

# The Effect of Digital Banking on Traditional Banking Operations: A Case Study of Natsave Bank

**Muchimba Tambudzai**

Department of Business and Management (MBA – IDE), The University of Zambia, Lusaka Zambia

## **Abstract:**

Digital banking has been rapidly adopted by many banks in the recent past. This rapid adoption has been accelerated by technological advancements and global events such as the COVID-19 pandemic, which significantly reduced the possibility of physical interactions. This shift towards digital solutions has been further driven by the emergence of FinTech companies, which offer alternative banking services that compete with traditional banking models. As a result, traditional banks have been compelled to integrate digital banking services to stay competitive in the financial market. Hence, the need to undertake a study of the effect of digital banking on traditional banking operations using a case study of NATSAVE bank. This study was conducted using a quantitative research design in which data was collected from 200 randomly sampled employees of NATSAVE Bank using a likert questionnaire as an instrument of data collection. The study used Pearson Correlation and regression analysis as methods of data analysis. The general objective of the study was “to assess the impact of digital banking on the performance of NATSAVE bank”. The results of the study established that internet banking had a strong positive and statistically significant effect of 0.48 on banking performance. Mobile banking was found to have the second strongest influence of 32.8 percent (0.328) on banking performance on a marginal basis. Electronic card banking found to have a negative and significant relationship with banking performance with a magnitude of -0.176. E-wallet was found to have the third strongest and statistically significant effect on banking performance with a magnitude of 0.200. It was recommended that bank managers focus on adopting internet banking, mobile banking and e-wallet banking system if they have to improve banking performance.

**Keywords:** Digital banking, traditional banking, operations.

## **1. BACKGROUND**

Money is widely regarded as the lifeblood of any economy, essential for the smooth functioning of businesses (Phiri and Iluba, 2021). Banks, particularly commercial banks, play a pivotal role in maintaining economic stability, supporting poverty alleviation, and fostering sustainable development. However, the banking sector has undergone significant transformations in recent years, primarily driven by the rise of digital banking services.

The rapid adoption of digital banking has been accelerated by technological advancements and global events such as the COVID-19 pandemic, which significantly reduced the possibility of physical interactions (Phiri and Iluba, 2021). This shift towards digital solutions has been further driven by the

emergence of FinTech companies, which offer alternative banking services that compete with traditional banking models. As a result, traditional banks have been compelled to integrate digital banking services to stay competitive in the financial market.

### **1.1 Statement of the Problem**

The Bank of Zambia reported substantial growth in the digital finance services (DFS) sector, which saw over 6.5 million active DFS accounts in 2019, an increase from 4.35 million in 2018. The number of active agents also surged from 46,781 in 2018 to over 90,000 in 2019, highlighting a shift toward digital finance (Bank of Zambia, 2019). Digital banking has disrupted the traditional banking model by allowing customers to manage their finances remotely using a smartphone or computer, a significant factor in the rapid growth of Zambia's digital financial services sector (Bank of Zambia, 2019). Despite efforts by traditional banks to modernize and adapt to this digital shift, they continue to face several challenges. The cost of upgrading their infrastructure to accommodate digital banking technologies remains a significant barrier (Wadesango and Magaya, 2020). Moreover, traditional banks face difficulties in competing with digital banks, which benefit from lower operational costs due to their lack of physical branches. The rise of digital banking has had a profound impact on the traditional banking sector in developing countries, including Zambia (Wadesango and Magaya, 2020). It is therefore imperative to establish the extent to which the problems brought about digital banking on traditional banks have affected traditional banking operations

### **1.2 Purpose of the Study**

This study examines the effect of digital banking on the operations of the traditional banking industry, focusing on how the digitalization of finance affects the performance of NATSAVE bank.

### **1.3 Study Objectives**

Study objectives in this section have been divided into general objectives and specific objectives as seen below.

#### **1.3.1 General Objective**

The general objective of this research is to assess the impact of digital banking on the performance of NATSAVE bank.

#### **1.3.2 Specific Objectives**

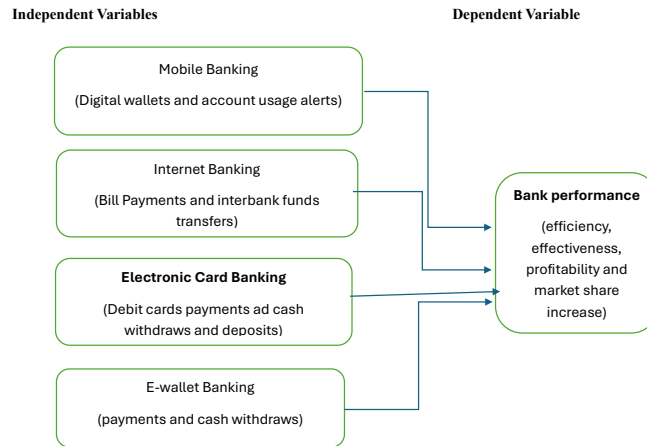
1. To analyse the adoption of digital banking services in NATSAVE bank.
2. To assess the extent to which internet banking has affected the performance of NATSAVE bank.
3. To establish the extent to which mobile banking has affected performance of NATSAVE bank.
4. To establish the extent to which electronic card banking has affected performance of NATSAVE bank.
5. To establish the extent to which e-wallet banking has affected performance of NATSAVE bank.

### **1.4 Significance of the Study**

The findings of this research contribute to the growing body of knowledge on the impact of digital banking in emerging economies, such as Zambia. Policymakers, industry leaders, and academics will benefit from the results of this study. Policymakers can use the findings to craft better policies aimed at improving the banking sector's growth and sustainability. Industry leaders will gain insights into how to adapt to the digital banking shift, ensuring they remain competitive and can harness the benefits of digital innovations.

### 1.5 Conceptual Framework

As can be seen in the diagram below, digital banking presents itself in forms of mobile banking, internet banking, electronic card banking, and telephone banking. Mobile banking includes digital wallets, and account usage alerts. Internet banking entails bill payments and interbank fund transfers. Electronic card banking entails debit card payments and cash withdraws and deposits. E-wallets banking entails making payments and cash withdraws. All these aspects of digital banking are expected to translate into higher performance of the banks by enhancing profitability, effectiveness, and efficiency. In other words, bank performance is dependent on these four independent variables which are the aspects of digital banking.



## 2. METHODS

### 2.1 Study design

This study adopted a quantitative research design. However, Thomas and Zubkov (2023) noted that a quantitative design can take the following forms: Survey Design, Descriptive Research, Experimental Design, Correlational Research, and Causal Comparative Design. The study of the effect of digital banking on the operations and profitability of the traditional banks like NATSAVE in Zambia was conducted using a correlational design. This is because, this design helped to establish not only the relationships between an independent and dependent variable but also the direction and strength of these relationships. Cresswell (2012) also noted that correlational designs provide an opportunity for you to predict scores and explain the relationship among variables.

### 2.2 Study area

The area of study in terms of geographical location is within Zambia and Lusaka in particular. This study was conducted on NATSAVE bank head office in Lusaka Zambia. The head office of NATSAVE was basically chosen because most senior officers of the banks expected to have information on the subject are expected to be working at the head office. NATSAVE was specifically chosen because the researcher works there and that gives an opportunity to the researcher to undertake a study in a setting that she understands well.

### 2.3 Study Population

Creswell (2018) defines the population (N) as the entire group of events or items that are of interest to the study. In this case, the study population consists of employees of NATSAVE bank. This is because these are the people that belong to the study case, NATSAVE bank. NATSAVE has a total number of 400 employees. This is the population of the study.

### 2.4 Study Sample

Gumpili (2021) defined sample size (n) as a group of subjects selected from the large population. It is a

representative of the real population for specific research. He further noted that a good sample is smaller than the population and is capable of providing accurate information (Gumpili, 2021). According to Gumpili, the size of the sample to be involved in the research should be justifiable and representative. The justification of the sample size in this study is established by the use of the the use of a statistical sample size formula.

From an estimated population of 400 NATSAVE bank employees, a sample to represent the population shall be established using a statistical formula of sampling adopted from Creswell (2012) as follows:

$$n = \frac{N}{(1+N(e^2))}$$

Where n = sample size, N= population e= acceptable margin of error (10%) = 0.1

$$n = \frac{400}{(1 + 400(0.05^2))}$$

$$n = 200$$

This implies that a sample of 200 NATSAVE employees will be considered for this study.

### 2.5 Data collection instruments and Procedure

The study made use of a five-point likert scale questionnaire as an instrument of data collection. This was necessary in the process of collecting quantitative data from a huge sample size as noted above (Cresswell, 2014). A likert questionnaire also allows the analysis of relationships among variables. In this case, it enabled the analysis of the relationship between digital banking and performance of the bank. Data collection procedure involved the listing of all NATSAVE employees, entering data in Microsoft Excel, then applying randomization function to establish a sample of 200 people. These people were then approached one by one to ensure that they received a questionnaire and respond to it.

### 2.6 Data Analysis

The quantitative data was analyzed using quantitative methods in SPSS. This involved the production of frequency tables, correlation and regression analysis. The totals in each category were then reported as frequencies and/or percentages. Further, direct quotations were used to state the actual views of respondents where necessary. This enabled the provision of in-depth insights in the subject.

## 3. RESULTS

### 3.1 Demographic Attributes of Respondents

The gender of the respondents as seen in the table was skewed towards the male gender. This implies that the majority of respondents (85%) were males and only fifteen percent (15%) were females. This could mean that most of the employees of NATSAVE bank are males.

With regards to age, majority of respondents were aged between 40 and 50 years. These occupied 75 percent of the study sample. This was seconded by those aged 30 to 39 at twenty percent (20%) of the sample. The least category relates to those whose age group was above 50. These were five percent (5%) of the sample.

The analysis of the level of education of study participants revealed that majority of respondents were graduates. These occupied 50 percent of the sample. The other half was shared between diploma holders and holders of post graduate qualifications. Specifically, holders of post graduate qualification held the second position as they occupied thirty percent (30%) of the study sample while those with diplomas occupied twenty percent (20%) of the study sample.

Analysis of respondents by marital status revealed that majority of respondents were married. These occupied eighty-five percent (85%) of the sample. This was seconded by those who reported to have

been single at ten percent (10%) of the sample. The divorced were five percent (5%) of the sample. Having majority of respondents married seems to align with the fact that majority of respondents were older; aging above 40 implies an increase in chances of marriage among this age category.

Variables	Description	Frequency	Percentage
Gender	Male	170	85
	Female	30	15
	Total	200	100
Age	30-39	40	20
	40-50	150	75
	Above 50	10	5
	Total	200	100
Level of Education	Postgraduate	60	30
	Graduate	100	50
	Diploma	40	20
	Total	200	100
Marital Status	Single	20	10
	Married	170	85
	Divorced	10	5
	Total	200	95
Work Experience	0-5	30	15
	6-10	70	35
	11-15	60	30
	Above 15	40	20
	Total	200	100
Terms of Employment	Contract	50	25
	Permanent	150	75
	Total	200	100

### 3.2 Correlation Analysis of Variables

To establish the direction of relationship between the independent variables and the dependent variable, a Person’s correlation analysis was performed in SPSS. A Parson correlation coefficient provides the direction and strength of relationship among variables. In this case, the study analyzed the direction and strength of the relationship between the dependent variable (banking performance) and its independent variables (internet banking, mobile banking, electronic card banking and e-wallet banking). As can be seen in the table below, all the variables had statistically significant and strong positive correlation with banking performance. This implies that these independent variables are strongly related with banking performance and they move in the same direction.

#### Correlations

		Comp Satisfaction
Comp_Efficiency	Pearson Correlation	.714**
	Sig. (2-tailed)	.000
	N	380
Comp_Fulfilment	Pearson Correlation	.370**
	Sig. (2-tailed)	.000
	N	380
Comp_Privacy	Pearson Correlation	.733**
	Sig. (2-tailed)	.000
	N	380
Comp_Availability	Pearson Correlation	.687**
	Sig. (2-tailed)	.000
	N	380
Comp_Satisfactio n	Pearson Correlation	1
	Sig. (2-tailed)	
	N	380

### 3.3 Multiple Linear Regression Analysis

In this section, a regression analysis was conducted between the dependent variable (banking performance) and its four independent variables, namely; internet banking, mobile banking, electronic card banking and ewallet banking. Regression analysis is used to establish a deterministic relationship between a dependent variable and independent variables. In other words, regression analysis provides regression coefficients which indicates the extent to which independent variables impact the dependent variable. In this case, regression results indicate the magnitude by which; internet banking, mobile banking, electronic card banking and ewallet banking explains banking performance of NATSAVE bank. The results of the multiple regression analysis are seen in the table below.

### Regression Results

	Independent Variable	Regression Coefficient	P-Value	R-Squared	Adjusted R-Squared
<b>Dependent Variable</b>	HR Technology			0.666	0.662
	Comp_Efficiency	1.148	0.000	0.049	
	Comp_Fulfilment	.328	0.000	0.324	
	Comp_Privacy	-.176	0.000	0.214	
	Comp_Availability	.500	0.008	0.493	

As can be seen in the table above, all the variables were found to significantly influence banking performance with a p-value less than 5 percent and 1 percent level of significance. Specifically, internet banking was found to influence banking performance with the highest magnitude of 0.48. This implies that internet banking influences banking performance with about 48 percent on a marginal basis. This was followed by mobile banking which influenced banking performance with a 32.8 percent (0.328) level on a marginal basis. E-wallet banking was found to have the third strongest influence of 20 percent (0.20) on banking performance on a marginal basis. Electronic card banking was found to have the least influence on banking performance of -17.6 percent (-0.176) on a marginal basis. However, it is strange to note that electronic card banking was found to have a negative influence on banking performance. Furthermore, R-Squared, a measure of the reliability of the study results is 0.662. This implies that the model explains 66.2 percent of the variations in banking performance. In other words, internet banking, mobile banking, electronic card banking and e-wallet banking explains 66.2 percent of the variations on banking performance.

## 4. DISCUSSION

### 4.1 The Adoption of Digital Banking Services in NATSAVE Bank

It is important to note that the first objective of the study was to establish the adoption of digital banking system by NATSAVE bank in Zambia. Interestingly, the study established that NATSAVE bank had adopted all the four forms of digital banking system identified in this study. These are; internet banking, mobile banking, electric card banking and e-wallet banking as seen in the table below.

Adoption					
	N	Minimum	Maximum	Mean	D
NATSAVE has fully adopted internet-banking system	200	4.00	5.00	4.4500	
NATSAVE has fully adopted mobile-banking system	200	1.00	5.00	4.0000	
NATSAVE has fully adopted electronic card-banking system	200	2.00	5.00	3.8500	
NATSAVE has fully adopted ewallet-banking system	200	2.00	5.00	3.8000	
Valid N (listwise)	200				

This adoption of all the four forms of digital banking is expected as most banks in Zambia are adopting digital banking services in their attempt to fight the competition coming from digital banks. This is supported by a study conducted by Alda (2024) who established that digital banks are experiencing rapid growth globally being driven by factors such as increased adoption of digital technology, shifting consumer preferences, and reduced operational costs. This is also consistent with the findings of Howcroft et al. (2002) who established that "banks have made large investments in technology over the past few decades to cut costs and enhance customer service."

It is however interesting to note that the mean scores generated from all the forms of digital banking analyzed ranges from 3.8 to 4.4. These scores indicate basic agreement.

#### **4.2 The Effect of Internet Banking on Banking Performance**

Firstly, it is important to note that regression analysis established that internet banking, a form of digital banking has a positive and significant influence on banking performance at NATSAVE bank. This influence of internet banking on banking performance was found to have a magnitude of 0.48. This implies that, a one percentage increase in internet banking is associated with a 48-percentage increase in NATSAVE's banking performance. This magnitude was confirmed with a p-value of 0.000, implying that this result is expected one hundred percent of the times of trial (experiments). Furthermore, internet banking was found to have the highest influence banking performance among the independent variable. This means that transformation of traditional banking into digital banking would highly influential on the banking performance by introducing internet banking system than the other forms of digital banking. This could basically be because internet banking helps banking clients avoid long queues for almost the whole day in traditional banks. Customers find this avoidance of queues to be valuable as it allows them to perform their banking efficiently and without wastage of time. It further allows them to use their valuable time in doing other valuable activities rather than being in queues. It is also important to note that internet banking is highly used by businesses and business people that values their time as they spend it in money generating activities. As such, a time saving technology like internet banking must definitely influence their choice of banking, thereby influencing the bank's performance. It can therefore be inferred that internet banking has an effect of increasing banking performance when introduced in a traditional banking system. To the negative, it also follows that lack of adoption of internet banking system in a traditional banking system would lead to poor performance of a traditional banking system. This would be reflected in the loss of clients to digital banks and a reduction in the number of new clients in the traditional bank.

#### **4.3 The Effect of Mobile Banking on Banking Performance**

Mobile banking as a form of digital banking system was found to have a positive and significant influence on banking performance in NATSAVE Bank. This was confirmed with a magnitude of 0.328. This was the second strongest variable in terms of its influence on banking performance in this study. Its magnitude can be interpreted as, a one percentage increase in mobile banking adoption results into a 32.8 percent increase in NATSAVE's banking performance on a marginal basis. This magnitude is significant enough that it cannot be ignored by management that cares much more about banking performance. It therefore means that adoption of mobile banking, a form of digital banking would significantly improve the performance of a traditional bank. Failure to adopt mobile banking on the other hand would lead to loss of market share and overall performance by 32.8 percent.

#### **4.4 The Effect of Electronic Card Banking on Banking Performance**

The influence of adopting electronic card banking on banking performance of -0.176 is strange as it is not supported by theory. Firstly, the direction of influence (negative) was not expected as theory suggests that electronic card system which is a form of digital banking should make banking attractive as it reduces queues experienced when bankers wait to be served by a few banking officers in banking premises. Secondly, this influence of electronic card banking on performance was found to be statistically significant with a p-value of 0.000 indicating that the result is bound to happen in all the experiments. A probable explanation to this could be that electronic card banking has been considered to be risky to customers as cards can easily be stolen together with their pin numbers. This high possibility

of theft of electronic cards with their secret pin numbers poses a risk of theft of banked money thereby making this form of banking unattractive to customers.

#### **4.5 The Effect of E-Wallet Banking on Banking Performance**

E-Wallet banking was found to have a positive and significant effect on banking performance. This effect was confirmed with a magnitude of 0.2 and p-value of 0.000. This implies that, a one percentage increase in adoption of e-wallet banking would result into a 20 percent increase in banking performance. This is consistent with theory and it is logical as e-wallet system enables bank clients to be able to have easy access for their money without a need to visit a bank branch. As such, the adoption of e-wallet must make a traditional bank attractive to prospective clients. Though it has the third strongest influence of banking performance, e-wallet system explains bank performance by 20 percent on a marginal basis. This influence cannot be ignored as much as banking performance is concerned. It also implies that traditional banks can benefit more from adopting digital banking system as noted in the influence of e-wallet system.

### **5. CONCLUSION**

The results of the study established that internet banking had a strong positive and statistically significant effect of 0.48 on banking performance. Mobile banking was found to have the second strongest influence of 32.8 percent (0.328) on banking performance on a marginal basis. Electronic card banking found to have a negative and significant relationship with banking performance with a magnitude of -0.176. E-wallet was found to have the third strongest and statistically significant effect on banking performance with a magnitude of 0.200.

#### **5.1 Recommendations**

Given that internet banking was found to have the strongest influence banking performance, it is recommended that bank managers ensures that internet banking is fully adopted t NATSAVE Bank. This could ensure an increase in overall banking performance by 48 percent. It is further recommended that traditional banks adopt three forms of digital banking. These are; internet banking, mobile banking and e-wallet banking system as they positively influence employee performance.

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