manage to reduce risks as well as costs related to cash management.

The survey result is consistent with the findings of (Devamohan, 2002:), Dawd (2004) Moon and Kim (2001), Wang et al. (2003), and Amin et al. (2008), Pikkarainen et al. (2004), (Fatima, 2015) and (Olga, 2003).

### **4.3 Challenges of E-banking**

#### **4.3.1 Infrastructural Challenges**

Many of the factors affecting the successful adoption of new technologies such as e-commerce and E-banking are generic in nature and that the successful adoption of internet technologies in part depends on how these are used in conjunction with the other technologies and management practices that form a technology cluster. However, the most critical challenges can be ascribed to the very limited information and communication infrastructure available in most developing countries. This infrastructural challenge makes the bank not to provide e-banking service and also makes the customers not to use e-banking services properly.

**Table 4.4** Infrastructural Challenges of E-banking

Items	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
lack of reliable power supply	99	82,5%	21	17.5%	0	0%	0	0%	0	0%
Frequent power interruption	104	86.7%	16	13.3%	0	0%	0	0%	0	0%
Low level of internet penetration	44	36.7%	56	46.7%	12	10%	4	6.7%	0	0%
Poorly developed telecommunication infrastructure.	49	40.8%	53	44.2%	4	3.3%	16	13.3%	0	0%
Brocken and slow internet connection.	96	80%	24	20%	0	0%	0	0%	0	0%
Limitation in ICT infrastructure	40	33.3%	32	26.6%	20	16.7%	20	16.7%	8	6.7%

**Source: questionnaire (2018)**

The result of the study as shown on the above table investigated many infrastructural challenges as of frequent power interruption and slow and Brocken internet connection, Low level of internet penetration, Limitation in ICT infrastructure and poorly developed telecommunication infrastructures as the major challenges that currently commercial bank of Ethiopia faces.

The respondents of focused group discussion also agreed on the above challenges and indicates that the problems are raised as a result of weakness of government or insufficient support from government side because these infrastructures such as electric power and internet are monopolistically controlled by the government. They also recommended that the government should support the electronic banking sector by investing on telecommunication infrastructure development. In this regard, Ethio-telecom need to provide these banks to have a better and quality network having a higher bandwidth. By doing so, the existing quality of internet connection should also be improved until such time that successful implementation is achieved.

The above results are consistent with the findings of Gardachew (2010); Tan & Wu (2002); Martinson (2001); Trappey et al. (2001); Wondwossen and Tsegai (2005); Kumaga (2010); Gibbs et al. (2003); and Iacovou (1995).

**4.2.2 Illiteracy related challenges**

There are some roles of banking sector in e-commerce such as, online corporate banking, electronic fund transfer, automated teller machines (ATM), debit card, credit card etc. Bank is the authorized organization which can store and transact money. Technological developments in banking sector make trading activities much easier and cheaper for customers. Banking in Ethiopia faces numerous challenges to fully adopt E-banking. One of the major challenges in Ethiopia is high illiteracy rate. This challenge hinders the adoption of e-banking services.

**Table 4.5** Illiteracy Related Challenges of E-banking

Items	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq	%	Freq	%	Freq	%	freq	%	Freq	%
Lack of educated and efficient staff in e-banking context.	52	43.3%	28	23.3%	0	0%	24	20%	16	13.3%
Lack of customer awareness with E-banking product.	84	70%	36	30%	0	0%	0	0%	0	0%
Customers dis ability to access e-banking services	56	46.7%	36	30%	0	0%	20	16.7%	8	6.7%
Customer low levels of computer literacy.	64	53.3%	40	33.3%	8	6.7%	8	6.7%	0	0%
Lack of demand from the customer’s side	47	39.2%	44	36.7%	0	%	20	16.7%	9	7.5%

**Source: questionnaire (2018)**

As shown on the above table, majority of respondents are agree and strongly agree with the above listed illiteracy related challenges. This indicates that lack of educated and efficient staff in e-banking context, lack of customer awareness with E-banking product, customer low levels of computer literacy, Lack of demand from the customer’s side and customer’s disability to access e-banking services is the major illiteracy related challenges that hinders adoption of e-banking services in commercial bank of Ethiopia founds at Gurage zone.

The respondents of focused group discussion also agreed with all above listed illiteracy related challenges and they indicate some solutions to reduce illiteracy related challenges such as; enhancing awareness of customers especially in rural societies, making e-banking products user friendly means adoption of technology that make using of the service easy as calling or writing a text in a mobile phone, and addition of other language of using e-banking

services since in Ethiopia a large number of nation nationality exists, the current language of e-banking service provision is not enough.

The findings of Wondwossen & Tsegai (2005) and Gardachew (2010) consistent with the result of this study.

#### 4.2.3 Regulatory and legal issue related challenges

National, regional or international set of laws, rules, and other regulations are important prerequisites for successful implementation of e-banking services. Some of the main elements include rules on money laundering, supervision of commercial banks and e-money institutions by supervisory authorities, payment system oversight by central banks, consumer and data protection, cooperation and competition issues. Moreover, a legal and regulatory framework that builds trust and confidence supporting technical efforts to meet the same is another important issue that needs to be addressed. In this regard legislative support is essential for protecting the interests of customers and banks in various areas relating to e-banking and payment systems.

**Table 4.6** Regulatory and Legal Issue Related Challenges of E-banking

Items	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq	%	freq	%	freq	%	Freq	%	freq	%
Lack of suitable legal and regulatory framework for E-banking.	16	13.3%	24	20%	56	46.7%	16	13.3%	8	6.7%
Lack of law mandating the bank to adopt E-banking technology.	12	10%	24	20%	16	13.3%	36	30%	32	26.7%
Cross-country legal and regulatory differences.	7	5.83%	32	26.7%	16	13.3%	44	36.7%	21	17.5%
Lack of sufficient government support affects customers' willingness.	32	26.7%	36	30%	12	10%	32	26.7%	8	6.7%
Lack of government initiation or lack of government prioritization.	15	12.5%	21	17.5%	24	20%	36	30%	24	20%

Source: questionnaire (2018)

The result obtained from this study indicates that Lack of suitable legal and regulatory framework for E-banking and Lack of sufficient government support to enhance customers' willingness considered as regulatory and legal issue related challenges that faces commercial bank of Ethiopia.

This result is consistent with the focused group discussion and the findings reported earlier by Gardachew (2010), Ziad et al. (2009) and Wondwossen and Tsegai (2005).

Also, as per response of the respondents, Lack of government prioritization, Cross-country legal and regulatory differences, and Lack of law mandating the bank to adopt E-banking technology is not considered as a challenge. So, the result is inconsistent with the previous findings such as OECD (2004), Kassahun (2016) and Gardachew (2010).

**4.2.4 Socio-cultural related challenges**

Even though there are many benefits associated with adoption of new technology, there are many hindrance socio-cultural factors that affect effective implementation and extending of the technology. Cultural and historical differences and the use of different forms of money (e.g. use of credit card in North America and use of debit cards in Europe) complicate the task of developing an electronic payment system that is applicable at international level. Because, the existence of high illiteracy rate in most of developing countries is creating difficulty to match the society with modern technologies.

**Table 4.7** Socio-Cultural Related Challenges of E-banking

Items	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq	%	Freq	%	freq	%	Freq	%	Freq	%
Level of development of the society	60	50%	44	36.7%	0	0%	12	10%	4	3.3%
Consumer's confidence and trust in the traditional payment system.	52	43.3%	56	46.7%	0	0%	8	6.7%	4	3.3%
Cultural and historical differences in attitudes	35	29.2%	33	27.5%	12	10%	24	20%	16	13.3%
Resistance to changes.	44	36.7%	32	26.7%	20	16.7%	16	13.3%	8	6.7%
Difference in efficiency among peoples of different cultures	17	14.16%	24	20%	16	13.3%	35	29.2%	28	23.3%

Source: questionnaire (2018)

The result of the study implies that e-banking services are challenged by socio-cultural related problems as of level of development of society, customers trust in the traditional banking system and resistance to change.

The respondents of focused group discussion also agreed that the customers have a confidence in the traditional banking system, this confidence results not to use even if, not to think to use new- e-banking products. These challenges are created as a result of low level of awareness in the society, low level of urbanization rate in Ethiopia high illiteracy rate of the society. And also they recommend the bank to do more and more on awareness creation to minimize the impact of socio cultural challenges.

The result of the study is consistent with the findings of Alhaji (2009), and Kumaga (2010), but it is inconsistent with the finding of wendwossen and Tsegaye (2005) because unlike this finding their finding consider difference in efficiency among peoples of different cultures as challenge facing e-banking services.

## **5. Conclusion**

The banking industry in Ethiopian is underdeveloped and therefore there is an immediate need to embark on capacity building arrangements and modernize the banking system by employing the state of the art technology being used anywhere in the world. The banks operating in Ethiopia should recognize the need for introducing electronic banking system to satisfy their customers and meet the requirements of rapidly expanding domestic and international trades, and increasing international banking services.

The finding of the study reveals, the e-banking tools and similar e-banking services provide a lot of benefits mainly for the bank such as; attracting of customers by giving effective and time saving services, building good image of the bank, load reduction or reduction of working burden of the employee, improve organizational performance through cost reduction and it also increases the revenue of the bank by making different activity using this system. This implies that the bank adopts e-banking services in order to be advantageous from the above variety of benefits as a result of adopting e-banking services.

In addition to the bank, the customers also benefited from the service in different ways such as saving of time, getting 24-hour access, convenience and ease of use by using the service tools of the system. This implies that the customers are starting using of e-banking products in order to be beneficiary on the e-banking service benefits.

The finding of this study shows that, the infrastructural, legal and regulatory, illiteracy and socio-cultural related challenges of e-banking hinders the adoption of e-banking system in commercial bank of Ethiopia. This major challenges includes; Low level of internet penetration and poorly developed telecommunication infrastructure, lack of suitable legal and regulatory framework for e-commerce and e-payment, Lack of sufficient government support, high rates of illiteracy, Lack of educated and efficient staff in e-banking context, Lack of customer awareness with E-banking product, Customer low levels of computer literacy, absence of financial networks that links different banks, and lack of reliable power supply level of development of society, and resistance to change.

The followings are recommended to strengthen the e-banking system in Ethiopia: The government should support the electronic banking sector by investing a comprehensive regulatory and legal framework for e-commerce and e-payment, by providing incentives for financial institutions to invest rigorously on ICT and use of ecommerce. The Bank should also create deep awareness to community concerning the E-banking products they offer and the benefits associated with using E-banking services through advertisement on the internet, mass media as well as through organizing public exhibition and talk shows. Besides, the bank should attract the community to use the technology by diverse incentive campaigns. This way, customers' interest would be aroused on telecommunication infrastructure development.

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