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Statistical Study on the Impact of Digital Economy on Zambia's Banking Sector

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Abstract
Digital economy is one of the important contributions to the development and growth of a country; it is because of this that Zambia sought to include digital technology in their national development plan and it has existed for over a decade. The introduction of digital technologies in the country has given commercial banks an opportunity to embrace digital technology. Commercial banks are investing in technology because they are inclined to the view that advancement in technology improves quality service delivery, brings about competitive advantage as well as profitability. Among the innovative products introduced include electronic banking services such as mobile banking, ATM (credit cards), internet banking to mention but a few. It is for this reason that, this research paper focuses on the statistical study on the impact of digital economy on Zambia's banking sector. The study was based on the data gathered from 10 commercial banks in Zambia. In order to access how digital technology has impacted the banking sector, customer satisfaction and bank's financial performance were measured. For the first analysis, a SERVPERF model was used to examine customer satisfaction on e-banking's service quality. The spearman's correlation coefficient was used to find out the relationship between the variables, the results indicated that there existed a negative relationship between e-banking's service quality and customer satisfaction, and it was significant. The second analysis used the regression analysis model to measure the financial performance of Zanaco Bank. Zanaco bank was the first to introduce electronic banking services in the country, therefore this study aimed at analyzing how e-banking services have influenced the bank's financial performance. Return on assets (ROA) as a measure of financial performance was measured against the independent variables (ATM transactions, Mobile banking and internet banking. The results of the analysis revealed that there was no significant relationship between e-banking services and financial performance.
Keywords: Digital economy, E-banking, Customer satisfaction, financial performance.

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1. Introduction

In the recent past and currently, society's drift towards digitalization has rapidly grown as the largest driver of innovation, competition and growth because of this; technical infrastructure is ever being developed. Despite the stride at which economies being digitalized are different, countries all over the world are all experiencing digitalization. This is due to the fact that, economies cannot fully function without being digitalized as more transactions are done through technology (Tan and Teo, 2000). The term Digital Economy was first coined in the mid-1990s. Therefore, the digital economy is a collective term for all economic transactions that take place over the Internet, also known as the web economy or the Internet economy. It is the use of digital Internet-based technologies for the production and trade of goods and services, which are becoming increasingly important in the global economy. A country's economy is said to be digitalized when it has a digital-enabling infrastructure, which is the basic physical material and organizational arrangement that support the existence and use of computer networks, which are the foundation of the digital economy (Barefoot et al, 2018).

Digital technologies have been deployed in different areas of the countries' economies for decades. In the light of this, the banking sector has not been left out from being digitalized as it is rapidly transforming its operations. Digital technology has greatly improved the effectiveness as well as efficiency in the operations of the banks. Technological innovation plays a crucial role in the banking sector in creating value for banks and customers, i.e. in terms of value in the banking sector. As noted, banks are inclined towards acquiring new technologies that allow them to deliver the products and services efficiently, and this is with regard to the customers' needs and wants as well as the growth of the bank. With this in mind, customer satisfaction as well as attraction of new customers acts as a major competitive advantage for banks (Ross, 1989).

1.1. Overview of Zambia's Banking Sector Activities

Amidst the economic diversification, liberalization and growth that have occurred in the past 12 years in Zambia, digital technology has also penetrated in the country. The Banking industry is one of the industries that have benefited from digital economy. The number of commercial banks increased from four (4) at the time of independence in 1964 to nineteen (19) commercial banks in 2019. The increase in the number of banks in the country has brought about an increase in competition. The commercial banks opt to use technological innovations which offer products and services such as credit card facilities, ATM depositing facilities, internet banking and mobile banking (Beyani, 2006). Among the banks that aim at gaining competitive advantage through advancement in technology are the Zambia National Commercial Bank (Zanaco), First National Bank Zambia (FNB), ABSA bank to mention but a few. The advancement in the availability of technology has been providing countless opportunities for banks to develop and deploy new and innovative products and services in the country. The Zambia National Commercial Bank (Zanaco) is known to have been one of the first commercial banks to embrace non-traditional banking systems with the usage of mobile banking in 2008, successfully launched as Zambia's first mobile banking services, Xapit. Xapit is Zanaco bank's mobile banking platform. In the year 2012, First National Bank Zambia (FNB) introduced the eWallet service to the Zambian banking industry. Aside from that, ABSA Bank Zambia unveiled the first ever kwacha denominated credit card in 2014.

1.2.1. General Objective

The main objective of this research was to provide a comprehensive review on the statistical study of how digital economy has influenced Zambia's Banking Sector.

1.2.2. Specific Objectives

I. To examine the impact of digital economy in the banking sector in Zambia.
II. To examine the effect of e-banking services on the financial performance of Zanaco bank.

2.0 Literature Review

The review of the existing literature was of great importance as it facilitated the establishment of the objectives of the study as well as the research design. The following are some of the related literature of the research. In 2012, Zungu in his research aimed at investigating the service quality at retail banks in Durban. Among the objectives of his study was to identify the level of satisfaction with customer service received from different banks in Durban. The other objective was to measure the gaps between customer expectations and customer perceptions of service quality using the modified version of the SERVQUAL model. The investigation showed that the expectations of the retail bank greatly exceeded the quality of the services used in the SERVQUAL questionnaire. Furthermore, the study also reviewed some related literature on financial performance for instance; Gakure and Nguni (2013) in their research aimed at finding out if bank innovations influenced profitability of commercial banks in Kenya and concluded that bank innovations had statically significant influence on bank's profitability. This meant that the banking innovations in his study statistically indicated the end of a significant profit from commercial banks in Kenya. In addition, Shu and Strassmann (2005) conducted a study of 12 banks in the United States for the period 1989-1997. They found that while information communication technology was one of the most dynamic factors in all efforts, it could not improve banks' returns.

2.1 Diffusion of Innovation Theory (DIT)

It was proposed by Rogers in 1962 and the process of introducing new innovations has been explored for over 30 years. The theory tries to explain how innovations are taken in a population. It is considered one of the most popular theories that have tried to explain the factors that influence an individual to establish an innovation or a new technology. THIS takes a radically different approach to other theories of change. Instead of focusing on changing people, he believes that change is primarily focused on developing or "reinventing" products and behaviors to better meet the needs of people and the group. This does not change the people, but the innovations themselves. In addition, Rodgers (2003) described the process of disseminating innovation as a "process-by-process to reduce uncertainty", in which he proposed five characteristics of innovation that help reduce uncertainty about innovation and its success; they are; Relative advantage, compatibility, complexity, tribility and perceptibility.

2.2 SERVPERF Model

SERVQUAL (Parasuraman, Berry, and Zeithaml, 1988) is one of several theories that have had considerable applicability in Information Systems (IS) and Internet related research. Parasuraman, Zeithamal and Berry in

1988 modified the model that was developed in 1985. SERVQUAL (service quality) is basically an operational instrument used in measuring customer perceptions of service quality. According to the SERVQUAL model, service quality can be measured by identifying the gaps between expectation and perceptions of the actual performance of service. The five dimensions of services quality include; tangibility, accessibility, reliability, responsiveness and privacy. The dimensions of service quality bring about some of following attributes; services providers can make sure that physical environment of the services are suitable, these can include physical facilities and staff appearance. It gives the service provider the ability to execute the delivery of the service in an accurate and dependable manner. Aside from that, the willingness of the service provider to respond to customer needs in a timely manner. It also gives the service providers the ability to inspire trust in the customer and lastly the service provider has the ability to identify the obvious and latent needs of the Customer and offer caring individualized service (Olu Ojo, 2008). The five dimensions of service quality has the ability to impact the perceptions that customers have on e-banking services which can bring about satisfaction according studies done in Kenya, south Africa and the united states, it was for this reason that the model was adopted for this study.

2.3 Transactions cost innovative theory

The theory was pioneered by Hicks and Niehans (1983) they advocated that the leading factor of financial innovation is the reduction of transaction cost. The advancement in technology leads to the reduction of costs, there after the reduction of transaction cost can stimulate financial innovation and improvement of inancial service. The theory is also relevant in this context: for example, innovation products in a commercial bank can reduce transaction costs by also providing external access to the company's internal database and other relevant sources of information.. For a commercial bank to attain profitability, reduction of operational costs in for instance, mobile banking and internet banking should be considered. Studies done in Kenya found that, commercial banks that perform profoundly undertake in transactional cost.

Conceptual framework

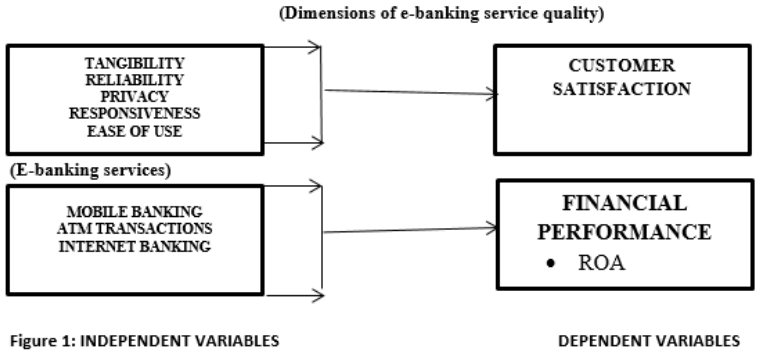

Figure 1: INDEPENDENT VARIABLES DEPENDENT VARIABLES

2.4 The impact of Digital Economy on the Banking Sector

a. Service quality and Customer satisfaction

Innovations are a continuous process were enterprises and individuals seek new and improved products and services, processes, and organization structure in order to reduce costs, better satisfaction of customer demand, yield greater profits for themselves and most importantly attaining and establishing customer satisfaction. Among the innovations that have been introduced in the banking sector is electronic banking (e-banking). E-banking refers to several types of services through which a bank's customers can request information and carry out most retail banking services via computer, television or mobile phone (Daniel, 1999). In addition, Parasuraman et al (1988) defined service quality as the "global evaluation or attitude of overall excellence of services". Therefore, service quality is the difference between customers' expectations and perceptions of services delivered by service firms. Kotler and Armstrong (1996) defined customer satisfaction as "the level of a person's state resulting from comparing a products perceived performance or out come in violation to his/her own expectations".

Customer satisfaction entails the capability of banks to meet the needs and wants of its customers thereby competitively conduct their banking business. The development of technology has played an important role in improving standards for the provision of services in the banking sector. With regard to innovative technologies, the most important factor for the development of the banking sector, banks can create advanced products, have better market infrastructure and reach geographically distant and diversified markets (Grigoroudis, Politis and

Siskos, 2002). As the business environment is extremely changing as a result of technological improvement, increased awareness demands banks to serve their customers electronically. All commercial banks face the challenge of retaining existing and attracting new customers because consumer's needs keep significantly changing (Aladwani 2001). But today, technology is not only changing the environment but also the relationship with customers. Customer/bank relationships are more personalized resulting in novel modes of transaction processing and services delivery. Therefore, customer satisfaction and service quality are inter-related, the higher the service quality, the higher the customer satisfaction and vice versa.

2.5 The effect of E-banking services on the financial performance

Measuring Performance of Banks using digital technology

How a well an organization uses its limited resources in creating revenue is referred to as financial performance. It has long been recognized that e-banking plays an important role in the development of the banking sector depending on its ability to generate profitability. In general, a number of financial measures are generally used to assess banks' performance, such as asset development and return on capital ratios. Innovation has a significant impact on the company's performance by creating an improved market position that provides competitive advantage and superior performance. In addition to revenue enhancement, innovative products enable banks to reduce costs of operation, in particular, by allowing them to reduce expenditures on brick and mortar (Walker, 2004). To the extent this may be so, innovative products are considered as a causal factor in generating lower expenses related to maintaining physical branches, for instance in Kenya ATM network provide an alternative and lower-cost way to establish a physical delivery system, thereby reducing sunk costs (Githikwa, 2009).

3.0 Methodology

This section describes the methods that were concentrated on, the study employed both primarily and secondary data for this research. The primarily data was captured using questionnaires and secondary data was obtained from annual financial reports published from 2015-2019 from Zambia national commercial bank (Zanaco). The data was summarised and analysed by using descriptive and inferential statistical techniques using Statistical Package for Social Sciences (SPSS) version 22.0. The population of the study consisted of 100 respondents, Zambia consists of 19 commercial banks and only 10 banks were used in this study as the respondents were selected randomly, hence the simple random sampling technique was utilized for this investigation. For the data to be valid, the targeted sources of information were obtained from customers who had valid accounts with the commercial banks in Zambia. The data obtained from questionnaires was used to measure the customer satisfaction on e-banking's service quality. In order to achieve this objective, the model used for the study was the SERVPERF model, which measures the perceptions of the respondents. The relationship between e-banking's service quality and customer satisfaction was to be obtained using these independent variables; tangibility, reliability, responsiveness, privacy and ease of use, and customer satisfaction as the dependent variable. Tables were used for qualitative presentation of information analysis and the inferential analysis was analysed by using the Spearman's correlation method to test the hypotheses of the study. For the second analysis, multiple linear regression models were used to evaluate the relationship between financial innovations (e-banking) and bank's financial performance (ROA). The independent variables were; mobile banking, ATM transactions and internet banking while the dependent variable was Return on Assets (ROA).

The multiple linear regression models' general form of equation is as follows:-

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon,} \qquad \textbf{equation 1}$$

Therefore, the equation was summarized as follows;

$$\mathbf{ROA_{it} = \beta_0 + \beta_1 AT_{it} + \beta_2 IB_{it} + \beta_3 MB_{it} + \varepsilon_{it}} \qquad \textbf{equation 2}$$

Where;

$\mathbf{ROA_{it}}$	Return on Assets of the commercial bank at t period.
$\mathbf{\beta_0}$	the constant to be estimated by the model
$\mathbf{\beta_{1....3}}$	Coefficients of the independent variables
$\mathbf{AT_{it}}$	ATM transactions of the commercial bank t period
$\mathbf{IB_{it}}$	Internet banking of commercial bank at t period
$\mathbf{MB_{it}}$	Mobile banking of commercial bank at t period
it	2015……..2019
ε	inherent error in the model

4.0 Analysis and Interpretation of Data

4.1 E-banking's service quality and customer satisfaction

Table 1: Demographic and usage of e-banking characteristics of respondents

Variable	Description	Frequency	Percent	Variable	Description	Frequency	Percent
Gender	Male	75	75	**Age**	Below 25 years	7	7
	female	25	25		26-35years	85	85
					36-45years	3	3
					46-55 years	2	2
					Above 55years	3	3
Commercial Banks	ABSA	13	13	**Reasons for using E-banking Services**	Easily accessible	32	32
	Zanaco Bank	44	44		24/7 hour services	59	59
	Atlasmara Bank	5	5		Easy to use	9	9
	FNB	19	19				
	Standard Chartered	10	10				
	Postal Bank	1	1				
	Indo-Zambia Bank	4	4	**Frequency Of use**	Daily	18	18
	Investrust Bank	2	2		Weekly	28	28
	ZNBS	1	1		Monthly	44	44
	Eco Bank	1	1		Yearly	10	10

Age * Awareness of E-Banking Cross Tabulation

		AWARENESS OF E-BANKING		
		Yes	No	Maybe
AGE	Below 25years	5	1	1
	26-35years	64	17	4
	36-45years	2	1	0
	46-55years	0	2	0
	Above 55years	3	0	0

Gender * Usage of E-Banking Services Cross Tabulation

		USAGE OF E-BANKING SERVICES		
		Yes	No	Maybe
GENDER	Male	66	8	1
	Female	19	5	1

Source: Computed from Primary data

The above analysis shows a representation of the demographic and usage of e-banking characteristics of respondents. Out of 100 questionnaires, the data analysis and presentation reviewed that 75% of the respondents were males and 25% were females. The representation depicts that, 85% were between 26-35 years while,7%, 3%, 2%, 3% were below 25years and 36- 55 years and above. In addition, out of the 100 questionnaires 13% of respondent's bank with ABSA, Zanaco Bank 44%, Atlasmara bank 5%, FNB 19%, Standard Chartered Bank 10%, Postal Bank 1%, Indo-Zambia Bank 4%, Investrust Bank 2%, ZNBS 1% as and ECO 1% bank. From the responses that were obtained majority of the responses bank with Zanaco Bank. According to the respondent's reasons for using E-banking services, majority of the respondents illustrated that they use the service because it is offered 24/7 hours as it makes it more convenient. How frequent an innovative banking product is used determines how well it has been perceived and adopted by the customers. An innovative product cannot be successful if it has not been adopted. Customers that were aware of the E-banking services were categorized according to the frequency of usage. 18% used the e-banking services daily, 28% weekly, 44% monthly and 10% used it yearly. These findings show that although customers are aware and adopted the e-banking services they do not use them quiet as often, as the daily and weekly usage were lower than the monthly usage. The cross tabulation in the table above, shows awareness with e-banking services with age. Respondents that were more aware of the e-banking services were 26-55 years. The cross tabulation depicted the youths were more likely to use e-banking services than those who were older. Gender and usage of e-banking products in the cross tabulation illustrated that, a larger number of the males respondents use e-banking products unlike the female

Table 2: Level of respondent's satisfaction

Statistics							
SATISFACTION			HOW SATISFIED ARE YOU			Frequency	Percent
N	Valid	100		Valid	Very satisfied	17	17
Mean		1.33			Satisfied	67	67
Std. Deviation		.697			Neutral	16	16
					Total	100	100

Source: Compiled by author using SPSS

The analysis was carried out to determine the level of satisfaction of customers after using the e-banking services. It had a mean of 1.33 and a standard deviation of 0.697. The table also shows the frequency levels of the overall satisfaction relative to the service quality of e-banking services. The analysis shows that 67% out of 100 respondents that had used the facilities were satisfied and 17% were very satisfied, this implies that their needs were met after using the services and only 16% were indifferent to the services as they gave a neutral satisfaction after use. Despite having a number of respondents not giving a positive feedback on the services the overall satisfaction towards the services shows that it was satisfying based on the statistics presented as the number of those satisfied exceeded those that were not satisfied in the study.

Table 3: E-banking's service quality perception of respondents

Tangibility	Statistics		Reliability	Statistics		Reliability	Statistics	
	Tangibility			Delivers Its Services			Available for use	
	N Valid	100		N Valid	100		N Valid	100
	Mean	2.91		Mean	2.70		Mean	2.64
	Std. Deviation	.793		Std. Deviation	.893		Std. Deviation	.882
Responsive Ness	**Statistics**		**Privacy**	**Statistics**		**Privacy**	**Statistics**	
	Responsiveness			control over transactions			Secure	
	N Valid	100		N Valid	100		N Valid	100
	Mean	2.50		Mean	3.00		Mean	3.01
	Std. Deviation	.859		Std. Deviation	.791		Std. Deviation	.835
Privacy	**Statistics**		**Ease of use**	**Statistics**		**Ease of use**	Statistics	
	it has privacy			Not difficult to use			not need a lot effort	
	N Valid	100		N Valid	100		Valid	100
	Mean	2.91		Mean	2.98		Mean	2.90
	Mean	.726		Std. Deviation	.666		Std. Deviation	.859

Source: compiled by author using SPSS

The purpose of this analysis was to bring out the perceptions of the respondents on e-banking's service quality. For each dimension of service quality the researcher used the Likert scale that is strongly agree, agree, neutral, disagree and strongly disagree. This was done so as to enable the respondents identify their level of perception. Table 3, shows the respondent's tangibility perception attributed agreement to perceived tangibility in that ATMs were easily accessible with a mean of 2.91 above the mean satisfaction. E-banking services on reliability scored means of 2.70 and 2.64 respondents attributed e-banking services being reliable. Furthermore, respondents agreed that there is prompt response to customers' inquiries with a statistical mean score of 2.50. Aside from that, the table shows customer's perception on privacy after usage. Control over transaction when using the e-banking services was agreed upon by the respondents. It had a mean score of 3.00. Respondents attributed to the e-banking services being secure with a mean score of 3.01. Respondents also agreed that it was difficulty for someone standing behind to see the input of the PIN at the ATM machine with a mean score of 2.91. The overall statistical findings show respondent's satisfaction on e-banking services having privacy.

Table 4: Correlations

			Financial Performance
Spearman's rho	How Satisfied Are You	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	100
	Tangibility	Correlation Coefficient	-.514**
		Sig. (2-tailed)	.000
		N	100
	Reliability	Correlation Coefficient	-.467**
		Sig. (2-tailed)	.000
		N	100
	Responsiveness	Correlation Coefficient	--.220*
		Sig. (2-tailed)	028
		N	100
	Privacy	Correlation Coefficient	-.413**
		Sig. (2-tailed)	.000
		N	100
	Ease	Correlation Coefficient	-.506**
		Sig. (2-tailed)	.000
		N	100

Respondents' perception after using the facilities agreed that it is not difficulty to use and did not require a lot of effort with means scores 2.98 and 2.90. From these findings it shows that the e-banking services were designed to be user friendly to its customers as it was satisfying**.**

Hypothesis test:

Ho: There is no significant relationship between e-banking's service quality and customer satisfaction in the table above shows correlation between the dimensions of e-banking services quality and the customer satisfaction. The independent variables were tangibility, reliability, responsiveness, privacy and ease of use whereas customer satisfaction was the dependent. The significance symbolizes the p-value, which helps to identify if the statistical sample found is significant or insignificant. The findings of the correlation indicate that there was a moderate negative correlation between tangibility and customer satisfaction. It had correlation coefficient value of -0.514 and a $P < 0.001$ which was less than the level of significance 0.01(1%). The reliability indicated a negative moderate correlation with customer satisfaction, with a correlation value of -0.467 and a $P < 0.001$ less than the level of significance 0.01 (1%). Responsiveness had a weak negative correlation with customer satisfaction, with a correlation value of -0.220 and p-value of 0.028 which was less than 0.05(5%) level of significance. In addition, the relationship between customer satisfaction and privacy indicated a moderate negative correlation and the statistics showed that the correlation coefficient value was -0.413 and the $P < 0.001$ which was less than level of significance 0.01(1%). Lastly, the ease of use also had a moderate negative correlation with a correlation value of -0.506 and a $P < 0.001$, less than the level of significance 0.01(1%). From these findings of the study it showed that there was negative correlation between each dimension of service quality and customer satisfaction but each of the relationship was significant as the p-values were less than the levels of significance. Therefore, we reject the null hypothesis and accept the alternative hypothesis, as there was a relationship between the two variables and it was significant.

4.2. The effect of E-banking services on the financial performance of Zanaco bank

The second analysis aimed at finding out how digital technology has influenced the financial performance at Zambia National Commercial bank. This was achieved by using secondary data, which was obtained from the annual financial reports. The study established the probability ratio, return on assets (ROA) as a measure of financial performance at Zambia national commercial bank (Zanaco), the following graph represents the ROA of Zanaco (2015-2019). The Return on Assets below shows that in 2015was 2.30% but it later showed a reduction in 2016 of 0.90%. There was a slight increase in 2017 as it rose to 1.90% while in 2018 and 2019 there was a constant increase of 2.70% for both years.

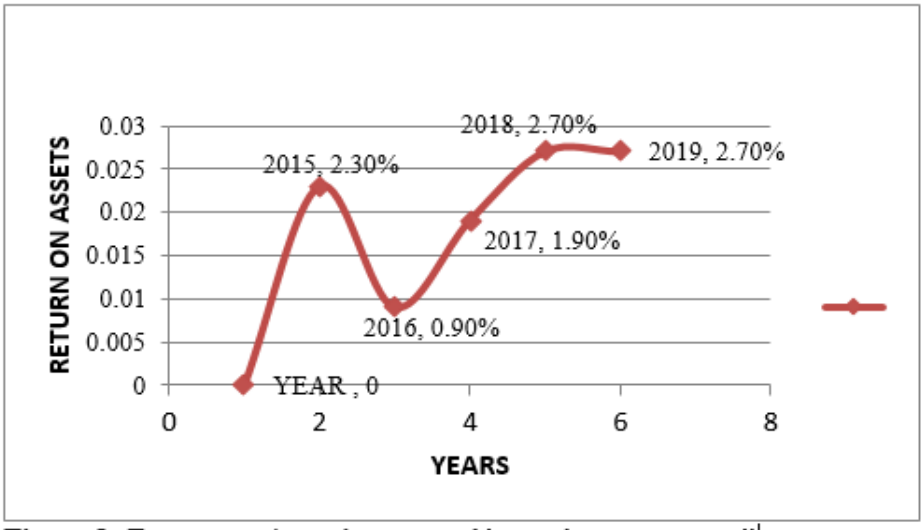

Figure 1: Return on Asset (Computed by author using excel)

4.2.1. Relationship between E-banking services and Financial Performance.

The study was carried to determine the relationship between the predictor variables (mobile banking, ATM and internet banking) and the dependent variable financial performance (ROA). This was achieved through the use of correction and regression analysis.

Table of correlation

		Financial Performance
Financial Performance	Pearson Correlation	1
	Sig. (2-tailed)	
	N	5
ATM Transactions	Pearson Correlation	-.006
	Sig. (2-tailed)	.993
	N	5
Internet Banking	Pearson Correlation	.002
	Sig. (2-tailed)	.997
	N	5
Mobile Banking	Pearson Correlation	-.159
	Sig. (2-tailed)	.798
	N	5

A Pearson correlation was run to establish how the variables were related to each other. The findings indicated that there was a weak negative correlation between financial performance and ATM transactions that is -0.006 and a p-value of 0.993. Internet banking had a weak positive correlation with financial performance; it had a correlation value of 0.002 and a p-value 0.997. Lastly, mobile banking had a weak negative correlation with financial performance with a correlation value of -0.159 and a p-value of 0.798. The findings indicated that the correlations had p-values greater than the level of significance 0.05 which meant that there was no significant correlation among the variables under study.

4.3 Regression Analysis

In order to analyze how e-banking services have influenced the financial performance of Zanaco bank, a multiple linear regression was carried out to determine the effect of each service.

Table 2: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.958[a]	.917	.668	.43116

For this analysis the study used coefficient of multiple determinations to evaluate the model fit which is the adjusted R-squared. Therefore, the adjusted R squared was 0.668 which implied that 66.8% of the variation of the dependent variable was explained by the independent variables. This means that internet banking, ATM and mobile banking accounted for 66.8% of the variations in the financial performance of Zanaco while 33.3% was explained by other factors.

Table 3: Analysis of the variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.054	3	.685	3.683	.362
	Residual	.186	1	.186		
	Total	2.240	4			

The table above represents the results on the analysis of the variance (ANOVA). The results indicate that, mobile banking, ATM and internet banking had no significant relationship with financial performance. This was represented by a p-value of 0.362 greater than level of significance 0.05. This implied that the independent variables are statistically not significant in predicting the financial performance of Zanaco bank.

Table 4: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig
Constant	46.899	13.514		3.470	.179
ATM TRANSACTIONS	.000	.000	-8.760	-3.188	.194
INTERNET BANKING	.002	.001	12.461	3.259	.190
MOBILE BANKING	-.003	.001	-5.260	-3.323	.186

The representation above shows coefficients of the regression. In order to complete the study, 5% level of significance was used for the analysis. Thus, from the findings, ATM transactions (p =0.194), internet banking (p=0.190) and mobile banking (p =0.186) were all not statistically significant in predicting the profits of Zanaco banks as all the p values were greater than 0.05.

Summary of the regression equation:

Y= 46.899+ 0.000AT+ 0.002IB -0.003MB

Where: Y= Financial performance, AT= ATM Transactions, IB= internet Banking, MB= Mobile banking

The findings above showed that when all factors are held constant the profit increases by 46.899 units. ATM transactions had 0.00 units, internet banking had 0.002 units and mobile banking had -0.003 units. However, when all factors are held constant, as indicated by the p-values the predictors ATM transactions, mobile banking and internet banking were not significant predictors of financial performance of Zanaco bank.

4.3 Summary of Findings

This section presents summary of the study findings, conclusion and recommendations. The summary of the findings was guided by the objectives with an aim to establish how digital technology has impacted the banking sector in Zambia. The study concludes that customers were aware of the e-banking services but the age group that showed much awareness was between 26-35 years. The findings indicated that, the number of male customers that used the e-banking services were more than the females; it is prudent to note that male customers have been more impacted with digital technology than the females. The findings also indicated that one of the respondent's motivations of using the e-banking services was the facility's convenience of being available 24/7. Although the customers were aware of the e-banking services, the findings indicated that they do not use the services quiet as often, as the daily and weekly usage were lower than the monthly usage. In order to test the correlation between e-banking's service quality and customer satisfaction, the study indicated that there was a

negative significant relationship between each dimension of service quality. The p-values in the analysis were less than the level of significance. Furthermore, the study revealed that digital technology had not greatly influenced the profitability of Zanaco bank. This was because the data analysis revealed that there was no significant relationship between the predictor variables (ATM, internet banking and mobile banking) with financial performance (ROA) as the p-values (0.194, 0.190 and 0.186) were greater than the level of significance 0.05.

5.1. Conclusion and Recommendations

5.1 Conclusion

Based on the findings of the study, it can be concluded that digital technology has not had a great impact on the banking sector in Zambia. Despite the bank innovations being in existence for over a decade in the country, there is a lot that needs to be done in order to improve the service's performance. According to the analysis ever since the products were introduced in Zambia, a lot of customers are aware of the services but they have not been fully adopted, this resulted in customer satisfaction not being fully achieved. Aside from that, e-banking services have the potential to improve the profitability of the bank but this was not the case, the findings revealed that e-banking services did not have influence on the financial performance of Zanaco bank. It use prudent to state that, the financial performance of Zanaco bank was not directly linked to the e-banking services.

5.2. Recommendations

Based on the research findings the study recommends the following:

a. Banks should invest in more personalized banking services that can be easily accessed with no time restriction. This enables customer satisfaction, without effective customer satisfaction a positive impact of digital technology cannot be fully achieved as the needs and demands of customers keep changing.
b. Recommendation is also made in more awareness in the use of internet and mobile banking, as the world is becoming digital; it is important for the customers to move with the change.
c. The study recommends that there should be more investment in internet banking as it has the potential to influence the financial performance so as to gain a competitive advantage.
d. The study was an able to find a significant relationship of e-banking services with financial performance; this could have been due to the insufficient data that was found as it was short-term data. Analysis was only done for the period of 5 years; the previous years did not have the information on e-banking services such as internet and mobile banking. The study recommends that information should be available so as to enhance effective analysis needed to complete the study.

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