

# IMPLICATIONS OF ELECTRONIC BANKING ON TRANSACTION COSTS: EVIDENCES FROM TANZANIA

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**Abstract:** Technology is transforming activities in all aspects in the banking industry. Banks are changing the way and mode of services delivery from traditional face to face administration to computer and electronic devices modes. There is an increasing use of ATMs, internet, and mobile phone (SIM) among banks customers. Customers are accessing bank services without even a need to visit the bank halls. However the prominent question is ‘does e-banking reduce or increase customer transaction costs?’ The implication of e-banking on customer satisfaction and transaction costs are still areas of research interest as businesses and households move into the very deep and extensiveness of e-banking era. This paper presents results of a study that was conducted in Morogoro municipality, Tanzania. The study intended to obtain views on cost implications of electronic banking on customers. The study was qualitative in nature, as it collected views and opinions from bank customers and bank officers. A total of 70 respondents were involved in the study. In-depth interviews allowed the study to establish how customers feel about the changes in transaction costs between e-banking and non-e-banking systems and services. Results showed that most of the banks customers who use of electronic banking acknowledge that banking transaction costs have declined with electronic banking. The reduced transaction costs with e-banking are embedded into banking services convenient, time saving, efficiency, and flexibility. However, e-banking convenience, efficiency and flexibility are associated with e-banking monetary charges.

**Keywords:** Electronic Banking, Benefits of Electronic Banking, Transaction costs, Mobile Phones, Internet Banking.

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## 1. INTRODUCTION

Advanced technology allows banks to enhance their operations with cost cutting effectively and efficiently in order to handle daily banking affairs via electronic banking. Customers are being facilitated by reducing their visits in banks and doing their transactions via internet, ATM and mobile phone instead of personally visiting the branches. The advent of electronic banking has allowed banking customers, individuals or businesses to access bank’s accounts and transact business or obtain information on banking products and services through the electronic channels like Automated Teller Machines (ATMs), Mobile phone (SIM) and internet. Internet banking links customers to perform banking transactions without visiting a brick and mortar banking institution. Resulting to improved customer services and flexibility in fulfilling customer changing needs and lifestyles.

Prior to the inception of the electronic banking, the banking industry operated in a traditional way (manual system), in which it was characterized by branch networking. The manual system had several implications to customers including; time consumption to complete banking transaction details, queues and congestion, less speedy and inefficiency and inaccurate services. However the prominent question with e-banking rhetoric is ‘does e-banking reduce or increase customer transaction costs?’ The implication of e-banking on customer satisfaction and transaction costs are still areas of research interest as businesses and households move into the very deep and extensiveness of e-banking era. This paper presents results of a study that was conducted in Morogoro municipality, Tanzania. The study intended to obtain views on cost implications of electronic banking on customers.

## 2. RELATED LITERATURE

### 2.1 Meaning of Electronic Banking:

According to Basel Committee on banking supervision (1998 and 2003) e-banking is described as the provision of retail and small value banking products and services through electronic channels. Such products and services can include deposit taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money. The term "electronic banking" or "e-banking" covers both computer and telephone banking. It refers to the use of information and communication technology by banks to provide services and manage customer relationship more quickly and most satisfactorily (Charity-Commission, 2003). Burr (1996) describes it as an electronic connection between the bank and the customer in order to prepare, manage and control financial transactions.

### 2.2 Electronic Banking Channels:

The promotion of electronic banking is contingent with widespread availability of internet access as well as advanced telecommunications infrastructure. And with the high mobile penetration and growth rates, mobile telecommunications networks are being considered as alternatives to the more traditional banking channels.

Automated Teller Machine (ATMs) allow customers to conduct banking transaction beyond banking hours, with online (internet) banking; individuals can check their account balances and make payments without having to go to the banking hall. This is gradually creating a cashless society where consumers no longer have to pay for all their purchases with hard cash. For example: bank customers can pay for airline tickets and subscribe to initial public offerings by transferring money directly from their accounts, or pay for various goods and services by electronic transfers of credit to the sellers account. As most people now own mobile phones, banks have also introduced mobile banking to cater for customers who are always on the move. Mobile banking allows individuals to check their account balances and make fund transfers using their Mobile phones (Amedu, 2005).

Jayawardhena and Foley (2000) posits that electronic banking as a new service delivery channel has provided banks with a clear cut solution to the inherent disadvantages of traditional bank service delivery practices. Specifically, large volumes of transactions are successfully carried out because of electronic banking in contemporary times.

Yang and Fang (2004) point out that many online customers choose internet based suppliers with basic customer services. Oghenerukevbe (2008) indicate that internet banking provides alternatives for faster delivery of banking services to a wider range of customers. The revolution over the electronic banking is largely on the mobile phone banking and is found enough in the developed countries compared to developing countries especially in Africa (Ivatury, 2006; Morawczynski, 2008). Initial analysis seems to indicate that while today's mobile banking systems are providing good money transfer and payment services to early users, there will need to be better marketing and training involved to help consumers understand what the systems are capable of, as well as improved policy measures to ensure that the benefits of mobile banking are evenly distributed across all banking and consumer sectors (Ivatury, 2006).

### 2.3 Benefits of Electronic Banking:

According to Nathan (1999), electronic banking services have provided numerous benefits for both banks and customers. The first benefit for the banks offering electronic banking service is better branding and better response to the market and thus gaining the competitive advantage over other banks. Those banks that would offer such service would be perceived as leaders in technology implementation. As a result, they would enjoy a better brand image. On the other hand, the advantages for the customers are significant time saving and reduced costs in accessing and using the various banking products and service, increased comfort and convenience (Sattye, 1999).

Convenience of conducting banking transactions out of bank branches has been found significant in the cases of adoption of the electronic banking, customers are able to do their banking 24 hours a day, 7 days a week. E-banking customers are able to check their account balances, pay bills, apply for a loan, trade securities, and conduct other financial transactions, Moutinho and Smith (2000) pointed out that each ATM could carry out the same, essentially routine, transactions as do human tellers in branch offices, but at half the cost and with a four-fold advantage in productivity. However the technological innovation in the banking industry cannot be completely regarded as a substitute for tellers for example because there are a number of times where the ATMs fail to function thus making the customer unable to access the banking services.

KPMG (1998) points out that bank's revenue increases from Internet Banking due to: Increased account sales; Wider market reach; New fee-based income; New market opportunities; Improved customer satisfaction. For consumers, Internet banking provides convenience, lower service Charges, more accessible information about bank accounts, and an attractive option for busy people since it saves time to go to the bank branches and gives 24 hours access (Lee and Lee, 2000).

A reduction in the percentage of customers visiting banks with an increase in alternative channels of distribution will also minimize the queues in the branches (Thornton and White, 2001). Increased availability and accessibility of more self-service distribution channels like the mobile phones help bank administration in reducing the expensive branch network and its associate staff overheads as well as providing customers with more effective services at low transactional costs compared to the retail banking. Bank employees and office space that are released in this way may be used for some other profitable ventures (Birch and Young, 1997). This ultimately leads towards improved customer satisfaction and the institution's bottom line (Thornton & White, 2001).

Sergeant (2000) is of the view that for banks, E-banking brings different and arguably lower barriers to entry; opportunities for significant cost reduction; the capacity to rapidly reengineer business processes; and greater opportunities to sell cross border. For customers, the potential benefits are: more choice; greater competition and better value for money; more information; better tools to manage and compare information; and faster service.

Customers who use electronic banking are gaining transactional benefits at high level as the smooth and efficient services are provided in a more convenient way compared to the previous time they have been used to, transactional cost reduction have been the motive factor for e banking user such as through mobile banking and internet banking which are getting the new phase of efficiency provision of better banking services to customers. However many researchers posing out the advantages associated with the adoption of the electronic banking in the banking industry, there are as well some of the challenges from the use of the electronic banking as according to the Kamel (2005) the challenges include infrastructural barriers, knowledge barriers, legal and security issues, economic factors, social and cultural barriers and management and banking issues. Thus the need for the covering up of the challenges would harness the advantages of the electronic banking to large extent.

According to Rafu (2007), online banking ensures customer satisfaction as it extends financial services to customers outside the banking hall. Similarly, e-banking has provided banks with a large customer base as it has resulted in increased customer loyalty and satisfaction (Sohail and Shanmugham, 2003). Mahdi and Mehrdad (2010) used chi-square to determine the impact of e-banking in Iran and their findings from the viewpoints of customers is that, e-banking cause higher advantages to Iranians. In other words, Iran banks provide services that the customers are deriving satisfaction with particular reference to the use of e-banking. In a another study, Jayawardhena and Foley (2000) found e-banking as a new delivery channel that may help to overcome the inherent disadvantages of traditional banks hence resulting to the mass of customers enjoying maximum satisfaction out of the electronic banking usage.

It is obvious that the success of electronic banking as argued by many researchers depends largely on the customer preferences and satisfaction, bank service quality in which all this would result to the competitive advantage to the bank, as each bank is striving for in the banking industry right now. Recent studies found that consumer behavior is changing partly because of more spare time. The way of use of financial services is characterized by individuality, mobility, independence of place and time, and flexibility (Seitz and Stickel, 2004). However other researchers did the study on the customers perception of and reaction to the electronic banking products and services, and others on the customer satisfaction and concluded that few E banks that face liquidity problem in the advanced countries is a result of the negative perception their customer have on their services. In fact in some countries, E banking products and services are not very popular because customer do not consider them as better alternative to traditional banking services (Balachandher, 2001),

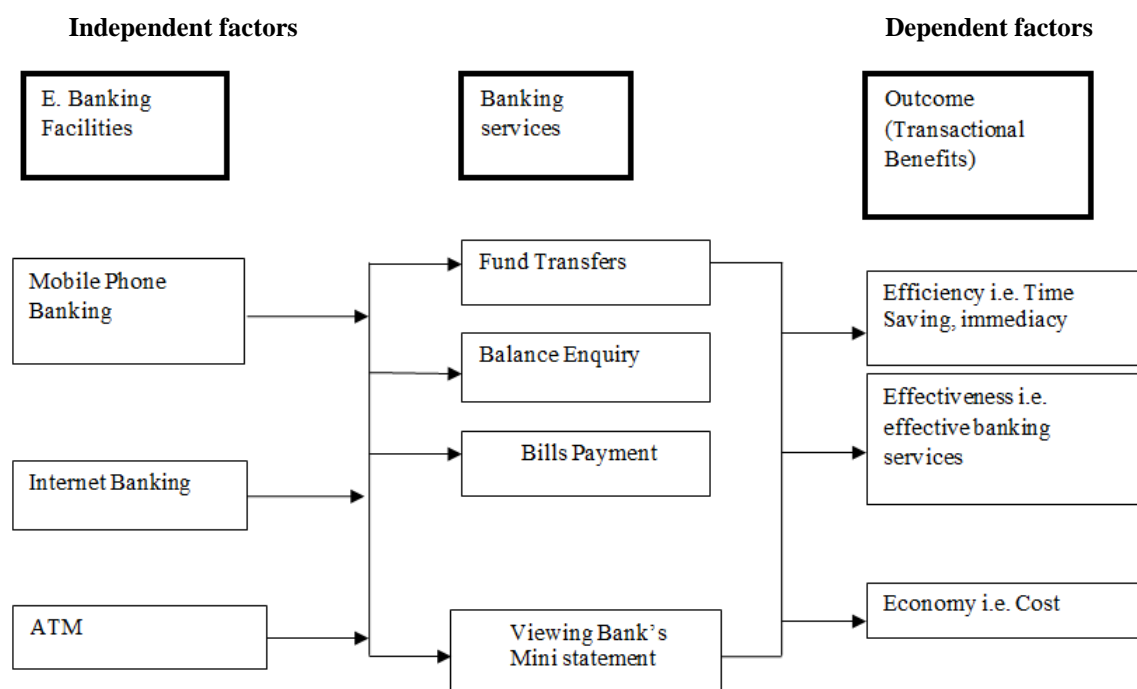
Bello and Dogarawa (2005) also examined and assessed the impact of e-banking services on customer satisfaction in the Nigerian banking industry. Their study found out that many banks' customers in Nigeria are fully aware of the positive developments in information technology and telecommunications which led to the introduction of new delivery channels for Nigerian commercial banks' products and services. The aim was to satisfy and get customer delighted. Most customers however, still patronize the bank branches and find interaction with human tellers as very important. Secondly the study found that customers enjoying electronic banking services are still not satisfied with the quality and efficiency of

the services. This is expressed in the number of times customers physically visit banks and length of time spent before such services are received. Customers' perception of and reaction to these developments are issues of concern to both Government and banking industry.

The success of electronic banking depends largely on the customers' satisfaction of the products and electronic banking services, the banks need to make enough efforts in creating awareness among existing and prospective customers about the benefits of the electronic banking products and services. In Tanzania electronic banking products are gaining ground as many customers receiving them as a solution to the problems of poor traditional service delivery especially with the increase use of the mobile banking. However experts posit that the rate at which many customers accept the product is still very low beyond expectation, some research finding posits that due to lack of awareness about the product, illiteracy of the majority who creates the unbanked society, inadequate legal framework and low technology. Hence it's for the regulatory authority like (BOT) and banks to foster the financial inclusion innovation especially with the mobile banking in which many customers may find friendly to use and enhance efficiency in the banking industry later customer satisfaction on hand.

#### 2.4 The conceptual Model:

Figure 2.4 below shows the conceptual model that guided the study. Demonstrating the impact of electronic banking on banking services, variables used in this model are explored from the literature review from previous studies. The model shows relationship between the independent variables including the electronic banking facilities in terms of Internet banking, mobile phone (SIM) banking and ATM and dependent variable being transactional benefits including efficiency in terms of time and convenience, effectiveness and economy in terms of cost per transaction as the impacts of electronic banking to customers, where the relationship is being moderated by the common banking services provided through electronic banking including balance enquiry, payments transactions like bills payment, fund transfers and viewing bank's account mini statement.



Source; Author's conceptualization from literature (2018)

Figure 2.1: the Conceptual Model:

### 3. METHODS

The study was qualitative in nature. In-depth interviews design was chosen to enable the study collect rich description and narration from the respondents. The study was conducted in Morogoro municipal Tanzania. The Morogoro Municipality have several bank branches including NMB bank, CRDB bank, NBC bank, Exim Bank, Postal Bank, Barclays bank, and Bank of Africa. Microfinance institutions in the area are FINCA and PRIDE. The municipality is highly served good

number of agents of telecommunication mobile banking like Tigo-pesa, M-Pesa, T-Pesa, Halotel Pesa, and airtell money. The total number of respondents drawn from all these various groups was 100. Thus the result presented in the next section are based on view, opinion and perspectives of the 70 respondents in the names of bank officers, bank customers, telecommunication mobile banking operators. Some of the information was collected by means of likert scale as indicated in Table 1.

**Table 1: Summary of information/variables operationalized through likert scale**

N	variable	description	measurement	Scale of measurement	Analysis technique
1	Transaction fee/cost	Low cost charged per transaction	Level of acceptance	1.Strongly disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly agree	Percentages Mean/averages frequency
2	convenience	Anytime and anywhere banking facility (24/7)	Level of acceptance	1.Strongly disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly agree	Percentages Mean/averages frequency
3	Time saving	no need to visit bank branch	Level of acceptance	1.Strongly disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly agree	Percentages Mean/averages frequency

#### **Study variables:**

A five point likert scale was used to capture the opinion and perspectives of respondents on each of the study variables of interest. In the 5 point likert scale respondents were required to respond to one of the options, as 1-strongly disagree, 2-disagree, 3- neutral, 4- agree, 5- strongly agree.

The obtained data was analyzed through descriptive technique like percentages and frequency whereby frequency of the responses to the questions were depicted and the percentage of each response according to 5 point likert scale was calculated to show the proportion of how respondents agree to the reduction of transaction cost through using e banking. The results are shown in tables.

#### ***Transaction fee/cost***

The variable describes the fee charged to customers for making electronic banking in a single banking transaction. The variable was described and respondents were required express their perceptions in terms of the level of their acceptance as to whether the transactional cost per transaction is reduced with electronic banking.

#### ***Convenience***

The variable describes the provision of electronic banking services 24 hours a day (24/7) with efficiency and effectiveness of services, the electronic banking enhances anytime and anywhere banking facility. Thus impacting the transaction costs of electronic banking services.

#### ***Time saving***

The variable described the extent to which the electronic banking impact the transactional costs of electronic banking services to customers in form of time saving as through electronic banking the customers have no need to visit the bank branches to transact rather they transact electronically.

## 4. RESULTS

### 4.1 Transactional benefits of using electronic banking:

The analysis presents the findings on the extent to which the respondents perceive the transactional benefits arising from using the electronic banking facilities like ATM, SIM Banking and internet banking.

#### 4.1.1 Electronic banking provides convenient way to conduct banking transactions:

The analysis showed that 2.8% of respondents strongly disagreed with the pinion that e- banking provide a convenient way of conducting banking transaction, 64.3% of the respondents agreed with the opinion that e- banking is convenient and 32.9% of the respondents strongly agreed with the opinion that e- banking is convenient. The summary of the results are as shown in the Table 2 below.

**Table 2: Electronic banking convenience**

Category	Frequency	Percent
Strongly disagree	2	2.8%
Disagree	0	0%
Neutral	0	0%
Agree	45	64.3%
Strongly agree	23	32.9%
<b>Total</b>	<b>70</b>	<b>100%</b>

Source; researcher's survey, 2016

#### 4.1.2 Electronic banking enhances accessibility of banking services:

Respondents were asked to rank the opinion that e- banking enhances accessible of banking services. The analysis showed that 1.4% of respondents strongly disagreed that e-banking is anywhere and anytime banking facility, 2.9% disagreed that e- banking is anywhere and anytime banking facility, 21.4% could not tell whether E banking is anytime and anywhere banking facility, 65.7% agreed that E banking is anytime and anywhere banking facility and 8.6% strongly agreed that e-banking is anytime and anywhere banking facility. Table 3 provides a summary of the results.

**Table 3: Accessibility of banking services with E-banking**

Category	Frequency	Percent
Strongly disagree	1	1.4%
Disagree	2	2.9%
Neutral	15	21.4%
Agree	46	65.7%
Strongly agree	6	8.6%
<b>Total</b>	<b>70</b>	<b>100%</b>

Source; researcher's survey, 2016

#### 4.1.3 Electronic banking saves transaction time:

Respondents were asked to rank the opinion that electronic banking provides services without the need to visit bank branches thus saving banking services transaction time. The analysis showed that 1.4% of respondents strongly disagreed, 2.9% disagreed that electronic banking saves time, 17.1% could not tell whether e banking saves time, 65.7% agreed that e- banking saves time, 12.9% strongly agreed that e banking saves time. Table 4 below presents the details of the results.

**Table 4: E-Banking and Time saving**

Category	Frequency	Percent
Strongly disagree	1	1.4%
Disagree	2	2.9%
Neutral	12	17.1%
Agree	46	65.7%
Strongly agree	9	12.9%
<b>Total</b>	<b>70</b>	<b>100%</b>

Source; researcher's survey, 2016

#### 4.1.4 Implications of Electronic banking on transaction fees/charges:

The respondents were asked to rank whether transaction fee and charges on electronic banking services is lower compared to traditional banking. Results indicated that 1.4% of respondents strongly disagreed that e-banking has lower transaction fee and charges, 1.4% disagreed that e- banking has lower transaction fee, 17.2% could not tell if e- banking has lower transaction fees, 75.7% agreed that e- banking has lower transaction fees and 4.3% strongly agreed that e- banking has lower transaction fees, as shown in Table 5 below.

**Table 5: E-banking lowers transactions fee (cost)**

Category	Frequency	Percent
Strongly disagree	1	1.4%
Disagree	1	1.4%
Neutral	12	17.2%
Agree	53	75.7%
Strongly agree	3	4.3%
<b>Total</b>	<b>70</b>	<b>100%</b>

Source; researcher's survey, 2016

#### 4.1.5 The Implication of Electronic banking on transactions efficiency:

Electronic banking are believed to offers banking transactions which are efficient in terms of speed and accuracy. Respondents were asked to rate this perspective. Results showed that 2.9% strongly disagreed that e- banking transactions were efficient, 2.9% disagreed that e- banking transactions were efficient, 1.4% could not tell if e-banking transactions were efficient, 50% agreed the E banking transactions were efficient and 42.8% strongly agreed that e- banking transactions were efficient,. Table 6 below provides the details of the results.

**Table 6: Opinion on the implication of electronic banking on transactions efficiency**

Category	Frequency	Percent
Strongly disagree	2	2.9%
Disagree	2	2.9%
Neutral	1	1.4%
Agree	35	50%
Strongly agree	30	42.8%
<b>Total</b>	<b>70</b>	<b>100%</b>

Source; researcher's survey, 2016

## 5. DISCUSSION OF THE FINDINGS

### 5.1 Impact of electronic banking on transactional costs of financial services to customers:

The transactional benefits of e-banking in the context of the study included; efficient transactions, lower transaction fees, convenience, accessibility, and time saving.

#### 5.1.1 Convenience of electronic banking transactions:

This study results showed that most of the users of electronic banking agreed that electronic banking transactions were convenient, such that electronic banking enabled the better services to customers and in a more convenient way than traditional banking. Kwashie (2012) found that 76% of the customers who uses electronic banking agreed that electronic banking was convenient, useful and fast. The finding indicate that most of the users of electronic banking find convenient to conduct banking financial services through electronic banking rather than through branch banking which is characterized with problems of queues and many paper works. Sumani (2011), in his study in Ghana, came with the findings that most of the users of electronic banking perceived and agreed to it to be convenient and fast and customers carry their transaction smoothly compared to branch banking where its less convenient. Wu (2005) documented that convenience of electronic banking services to be one of the influencing factor to adopt internet banking in South Africa. The research in this study indicate that most of the users of electronic banking agreed to the convenience of electronic banking in carrying financial services as compared to branch banking which is less convenient.

#### 5.1.2 Accessibility of banking facility:

The findings of the study showed that a majority of the users of electronic banking agreed that electronic banking is anytime and anywhere banking facility, meaning that customers can access electronic banking services at any location and at any time, with the use of well-located ATMs, with the use of internet and SIM Banking anywhere and anytime enables customers to conduct banking services more convenient without visiting bank branches. This indicate that adoption to electronic banking by customers enhance the transactional costs benefits as one can conduct banking transactions at any time and at any location, and the study reviled the highest perception of the users on accessibility of the electronic banking. Sumani (2011) found that many customers perceive the advantage of electronic banking as anytime and anywhere banking facility, as most of the users agreed that they frequent access electronic banking services without visiting bank branches. This finding is consistent with the study's finding as customers agreed to anywhere and anytime banking facility of the electronic banking.

#### 5.1.3 E-banking and Time saving:

This study has found that 78.6% of the users of electronic banking agreed that electronic banking save times when conducting banking transactions such that it requires one to undertake banking services without visiting in bank branches and transactions being undertaken in a very short time. This indicate that most of the customers perceive that usefulness of electronic banking as it consumes less time to accomplish a transaction compared to time taken by attending bank branches. A customer can freely use internet or Mobile banking or ATM to carry out banking transaction. The finding is consistent with those by Kwashie (2012) who found that most that electronic banking services saves time much more than manual banking. Wu (2005) has a motivating factor as requires one not to visit a bank branch.

#### 5.1.4 E-banking has Low transaction fees:

Majority of the users of electronic banking agreed that electronic banking is the cheapest form to conduct banking transactions. Although some charges are imposed on every e-banking services, the charges per transactions are very low compared to the benefits. Cost savings has helped electronic based banks to offer lower or no service fees to their customers as Kannabira and Narayan (2005) report. Yet in another study by Akuffo (2012), 87% of the customers said that electronic banking transactions are cheap or have lower transactional charges compared to manual banking.

#### 5.1.5 E-banking and Efficiency of Banking Transactions:

The study has found that 92.8% of the users of electronic banking agreed that electronic banking offers efficient banking transactions and this include the speed of financial services, immediate and quick transaction and check out with minimal time compared to the manual banking. The findings are in agreement with those by Sumani (2011) which showed that most of customers who participate in electronic banking make transaction very fast and accurate compared to manual banking where human errors are often and reduces the accuracy of banking transactions to customers.



## 6. CONCLUSION AND RECOMMENDATION

### 6.1 Conclusions:

Electronic banking is transforming the banking industry in the Tanzania. It is changing the traditional banking into modernized banking, with great technological sophistication, which entails rendering self-service banking operations to customers. This study has shown that customers perceive the transactional costs benefits with the use of electronic banking in form of convenience, time saving, lower costs, and efficient. However still there are many non-adopters of electronic banking and still most of the customers patronize branch banking to electronic banking. This is why we continue witnessing congestion in bank branches.

### 6.2 Recommendations:

The study recommends banks to make electronic banking more useful and usable. This can be enhanced by doing the following:

- Increasing customers awareness of the usefulness of using electronic banking services, with the need to educate customers extensively on the use of electronic banking services especially internet and SIM banking which are not so well patronized by customers
- Build customers recognition of electronic banking; through emphasizing the advantages of electronic banking services, such as time saving, low cost services, convenience and efficient transactions and provide various types of information both financial and non-financial.
- Customers feedback on electronic banking services should be elicited and analyzed
- Improve help and facilities in their electronic banking services and carrying out frequent customer surveys so as to understand what their needs are and developing electronic banking strategy to enhance sustainable banking efficiency.
- Sophistication and improvement of mobile and internet banking, through incorporating more banking services to be conducted via e banking which will largely reduce bank branches congestion.
- More ATM facilities should be placed at potential locations in the town centre and in rural areas to reduce distance and time use in accessing the facility.

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