



IMPACT OF INTERNET BANKING ON GROWTH, VIABILITY AND PROFITABILITY OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

This study examined the impact of internet banking on the growth, viability and profitability of deposit money banks in Nigeria (A case study of Access Bank Plc). Purposive sampling was employed in order to select Access Bank, a deposit money bank in Nigeria as a case study and descriptive Survey research design was adopted. The study used simple percentages and frequencies to represent and interpret the data collected, Chi - Square (X^2) technique was used to run and analyse the data collected from the bank and to test the hypothesis. The result revealed a calculated value of 19.947 for both Automated Teller Machine and Point of Sell is greater than the both critical value of 7.82. That means there is a significant relationship between Automated Teller Machine installed, Point of Sell and profitability of Access Bank. Banks are recommended to make good investment in internet banking services (ATM and POS) to keep pace with the ever-changing business world; more ATM and POS terminals should be strategically installed in different locations for easy access by customers, educating and marketing of internet banking services and products should be intensified to attract more customers, The aforementioned, if properly adhere to will enhance the growth, viability and profitability of the banks.

Keywords: Internet Banking, ATM, POS, Profitability

1.0 Introduction

One of the major gifts given to humanity by technology is internet banking. It seems to have come to stay as the acceptable trend in our world. In the business environment we have experienced dynamics of operations which has changed the experience from what it used to be. This is as a result of improvement in the technology which seems to increase the awareness about bank products and brought banking services closer to the people. Banks have traditionally been in the forefront of

adapting technology to improve their products and services (Aladwani, 2001). Banking in this 21st century is complex and competitive and this is characterized by these changing and highly unpredictable economic climate (Akyuz et al., 2019). Internet banking is the provision of banking services to customers using internet technology. Daniel (2019), defined internet banking to include the provision of small and retail value services and banking products via electronic channels, as well as a large value electronic payment and some

other wholesale banking services which are all delivered electronically. However, the revolution in the banking industry in Nigeria became obvious with the introduction of technological devices to aid in the delivery of quality services to customers. According to Osinubi et al. (2022), the introduction of these devices has driven competition in the banking industry which has in turn reduced customers' waiting time for transactions. This innovation is powered by computers and other networking devices. The networking began with the LAN (Local Area Network), MAN (Metropolitan Area Network) and later the WAN (Wide Area Network) in Nigeria.

Simpson (2017) said the prospects of reducing the cost of operations and increasing operating revenue actually is seen as a motivator in the investment in internet banking by banks. However, the adoption of internet banking has also brought notable challenges to the industry in terms of exposure to risks. Since its adoption, it has been observed that the volume of deposits has increased just the way fraudulent practices experienced by Nigerian banks has increased too. Most of the studies on online banking has only focused on the customer adoption of internet banking and number of enrolled

customers with few recent studies focused on the impact of internet banking on bank's profitability. However, this study is undertaken to fill the gap and explain the impact of internet banking on banks' growth, viability and profitability with Access Bank Plc as a case study.

The study will be conducted in Access Bank Plc, Bida Branch, Niger state. This is to reduce complexities and avoid computation of large data. The study will cover internet banking investments (POS channels and ATM channels) only. The researcher will look at the contribution of these two channels to the profitability of Access Bank Plc.

2.0 Literature Review

2.1 Conceptual Clarification

Internet Banking

Internet Banking offers several types of services through which customers of the bank can request for, get information and can also carry out most of their banking transactions using their smart devices and computers (Suriya, Mahalakshmi & Karthik, 2012). Internet Banking as the process through which customers complete banking transactions electronically without visiting the banks physically or without visiting brick and mortar bank (Chang & Hamid, 2010; Daniel, 1999). This made it easier for banks to facilitate banking for

their customers online. Customers can now operate their bank accounts, carry out balance enquiry, transfer funds or provide standing instructions to banks almost instantly from wherever they feel like. Internet banking also uses the electronic card infrastructure for executing payment instructions and for final settlement of goods and service over the internet between the merchant and the customer. Currently the most common internet payments are for consumer bills and purchase of air ticket through the websites of the merchants (Mallat, 2007; Kim et al., 2010).

The main economic argument for adopting the Internet as a delivery channel is based on the expected reduction in overhead expenses made possible by reducing and ultimately eliminating physical branches and their associated costs (e.g. staff and rent). The unit costs of Internet banking fall more rapidly than those of traditional banks as output increases as a result of balance sheet growth. In this context, DeYoung, Lang, and Nolle (2007) refer internet banking as a process innovation that serves as a substitute for physical branches in the delivery of banking services. Birch and Young (1997); Oliveira et al. (2014); and Alalwan et al. (2017) argue that consumer adoption of Internet and mobile banking is driven by convenience, efficiency, and

perceived usefulness. Wright (2002) observed that Internet banking has weakened the role of physical branch networks as a major entry barrier in retail banking. It has also made pricing more transparent, allowing customers to easily compare banking services and choose the most competitive options online.

Profitability

The economist view profit as a means of net increase in wealth as a result of cash flow plus changes in the value of the firm's assets. Profit to the accountant is a company's total earnings, calculated according to Generally Accepted Accounting Principles (GAAP). In the word of Ross et al. (2022) they saw profitability of a firm as ability of the firm to generate earnings from its own assets, sales, and shareholders' investment. Which they also noted that profitability measures are fundamental indicators used to estimate a firm's financial performance and efficiency in generating returns. Profit is the most important indicator of a firm's success and viability. Profitability is a measure of an organization's profit relative to its expenses. Organizations that are more efficient will realize more profit as a percentage of its expenses than a less-efficient organization, which must spend more to generate the same profit.

A firm must generate sufficient profit to ensure its survival and support long-term growth. Profitability is widely recognized as a core indicator of firm performance, while sustained losses increase the likelihood of financial distress and business failure (Mundt et al., 2022; Yousaf, 2023; Arai & Hirota, 2023). In fact, sufficient profit must be made in a large amount to sustain the operations of the organization and to be able to obtain funds from investors for expansion and growth and to contribute towards the special responsibility of the firm and as well as for the welfare of the society. Profitability can tell key stakeholders whether a company is able to sustain its position in the market and continue to grow. There are two parts to a company's profitability: revenue and expenses. As such, a company is profitable if its revenue exceeds its expenses.

Internet Banking and Profitability

The adoption of Internet banking is influenced by several innovation characteristics derived from the diffusion of innovation theory. These include relative advantage, compatibility, complexity, trialability, and observability, which explain how users perceive and accept new technologies (Rogers, 2003; Al-Jabri & Sohail, 2020; Nguyen et al., 2022). Internet banking performance is commonly assessed

through indicators such as transaction cost efficiency and revenue generation from digital banking services, as these reflect the financial benefits of electronic banking systems (Ozili, 2021; Tran & Nguyen, 2021). Cost of transaction is the amount charged by a bank when a transaction is done, this is an income to the bank. This is attributed to the fact that with increased transaction the cost is minimized and hence the bank is able to save more revenue which translates into profit for the bank. Internet banking is generally cheaper in terms of transferring money and providing other services to clients. Hence, there is a likelihood that there will be more savings on the part of the bank which improves the profitability of the bank. All this is made possible as many consumers, are able to access financial services on a 24-hour basis through various cash points.

2.2 Empirical Review

George et al. (2022) worked on Effect of Inter banking on profitability of commercial banks in Kenya, using Kenya Commercial Bank as a case study. They made use of theory of financial innovations and applied descriptive research design and purposive sampling to select Kenya Commercial Bank from the list of all licensed commercial banks in Kenya as at December 31st, 2020 because it is the largest bank in terms of

technology. Secondary data was extracted from the financial statements which were analyzed using simple linear regression. In the study they find out that the revenues generated from internet banking were a significant factor affecting profitability of Kenya Commercial Banks. The study finding is in agreement with the findings of Abdullai (2024) which mentioned internet banking enhances operational efficiency, meet customer expectation, minimal operating costs, and give room for competition among commercial banks in Kenya.

In the study of Clare Barasa et al. (2017); titled Effect of internet banking on financial performance of commercial banks in Kisumu City - Kenya. The descriptive research methodology was adopted in which document analysis, questionnaire, and interview schedule were used to collect relevant data and information towards attaining the said objective. A combination of quantitative and qualitative data was obtained in order to assist in meeting the objective. With respect to the objective of determining the effect of internet banking on financial performance of commercial banks. The study findings established that commercial banks in Kisumu City have their internet banking up and running within the bank, allowed individual customer to

access banking services irrespective of where they are, and apply friendly charges that bank use as additional revenue from the same. In addition, the study has established that commercial banks in Kisumu City have adopted internet banking to increase outreach. They final revealed that financial performance of the commercial bank in Kenya increased as the bank introduce internet banking and recommended that banks should continue to strengthen their internet banking services.

Akyuz and Opusunju (2019) examine the effect of internet banking on the performance of commercial banks in Nigeria. They used First Bank of Nigeria Plc Abuja branch as a case study. From the analysis they find out that the effect of internet banking on performance of First Bank Nigeria Plc, Abuja is significant. This shows that internet banking proxies such as cheaper internet costs, 24 hours' internet services and information and communication technology competency of customers contribute significantly to the operational performance of First Bank Nigeria Plc, Abuja in terms of efficiency, effectiveness and business expansion. The finding is in line with the findings of Malhotra and Singh (2009), Taiwo & Agwu (2017) and Margaret et al., (2015) which they discovered that there is a significant

relationship between internet banking and operational performance of banks which lead improvement in their profitability, customer been loyal and the overall performance of the bank

Mohammed et al. (2022), investigated the effect of payments system innovations on financial performance of commercial banks in Nigeria. Ex-post factor research design was adopted for the study. The population of the study comprises all the banks operating in Nigeria. Data were collected from the economic reports and statistical bulletin of central bank of Nigeria. The Auto-Regressive Distributed Lags (ARDL) bounds approach to co-integration was adopted on quarterly time-series data from Q1 2007 to Q4 2020 to test the causal relationship between payments system innovations and financial performance of commercial banks in Nigeria. The results indicated that mobile payment, POS transactions and internet payment have positive and significant impact on return on assets of commercial banks in Nigeria while RTGS has negative impact on the return of assets.

2.3 Theoretical Review

2.3.1 Innovation diffusion theory

This theory was developed by E.M. Rogers in 1962, is one of the oldest social science theories. It originated in communication to

explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously (i.e., purchase or use a new product, acquire and perform a new behavior, etc.). The key to adoption is that, the person must perceive the idea, behavior, or product as new or innovative, it is through this that diffusion is possible (Rogers, 2003).

2.3.2 Theory of Financial innovations

Silber propounded financial innovation theory in 1983. The theory was based on the notion that money can be increase if the drivers of expanding the money can be increased. According to (Li & Zeng, 2010), they stated that, the theory demonstrates the new innovations in the finance sector that are aimed at filling the gaps in the money related business sector which include the expenses and the exchange costs. Blach (2011) noted that the theory of financial innovation has brought about new way of doing business and it has helped to meet the customer needs and hence enhancing the firms' level of liquidity as well as expanding quantity of new applicants, due

to their qualifications on the situation. Sekhar (2013) stated that financial innovations redefine financial development by introducing new production methods, technological solutions, and improved returns, thereby contributing to broader economic development.

2.3.3 Transactions Cost Innovative Theory

Hicks and Niehans (1983), proposed this theory when they studied innovation. Reduction of transaction costs is what they considered as the underlying principle of financial innovation feedback which was a result of technology improvement. Financial innovations and financial services advancement can be triggered by the reduction in transaction cost. Microscopic economic structure change was the perspective under which financial innovation was studied. Reduction of the costs of transaction was the main motive behind financial innovation. Another perspective of explaining this theory was the financial innovation radical motive which reasoned that the reason for financial innovations was for the firm to earn profits and benefits (Muthoka et al., 2018).

3.0 Methodology

Research Design

For this study, a descriptive case study design was adopted. This design was chosen

because it allows for an in-depth and contextual analysis of a specific case, focusing on a limited number of events or conditions and their interrelationships. The case study method facilitates detailed and careful observation of a social unit, thereby providing comprehensive insights into the subject matter. This research employed the case study of Access Bank Plc, Bida Branch, to examine the impact of internet banking on the growth, viability, and profitability of the institution.

Population of the Study

Due to practical limitations, researchers often study only a subset of the population that is accessible and representative. The targeted population of this study consists of Deposit Money Banks in Nigeria, in which the population that is accessible is the employees of Access Bank Plc, Bida Branch.

Sample Size and Sampling Techniques

For this study, the researcher administered 20 questionnaires to employees of Access Bank Plc, Bida Branch. Out of these, only 19 questionnaires were correctly completed and returned, representing the final sample size used for analysis. The sampling technique employed was purposive sampling. This non-probability sampling method allows the researcher to deliberately select respondents who possess the relevant

knowledge and experience required for the study. This approach was suitable because Access Bank Plc is one of the major deposit money banks in Nigeria that actively utilizes internet banking services.

Methods of data analysis

The data collected was processed and analyzed using Microsoft Excel. This involved data coding, editing and tabulation especially questionnaire data. The purpose of all these is to make the information clear and understandable for other people. Inferential analyzing method uses a small sample to conclude a bigger population. It means, data from a subject sample of the world is used to test a general theory about its nature. The types of data sets that can be used in this method are observational, retrospective data set, and cross-sectional time study (Bhattacharjee, 2012). Here, we provide a basic overview of the most widely used inferential statistical procedures, including the t-test, ANOVA, chi-square, regression, and time series (Hamed Taherdoost, 2022).

The researcher make us of Chi-Square (χ^2). Chi-square is used to detect the relationship between the categories of two variables. These two variables which are also categorical are from the same population. In contrast with the other discussed inferential tools (applying for interval and ratio data),

this technique must be only applied for nominal and ordinal data because it is simply a test of proportions. The basis for this is comparing one set of proportions with your expected value by chance. It compares the discrepancy of observed and expected frequencies. Smaller chi-squares values show smaller discrepancies between those values (Taherdoost, 2020).

Model Specification

To develop the research model specification, the researcher uses chi-square model to see the level of effect of the dependent variable over independent variable.

$$\chi^2 = \sum_{i=1}^k \frac{(o_i - e_i)^2}{e_i}$$

Where:

o_i = observed frequency for category i

e_i = expected frequency for category i

k = number of categories

4.0 Data Analysis and Result

A total of twenty (20) questionnaires were administered in which nineteen (19) questionnaires were properly filled and returned to the researcher. This indicates that the questionnaire returned is 95%. Thus, presentation, analysis and interpretation were based on the responses of the various respondents. The following tables support the researcher's claim.

Table 1.1: The introduction of internet in banking operation /service of Access Bank Plc. bring about a reduction in administrative cost and staff strength of the bank.

		Frequency	Percent	Valid Percent	Cumulative Percent
valid	Strongly Agree	12	63.16	63.16	63.13
	Agree	7	36.84	36.84	100.0
	Disagree	-	-	-	
	Strongly Disagree	-	-	-	
	Total	19	100.0	100.0	

Source: Questionnaire Administered (2026)

The above **Table 1.1** reveals that 12 respondents which represent 63.16% of the respondents strongly agree and 7 respondents which represent 36.84% also agree while 0 respondent which represents 0% of the respondents disagree and strong

disagree that the introduction of internet in banking operations/services of Access Bank Plc. brings about a reduction in it administrative cost and staff strength of the bank.

Table 1.2: There is a positive reaction from the customers on the introduction of internet banking by Access Bank Plc.

		Frequency	Percent	Valid Percent	Cumulative Percent
valid	Strongly Agree	14	73.68	73.68	73.68
	Agree	5	26.32	26.32	100.0
	Disagree	-	-	-	
	Strongly Disagree	-	-	-	
	Total	19	100.0	100.0	

Source: Questionnaire Administered (2026)

The above **Table 1.2** reveals that 14 respondents which represents 73.68% of the respondents strongly agree and 5 respondents which is 26.32% agree while 0 respondent which represents 0% of the

respondents disagree and strong disagree that there is a positive reaction from the customers on the introduction of internet banking by Access Bank Plc.

Table 1.3: A Positive relationship exists between Automated Teller Machine and Profitability of Access Bank Plc.

		Frequency	Percent	Valid Percent	Cumulative Percent
valid	Strongly Agree	11	57.89	57.89	57.89
	Agree	8	42.11	42.11	100.0
	Disagree	-	-	-	
	Strongly Disagree	-	-	-	
	Total	19	100.0	100.0	

Source: Questionnaire Administered (2026)

The above **Table 1.3** reveals that 11 respondents which represents 57.68% of the respondents strongly agree and 8 respondents which is 42.11 also agree while 0 respondent which represents 0% of the

respondents disagree and strong disagree that there a positive relationship between Automated Teller Machine and Profitability of Access Bank Plc.

Table 1.4: What percentage of Access Bank Plc. customers uses Automated Teller Machine or Automated Teller Machine cards?

		Frequency	Percent	Valid Percent	Cumulative Percent
valid	10 – 20	1	5.26	5.26	5.26
	30 – 40	-	-	-	5.26
	50 – 60	10	52.63	52.63	57.89
	70 and above	8	42.11	42.11	100.0
	Total	19	100.0	100.0	

Source: Questionnaire Administered (2026)

The Table 1.4 above reveals that 1 respondent which represents 5.26% of the respondents pick 10 – 20%, 10 respondents which represent 52.63% of the respondents pick 50 – 60% and 8 respondents which

represent 42.11% of the respondents picked 70% and above of Access Bank Plc. customers that uses Automated Teller Machine or has Automated Teller Machine cards.

Table 1.5: A positive relationship exists between Point on sale terminals and Profitability of Access Bank Plc.

		Frequency	Percent	Valid Percent	Cumulative Percent
valid	Strongly Agree	8	42.11	42.11	42.11
	Agree	11	57.89	57.89	100.0
	Disagree	-	-	-	
	Strongly Disagree		-	-	
	Total	19	100.0	100.0	

Source: Questionnaire Administered (2026)

The above **Table 1.5** reveals that 8 respondents which represent 42.11% of the respondents strongly agree and 11 respondents which is 57.89% also agree while 0 respondent which represents 0% of

the respondents disagree and strong disagree that there is a positive relationship between Point of sales and the Profitability on Access Bank Plc.

Table 1.6: What Percentage of Access Bank Plc customers uses Point on Sales Terminals?

		Frequency	Percent	Valid Percent	Cumulative Percent
valid	10 – 20	2	10.53	10.53	10.53
	30 – 40	1	5.26	5.26	15.79
	50 – 60	16	84.21	84.21	100.0
	70 and above	-	-	-	
	Total	19	100.0	100.0	

Source: Questionnaire Administered (2026)

The **Table 1.6** above reveals that 2 respondents which represent 10.53% of the respondents picked 10 – 20%, 1 respondent which represents 5.26% of the respondents picked 30 – 40% and 16 respondents which

represent 84.21% of the respondents picked 50 – 60% while 0 respondent pick 70% and above percentage of Access Bank Plc. customers that uses Point on sales terminals.

Test of Hypothesis

Hypothesis one

H₀: There is no significant relationship between Automated Teller Machine installed and Profitability of Access Bank Plc.

There is significant relationship between Automated Teller Machines Installed and Profitability of Access Banks Plc.

Response	Observed N	Expected N	Residual
Strongly Agree	11	4.8	6.3
Agree	8	4.8	3.3
Disagree	0	4.8	-4.8
Strongly Disagree	0	4.8	-4.8
Total	19		

Source: Microsoft Excel Output (2026)

Test Statistics

	There is significant relationship between Automated Teller Machines Installed and Profitability of Access Banks Plc.
Chi-Square	19.947
Df	3
Asymp. Sig.	0.000

0 cells (0.000%) have expected frequencies less than 5. The minimum expected cell frequency is 4.8.

Decision Rule:

Reject H₀ if P value < 0.05, otherwise accept H₀.

The researcher therefore rejects the null hypothesis that there is no significant relationship between Automated Teller Machines Installed and Profitability of Access Bank Plc. as the calculated value 19.947 is greater than the critical value of 7.82. Therefore, the alternative hypothesis is accepted that there is significant

relationship between Automated Teller Machines Installed and Profitability of Access Bank Plc.

Hypothesis two:

H₀: There is no significant relationship between Point on Sales channels issued and Profitability of Access Bank Plc.

There is significant relationship between Point on Sales channels issued and Profitability of Access Banks Plc.

Response	Observed N	Expected N	Residual
Strongly Agree	8	4.8	3.3
Agree	11	4.8	6.3
Disagree	0	4.8	-4.8
Strongly Disagree	0	4.8	-4.8
Total	19		

Source: Microsoft Excel Output (2026)

Test Statistics

	There is significant relationship between Point on Sales terminals issued and Profitability of Access Banks Plc.
Chi-Square	19.947
Df	3
Asymp. Sig.	0.000

0 cells (0.000%) have expected frequencies less than 5. The minimum expected cell frequency is 4.8.

Decision Rule:

Reject H_0 if P value < 0.05 , otherwise accept H_0 .

The researcher therefore rejects the null hypothesis that no significant relationship between point on sale channels issued and profitability of Access Bank Plc as the calculated value of 19.947 is greater than the critical value of 7.82. Therefore, the alternative hypothesis is accepted that there is significant relationship between point on sales terminals and profitability of Access Bank Plc.

5.0 Conclusion and Recommendations

This study concludes that internet banking has a positive impact on profitability of deposit money banks. This conclusion was evident from the results gotten from the two

hypotheses that showed the relationship between ATM, POS and profitability of deposit money bank. Also, with the increase in sensitization been done by most deposit money banks in Nigeria, it is a matter of time for every bank customer to embrace the new era of internet banking. It should also be noted that security of transactions is still a concern for many users and potential users of such banking services. Hence, banks need to research and upgrade its security around the internet banking infrastructure. Therefore the researcher recommended that banks make good investment in internet banking services (ATM and POS) to keep pace with the ever-changing business world and the above-mentioned issues must be addressed before

the implementation of such banking system. In addition, ATMs and POS facilities should be installed at strategic locations for easy access by customers to enhance the growth, viability and profitability of the bank. Also, educating and marketing of internet banking service and products should be intensified to attract more customers. Likewise, banks should conduct more research to find new internet banking product to attract and to retain her potential customers. Lastly, manger should get highly qualified programmers and technicians to maintain the ATM and POS located in different location so as to make them available to user 24 hours in 7 days.

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