

Impact of Electronic Banking on the Profitability of Banks in Nigeria (Access Bank and Gtbank)

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ABSTRACT

This study critically investigates the impact of electronic banking on the profitability of banks in Nigeria, a case study of Access Bank and Gtbank. The specific objectives are to examine the impact of automated teller machine (ATM) on profitability of banks, to investigate the influence of Point of sale (POS) on profitability of banks and to critically analyse the effect of mobile banking transaction on the profitability of banks. The theory that underpinned the study are Theory of Planned Behavior (TPB) and Technology Acceptance Theory (TAT). This study adopted an inductive approach with a qualitative research design which involves the reviewing of journals, and articles related to the subject matter “Electronic banking and profitability”. The study employed only pertinent secondary data ranging from 2017- 2023. Based on the findings for the first objective, the study found that a growth in the utilisation of electronic banking technology has a favourable effect on profitability while simultaneously having an unfavourable effect on costs. For the second objective the study found out that bank management which are reluctant to embrace innovations, to settle in and utilise a variety of innovations in their business practices to bolster their financial success. Banks should offer point of sale (POS) cards to all of its customers, especially those running a variety of business types, in order to promote the Central Bank of Nigeria's cashless policy. For the last objective the study reveals that the ease of use, assurance of security, and adaptability that come with mobile banking make it a compelling option to more conventional banking methods. The study recommends that management of banks should adopt new technologies to move in and implement various innovations in their business practices in order to increase their profitability. In conclusion, banks should continue using innovative technology that will increase their profit margins.

Keywords: *Electronic Banking, Profitability, Automated Teller Machine (ATM), Point of Sale (POS), Mobile Banking.*

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CHAPTER ONE INTRODUCTION

➤ *Background of Research Study*

The development of information and communication technology (ICT) has been particularly notable in recent years (Nwankwo and Igwebuike, 2021). Banks gained advantages from this development through the exchange of data and information via modern technology and the Internet in an attempt to offer clients better benefits and strive for excellence in service (Suliman and Ahlam-Jebreen, 2017). A wide range of additional value products and services are offered to bank customers via digital and communication networks. Electronic banking is the practice in question. Using technology to enhance financial services has always been a top priority, claims Mawutor (2014). Since information systems are related to the bulk of banks' whole cash flow and have a significant impact on the existing banking system, managers in the Nigerian banking sector cannot ignore ICT (Nwankwo and Igwebuike, 2021). Consumers may now move money between accounts from the comfort of their homes due to technology, which has simplified banking. Now, procedures and processes that were once difficult to complete can be completed with the click of a button (Ani and Rajesh, 2021). According to Olaiya and Adeleke (2019), e-banking has altered the basic products and services provided by the banking and financial sector, as well as how they are suggested, presented, provided, and consumed. E-banking has improved productivity and profitability by making bank services more available to the general population (Lawrence & Donald, 2023). This is due to the economy's corresponding, efficient and effective cost-reduction methods.

➤ *Research Problem*

By using electronic banking, banks can expedite their retail and wholesale banking services (Lawrence & Donald, 2023). The risk exposure for the banking industry has, nevertheless, increased dramatically since the introduction of e-banking. Both the number (amount) of deposits and the number of fraudulent activities that Nigerian banks have to cope with have increased since it was implemented in the economy (Okolie and Eze, 2023). As a result, there is no justification for doubting the use of information technology in banks. Using information technology in banks is still vital because of the enormous volume of information that these institutions manage every day. Experts have not given this change brought on by electronic banking much thought in terms of the profitability of banks (Nwankwo and Igwebuike, 2021). This effectively underscores the need for further research on the relationship between bank profitability and online banking. By recognising this knowledge gap and providing helpful guidance, the study aims to close it. This in-depth analysis of the issue statement emphasises the importance of understanding how electronic banking may impact profitability, which will ultimately advance academic study and real-world application in the banking industry.

➤ *Significance of Study*

The paper titled "The Impact of Electronic Banking on Profitability of Banks" is essential for academics, managers, and banks alike. It offers researchers the option to look at the complex link between bank profitability and electronic banking, which will help them gain a better knowledge of this developing sector. The information from the study can be used by managers to make smart choices and design realistic strategies to increase their bank's profitability through electronic banking. The report offers banks a framework for assessing the financial effects of current electronic banking activities and identifying possibilities for expansion. This in-depth secondary analysis is particularly applicable to and helpful to academics, managers, and banks because it encourages both academic research and practical implementation.

➤ *Research Aim*

The aim of this study is to critically investigate the impact of electronic banking on the profitability of banks.

➤ *Research Objectives*

The specific objectives are:

- To examine the impact of automated teller machine (ATM) on profitability of banks
- To investigate the influence of Point of sale (POS) on profitability of banks
- To critically analyse the effect of mobile banking transaction on the profitability of banks

➤ *Research Questions*

The study seeks to answer the main question of "what is the impact of electronic banking on the profitability of banks", while also answering the following questions:

- What is the impact of automated teller machines (ATM) on profitability of banks?
- What is the influence of Point of sale (POS) on profitability of banks?
- What is the effect of mobile banking transactions on the profitability of banks?

CHAPTER TWO LITERATURE REVIEW

A. Conceptual Review

➤ *Concept of Electronic Banking*

The world has advanced significantly recently, particularly in the field of information and communication technology (ICT). Banks have taken advantage of this development to convey data and information through contemporary technology and the Internet in an effort to give customers with better benefits and aim for excellence in service (Suliman & Ahlam-Jebreen, 2017). Therefore, "electronic banking" refers to the delivery of a variety of value-added goods and services to bank customers via electronic and communications networks. The term "electronic banking" describes the application of information technology to banking operations. Despite the fact that e-banking systems do away with cash transactions, they also offer a different way to conduct transactions without using actual money or a physical payment mechanism like a cheque (Gbanador, 2023). A number of e-payment options, including as NIBSS rapid payment, internet banking, ATM, mobile banking, and POS, were made available with the advent of e-banking.

The increased demand for banks to offer online customer service, technological development, and increased awareness have all led to the current business environment, which is extremely dynamic and constantly changing. In the past, banks have led the way in utilising technology to improve their services (Mawutor, 2014). The banking industry of the twenty-first century operates in a complicated and competitive atmosphere as a result of these changing circumstances and the very uncertain economic environment. The electronic banking system in Nigeria is currently undergoing a global change that is mostly driven by ICT.

Customers can use the ATM to complete several financial tasks instead of going to the bank (Gbanador, 2021). A POS is a portable device that can be used to pay for goods and services using bank cards. Urban citizens in Nigeria accept POS as a mode of payment, and it is used in shops, petrol stations, boutiques, churches, etc. (Gbanador, 2021).

➤ *Concept of Profitability*

Profitability is merely one crucial stage on the path to a business's ultimate goal of increasing its value, as stated by Salvatore (2015) and Artha and Mulyanan (2018). In recent years, banking profitability has been assessed using a wide range of financial measures. Two popular indicators that are used to assess a company's profitability are return on equity and return on assets. Profitability, according to Cherian et al. (2019), is a gauge of the financial performance of industrial organisations and demonstrates the efficacy and ability of marketing management to utilise the resources and capabilities of the company in a way that promotes the achievement of the company's profit-making objectives. Another indicator of an industrial organization's financial performance is profitability. If an organisation can turn a profit from its economic endeavours by efficiently utilising the resources at its disposal, it can be deemed profitable.

It is a helpful tool for figuring out what financial steps are reasonable to take. As a result, it is crucial for figuring out how well the economy is doing in reaching its objectives. Profitability, or a company's capacity to turn a profit, is viewed by the market economy system as a key tool for adjusting output to meet consumer demands. A company needs to make more money overall than it spends overall in order to be profitable.

• *Return on Investment (ROI):*

The return on assets (ROA) ratio shows how well a bank is able to profit from all of the assets it has purchased for use in the banking industry. The most popular and significant factor for determining a bank's profitability is its return on assets (ROA) (Tan, 2016). This ratio helps banks assess their ability to invest and profitably use financial resources.

• *Return on Equity (ROE):*

ROE is the term used to describe the return of shareholders' equity. Return on Equity (ROE) ignores the risks posed by financial leverage, and rules generally forbid using excessive leverage. It stands for the profit a bank makes from the money its shareholders have invested (Olorunniwo and Hsu, 2006). ROE facilitates a bank's ability to use investment capital to increase profits.

B. Theoretical Review

This section presents an outline of how information systems are adopted. It also discusses what influences customers' acceptance of e-banking. All of the adoption models, including the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), and the Theory of Reasoned Action (TRA), were discussed to investigate the uptake of technology in industrialized countries.

➤ *Theory of Planned Behavior (TPB)*

The theory of reasoned action (TRA), which was coined by Fishbein and Ajzen in 1975, has received the majority of attention in early research. The cornerstones of TRA are the key elements of attitude and subjective norm. It has been demonstrated that the

two factors have a good influence on people's behavioral intentions, which in turn has a beneficial effect on people's actual behavior. An individual's attitude is their positive or negative evaluation of how well they carried out a particular behavior.

Behavioral intention is regarded as the immediate precursor to behavior and is a sign of someone's readiness to carry out a particular conduct. However, the underlying tenet of TRA holds that the volitional control of one's willpower determines whether or not behavior occurs (Fishbein and Ajzen, 1975). As a result, one's willingness is the primary cause of the activity. Ajzen (1991) updates TRA as a result and includes the theory of planned behavior (TPB).

Perceived behavioral control, attitude, and subjective norms are the three elements that make up TPB. As a result, attitude, subjective norms, and perceived behavioural control all have an impact on behavioural intention. In turn, real behavior is governed by behavioral intention. Among other things, perceived behavioral control refers to how simple or difficult a person thinks a particular behavior to be. In recent years, internet usage has expanded in both scope and diversity. The usage of TPB in internet commerce has been the subject of several studies.

➤ *Technology Acceptance Theory (TAT)*

The Technology Acceptance Theory (TAT), developed in 1989 by Davis, Bagozzi, and Warshaw, explains the conceptual model of users' intention or level of acceptance toward information systems or new technology. Perceived utility and perceived ease of use are the cornerstones of TAT. The phrase was used to describe someone's conviction that utilizing a specific new information system and technology would enhance their level of job performance (Asidok and Michael, 2018).

How quickly someone picks up new technology or an information system depends on perceived ease of use. The technique gives perceived usability's benefits more weight than actual usability.

Other external characteristics that the environment may have an impact on as antecedents include perceived utility and simplicity of usage. Since perceived utility and perceived ease of use are crucial perceptual elements, TAT rely on them. Based on the TAT theory, Liu and Arnett (2000) performed research on the fundamental components required to construct a successful website. The research showed that TAT is useful for explaining problems with online user behavior and is not limited to seeing how new information technology accepts intention or behavior (Pavlou, 2003).

C. Empirical Review

Chukwu and Molokwu (2022) conducted study on the impact of digital banking on the performance of Nigerian commercial banks. Secondary panel data from the CBN statistical bulletin were gathered for the years 2010 to 2019. According to the results of the Autoregressive Distributive Lag (ARDL) model, POS had a statistically significant negative influence on ROA, while unstructured supplemental service data (USSD) had a statistically significant positive impact.

Isa-Olatinwo et al. (2022) conducted study on the degree to which digital financial services enhanced the financial performance of Nigerian commercial banks. The study made use of secondary data that was gathered from the CBN statistical bulletin and the annual reports of 13 DMBs in Nigeria from 2012 to 2020. The findings of the OLS regression demonstrated that POS and ATM had a favorable and significant impact on earnings per share (EPS).

Mahardini et al. (2022) conducted an empirical study to examine the influence of internet banking on Indonesian banks' performance. 36 listed banks were employed in the analysis for a period of five years, from the 2016 fiscal year to the 2020 fiscal year. The OLS findings revealed that while online banking (WEB) had a negative connection over the time period covered by the study, mobile banking (MPAY) and automated teller machines (ATM) significantly and favorably influenced return on assets (ROA).

Osinubi et al. (2022) investigated whether there was a connection between internet banking and Fidelity Bank PLC's profitability in Nigeria. The researchers collected their primary data from 200 bank employees in Lagos who completed questionnaires. The descriptive survey research design's findings demonstrated that POS and ATM had a favorable and substantial association with profitability.

D. Literature Gap

This study addresses a gap in the literature by analysing the impact of electronic banking-specific factors on bank profitability in Nigeria. The stability and expansion of the economy are significantly influenced by the health of the bank finances. Profitability has an effect on bank stability as well. The bulk of studies have encountered uneven results while concentrating on one or more banks. However, GTB and Access have not been utilised as case studies. This has led to the identification of the gap in the literature, which calls for additional research. The information provided here may be useful to investors, supervisors of banks, and bank managers.

CHAPTER THREE

RESEARCH METHODOLOGY

➤ *Introduction*

This chapter covers the research methodology of the study. It describes the research design, research approach, research sampling and sources of secondary data gathered alongside the quality of the data. Then finally describes the data ethical measures.

➤ *Research Approach and Design*

• *Research Approach*

There are three research approaches which are abductive, deductive and inductive. This study uses an inductive approach. The inductive research approach only intends a few generalisations regarding the distribution of and relationships between seen or measured features of individuals and social processes. It progresses from specific or opportunistic claims to general. According to the inductive method, any scientific research should begin with observations since they provide a solid foundation from which to draw conclusions. An inductive argument's conclusions make claims that aim to expand knowledge by going beyond firsthand experience.

• *Research Design*

A research design, also referred to as a research strategy (McCombes, 2019), is an approach for answering a set of questions. The methods and procedures for acquiring, processing, and interpreting data are contained in this framework. According to Creswell (2014) and Kerlinger (1986), the research design is the overall plan of action for a research project. It functions as a framework or blueprint by demonstrating how all of the significant components of the research project interact with one another to meet the research question (Malhotra, 2004). Mixed, qualitative, and quantitative are the three main subcategories of study designs. According to Kothari (2007), a quantitative research design is an approach and a measurement that yields quantifiable/discrete results. Finding and understanding the meaning that a person or a group of individuals attribute to a social or human situation is the main goal of qualitative research (Creswell, 2014). The mixed methods study design is based on the pragmatic worldview, which combines both qualitative and quantitative (Tashakkori & Teddlie, 2010).

This study will employ a qualitative research design which involves the reviewing of journals, articles and books related to the subject matter "Electronic banking and profitability". A qualitative approach aims to make a link between the data collected and the observations made. The character of a qualitative method is advantageous for exploratory research (Blaikie, 2009). A direct source of data for a qualitative investigation is the natural world. According to Denzin and Lincoln (2005), it is focused on situations and experiences that are real, lived-in, and arise in the usual run of things. This tactic seeks to comprehend how individuals perceive their environment while they are in a natural context (Lune & Berg, 2017). This study will leverage on secondary data, particularly the utilisation of journals and document analysis. Libraries will provide secondary data for this project.

➤ *Research Sampling & Description and Sources of Secondary Data Selected*

Brown (2006) defined population as "the entire group of people that a particular study is interested in," whereas sample denotes a subset or portion of the population. Selecting a sample from a population is the process of sampling. The sample provides a reliable indicator of the population. The statistical characteristics of the population are inferred from the sample statistics.

Random sampling, also known as probability sampling, and non-probability sampling, sometimes known as non-random sampling, are the two basic categories of sampling techniques.

For each of the sampling methods, they also have sub- types. Every component of the universe has an equal chance of being represented in the sample when probability sampling is used. Non-probability sampling's methodology prevents us from knowing the likelihood that each component of the population will be represented in the sample. Since the study's objective is to assess the impact of electronic banking on profitability, secondary data for the research was acquired from databases of prior pertinent publications.

Any dataset that was not collected by the author is considered secondary data, or more specifically, "the analysis of data collected by someone else." (Boslaugh, 2007, p. 9). Data that has already been gathered and is being considered for reuse for new issues for which the data collected was not initially intended can be considered secondary data (Vartanian, 2010).

Sources of sources of secondary data selected for this study is Secondary data which is quantitative in nature. This study used Published Printed Sources such as articles and journals pertaining to or having key words with electronic banking and profitability.

Journals/periodicals: Periodicals and journals are becoming more significant in terms of gathering data. The explanation is that journals offer current information and might provide information on the really precise subject you are investigating rather than speaking about more general subjects.

➤ *Quality of Secondary Data*

The quality of the data (primary or secondary) employed has an impact on any research's findings, significance for future research, and application to commercial or statistical entities (Olabode and Bakare, 2020). According to Olabode and Bakare (2020), employing secondary data, which provides information at a very low cost, offers a considerable benefit when using existing data sources.

As a result, the data must be evaluated according to a set of standards that consider both the data's unique qualities as well as factors such the methods used to collect the data, its duration, correctness, and rationale. Several important considerations should be made while evaluating secondary data. Additionally, the data must be accurate, trustworthy, and relevant to the topic under research.

To ensure that the quality of the secondary data is sufficient to meet the goals of the study, the researcher employs a number of regularly used assessment criteria, including purpose and intended audience, authority and trustworthiness, correctness and dependability, currency and timeliness, etc. The study will only use pertinent secondary data ranging from 2017- 2023.

➤ *Secondary Data Ethical Measures*

Ethics must be taken into consideration while selecting the sources to include in the literature review. The first ethical standard is the impartial selection of pertinent literature. To avoid this, the researcher would be careful to look at widely shared content that presents a range of ideas and opinions. A set of guidelines that are relevant to study techniques and methodology are called ethics-related considerations. Included in this are the following guiding principles: autonomy, informed consent, risk of harm, anonymity, confidentiality, and disclosure of results. The study mainly looks at secondary data, so many of the previously mentioned topics are no longer applicable. Despite the fact that the study's data were taken from publicly accessible web sources, the original owner of the data was recognised in cases where rights were not acquired.

CHAPTER FOUR

REPORTING OF RESEARCH FINDINGS

➤ Introduction to the Section

This study examines the impact of electronic banking on the profitability of banks in Nigeria from 2017-2023. The study employed secondary data from relevant, previously published journals with a current focus on electronic banking as it impacts profitability in terms of ATM, POS and mobile banking transactions. The journals will be sourced from different websites from year 2017-2023. The research goals of the study are: to determine the impact of automated teller machines (ATM) on profitability of banks, to understand the influence of Point of sale (POS) on profitability of banks and to know the effect of mobile banking transactions on the profitability of banks.

➤ Results Including Graphical Illustrations

The table below shows the number of journals that were sourced online from different publication, there are altogether 8 journals and all the journals are related to the topic. The year of the publication of the journals are between 2017-2023. All the journals are specifically on the impact of electronic banking on the profitability of banks in Nigeria. (The comprehensive list is on appendix 1).

Table 1 Results Including Graphical Illustrations

Author, Year	Journal /Publication name
Aduaka et al. (2020)	Information Management and Business Review
Nwankwo et al. (2023)	African Journals online
Nwankwo et al. (2021)	European Journal of Accounting, Finance and Investment
OLURIN et al. (2021)	International Journal of Multidisciplinary Research and Publications
Demaki, et al. (2021)	Journal of Contemporary Issues in Accounting (JOCIA)
MANG, et al. (2023)	Nigerian Journal of Management Sciences
Raymond, A., Ebenezer, A. M., Kehinde, O. I., and Lateef, Y. A. (2022)	Signifikan: Jurnal Ilmu Ekonomi
Obiekwe, C.J. and Anyanwaokoro, M. (2017)	International Journal of Finance and Accounting

➤ Descriptive Statistics of the Publication

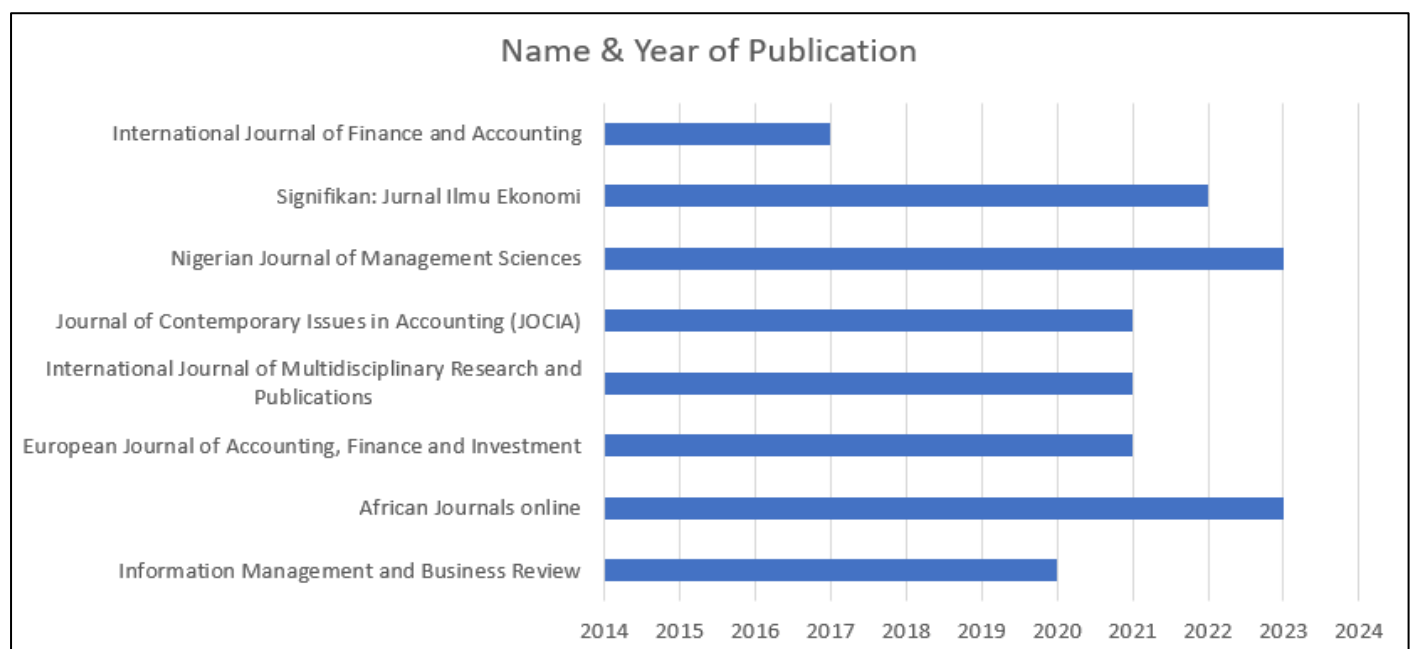


Fig 1 Name & Year of Publication

➤ Results

• Objective 1: To Examine the Impact of Automated Teller Machine (ATM) on Profitability of Banks

In order to accomplish this goal, the following section evaluated, summarised, and synthesised some pertinent secondary data from prior journals:

Nwankwo and Agbo (2021) investigated how Nigerian commercial banks fared after adopting electronic banking. According to the study's findings, transactions made at automated teller machines in Nigeria have a positive and significant effect on the performance of commercial banks, but transactions made at point-of-sale terminals and through mobile banking have a negative and only slightly less significant effect. The result advises bank management to incorporate any innovations into their regular operations that will support their profitability.

Obiekwe and Anyanwaokoro (2017) investigated how Nigerian commercial banks' profitability was affected by electronic payment methods (EPM). Automated Teller Machines (ATM), were taken into consideration as independent variables against the profitability of commercial banks in Nigeria to fulfil the study's purpose. The profitability of commercial banks in Nigeria has been found to be significantly impacted by automated teller machines (ATM) and mobile phone payments. However, the profitability of commercial banks in Nigeria is not significantly impacted by the Internet (WEB). Olurin et al., 2021 also examined the impact of ATM on Profitability of Deposit Money Banks (DMB) in Nigeria. It was shown that ATMs significantly boost profitability. According to the size of the impact, a unit increase in ATMs will lead to a 0.103-unit increase in profitability. This conclusion is in line with Okeke's (2017) study on the effect of cashless policy on the development of commercial banks in Anambra State, which discovered that using ATMs and POS systems greatly enhances the functionality and growth of commercial banks.

Mang et al. (2023) which contends that automated teller machines significantly affect GTB's profitability—was accepted and the null hypothesis was rejected, meaning that GTB is likely to generate more money from enhanced ATM services and performance.

- *Objective 2 To Investigate the Influence of Point of Sale (POS) on Profitability of Banks*

Nwankwo et al., 2021 asserts that transactions made using ATMs have a favourable and substantial impact on the performance of Nigerian commercial banks, point-of-sale terminal (POS) transactions do not result in positive or noteworthy impact on Nigeria's commercial banks' performance. Raymond, et al., (2022) revealed long-term associations between POS (Point of Sale) and performance in banks. Short-run data shows that POS (Point of Sale) have significant positive effects on NIM (Net interest margin). Net interest margin (NIM) is not significantly affected by web or mobile payments.

According to Odi et al. (2023) which states that the point of sale (POS) and bank profitability in Nigeria are related. According to the short run dynamics of POS on Bank Profitability in Nigeria, point of sale (POS) has a significant and positive impact on bank profitability in Nigeria. In other words, point of sale (POS) has a positive and significant short-term influence on Nigerian banks' profitability. The conclusion that point of sale (POS) had a significant and positive impact on the level of bank profitability in Nigeria resulted from the acceptance of the alternate hypothesis in this case and the rejection of the null hypothesis.

- *Objective 3 To Critically Analyse the Effect of Mobile Banking Transaction on the Profitability of Banks*

There is no appreciable impact of mobile banking on GTB profitability (Mang et al., 2023). This outcome is consistent with Okoro's (2014) investigation of the impact of specific e-payment instruments on the efficiency of the Nigerian economy's intermediation. The effectiveness of intermediation and mobile banking have no evident relationship, according to the study. According to Demaki et al. (2021) the study's findings indicated that automated teller machines, point of sale systems, and mobile banking were statistically significant, indicating that they are important or powerful technical advancements that are increasing the financial performance of banks in Nigeria. The study's main finding is that electronic banking affects banks performance in Nigeria. The fundamental goal of the study makes clear that online banking has a positive impact on profitability. A unit increase in mobile banking will lead to a unit gain in profitability, according to the magnitudes of impact. This finding is in line with Itah and Eneh's (2014) study, "Cashless Banking and Bank Profitability: Evidence from Nigeria," which discovered that online banking positively affects the profitability of Nigerian banks.

According to Aduaka et al. (2020) Access Bank's electronic banking system offers quick service and makes it straightforward to transfer money between accounts electronically. The bank's electronic banking services were also readily available around-the-clock, safe, and secure. Using electronic banking services was more efficient and affordable than using traditional banking procedures. These remarks corroborated Mawutor's (2014) findings, which showed that respondents believed e-banking had more benefits than disadvantages and was a quicker way to supply financial services than conventional ways.

CHAPTER FIVE

DISCUSSION OF FINDINGS

➤ *Evaluation of Findings*

The study aims to critically investigate the impact of electronic banking on the profitability of banks. Specifically, the study aims to examine the impact of automated teller machine (ATM) on profitability of banks, to investigate the influence of Point of sale (POS) on profitability of banks and to critically analyse the effect of mobile banking transaction on the profitability of banks. The researcher utilised a qualitative assessment of secondary data coupled with theme analysis in order to accomplish this goal. The following is a list of findings reached after doing the review:

➤ *Re-Assessment of Research Questions in Relation to Research Findings and Literature*

Three objectives are stated for this study as highlighted in the previous section. These objectives would be assessed one after the other in accordance to the research findings and literature.

For the first objective to examine the impact of automated teller machine (ATM) on profitability of banks, the study found that a growth in the utilisation of electronic banking technology has a favourable effect on profitability while simultaneously having an unfavourable effect on costs. The productivity of banks, as well as the quality of their products and services, as well as their profitability performance, all improve due to the investments that banks make in technological advancements. This corroborates the with the finding of Isa-Olatinwo et al. (2022), who discovered that POS and ATM had a favorable and significant impact on earnings per share (EPS). It is implied that the adoption of Nigerian banking has improved due to electronic banking. The banking industry is increasing its output and effectiveness. Additional benefits of using electronic banking relevance to the overall performance of the banking industry by improving the efficiency and effectiveness of employee efficiency. Electronic banking has transformed the industry, to make a transaction simpler by moving services closer to the consumers, hence enhancing the banking sector performance. In order to enable banking transactions at a reduced cost and eliminate the risk of bank clients transferring cash over long distances, automated teller machines should also be implemented in all areas and rural areas of the country.

It is probable that the time allowed for performing periodic banking operations would be cut short as a result of automated recurring bill payments. This would also lessen the necessity for clients to be physically present in a bank branch when it is essential to do so in connection to banking hours. Compared to more traditional banking techniques, using internet banking makes transactions much easier and more cost-effective (Islam, et al., 2019).

For the objective to investigate the influence of Point of sale (POS) on profitability of banks, this study found out that bank management which are reluctant to embrace innovations, to settle in and utilise a variety of innovations in their business practices to bolster their financial success. Banks should offer point of sale (POS) cards to all of its customers, especially those running a variety of business types, in order to promote the Central Bank of Nigeria's cashless policy.

The results also align with a study by Okeke (2017), who looked at how a cashless policy affected the growth of commercial banks in Anambra State. Okeke found that POS had a positive, significant impact on the efficiency and profitability of banks.

For the last objective to critically analyse the effect of mobile banking transaction on the profitability of banks, the study reveals that the ease of use, assurance of security, and adaptability that come with mobile banking make it a compelling option to more conventional banking methods. It ensures that a polished day-to-day operation structure is maintained for all financial operations rather than providing lengthy monthly statements. Banks should encourage customers to adopt their mobile banking ethos. Banks should be able to determine the level of technological sophistication of the bulk of their customers before attempting to provide cutting-edge technology like mobile banking for their customers.

According to published research, electronic banking has a positive impact on bank performance in terms of return on assets (ROA) and net interest margin (NIM) after two years of adoption. However, the study on electronic banking and bank performance conducted in Nigeria by Oginni, Mohammed, El-maude, and Arikpo (2013) found a negative impact in the first year of adoption.

According to Eze and Egoro (2016), who conducted research on the relationship between electronic banking and commercial banks' profitability in Nigeria, there is a strong association between the two. Their findings suggest that there is a connection between the two concepts. In addition, they showed that it is impossible to conclude with absolute certainty that the introduction of electronic banking is the key driver of increasing profitability for financial institutions such as banks. Banks should consider improving their online banking because doing so would guarantee that clients can use their services, which will improve financial performance. In order to protect customer accounts, particularly those of individuals who utilise internet banking, banks must also make sure that adequate internet security is acquired.

These findings are in tandem with the findings of current literatures, Abubakar (2014) carried out a study in order to investigate the influence that electronic banking has had on the growth of deposit money banks in Nigeria. The outcomes of the study indicate

that there is a correlation between using mobile banking and having a bigger total deposit, as well as using internet banking and having a greater total asset. This correlation also exists between using mobile banking and having a greater total asset. On the other hand, the findings of the study demonstrated that there is no significant link between mobile banking and total assets, nor is there any significant link between internet banking and total deposits.

The same was true for using the internet to conduct financial transactions. Hassan, Maman, and Farouk (2013) carried out research on the efficiency of Nigerian deposit money institutions in addition to electronic banking services and goods. According to the findings of the study, the use of electronic banking products has had a strong and significant impact on the performance of Nigerian banks.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

➤ *Conclusion*

According to the study's results, electronic banking greatly raises the profitability of Nigeria's banks. Electronic banking has a high level of acceptance among banks and their customers as a result of its versatility (Nwankwo and Igwebuike, 2021). Banks have continued to have a high turnover rate even while other economic sectors in Nigeria display low profitability. This can be explained by how technologies have been put to use, enabling banks to start making money from sources other than the usual ones like interest, trade, and asset finance. Banks have been able to raise their commission revenue due to the use of debit cards, point-of-sale terminals, mobile devices, and other electronic banking tools (Islam, et al., 2019).

Additionally, the study shows that while using E-banking channels, people prefer using ATMs over internet banking. This is because using these products offers users a number of benefits, including time savings, easy access to finances, and product ease (Islam, et al., 2019). It is also believed to be much safer and more secure than online banking. Electronic banking has generally streamlined financial transactions by bringing services closer to customers, enhancing their security, and removing the need for them to carry huge amounts of currency (Nwankwo, et al., 2023).

It is abundantly evident that electronic banking in Nigeria plays a key role in a bank's operational performance and that it is one of the primary sources of growth in the business (Edwin, 2018). Additionally, it is clear that electronic banking is one of the main drivers of growth in the industry.

It is sufficiently protected to guarantee a sufficient flow of customers. It is feasible that Nigerian banks' success might be dramatically enhanced as new channels were added together, technological progress particularly if attempts are made to implement properly. E-banking's introduction has indeed had a favourable impact on the bank's earnings (Alla, 2023). Also, it has enhanced the institutions' customer fostering a relationship through providing quality services.

It was discovered that ATMs had a sizably favourable effect on profitability. Also, the size of the effect demonstrates that an increase in ATM usage will increase the profitability of the bank. It is also noted that ATM, POS improves performance and has a big beneficial impact. Furthermore, it is also concluded that POS and mobile banking had a positively significant effect on profitability.

➤ *Recommendations for Business Application*

The report makes recommendations to the management of banks that are hesitant to adopt new technologies to move in and implement various innovations in their business practices in order to support their profitability.

This advice is amply backed by the observation that in Nigeria, the most profitable banks are typically those who adopt new technologies quickly.

Additionally, profitability is important to shareholders, and the market is interested in an organisation's profitability. The shareholders will value any moral and responsible efforts made to increase a business' profitability. Therefore, to continue attracting investors, banks should continue using innovative technology that will increase their profit margins.

ATM use has a good and significant influence as one of the easy ways to boost bank profitability in Nigeria. Therefore, the government ought to encourage using ATM's to increase the level of profitability of Nigerian banks.

ATM was discovered to have a positive effect on the profitability of deposit-taking Nigerian banks. The banks should provide additional ATMs and place them at strategic locations throughout the city to reduce travel times and access to the time utilisation of the facility.

Banks should invest in all electronic payment methods to ensure that the economy is comparable to the developed economies operates a cashless economy flawlessly.

Financial regulators and commercial banks are advised to warn their clients about the acceptance of e-banking for its ease and relevance in completing their channel transactions.

The government must promote ATM usage since it is one of the simple ways to raise the level of profitability in the Nigerian banking sector and because it has a good and significant impact on bank profitability.

Education and promotion of e-banking services. The commercial bank should intensify your offerings to attract more customers.

The bank should conduct additional research to find new E-banking services to attract new clients and retain existing customers.

To ensure that the economy fully and smoothly works as a cashless economy, just as the developed economies, banks should invest in all channels of electronic payment. Making the banking sector secure and sustainable enough to power an economy is, of course, the foundation of every developing economy.

➤ *Limitations & Implications for Future Research*

- *Limitations*

One of the study's shortcomings is the fact that it only uses two of the numerous respected banks in Nigeria. This is a serious flaw since it reduces the study's acceptability because it would be very challenging to generalise the findings from the two banks used in the study. Furthermore, the study's capacity to be applied in other situations may have been constrained by its exclusive use of Nigeria as a case study. This study employed only secondary data from journal sources, the study would have been more robust if it employed both secondary and primary data.

Another issue with the study is the use of so few variables to measure e-banking, such as POS, ATM and mobile banking. The range of the conclusions this study can reach is so constrained. Since secondary data has a lot of drawbacks, as was already indicated, future research should strive to explore alternative sources of data. If future research utilised more data sources, such as primary data, and employed questionnaire and interview data collection procedures, the study's findings would be more broadly applicable and widely accepted.

- *Implications for Future Research*

Future studies would greatly benefit from this effort as they do their own research. Other studies can conduct their own research using the findings of this study as important resources. This work's conceptual, theoretical, and empirical assessments can be used to develop useful hypotheses for future research. The findings of the study will greatly enhance the way bank management conducts business and increases its level of financial performance. Banks now have new resources to grow operations and increase profitability, including debit cards, POS terminals, and ATMs. According to the findings, e-banking is the greatest choice for banks aiming to expand operations and raise profitability.

The study should conduct further research to find new E-banking channels to attract and to retain their current customers. Further studies can be reviews of the literature focused on the variables that affect the adoption of electronic banking, while others focused on the relationship between demographic variables and electronic banking, and some tried to measure customer loyalty and satisfaction using internet banking.

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APPENDIX 1: PUBLICATION SUMMARY

Author year	Title of Journals	Journal name and Link
Aduaka et al., 2020	Electronic Banking and Profitability in the Nigerian Banking Industry	Information Management and Business Review https://ojs.amhinternational.com/index.php/imbr/article/view/3086/1978
Nwankwo et al., 2023	EFFECTS OF E-TRANSACTIONS ON THE PROFITABILITY OF COMMERCIAL BANKS IN NIGERIA	African Journals online file:///C:/Users/Eunice%20Ekaette/Downloads/ajol-file-journals_632_articles_241659_submission_proof_241659-7444-581606-1-10-20230215.pdf
Nwankwo et al., 2021	EFFECT OF ELECTRONIC BANKING ON COMMERCIAL BANK PERFORMANCE IN NIGERIA	European Journal of Accounting, Finance and Investment file:///C:/Users/Eunice%20Ekaette/Downloads/EFFECTOFELECTRONICBANKINGONCOMMERCIALBANKPERFORMANC EINNIGERIA%20(4).pdf
OLURIN et al., 2021	Electronic Banking and Profitability of Deposit Money Banks in Nigeria	International Journal of Multidisciplinary Research and Publications http://ijmrmap.com/wp-content/uploads/2021/11/IJMRAP-V4N5P27Y21.pdf
Demaki, et al., 2021	ELECTRONIC BANKING AND BANK PERFORMANCE IN NIGERIA: A CO-INTEGRATION AND ERROR CORRECTION MODEL APPROACH	Journal of Contemporary Issues in Accounting (JOCIA) Vol. 1 No. 1 April, 2021 file:///C:/Users/Eunice%20Ekaette/Downloads/12-26-ELECTRONIC+BANKING+AND+BANK+PERFORMANCE+I N+NIGERIA-+A+CO-INTEGRATION+AND+ERROR+CORRECTION+MODEL+AP PROACH%20(1).pdf
MANG et al., 2023	IMPACT OF ELECTRONIC BANKING CHANNELS ON PROFITABILITY OF DEPOSIT MONEY BANKS IN NIGERIA	Nigerian Journal of Management Sciences https://nigerianjournalofmanagementsciences.com/wp-content/uploads/2023/08/23.-IMPACT-OF-ELECTRONIC-BANK-CHANNELS-ON-THE-PROFITABILITY-OF-DEPOSIT-MONEY-BANKS.pdf
Raymond, A., Ebenezer, A. M., Kehinde, O. I., and Lateef, Y. A. (2022)	Electronic Banking and Bank Performance: Evidence from Nigeria	Signifikan: Jurnal Ilmu Ekonomi file:///C:/Users/Eunice%20Ekaette/Downloads/Electronic_Banking_and_Bank_Performance_Evidence_f.pdf
Obiekwe, C.J. and Anyanwaokoro, M. (2017)	Electronic Payment Methods and Profitability of Banking Firms in Nigeria: A Panel Data Analysis	International Journal of Finance and Accounting