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FINANCIAL INNOVATION NEXUS AND NIGERIA ECONOMIC DEVELOPMENT; AN ECONOMETRIC ANALYSIS

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Abstract

Between 2010 and 2023, the study examined the connection between financial innovation and Nigeria's economic growth. The Central Bank of Nigeria's (CBN) Statistical Bulletin on various topics provided data for this research. A measure of financial innovation, online transfer, automated teller machines, mobility of payments, and points of sale are the independent variables in this study, with the Real Gross Domestic Product (RGDP) of Nigeria serving as the dependent variable. The unit root test was used in the study to confirm the stationarity of the variables, and the Johanson Co-integration test was used to ascertain whether the variables had a long-term relationship. The findings revealed a strong and favorable correlation between financial innovation and Nigeria's economic growth. This finding aligns with Goldsmith's (1969) documentation of the correlation between financial development and economic growth. In order to ensure financial inclusion and promote economic growth, the study made several recommendations, including (a) that the government continue to install more Automated Teller Machines (ATM), particularly in urban and rural areas; (b) that more establishments offer point-of-sale (POS) devices to support their business operations; and (c) that the regulatory body allocate more funds to public education about e-payment channel use.

INTRODUCTION

Unexpected changes in client requirements and tastes, tax laws, technological advancements, and regulatory pressures can spur unexpected improvements in the range of financial goods and instruments, known as financial innovation (Bhattacharyya & Nanda, 2000). Financial institutions have multiplied due to advancements in the financial sector and have also become more sophisticated with new payment methods and asset alternatives to cash. This is mostly the outcome of increased competitiveness caused by an increase in educational institutions

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and technical innovation. The physical collection and payment of notes and coins is a fundamental aspect of banking, and developments in payment systems have begun to produce near equivalents for actual currency.

According to Kamau Dm & Oluach J (2016), financial innovation is the process of developing new financial instruments, institutions, markets, and technologies and, then making them widely known. The model comprises institutional, product, and process elements for developed economies. However, developing nations like Nigeria have made greater progress in financial innovation when it comes to new procedures or methods of conducting financial operations, such as point-of-sale systems, online banking, and automated teller machines. As a result, this study focuses more on financial innovation from a procedural perspective.

The pursuit of profit drives businesses, families, and other economic actors to search for new and superior goods, services, procedures, business forms, and organizational structures that will lower production costs, more broadly meet consumer demand, and increase profits. This search is occasionally conducted through official R&D initiatives or business divisions. In other cases, the trial-and-error approach or the control procedures have led to dangerous outcomes. More than ever, economic growth and rising living standards are driven by innovation, enterprise, and intellectual assets. Therefore, development is essential for generating new employment, raising incomes, presenting investment opportunities, resolving social issues, treating illnesses, preserving the environment, preserving our security, and promoting openness in businesses and government.

Although extensively researched, the connection between innovation and economic growth remains unclear. Prominent academics continue to work with extremely simplistic models of an extremely complicated economy. As a result, empirical results are typically accompanied with extensive annotations that highlight the limitations of all conclusions and the significant ambiguities surrounding the underlying hypotheses in the subject. (Statistics Nigerian Bulletin, 2014)

Although it remains unclear, there has been some discussion of a positive theoretical relationship between financial innovation and economic development. Therefore, financial innovation and economic growth are undoubtedly related. Economists from Smith to Schumpeter have examined this relationship, but the direction of causality in both theory and empirical research has remained unclear. Furthermore, it was impossible to draw any firm conclusions about the kinds of financial innovations and development that would best promote economic growth due to the diverse array of organizational structures involved. Therefore, better levels of savings, capital accumulation, and thus better economic growth rates, can be attributed to financial innovation and progress. Like general purpose technologies outlined by Bresnahan and Trajtenberg (2015) and Helpman (2008), financial innovations can be understood as playing a similar role. These innovations not only benefit innovators directly but also can have a significant impact on the entire economic system and cause far-reaching changes. These innovations could, for example, have far-reaching effects on households by providing new options for consumption and investment and by lowering the expenses associated with generating and allocating capital.

After adjusting for aggregate financial development indicators, Aghion (2015) and Arcand (2012) found that financial innovation is linked to higher rates of economic growth in their sample of high-income nations. This suggests that innovative financial intermediary activity—rather than financial development per se—is what propels economies at high income levels to grow more quickly. However, their findings highlight the fact that financial innovation is a two-edged sword that offers benefits but also carries hazards, necessitating the need for sensible regulatory measures. Financial development and innovation are associated with lower income disparity and a reduction in poverty (Beck, Demirguc-Kunt, and Levine, 2007). This has been amply demonstrated by mobile banking, which has significantly changed Nigeria by lowering the country's poverty rate by giving more

people in the country's rural areas—where banking and insurance services were previously unavailable—access to small amounts of capital, banking facilities, and microinsurance products.

In the modern corporate world, financial institutions operate in a dynamic and complex environment. In general, it changes at a faster rate than financial institutions. For an institution to survive and grow, it must therefore recognize the major shifts in the financial industry. If an institution is ready for such changes, even though they cause uncertainty, they also present chances for innovation that can be profitable.

Research Problem

Financial development and economic growth have been hot topics of discussion and have garnered a lot of attention from specialists in these fields in recent decades. Many research on financial innovation have been conducted, but the results have been inconsistent. Financial innovation and economic growth are negatively correlated, according to research done outside of Nigeria by writers like Motstatsl (2016) in Botswana and Aboagye and Idun (2014) in Ghana. Mwinzi (2013) in Kenya and Bara and Mudzingiri (2016) in Zimbabwe demonstrate a strong correlation between financial innovation and economic growth.

Research conducted in Nigeria by writers like Ilo, Ani, and Chijioke (2014), Onaolapo (2015), and Ibrahim (2012) indicates that financial innovation and economic growth are positively correlated, whereas studies by Umejiaku and Ezie (2017), Dulau and Okunrinboye (2009), Ibenta and Anyanwu (2017), and others indicate that financial innovation and economic growth in Nigeria are negatively correlated.

Given the foregoing justification, empirical research on the relationship between financial innovation and economic growth yields inconsistent findings. This could be due to different estimate techniques, different datasets with varying quality and scope, and different causal relationships. There aren't many empirical studies employing time series data in Nigeria that examine how financial innovation affects economic growth. These studies also do not examine how financial innovation affects economic growth in the short- and long-term. Although panel and cross-sectional data are used in several empirical research that involve Nigeria to investigate the connection between financial development and economic growth, opinions on the results are divided. The varying degrees of financial and economic growth among various nations could be the cause. With a focus on the short- and long-term effects of financial innovation on economic growth, the present research, therefore, complements previous empirical studies by utilizing annual data, stability tests, causality tests, co-integration, and error correction approaches in an effort to shed light on this significant relationship.

Objective of the Study

Examining the relationship between financial innovation and economic progress in Nigeria empirically is the study's main goal. The particular goals are as follows:

i. The impact of the point of sale on the economic expansion of Nigeria is examined.
ii. Analyze the impact of payment mobility on Nigeria's economic expansion.
iii. Analyze how automated teller machines have affected Nigeria's economic expansion.
iv. Analyze how web internet transfer affects Nigeria's economy.

Research Hypotheses

Throughout the course of this investigation, the following null hypotheses are developed:

Ho1: Point of sale has little bearing on the expansion of Nigeria’s economy.
Ho2: Mobility of payment has no significant effect on Nigeria’s economic growth.
Ho3: Automated teller machines have no significant effect on Nigeria’s economic growth.
Ho4: Web internet transfer has no significant effect on Nigeria’s economic growth

The significance of the Study

The researcher and the following individuals place high value on the influence of financial innovation on economic development in Nigeria:

Policy Makers: The impact of financial innovation on economic growth is significant because it will keep Nigerian policymakers informed and motivated to prioritize policies that have an impact on financial innovation and identify strategies for enhancing its effectiveness and efficiency. This research will help in the creation of policies that will further the financial sector's development.

Investors: Investment analysts and investors would benefit from the study's findings as it assesses the efficacy of financial innovation and, in turn, the options available for obtaining long-term, short-term, non-debt financial capital, allowing investors to avoid relying too heavily on debt financing.

Researchers: This work will be highly helpful to individuals or groups who wish to research how financial innovation affects economic growth because it offers suggestions for improving the efficiency of financial innovation while also providing a thorough analysis of the relationship between the two. In actuality, it contributes to the body of empirical research on Nigeria that already exists.

Financial institutions: The results of this study will enable financial institution operators to engage in the financial system more sustainably by assisting them in understanding the dynamics of financial policy. Financial innovation occurs through financial institutions in order to promote economic growth.

REVIEW OF THE RELATED LITERATURES

Conceptual Issues

A Point-of-Sale (POS)

The computerized cash register was replaced with a point-of-sale (POS) terminal. The point-of-sale (POS) system is far more sophisticated than cash registers even a few years ago. It can process credit and debit cards, handle inventory, record and monitor client orders, and connect to other systems via a network. A personal computer equipped with application-specific software and I/O devices tailored to the specific environment in which it will operate is typically the central component of a point-of-sale (POS) terminal. For instance, all menu items in a restaurant's point-of-sale system are probably stored in a database that can be queried in many ways to retrieve information. The majority of businesses with a point of sale, such as a service desk, use POS terminals, including eateries, hotels, entertainment venues, and museums.wikipidia.org (2017)

Mobility of Payment

In general, mobile payment services are those carried out from or via a mobile device and are governed by financial regulations. They are also known as mobile money, mobile money transfer, and mobile wallets. Customers can pay for various services and tangible or digital goods through their cell phone instead of cash, checks, or credit cards. Although the notion of non-coin-based monetary systems is not new, the necessary technology to enable them has only recently become broadly accessible. The adoption of mobile payments is spreading globally in various methods. It was predicted in 2008 that by 2013, the global market for all forms of mobile payments would have grown to over $600 billion. Wikipedia. Org (2017)

Automated Teller Machine (ATM)

The automated teller machine, also known as the baseline, milbank, cash machine, time machine, cash dispenser, ankoma, or sarcoma, is a type of electronic telecommunications device that relieves customers of the need to interact with a cashier, clerk, or bank teller in person to perform financial transactions, especially cash withdrawals.

The majority of contemporary ATMs require the user to insert either a plastic smart card with a chip that holds a unique card number and certain security information like an expiration date, or a plastic ATM card with a

magnetic stripe. The consumer authenticates by entering a personal identification number (PIN) that must correspond with the PIN recorded in the database of the issuing financial institution or, if the card is chip-equipped, in the chip on the card.

Customers can access their credit or bank deposit accounts through an ATM to make a range of transactions, including checking balances, cash withdrawals, and crediting mobile phones. If the currency being taken out of the ATM differs from the currency linked to the bank account, the funds will be exchanged using the official exchange rate. As a result, ATMs are frequently used to give foreign visitors the greatest exchange rates available. Wikipedia. Org (2017)

Web Internet (WINT)

Online payment systems are e-commerce companies that only permit money transactions via the Internet (most of them have fully operational mobile applications). They serve as a quick and safe electronic substitute for conventional techniques including bank transfers, money orders, and checks. The systems handle payments between its customers and online retailers, auction sites, and other corporate users. They charge a fee for this service, but it is significantly lower than the cost of a bank wire transfer.

An online payment system is a way to process financial transactions using the Internet. This enables a vendor to make payments via the Internet or other connections, like direct database links between suppliers and retail locations, which is a popular way to maintain just-in-time inventory. The reach and sales potential of a firm are significantly increased by using online payment methods.

Theoretical Framework

This study is anchored on transaction cost theory and regulation innovation theories as follows:

Transaction Cost Theory

The principal proponents of transaction cost innovation theory are Hicks and Niehans (1983). They believed that the decrease in transaction costs was the primary driver of financial innovation, but in reality, financial innovation is the reaction to technological advancements that have led to a decrease in transaction costs. Transaction costs can be reduced to promote financial innovation and betterment of financial services. This theory examines financial innovation through the lens of minute economic structure changes. Lowering transaction costs is the driving force behind financial innovation. Additionally, this thesis clarified, from a different angle, that financial institutions' goal of making money is the radical reason behind financial innovation. This thesis examined the motivation behind financial innovation and its process from several angles. Thus, this theory is applied to determine how financial innovation affects economic performance from a transactional perspective, i.e., if financial innovation's transaction costs stimulate economic activity, which in turn affects economic performance.

Regulation Innovation Theory

The theory of regulation innovation was introduced by Scylla and associates in 1982. It provides an explanation of financial innovation through the lens of historical economic growth. According to this thesis, financial innovation is a regulatory revolution that reciprocally influences social regulation and is causally related to economic regulation. According to Scylla et al., any change brought about by regulatory reform in the financial system can be viewed as financial innovation because it is extremely difficult to create space for financial innovation in both pure free-market economies and planned economies with rigorous controls. The theory suggests a regulatory framework for all financial innovation, and it is crucial to assess the contribution of this idea to economic growth in the context of our research.

Empirical Review

Between 1985 and 2006, Odularu and Okunrinboye (2009) conducted a study on the modeling of the effect of financial innovation on the demand for money in Nigeria. The conduct and assessment of the efficacy of monetary policy are highly dependent on the demand for money. By employing the Engle and Granger Two-Step

Cointegration technique, this study determines whether the financial innovations that emerged in Nigeria during the 1986 structural adjustment program had an impact on the country's demand for money. The study found that, while demand for money is positively correlated with income and inversely correlated with interest rates when it comes to real cash balances, demand for money in Nigeria has not been greatly impacted by financial innovations that have been incorporated into the financial system. Based on these findings, it is recommended that the money market be opened up to more participants, including private sector funds and non-governmental organizations, in order to deepen the market, increase its dynamic nature, and make it more responsive to monetary policy.

In their 2017 study, Ibenta and Anyanwu examined the case of deposit money banks and a few specific electronic banking tools in order to assess financial innovation and efficiency in the banking subsector. The influence of financial innovation on the efficiency ratio of deposit money banks in Nigeria from 2006 to 2014 is also assessed in this study, along with the relationship between financial innovation and bank efficiency. The study's secondary data came from the Central Bank of Nigeria's statistical bulletin for the relevant period. The purpose of the unit root test was to ensure that the variables were free of stationary defects, which are associated with practically all-time series data because of the way they were generated. The results show that while online and mobile banking are favorably correlated with efficiency ratio, the value of transactions on Automated Teller Machines (ATMs) and Points of Sale (POS) is adversely correlated; only the online and mobile banking relationship is statistically significant. According to the Granger Impact Assessment, the efficiency ratio of deposit money banks in Nigeria is not significantly impacted by financial innovation products, as evidenced by the value of transactions made on ATMs, the internet, point-of-sale systems, and mobile banking. Nonetheless, we discovered proof that banks' efficiency ratio has a statistically significant effect on the amount of money exchanged at ATMs.

The impacts of financial incentives (interest rate) on the adoption of financial innovations in the Nigerian banking sector were studied by Akinwumi Muturi & Ngumi (2016). Using data from the Nigeria Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN) between 2005 and 2010, the study was able to accomplish its goal. Financial Incentives: Interest rate was the independent variable, and customers and deposit base were the dependent variables that measured financial innovation acceptance and deepening. The secondary data were examined using multivariate regression analysis. According to the study, interest rates and financial incentives successfully encouraged Nigerian banks to embrace financial innovations by growing their client base through deposits. However, interest rates alone are insufficient to increase bank penetration or the number of customers the bank serves. The empirical findings do, however, also show that the adoption and penetration of financial innovation involve factors beyond monetary incentives (interest rates), as banks' influence over interest rate movements is restricted and subject to CBN regulations.

From 1991 to 2015, Md. Qamruzzaman (2017) evaluated the connection between institutional innovation and Bangladesh's economic expansion. In order to establish a relationship between institutional innovation and economic growth, he used various econometric models in this study. According to the study's findings, every variable is stationary at a certain level and becomes non-stationary after the first difference. Test of Co-integration results showed that while CPI and spread rate can contribute short-term to Bangladesh's economic growth, non-bank financial entities and the financial market can foster innovation in the financial system over the long term. The Granger Causality Test indicated a unidirectional causal relationship between capital flows and GDP, but a bidirectional causal relationship between financial market development and GDP in the economy. Causality research also revealed a bidirectional causal relationship between capital flows and financial market development, suggesting that innovation in financial institutions or markets can drive both variables and ultimately impact economic growth. Thus, when formulating economic policy, policymakers should take into account the

relationship between institutional innovation and economic growth because it will hasten the development of the financial system by fostering financial innovation among banks, non-bank financial institutions, and the capital market. Strong financial development can positively impact Bangladesh's overall economic growth.

The study by Aboagye and Adu-Asare Idun (2014) investigated the link and Granger causality between financial innovations and economic growth in Ghana from 1963 to 2009. To determine the short- and long-term links between financial innovations and economic growth in Ghana, the study used the ARDL co-integration model and a basic endogenous growth model. Granger causality was also assessed to determine the direction of causality. These findings demonstrate the short-term benefits of financial innovation in terms of economic expansion. However, financial innovation, eventually hinders economic expansion. Additionally, financial innovations and economic growth are causally related. The data support the use of rules to enhance financial innovations that result in long-term savings.

Motsatsi (2016) used quarterly time series data covering the years 2006–2014 to investigate the impact of banking sector innovation on economic development. The impact of business innovation (bank deposits and credit to the private sector), technological innovation (Automated Teller Machines, or ATMs), and other factors influencing economic growth (trade, interest rates, and inflation) was calculated using the Autoregressive Distributed Lag (ARDL) model. These findings demonstrate that company and technology innovation both positively affect economic growth. Therefore, regulations that encourage the widespread use of ATMs and EFTPOS, especially in rural areas where they are limited, would contribute to the expansion of the economy. Furthermore, Botswana's financial market is still underdeveloped and falls short of middle-income countries'' development levels, according to The Global Competitiveness Report (GCR). According to the GCR, the primary obstacle impeding the financial sector's development is the caliber of the educational system. Instead of providing students with the tools they need to support the new national programs, such as work experience and practical skills, the emphasis is primarily on academic accomplishment.

The 2016 study on financial innovation and economic growth: evidence from Zimbabwe was conducted by Bara and Mudzingiri. The impact of financial innovation on the expansion of economies in developing nations has not received much attention. Drawing on the finance-growth relationship, scholarly works claim that there exists a potential positive or negative correlation between financial innovation and growth. Growth is indirectly affected by the positive and negative aspects of financial innovation. This research provides empirical evidence for the causal association between financial innovation and economic growth in Zimbabwe. Based on financial time series data from Zimbabwe for the years 1980–2013, the study uses Autoregressive Distributed Lag (ARDL) bounds tests and Granger causality tests. The relationship between financial innovation and economic growth varies depending on the financial innovation variable. Financial innovation has been proven to be long-term and growth-driven, with a causal relationship between financial innovation and economic growth. After financial development is conditionally netted off, bi-directional causality also emerges. Developing nations like Zimbabwe must prioritize policies that foster financial innovation and economic growth in order to achieve the greatest possible economic development.

Mwinzi (2013) examined how financial innovation affected Kenya's economic growth between 1980 and 2008. The Kenya Bureau of Statistics, the Central Bank of Kenya, and other institutions provided secondary data for this study. With the aid of SPSS, which was edited for accuracy, uniformity, consistency, and completeness and organized to facilitate tabulation and presentation of the analysis in tables, the obtained data were analyzed using the regression approach. According to the study findings, mobile transactions have a larger beneficial influence on economic growth than financial innovation. Mobile banking and RTGS advancements have little impact on

Kenya's financial deepening. This indicates that Kenya's economic growth has been greatly impacted by the expansion of mobile money transactions and mobile banking.

Using a convenient sample of eleven commercial banks in Nigeria, Umejiaku H.E. & Ezie, F.N. [2017], conducted an empirical investigation of the effects of financial innovation and information and communication technology on the performance of commercial banks in that nation. The Central Bank of Nigeria fact book and banks' yearly data for 2001–2013 were used in this study. To determine the effect of ATMs and e-banking services on the performance of commercial banks in Nigeria, this study uses ordinary least squares (OLS) analysis. The study's conclusions show that commercial banks' return on equity (ROE) rises as their profitability performance does. The performance of banks is not significantly improved by investments in ATMs and online banking services.

RESEARCH METHODOLOGY

Research Design

Ex-post facto research is the sort of research design used in this study because the researcher is unable to control or change the variables.

This study uses automated teller machines, web internet transfers, points of sale, mobility of payments, real gross domestic product, and time series data. These details were gathered from the Central Bank of Nigeria's Statistics Bulletin, which covers a range of topics. These data mostly relate to the parameter being studied and are either annual or time series data (secondary data). E-view software version 8.1 is the econometric program to be used for regression estimation.

Model Specifications

According to Modalla (1992), the econometric approach was used in this study because it provides the best methods for the evaluation and verification of hypotheses. Without making many subjective judgments, it also provides a quantitative evaluation of the links between variables. The aforementioned model has been adjusted in light of this study's modification of Ibenta and Anyanwu's (2017) work, which examined the relationship between financial innovation and the effectiveness of deposit money banks using the formula ER=F(ATM, POS, WEB, MPR, and CRR).

Model:

RGDP = F (POS, MOP, ATM, WINT)

Where:

RGDP = Real Gross Domestic Product (GDP)

POS = Point of Sales

MOP= Mobility of payment

ATM =Automated Teller Machine

WINT = Web-Internet transfer

F = Functional notation.

The above equation can be put in an econometric form as;

$Rgdp = \beta_0 + \beta_1 POS + \beta_2 MOP + \beta_3 ATM + \beta_4 WINT + \mu$

Where

β_0	=	Autonomous or intercept
β_1	=	Coefficient of parameter POS
β_2	=	Coefficient of parameter MOP
β_3	=	The coefficient of parameter ATM
β_3	=	Coefficient of parameter WINT

μ = Stochastic variable or error term

The model can also be expressed in log form as follows:

$LRGDP=C + LB_I\ POS + LB_2\ MOP + LB_3ATM + LB_4WINT + \mu$

PRESENTAION AND ANALYSIS OF DATA

4.1 Testing for unit roots

Table 4.1: Unit Root Result

Variable	ADF	Integration	Significance
RGDP	-6.811983	1 (2)	1 %
POS	-9.386077	1 (1)	1 %
M0P	-11.87617	1 (2)	1 %
ATM	-15.45560	1 (2)	1 %
WINT	-4.070286	1 (1)	1 %

Source: Authors' computation

The results Table 4.1 were obtained by applying the augmented Dickey-Fuller tests. These tests revealed that all variables, including Point of Sale (POS) and the internet, were stationary at the first difference, while the real Gross Domestic Product (RGDP), mobile point of payment (MOP), and automated teller machine (ATM) were stationary at the second difference. In other words, the outcome shows that the variables are integrated in order one, or I (1,2). Thus, in order to verify and ascertain whether a long-term relationship exists between the variables, as stated in the model equation, a co-integration test must be conducted.

Testing for Co-Integration

Table 4.2. Co-integration Results

Unrestricted Co-integration Rank Test (TRACE)

Hypothesized		**Trace**	**0.05**	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.824771	108.0828	60.06141	0.0000
At most 1	0.734276	62.79959	40.17493	0.0001
At most 2	0.543998	28.34185	24.27596	0.0145
At most 3	0.209807	7.925167	12.32090	0.2425
At most 4	0.066986	1.802721	4.129906	0.2110

Source: Authors' Computation

The MacKinnon-Haug – Michelis (1999) p-value for the trace test and Max-eigenvalue at the 0.05 level shows the rejection of the hypothesis at three co-integration equations (s). The long-term link between independent and dependent variables is demonstrated by the Johansen test. The outcome concludes that the variables have a distinct long-term relationship.

Hypothesized		**Max-Eigen**	**0.05**	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.824771	45.28318	30.43961	0.0004
At most 1	0.734276	34.45773	24.15921	0.0014
At most 2	0.543998	20.41669	17.79730	0.0197
At most 3	0.209807	6.122446	11.22480	0.3360
At most	0.066986	1.802721	4.129906	0.2110

At the 0.05 level, the Max-Eigen value test revealed three co-integrating equations (s). * Significance of a 0.05 level of rejection of the hypothesis; ** Mackimon –Haug–Michelis (1999) P-values. Using the trace statistics, the table shows three co-integrating equations at the 0.05 level. This finding demonstrates that at the 5% level of significance, a long-run equilibrium relationship exists between the dependent variable and independent variables in the model. As a result, the idea of no co-integration was rejected.

Table 4.3: Regression Results for the Error Correction Model

Variable	Coefficient	Std. Error	t- statistics	Prob
C	12.66840	0.304126	41.65516	0.0000
LPOS	0.001381	0.069314	0.019921	0.9843
LMOP	0.136304	0.039140	3.482443	0.0022
LATM	0.028094	0.068535	0.409914	0.6860
LWINT	-0.310787	0.113199	-2.745484	0.0121
ECM(-1)	-0.391236	-0.247370	1.581586	0.1287

Source: Authors' computation

R- Squared	0.821620
Adjusted R- squared	0.779148
F–Statistics	19.34519
Prob (F- statistics)	0.00000
Durbin- Watson stat	1.676756

Interpretation of the Regression Results

The OLS regression results are shown in Table 1. The coefficient of determination (R^2) was 0.821620, which is approximately 82%. This indicates that approximately 82% of changes in the real gross domestic product can be explained by the variables in the model of financial innovation. The overall significance of the model was tested using the F-statistics. The f-value was 19.34519 with P.value of 0.00000. This indicates that all explanatory variables (POS, ATM, MOP and WINT) collectively have a significant effect on the real gross domestic product. The Durbin–Watson statistic (1.6) is approximately 2, indicating that the model does not have autocorrelation. This implies that the model is suitable for analysis.

The specific objectives are determined using the coefficient of regression and its corresponding t-statistics. The result is as shown on the equation below:

RGDP = 12.66840+0.001381POS+0.0136304MOB+0, 028094ATM-0.310787WINT

Effect of Point of sale on the Nigeria Economic Development

Nigeria's economic growth is positively impacted by the point of sales (POS), according to the regression coefficient (0.00138POS). This suggests that an increase in sales units will result in a real gross domestic product gain of approximately 13%. With a P.value of 0.9843, the t-statistics are 0.019921. "Point of sales has significant effect on real gross domestic product" is the alternative hypothesis that we reject because the P.value is higher than the 0.05 level. Thus, the analysis suggests that the real gross domestic product of Nigeria is not significantly impacted by the point of sales.

This result is in line with the research done in 2017 by Ibenta and Anyanwu on Financial Innovation and Efficiency in the Banking Subsector: The Case of Deposit Money Banks and Selected Electronic Banking Instruments. They found that point of sale had no discernible impact, suggesting that it has not made a major contribution to the expansion of the banking industry or the Nigerian economy in general.

Effect of Payment Mobility on the Nigeria Economic Development

Payment Mobility (MOP) has a favorable impact on Nigeria's economic growth, according to the regression coefficient (0.136304 MOP). This suggests that the actual gross domestic product will increase by roughly 1.3% for every unit increase in payment mobility. 3.482443 is the t-statistic is 3.482443, and the P-value is 0.0022. Payment Mobility does not significantly affect the real gross domestic product, according to the null hypothesis, which is rejected because the P. value is less than the 0.05 level. Thus, this research affirms that Payment Mobility has a noteworthy impact on the actual gross domestic product. The results of Bara, Mugano, and Le Roux's (2016) study on Financial Innovation and Economic Growth in the SADC, which found that Mobil payment had no positive impact on economic growth, are consistent with this finding.

The Effect of Automated Teller Machine (ATM) on Nigeria Economic Development.

The Automated Teller Machine (ATM) had a regression coefficient of 0,028094. This suggests that Nigeria's economic growth has benefited from automated teller machines. This suggests that a rise in ATM will result in a real gross domestic product gain of approximately 28%. The p-value for the t-statistics (0, 409914) is 0.6860. This study rejects the alternative hypothesis that "Automated Teller Machine has significant effect on the real gross domestic product" because the P. value is greater than 0.05. Instead, it accepts the null hypothesis, which suggests that ATMs have no significant impact on Nigeria's economic growth. This finding is consistent with the findings of Ibenta and Anyanwu (2017), who found that ATMs have no significant impact on money deposit banks in Nigeria.

The Effect of Web Internet (WINT) on Nigeria Economic Development.

Web browsing has a negative effect, as indicated by its value of 0.310787, which suggests that a decrease in web browsing will slow down Nigeria's economic growth. On the other hand, the t-statistics, which quantify each variable's individual significance, indicate that web browsing has a significant impact on economic growth, with a value of 2.745484 and a probability of 0.0121. This led us to accept the alternative theory, which holds that the internet has a major impact on the real gross domestic product. The findings of Mugano and Le Roux (2016) on Financial Innovation and Economic Growth in the SADC, which found that Web Internet transfer has a major impact on economic growth, are supported by this finding.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

Regression analysis using the Error Correction Model revealed that variations in financial innovation in Nigeria can be explained by the real gross domestic product in 82% of cases. In particular, the research revealed the following:

1. The impact of sales points on Nigeria's economic growth is negligible.
2. Payment mobility significantly boosts Nigeria's economic expansion.
3. The impact of automated teller machines on Nigeria's economic growth is negligible.
4. Nigeria's economic progress is significantly hampered by the internet.

Conclusion and recommendations

Financial innovation is found to be inevitable in any rapidly expanding economy after reviewing all the data. Based on these results, it is evident that financial innovation contributes to the development of an economy. This finding is consistent with Goldsmith's (1969) documentation of the link between financial development and economic expansion. Many ways in which innovations, institutions, and the establishment of financial markets influence economic development are meticulously illuminated by rigorous theoretical works.

Long-term economic growth and smooth operation of the financial system are positively correlated, according to an increasing corpus of empirical research that includes product analysis, firm-level studies, and industry-level studies.

In light of the aforementioned, the researcher comes to the conclusion that this study is urgently needed since its findings have provided the Nigerian government and banking industry with a wealth of insightful information that they should seriously consider as partners in economic growth. Given that the innovations examined in this study have been shown to spur economic growth, the government of Nigeria should implement appropriate fiscal and monetary policies in order to encourage financial innovation.

As a result, this study suggests the following:

i. Aggressive deployment of automated teller machines, particularly in rural areas without access to banking, in order to guarantee financial inclusion and promote economic development.
ii. An increase in the quantity of businesses providing point-of-sale (POS) equipment to aid in their business endeavors. There should be more point-of-sale systems (POS) installed in key locations, such as stores, churches, schools, hospitals, and gas stations, to facilitate easy access and transactions. Currently, there are only a few in use.
iii. In order to attract more users, the technological aspects of mobile bank banking should be promoted and awareness raised.
iv. More funding should be allocated by regulatory bodies to public education and awareness campaigns about the usage of electronic payment methods.

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