

# Impact of Information Technology in Banking Innovations: A Case of Azania Bank Limited Tegeta- Dar ES Salaam

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**Abstract-** Innovation is broadly seen as an essential component of competitiveness, embedded in the organizational structures, processes, products, and services within a firm. The objective of this paper is to explore the impacts of technological innovation to the performance, in banking industry. The study was conducted in Dar es Salaam using Azania Bank Ltd at Tegeta branch as a case study. The population of the study included all Azania staff and its costumes the sample size of 58 respondents was drawn randomly from the entire population. Primary and secondary data were collected using interview, and observation. The qualitative data were content analyzed while quantitative data were analysis' numerically ,analyzed. Results of this study reveal that ICT has impacted positively on banking performance. It is also observed that market performance indicators' such as net income and market share are supported by innovation types performed. The researcher suggests that banks should continue to employ farther technological innovation in "back-office" technologies, as well as to "front-office" technologies in order to improve their performance and increase customer satisfaction. The research also suggests that organizational research should be done before the implementation of any new technological application as well as periodical evaluation must be done after the implementation to ensure progressively market performance. The findings provided by this research have significant implications for the commercial applications when designing marketing strategies to improve business performance in banking industry. Having a clear understanding of the exact nature of innovations will help banks to prioritize their market, services and technology strategies, to be followed by appropriate subsequent action plan.

## I. INTRODUCTION

Azania Bank Ltd (formally 1<sup>st</sup> Adili Bancorp Ltd) is now a Commercial Bank which was established in 1995 following the liberalization of the banking sector. The initiative of setting up the bank came from indigenous Tanzanians who teamed up with the two social security fund in the country, National Social Security Fund (NSSF) and Parastatal Pension Fund (PPF) to support the start up of the bank. The bank also obtained participation from international aid organizations such as Swedish International Development Agency (through Swedish Fund) and American bullion trader and merchant bank, Gerald Metals Inc.

Today the major shareholders of the Azania Bank are National Social Security Fund (NSSF) 34.8%, Parastatal Pensions Fund (PPF) 30.1%, Public Service Pensions Fund

(PSPF) 17.2%, Local Authorities Pensions Fund (LAPF) 14.2%, East African Development Bank (EADB) 2.3% and same indigenous shareholders such as staff holding 1.4% of the shares. The Bank is currently providing banking services at 15 locations in Tanzania whereby 11 are full branches and 4 are agencies. In this shared infrastructure member banks are now implementing additional services like internet banking that will facilitate online fund transfers through accounts in different banks, mobile banking, online air time recharge, utility bill payments and exploring options for institution of gateway to other international networks like VISA, Master Card etc.

In the past two decades before the technological innovation in the banking industry activities were mainly done manually. Despite the fact that, the main goal of Azania Bank Ltd is to be the one stop financial centre for the small and medium sized enterprises and becoming a leading bank in providing banking and financial services to the small and medium sized customers, low level of technology become among the obstacles to its performance. Due to the desire of banks on improving performance and increased competitive advantages every bank tries to come up with new innovations (Kuratko & Hodgetts,1998), "The comprehensive competition, which became particularly tough after 80's, forced the company's focus on their business strategies, especially on innovations" (Drucker, 1985; Hult et al., 2003). Because of the tough global competition, both individuals and companies begin to evaluate and apply their innovation strategies and entrepreneurial abilities with the purpose of gaining competitive advantage (Hult et al., 2003). Essentially, the key reason for innovativeness is the desire of firms to obtain increased performance and increased competitive edge. As Miller (2001) stated that "most firms seek technological innovation to gain competitive advantage in their market". Azania Bank also procures new technology and using it in order to increase its competitive advantages in the market

For specifying such a period of 2007 to 2011, where the Azania Bank's management set out a five years comprehensive plan on the strength of sound business performance shareholder agreed to inject additional capital of Tshs. 19.5 billion within two years to support further expansion of branches, and investment in robust Communication and Information Technology. As shown below some background statistics on changes on performance in Azania bank over time due to new technological innovation. The data shows that between 2007 and 2008 the revenues drop off from Tshs. 839 million to Tshs. 701 million equivalents to 0.836% annual negative growth. Also the report show that to the year 2009 the Azania Bank net income continue to decrease to

Tshs. 652 million equivalent to 0.93% from income earned in 2008 this approximated to falling in the average of 0.883% annually between two consecutive years. From 2009 to 2010 the income has been raised to Tshs. 1,178 million equivalent to the growth of 1.807%, from 2010 to 2011 the income also continue to rise up to Tshs. 2,694 millions equivalent to the growth of 2.287% annually this is equivalent to the average of 2.047% growth between two consecutive years.<sup>1</sup>

Despite the fact that every organization in banking industry uses technology to convert its inputs into output to attain its organizational objectives, structures and strategic planning processes, (the quality of strategic planning is limited by the quality of Information and Communication Technology (ICT) available to the decision makers and executive information system (Glover, 1993). The adoption of Information and Communication Technology (ICT) by these banks has increased its operational efficiencies, reduced cost through high utilization rates in the ICT environment to ensure compliance with changing time and to gain competitive advantage (Haggani, 2003). Information and communication Technology has become a potential tool in the hands of banks for sustainable growth it has revolutionized the banking industry and its advent has enormously increased the capabilities of banks as they are now able to offer wider range of services to their customers including internet banking , mobile banking and also expand at a great rate. Despite all these innovations in the banking industry, it is highly disheartening to observe that banks are still finding it difficult to meet the expectations for their customers as regards to service delivery. This was proved by the findings of *Sullivan (2000); on his study about* "the impact of the introduction of transactional Internet banking on performance and risk profile" that "Internet banking variable did not show a significant association with the performance as well as with operating risk variable. Thus, Internet banking did not prove to be a performance enhancing tool, it neither reduced nor enhanced risk profile". In motive of these challenges that facing the *banking industry, the researcher* has been interested to undertake the study on "*assessment of the impact of Information Technological* innovation to the banking industry performance in Tanzania" so as *to determine* the types of technological innovation used by Azania bank in *the* recent years, to *assess the effect of ICT* innovations in improving customer satisfaction and to establish the impact of technological innovation towards operational cost.

**Drivers of innovation:** Various factors push an organization to innovate whereby each of these drivers demands continuous innovation and learning so that the process can be repeated continuously. These drivers also help to create a sense of urgency around the need to create new organizational goals and generate new ideas for meeting these goals. According to (Sullivan, 2008) there are four (4) drivers of innovation as follows.

**Emerging technologies:** These have the potential for significant innovation across the organization and can be the basis for innovative products, processes, and services that can revolutionize the fortunes of an organization. In the past, organizations developed technologies in large R&D laboratories; however, in today's environment the sources of emerging technology are often far too prolific for any one organization to

develop internally. Sources of emerging technology can include universities, high-technology startups, and competing organizations.

**Competitor actions:** The innovative actions of competitors and other organizations can be another driver of innovation. Competitors can provide a benchmark regarding which projects and initiatives to pursue. Copying competitor innovations reduces risk because the products may have already been adopted by the market

**New ideas:** In the past, innovations were developed from the insights of a small number of designers and engineers. Now, however, with greater technological complexity and market segmentation, modern organizations are engaging as many stakeholders as possible in the innovation process. This can result in increased scanning capabilities and better information about market needs. Engaging employees, suppliers, customers, and other lead users can reveal new opportunities that otherwise might have gone undiscovered.

**External environment:** All organizations are affected by changes in their external environment; these changes can be another driver of innovation. Environmental changes can occur because of competitor actions that have revolutionized the business environment or can happen through macro shifts in the political, economic, cultural, or technological environment. As organizations struggle to realign with their new business environment, they must innovate their products, processes, and services accordingly.

#### Types of innovation (4p's of innovations)

**Product innovation:** Refers the form of innovation that, introduce or improve a product or services which an organization offer. Product innovation is about making beneficial changes to physical products. Related terms that are often used interchangeably include *product design, research and development, and new product development (NPD)*. Each of these terms offers a particular perspective on the degree of changes to products while service innovation is about making changes to products that cannot be touched or seen (i.e., intangible products). Services are often associated with work, play, and recreation. Examples of this type of service include banking, recreation, hospitals, government, entertainment, retail stores, and education (Wheelwright& Clark, 1992).

**Process innovation:** It innovation can be viewed as the introduction of a new or significantly improved method for the production or delivery of output that adds value to the organization. The term *process* refers to an interrelated set of activities designed to transform inputs into a specified output for the customer. It implies a strong emphasis on how work is done within an organization rather than what an organization does. Processes relate to all operational activities by which value is offered to the customer, such as the acquisition of raw materials, manufacturing, logistics, and after-sales service (Davenport, 1992).

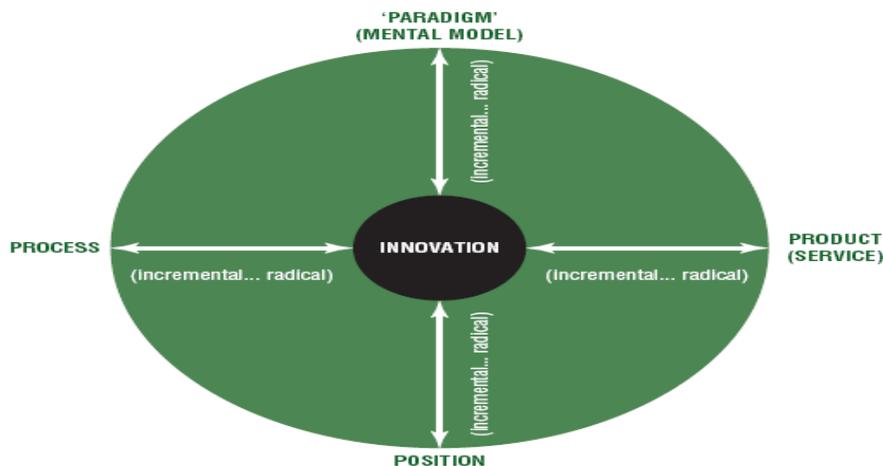
**Position innovation:** Is the innovation involves re-positioning the perception of an established product/service or process in a specific context, refers to changes in how specific product /service or process is perceived symbolically and how they are used. You may consider 'position' similar to 'promotion' in marketing mix, but it is not. Position is related to

our own perception. It is a psychological category, and promotion is just one of the processes in the organization that affects this aspect of the innovation. So many things could affect people's perception. Today, on the global marketplace, position is everything. What makes the organization profitable is not how good its products or services are, but what their customers perceive about them. (Tidd & Bessant, 2005).

**Paradigms innovation:** Is the form of innovation that defines or redefines the dominant paradigms of an organization or entire sector, paradigms based innovation relate to the mental model which shape what an organization business is about. This is somewhat specific innovation category. It concerns the change in the way something is done in the organization. It could be anything. For example it may be in the way the products are sold,

from selling on production area to selling on the Internet. As per municipalities, they can also innovate by shifting the paradigm in the way they do 'businesses. They may use Internet to enable on-line application for products and even payment for services. Document delivery may be worked out over the post office. Don't forget that these 'Innovation P's' are not narrow categories. Their borders are foggy and intertwined. Company or organization can use some of them, or all of them at the same time. Improving the processes could result in better products. Better products would result in better position. What is important is that all of them have one single purpose, to make organization better, more efficient, and at the end more profitable.

**Figure 2:1 4p's of Innovation**



**Source:** Managing Innovation Tools using the 4p's Approach. (Tidd & Bessant, 2005)

**Meaning of innovation in current research**

In the light of the above thought, the current researcher defined innovation as a "process of making superior changes to something already existing by introducing something new of higher quality than before that adds value to business performance".

In this study, the researcher intended to explore innovations and their impacts on banking industry performance by focusing on product, process and paradigm innovations, therefore the main involvement of this study is the comprehensive innovation-performance analysis based on banking industry.

**Banking technological innovation**

Within the changing financial world, a company can try to win its competitive battle in four ways; give a better offer, a different offer, or a faster offer. Many smart companies are placing their bet today on being faster. Speeding up innovations is essential in an age of shorter product life cycle. Competitors in the banking industry learn about new technologies and new market opportunities at about the same time (Afuah, 1998). However not all firms are caught up in trying to be faster. Some companies rightfully worry that speed-ups might hurt their quality. Smart companies invest in redesigning their operations to be not only faster but better. All it takes is one company in the industry to find a way to serve customers & better to force others to re-examine their performance on innovation, distributions and

retailing time (Ibid). Speaking of recent Technological Innovations in the banking industry, the first idea that comes up into mind is the term "E-Banking" The following part gives an insight to E-banking.

**E-Banking:** Is the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. It includes the system that enable financial institutions customers, individuals/business to access accounts, transact business, or obtaining information of financial products and services through public or private network (Akamavi ,2005).

**Automated teller machine (ATM):**Is an electronic telecommunications device that enables the clients of a financial institution to perform financial transactions without the need for a cashier, human clerk or bank teller. ATMs are known by various other names including ATM machine, automated banking machine and various regional variants derived from trademarks on ATM systems held by particular banks. Using an ATM, customers can access their bank accounts in order to make cash withdrawals, debit card cash advances, and check their account balances as well as purchase pre-paid mobile phone credit. If the currency being withdrawn from the ATM is different from that which the bank account is denominated in (e.g.: Withdrawing Japanese Yen from a bank account containing US Dollars), the

money will be converted at an official wholesale [exchange rate](#). Thus, ATMs often provide one of the best possible official exchange rates for foreign travelers, and are also widely used for this purpose (Sarah, 2007).

**Web-linking storage system:** Some financial institutions host websites for both themselves as well as for other businesses. Financial institutions that host a business customer’s website usually store, or arrange for the storage of, the electronic files that make up the website. These files are stored on one or more servers that may be located on the hosting financial institution’s premises. Website hosting services require strong skills in networking, security and programming. The technology and software change rapidly. According to **Crede & Andreas (1995)** risk issues examiners should consider when reviewing website hosting services include damage to reputation, loss of customers, or potential liability resulting from; downtime (i.e. times when website is not available) or inability to meet service levels specified in the contract, inaccurate website content (e.g. products, pricing) resulting from actions of the institution’s staff or unauthorized changes by third parties (e.g. hackers), unauthorized disclosure of confidential information stemming from security breaches and damage to computer systems of website visitors due to malicious code (e.g. virus, worm, active content) spread through institution-hosted sites.

Internet banking is a service that allows banks customer to view their account and transaction from anywhere with an internet connection. Internet is a vast network of individual computers and computer networks connected to and communicate with each other using the same communication protocol – TCP/IP (Transmission Control Protocol / Internet Protocol). When two or more computers are connected a network is created; connecting two or more networks create ‘internetwork’ or Internet. The Internet, as commonly understood, is the largest example of such a system. Internet is often and aptly described as ‘Information Superhighway’, a means to reach innumerable potential destinations. Internet Banking offers different online services like balance enquiry, requests for cheque books, recording stop-payment instructions, balance transfer instructions, account opening and other forms of traditional banking services. Mostly, these are traditional services offered through Internet as a new delivery channel. Banks are also offering payment services on behalf of their customers who shop in different e-shops, emalls etc. Further, different banks have different levels of such services offered, starting.

**Electronic Funds Transfer (EFT):** Is a form of payment where by funds move from one account to another account by electronic means. It may take place in the same bank or across different banks. The customer requests or authorizes his/her bank to make regular payments to a named payee/beneficiary and it is done within a faster period of time (Bank of Africa, 2007). Electronic Funds Transfer has mainly two features, the credit transfer and the debit transfer. Credit transfer involves a customer’s request which instructs the bank to debit his/her account with funds which are then transferred to another account in the same or another financial institution. On the other hand, debit transfers involve a customer’s request where by his account is credited with funds that are received from the customer’s debtors following an agreement independently arranged between

the customer and his debtors for example utilities. Electronic Funds Transfer is highly emphasized compared to the traditional payment systems because it facilitates secure and timely payments.

## II. RESEARCH METHODOLOGY

A mixed method combining both quantitative and qualitative research design was employed in order to get both quantitative and qualitative data. As stated by Creswell (2005), mixed methods research is a good research design as it allows the researcher to assess both outcomes of the study (quantitative) as well as the process (qualitative). Creswell further stated that the combination of research design provides a rich and comprehensive picture of any social phenomena. There are three types of mixed method research designs presented by Creswell (2005) which are the triangulation design, explanatory design and exploratory design. For the purpose of this study, the exploratory design was used as it permitted the researcher to simultaneously collect both quantitative and qualitative data, merge the data compiled and use the results to understand a research problem. A survey method using a questionnaire specially designed for this study was utilized to gather both quantitative and qualitative data. The study population included authorized staffs and customers of Azania Bank Ltd. A sample size of the study was 58 respondents. The study involved convenience, a non-probability sampling technique for customers where by researcher developed sample from customers of the bank regarding their availability, ability, and willingness to respond. In case of staff the researcher applied [consecutive were used as a sample non-probability sampling](#) where by all staffs that available at study center during the study were used. Researcher prefers these techniques as were economical, simple and normally leads to the required sample size (Mugo, 2002).

## III. FINDINGS AND DISCUSSION

### Customers’ awareness on new technology

About fifty questionnaires were distributed to customer and all were returned to the researcher. The table below summarizes the results regarding customer awareness on these new technologies.

**Table: 4.1. Customer awareness on new technological service**

Degree of Awareness	Frequency	Percentage
Not aware at all	0	0
Slightly aware	6	12
Aware	27	54
Very aware	17	34
<b>Total</b>	<b>50</b>	<b>100</b>

Source: Field survey, 2014

In view of service awareness on customer examination, the findings show that about 12% of respondents are slightly aware on new technological services, 54% shows that they were aware while 34% indicated that they were very aware with these services. The results imply that there is awareness of these technological services to customers in view of the fact that about 88% of them confirmed to be aware.

**Table: 4.2. Technological services users' statistics**

Variables	ATMs services	EFT	Internet Banking
Agree	50	22	8
Disagree	0	28	42
<b>Total</b>	<b>50</b>	<b>50</b>	<b>50</b>

Source: Field survey, 2014

The findings indicated that the degree of satisfaction to user was very high since the findings have shown that there is a big numbers of users of this technology and no one have shown to be dissatisfied. This can be evidenced through the collected data from the respondents whereby twenty two (22) 44% indicated to have using EFT while eight(8) respondents 16% specify to have not using Internet banking.

**Effect of technological innovation in improving customer satisfaction**

Service quality today has become not only the rhetoric of every business enterprise, but also occupies eminent position in every dialogue. No business organization can survive without building its customer satisfaction and brand loyalty; likewise no organization can make a healthy living without meeting the needs of its customers. Based on information collected during the study from the customers through both questionnaires and face to face interview they said they that they are satisfied with new services where by more than 50% confirmed to be very satisfied. Their satisfaction lies on the following reasons.

**Improved in customer privacy and security**

Customer privacy and security has been improved and increase satisfaction since transactions take place in the best security conditions in electronic meas. For example by using ATM a customer use PIN, in case of internet banking a customers use a user name and a password also in EFT there is high security in transferring money. So when compared with old manual system, manual transferring data storing systems was not safe enough, because they exist as hard copies rather than digital files because paper files can also be easily destroyed.

**Improvement of services accessibility**

From customers' data collected it shows that satisfaction has been improved as because a customer can access to the bank's services 24 hours a days, 7 days a week, any time and everywhere he/she is without depending on the bank's schedule in case of ATM services and internet banking compared to before where all transaction were done during banking hours only.

**Improvement of customer's service saving time**

According to staffs opinion and customer views the current study examine that customer satisfaction has been improved because a customer can acquire a service at very reasonable time, for instance on ATM a customer can use only two minutes to make withdraw compared to cashier withdrawal where it take ten to fifteen minutes. Also in case of EFT a customer use fifteen to thirty minutes money to reach destination area compared to old system where it take three to seven days. Then on IB transaction can be done within five minutes only.

**The impact of new technology on customer satisfaction**

Table below summarizes the results obtained from the questionnaires about their satisfaction.

**Table: 4.3. The impact of new technology on customer satisfaction**

Satisfaction scale	Frequency	Percentage
Dissatisfied	0	0
Less dissatisfied	0	0
Satisfied	19	38
Very satisfied	31	62
<b>Total</b>	<b>50</b>	<b>100</b>

Source: Field Survey, 2014

In case of customer satisfaction among 50 respondents no customers were dissatisfied with new technological services'. The results show that about 38% of customers were satisfied while 62% are very satisfied with these services. This implies that new technological services plays a significant impact on the overall customer satisfaction since more than a half were very satisfied and none of them are not satisfied.

**Impacts of technological innovation on operation costs**

On the other side of this study the researcher wanted to assess the impacts of technological innovation on operation cost. Based on data obtained by the researcher during the study from the staffs, branch executive and organizational documents there is reduction of some operation costs and their arguments based on following factors.

**Reduction of transportation costs**

IT has increased information availability and processing capacity, thus facilitating the performance of other participants in the relationship. This enabled the bank to reduce transportation cost unlike before in manual system where money was manually transferred from one sender's branch to receiver's branch.

**Reduction in wages cost**

Contrary to the old manual system of labor intensive system new technological innovation is an electronic system. Due to the application of computers now days there is reduction in labor employment as the system simplify work hence reduced cost in case of wages and salaries. According to data gathered from staff management shows that one labor with a computer replaced a work done by five to eight labors.

**Reduction of stationeries costs**

Unlike to manual system nowadays due to electronic applications in both front and back office equipment office like papers, pens, envelopes, carbon paper has been declined due to computerization system. For instance information from customer service approved that one ream can be used within a week compared to early where not less than five reams were used per week.

**Staffs’ opinions on the impact of new technology on operation cost**

About eight questionnaires were distributed to staffs and all were returned to the researcher. The table below summarizes the results obtained from the questionnaires.

**Table: 4.4. Efficiency of operational cost on new technological services’**

Agreement degree	Frequency	Percentage
Strong Disagree	0	0
Disagree	0	0
Neutral	0	0
Agree	2	25
Strong Agree	6	75
<b>Total</b>	<b>8</b>	<b>100</b>

Source: Field survey, 2014

In analysis of staffs’ opinions on operation cost, the findings show that 25% of staffs agreed that the service is cost-effective while on the other side 75% of respondents were strongly agreed that the services’ are cost-effective. There were no respondent who disagree on the matter. The findings designate that these new technological services were vital drivers of effectual operation cost.

**Banking performance**

The findings of the current research verified that, the bank performance has been improved due to new technological innovations in terms of service accessibility, service operation time, services’ costs, and security. Also the performance approved to be improved by the level of profitability growth after the full implementation of these technological services in 2009. The findings shows that, from 2009 to 2010 the income was raised to Tshs. 1,178 million equivalents to the growth of 1.807%, as compared in 2009 where revenues falls from Tshs. 839 million in 2008 to Tshs. 701 million equivalents to 0.836% annual negative growth rate. Also from 2010 to 2011 the income also continues to rise up to Tshs. 2,694 millions equivalents to the growth of 2.287% annually this is equivalent to the average of 2.047% growth between two consecutive years.<sup>2</sup> Therefore from this revenue information the researcher can argue that these new technological innovations have contributed to the increase of bank performance.

**IV. SUMMARY OF THE FINDING CONCLUSION AND RECOMMENDATIONS**

**Summary of the finding**

This study was conducted for the purpose of assessing the impact of information technological innovation on performance of banking industry. The specific objective was to determine the types of technological innovation used by Azania bank, to assess the effect of information technological innovations in improving customer satisfaction and to determine the impacts of information technological innovation towards operational cost. In determining the types of technological innovation the current study determined four types of innovative services which adapted and used at ABL namely, EFT, ATM services, Flex cube banking software where by the results showed that 88% of respondents confirmed to be aware of them.

In analysis of the effect of information technological innovation in improving customer satisfaction the findings revealed that those innovative services have enabled the bank to improve customer satisfaction statistics shows that no customers who were absolutely dissatisfied while 62% of customers are very satisfied with these innovative services. In assessing the impact of these innovative technological services the results demonstrated that there is improvement of operation cost as 75% of staffs were strongly agreed that the services’ are cost-effective, also this approved by persistence increase in net profits from 2009 to

**Conclusions**

Based on the real findings from the study the researcher come up with the following conclusions and recommendations: The findings of the study showed that ABL has new innovation product these are FLEXCUBE software system, AMT services, Electronic Funds Transfer and internet banking, where’s among these technological channels observed, ATM was most frequently used followed EFT and internet banking, in spite of the quality of these services there still low responses to customer to some services like EFT and IB as the researcher found that 44% of sample adopted EFT services and 16% using IB. Also the research finding shows that investment in technological innovation has advanced effects on improvement of customer satisfaction which manifested by the improvements in service quality in terms of services’ accessibility, timely services deliverable, rational services’ charges, privileged services’ safety, and variety services offered. Furthermore, technological progresses a have also important positive impacts on the reduction of banking operational costs which can seen from the decrease in the bank’s expenses and continuous raise in net income generated.

**Recommendations**

Azania Bank ICT department should continuance to employ other new modern technological services as the market demand is, in both “front-office” and “back-office” for instance mobile banking. In order to increase customer awareness on these new technological services, the bank marketing department should make advertisements not only on their website as they do now but also to the mass media like to via televisions and radio

stations, newspapers and through social networks like face book and twitter. ICT and marketing department of ABL should improve their website in order to attract customer to visits and use it, because it inadequacy in terms of a logical road map, crucial business information, clear navigation, complete content, good hosting and social media integration. ABL, ICT and R&D departments should lean technological competitive intelligent in order to gather in a systematic manner a wide range of information that when collected and analyzed provides a fuller understand of a competitors technological structure, behavior, capabilities and weakness in order to use opportunities available to take technological competitive advantage.

The bank management should design special program to measure service quality and customer satisfaction. Branch managers need to develop a systematic assessment programs to monitor service quality and customer satisfaction overtime. Bank staffs should be kept informed of results and be encouraged to take part in figuring out an effective resolution strategy. Before the implementation of any new technological product advanced research on operational cost should be done this should be accompany with the review of changes in curriculum and control over technology applications, hardware, and software in order to guarantee a long run returns.

#### **Conclusively,**

The findings of the current study generally signify that, these new delivery channels due to technological innovation have contributed positively to the performance of banking industry therefore banks should create a technology plan that is progressive, rather than one which simply focuses on bringing them to the present instead of to the future.

#### REFERENCES

- [1] Akamayi, R. K. (2005). "Financial Service Innovation Process": International Journal Of Bank Marketing, Vol. (1), pp 117-121.
- [2] Bessant, J. & Tidd, J. (2009). The ALNAPS 4Ps model: Study on the Innovation & International Humanitarian Action.
- [3] Creswell, J. W.(2005). Educational Research: Planning, conducting, and evaluating quantitative and qualitative research (2ed): California: Sage Publications.
- [4] De Brentain, U. & Ragot, E. (1996). "Developing new business-to-business Professional service: what factors impact performance": Industrial Marketing Management, Vol. 25(6), pp 517-531.
- [6] Easingwood, C.J. (1986). "New product development for services companies": Journal of Product Innovation Management, Vol. 3(4), pp 264-275.
- [7] Kasilo, Dafrosa. M. (2002). MU, Unpublished report on "Quality service towards Customer satisfaction": A Case study of NSSF Morogoro Tanzania.
- [8] Kothari, C.R. (2004). RESEARCH METHODOLOGY: Methods & Techniques (2rd Ed). New Age International Publisher, New Delhi.
- [9] Liddel, H.G. & Scott, R. (1883). Intermediate Greek-English Lexicon. Oxford University Press, New York.
- [10] Okatch, F .O. (2002). Unpublished report on "How Technological Innovations have changed banking operation": A Case study of National Bank of Kenya.
- [11] Popper, K. R. (2002). The Logic of Scientific Discovery. Routledge Classics, New York.
- [12] Tushman, N.L. & Nadler, D. A. (1986). "Organizing for Innovation": California Management Review. Vol. 28(3), pp 74-92.
- [13] Uliwick, A. W. (2005). What Customer Want. Mc Graw-Hill, New York.
- [14] Vinod, G. K. Et al (2004). "World-Bank support of science and technology development", Innovation Systems, serial 32, Washington DC.

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