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Electronic Payment: A Panacea for Improved Financing and Performance of Private Organizations in Nigeria

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Abstract
The use of electronic payment has in the last decade witnessed a persistently rising momentum, and private organizations in Nigeria are also swinging in this momentum. But, with this persistently rising momentum of carrying out transactions using electronic payment mediums, such as POS machines, USSD codes and web or online payment, what bothers one is, "how the continues use of electronic payment system has contributed to the financing and performance of private organizations in Nigeria?" consequently therefore, the study examined the effect of electronic payment on the financing and performance of private organizations in Nigeria using the Autoregressive Distributed Lagged Model (ARDL) to analyze quarterly secondary data sourced from various issues of central bank of Nigeria (CBN) statistical bulletin. The empirical result showed that electronic payment significantly impacts on the financing of private organizations, but credit to private organizations, however, lacks significant impact on the performance of private organizations in Nigeria. Based on these findings, the study concluded that electronic payment has significantly improved both the financing and performance of private organizations in Nigeria, while credit or finance to private organizations has failed at significantly improving the performance of private organizations in Nigeria, owing to discriminatory credit or financing policies of banks which marginalizes most private organizations, especially small and medium scaled private organizations, from accessing funds or finance. The study recommended that more of selective monetary control measures should be used by the CBN to ensure the flow of credit to small and medium scaled private organizations. It was also recommended that the CBN should prioritize minimizing every risk associated with electronic payment platforms.

Keywords*: Payment system, point of sale (POS) Machine, Unstructured Supplementary Service Data (USSD) Codes, Web/Internet/Online Payment, Financing or Credit to Private Sector, Private Organizations, Performance or Output*

1. Introduction

Financial and performance challenges in private enterprises have always been a longstanding worry for capitalists, including administration and management experts globally. Private organisations constitute the predominant employers of labour in Africa; however, many, particularly small and medium-sized enterprises, encounter financing challenges attributed by scholars to the continent's underdeveloped financial system in comparison to more advanced nations (Loening, J., Rijkers, B. & Soderbom, M., 2008). In Nigeria, the financial system is relatively underdeveloped, and private organisations experience marginalisation regarding financing from financial institutions, particularly deposit money banks (DMBs), as "banks are more inclined to finance government financial needs, with nearly 50% of their assets allocated to government debt" (Ehikioya & Mohammed, 2013, p. 38).

Organisations often require financing for various productive endeavours, including land acquisition, building construction, machinery and equipment procurement, workforce employment, and the acquisition of new and suitable technologies. Consequently, Ayodele (2019) posited that financing not only alleviates financial restrictions in private organisations but also expedites the adoption of new technologies, thereby influencing the performance of these organisations, particularly regarding production.

In this context, performance denotes an organization's capacity to function effectively and efficiently, resulting in enhanced production (Epstein & Manzoni, 2004). In the contemporary period, private organisations in Nigeria prioritise numerous critical criteria to enhance their financial access, operational efficiency, and overall productivity.

Since achieving independence, the Nigerian government has acknowledged the crucial contribution of private enterprises to national development and has implemented several programs to improve their efficiency and production. Enang (2010) identifies these initiatives: the 1960s import substitution strategy, the 1972 indigenisation policy, the 1986 Structural Adjustment Programme (SAP), the establishment of the Bank of Industry in 2000, and the introduction of the Small and Medium Scale Equity Investment Schemes (SMEIS) to mitigate credit challenges encountered by entrepreneurs. The implementation of the National Integrated Industrial Development (NIID) strategy in 2007 sought to enhance private sector expansion. Furthermore, the federal government's privatisation initiatives, which resulted in the divestiture of major national enterprises, notably the former National Electric Power Authority (NEPA), signify a substantial advancement in promoting private sector involvement and efficacy in Nigeria.

The Central Bank of Nigeria (CBN) and the wider financial sector have persistently contributed to improving the funding and efficacy of private enterprises in the nation. Throughout the years, several policies and efforts from the Nigerian financial industry and the Central Bank of Nigeria have enhanced access to funding for private enterprises. Adegbesan, in a Vanguard article dated April 25, 2021, observed that banks' lending to the private sector surged by 121%, escalating from N64.11 trillion in 2019 to N77.53 trillion in 2020.

The advent of electronic payment systems has notably enhanced private sector finance and performance in Nigeria. Payment solutions, including debit cards, credit cards, internet banking, Unstructured Supplementary Service Data (USSD) codes, and Point of Sale (POS) machines, alongside the Central Bank of Nigeria's cashless policy introduced in April 2011, were originally intended to improve banking efficiency in transaction settlements. Nonetheless, these advances have significantly enhanced the funding, operational efficiency, and productivity of private enterprises in Nigeria.

The integration of electronic payment systems has enhanced companies' access to financial services, hence enabling their involvement in the Nigerian financial ecosystem. These digital payment solutions facilitate transactions while also allowing private firms to obtain funding and credit with more ease. The proliferation and growth of electronic payment systems have significantly benefited private organisations, enabling them to function with enhanced efficiency and effectiveness. Entities and people may now authenticate transactions instantaneously, regardless of whether they are domestic or international (Tijani & Ilugbemi, 2015). Salawu & Salawu (2007) characterised Nigeria's electronic payment revolution as a reaction to the growing globalisation of industry and commerce facilitated by digital technology.

Nigeria's payment system is experiencing a substantial shift, characterised by swift progress in digital transactions. The payment process has transitioned from conventional manual techniques to an online electronic system, referred to as "electronic payment" (Amudi, 2015). This change is progressively making traditional payment systems obsolete. Historically, payments depended on cash or negotiable documents like checks, necessitating physical presence for transactions. Nonetheless, Tijani and Ilugbemi (2015) observe that this conventional structure is diminishing in significance in the contemporary digital age.

The current electronic payment revolution has rendered in-person encounters unnecessary for the acquisition and payment of commodities, financial resources, and services. Digital platforms now offer a more efficient method for executing transactions, enabling users to access and acquire items and services globally via mobile technology. Meltzer and Marulanda (2016) underscored that contemporary global corporate expansion requires rapid, secure, and efficient payment methods. Consequently, cash-based transactions are progressively seen as obsolete due to their inefficiency and protracted nature.

The necessity for prompt, dependable, and secure payment solutions has resulted in the extensive use of electronic payment systems by people and private entities in Nigeria. This pattern signifies a marked transition from the extensive use of cash, with cash transactions increasingly confined to low-value retail purchases. Tijani and Ilugbemi (2015) indicated that the volume and value of electronic card payment transactions experienced substantial growth in the first half of 2011, attaining N167,962,665 billion and N764.14 billion, respectively—representing increases of 57.36% and 25.22% from the preceding half-year. This expansion was primarily propelled by the rising adoption of electronic payment systems, including Automated Teller Machines (ATMs), Point of Sale (POS) terminals, USSD codes, and online banking.

Adegbesan, in a Vanguard article dated April 25, 2021, said that electronic payment transactions increased by 325% in 2020. The persistent and substantial increase in digital payment adoption by individuals and private enterprises, coupled with recent enhancements in bank credit accessibility for the private sector, underpins this study, which seeks to analyse the effects of electronic payment on private organisations in Nigeria. The explicit aims of this study are to;

1. Assessing how electronic payment has affected private organizations' access to financing in Nigeria.
2. Examining the effect of financing on the performance of private organizations in Nigeria.
3. Determining the impact of electronic payment on the performance of private organizations in Nigeria.

2. Literature Review

Ololade and Ogbeide (2017) examined the difficulties related to e-banking in Nigeria. The study utilised primary data gathered via surveys from customers and staff at three chosen bank branches in the Benin capital, employing summary statistics and ordinary least squares regression for analysis. The results demonstrated that employees' job security positively correlates with e-banking and considerably affects its adoption in Nigeria. Moreover, consumer happiness was determined to positively influence e-banking penetration. The security of financial transactions was favourably correlated with e-banking, however it exerted a considerable negative impact on its adoption. The report advised that to effectively expand e-banking, banks should prioritise training investors and promoting e-banking products to attract additional customers. Additionally, augmenting security protocols, diminishing transaction fees, and broadening the network of ATM locations were proposed as initiatives to improve service quality and advance financial inclusion in accordance with the Central Bank of Nigeria's monetary strategy.

Tijani and Ilugbemi (2015) investigated the function of electronic payment channels (EPC) inside Nigeria's banking industry and their influence on national development. The examination of primary data from 98 collected questionnaires across six banks in Ado-Ekiti, utilising inferential statistics through chi-square analysis, revealed that EPCs positively influence economic growth and national development. The researchers advised the Central Bank of Nigeria (CBN) to use supplementary e-payment solutions to enhance trade and commerce. Furthermore, they championed a comprehensive initiative to promote the complete implementation of electronic payment systems, especially at the grassroots level.

Bashir and Olufunsho (2014) examined the principal drivers of private sector performance in Nigeria through an empirical analysis of factors affecting its growth. The study utilised econometric methods, including the Augmented Dickey-Fuller test, Phillips-Perron test, and Error Correction Mechanism (ECM), to analyse yearly time-series data from 1996 to 2011. The results indicated that domestic lending to the private sector exerts a substantial and favourable influence on private sector performance. Therefore, the research advised that the Nigerian government should cultivate a favourable business climate to facilitate the expansion of the private sector.

Osemeke (2011) analysed the constraints and possibilities encountered by private sector organisations as pivotal catalysts for economic growth and development in Nigeria. The study highlighted that for sustained economic growth driven by the private sector, the government must constantly enact policies and initiatives that promote private sector involvement in national development. The research stated that financial growth in private sector organisations is apparent, and their long-term viability mostly relies on ongoing government initiatives and policy assistance designed to promote private sector-driven economic advancement.

3. Methodology and Model Estimation

The research employed quarterly time-series data from the first quarter of 2009 (2009Q1) to the fourth quarter of 2020 (2020Q4), obtained from many editions of the Central Bank of Nigeria (CBN) Annual Statistical Bulletin. The effect of electronic payment systems on the funding and performance of private enterprises in Nigeria was assessed using data analysis utilising the Autoregressive Distributed Lag (ARDL) model and the Bounds Test methodology.

To validate the regression model and prevent the estimation of a non-existent link between the dependent and independent variables, an initial unit root or stationarity test was performed utilising the Augmented Dickey-Fuller (ADF) Unit Root Test. The findings demonstrated that none of the variables were stationary in their original form but achieved stationarity at their first difference.

Subsequent to the ADF test, an ARDL/Bounds test for cointegration was conducted to ascertain if the variables had a long-run or short-run connection. Following the outcomes of the Bounds test, both short-run and long-run models were estimated to further examine the correlations among the variables.

Estimated Short-Run Model

***Source*:** Author's computation

Estimated Long-Run Model

Dependent Variable: D(NMOP)
Method: Least Squares
Date: 09/20/21 Time: 07:15
Sample (adjusted): 2010Q1 2020Q4
Included observations: 36 after adjustments

Dependent Variable: D(CPS)
Method: Least Squares
Date: 09/20/21 Time: 05:38
Sample (adjusted): 2010Q2 2020Q4
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	622.3756	228.3317	2.725752	0.0127
D(NMOP(-1))	0.047980	0.882962	0.054339	0.9572
D(NMOP(-4))	-1.566111	1.098566	-1.425596	0.1687
D(POSTRASCT)	-24.43325	11.62598	-2.101608	0.0748
D(POSTRASCT(-4))	36.79558	17.56352	2.095000	0.0485
D(USSDTRASCT(-1))	2.057776	1.277130	1.611251	0.0221
D(USSDTRASCT(-4))	-10.86971	7.484973	-1.452204	0.1612
D(WEBTRASCT(-1))	-22.68302	11.28264	-2.010435	0.0574
D(WEBTRASCT(-3))	-10.30669	6.493737	-1.587175	0.1274

R-squared	0.723984	Mean dependent var	411.3387
Adjusted R-squared	-0.611642	S.D. dependent var	679.7423
S.E. of regression	703.6701	Akaike info criterion	16.19382
Sum squared resid	10398184	Schwarz criterion	16.61418
Log likelihood	-233.9073	Hannan-Quinn criter.	16.32830
F-statistic	2.757661	Durbin-Watson stat	2.136667
Prob(F-statistic)	0.042375		

	Coefficient	Std. Error	t-Statistic	Prob.

Variable				
C	80.20485	34.91268	2.297299	0.0306
D(CPS)	-0.025161	0.038983	-0.645437	0.5248
D(CPS(-2))	0.017370	0.037975	0.457392	0.6515
D(POSTRASCT)	1.129188	0.724292	1.559023	0.1321
D(USSDTRASCT(-1))	0.620203	0.243672	2.545237	0.0178
D(USSDTRASCT(-2))	-0.511055	0.129844	-3.935905	0.0006
D(WEBTRASCT(-2))	4.011532	1.364101	2.940788	0.0071
ECM(-1)	-0.154927	0.212690	-0.728417	0.0434

R-squared	0.687129	Mean dependent var	124.5881
Adjusted R-squared	0.566708	S.D. dependent var	189.0305
S.E. of regression	138.0430	Akaike info criterion	12.90533
Sum squared resid	457340.9	Schwarz criterion	13.27176
Log likelihood	-198.4852	Hannan-Quinn criter.	13.02679
F-statistic	4.875645	Durbin-Watson stat	1.918213
Prob(F-statistic)	0.001562		

***Source*:** Author's computation

The projected short-run and long-run models included Nominal Manufacturing Output (NMOP) as an indicator of private company performance and Credit to Private Sector (CPS) as a measure of their financing, functioning as dependent variables. Simultaneously, the Value of Point of Sales Transactions (POSTRASCT), the Value of Web/Internet Transactions (WEBTRASCT), and the Value of Unstructured Supplementary Service Data Transactions (USSDTRASCT) were utilised as independent variables. Furthermore, in the long-term model, CPS was incorporated as an independent variable to evaluate its influence on the performance of private organisations.

The findings indicated that the electronic payment metrics—POSTRASCT, USSDTRASCT, and WEBTRASCT—substantially affect the financing of private entities in the short term, while also exerting a considerable long-term influence on their overall performance.

The study revealed that, in the near term, the frequent use of diverse electronic payment methods (POS, USSD, and Web/Internet) in regular company transactions influences access to bank financing with a delayed impact. This indicates that the impact of electronic payment on the financing of private organisations is not instantaneous but unfolds gradually, dependent upon the payment method. POS transactions in the current period (POSTRASCTt) do not immediately impact access to finance; nevertheless, financing is strongly affected by POS transactions from four periods before (POSTRASCT(-4)). The influence of USSD and Web transactions on funding is noted after a one-period delay (USSDTRASCT(-1), WEBTRASCT(-1)). These results align with prior research on the use of electronic payments and financial accessibility.

Nonetheless, over the long term, the findings revealed that CPS (credit to the private sector)—a metric of financing—does not substantially influence private sector performance in Nigeria. This defies theoretical assumptions and previous research, like Tijani and Ilugbemi (2015), which indicated that electronic payment channels favourably influence national growth.

The little impact of finance on private sector performance may be ascribed to credit discrimination against small and medium-sized companies (SMEs) in Nigeria. Although SMEs represent the bulk of private enterprises, they frequently encounter considerable obstacles in obtaining bank financing due to rigorous lending criteria. Financial institutions sometimes favour large organisations in the distribution of credit, therefore constraining access to capital for smaller enterprises. Consequently, although bank funding is available, it is disproportionately allocated to large enterprises, rendering it statistically meaningless in elucidating total private sector performance.

The models' robustness is validated by R-squared values of 72.39% (short run) and 68.71% (long run), demonstrating substantial explanatory power. The F-statistics of 2.75 and 4.87, with associated probabilities of 0.04237 and 0.001562, indicate that the dependent and independent factors are collectively important in elucidating variability in private sector performance.

Conclusion and Recommendation

The empirical results underscore the vital significance of electronic payment in the funding and functioning of private entities in Nigeria. The findings indicate that electronic payment markedly affects the accessibility of finance for private entities; yet, access to credit or financing does not considerably influence their performance. Thus, the study indicates that while electronic payment has significantly improved financing and performance in the private sector, access to credit has not experienced comparable advancements. This is mostly attributable to discriminatory banking laws that inhibit numerous private entities from acquiring essential financial resources.

The research advocates for the enhancement of financing and performance of private entities in Nigeria by cultivating a more capitalistic economic framework that enables banks to deploy resources impartially. Financial institutions ought to recognise people, governmental bodies, and private organizations—irrespective of their size—as equivalent economic players. Facilitating fair access to credit will allow financial resources to be allocated more effectively to productive industries requiring immediate support.

The study also recommends that the CBN should use more of selective monetary control measures, that will ensure the flow of credit to small and medium scaled private organizations.

Finally, the CBN should prioritize minimizing every risk associated with electronic payment platforms so as to improve the continuous use of these platforms for transactions by private organizations.

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Appendix

Results from Augmented Dickey-Fuller Unit Root Test

Variable	Level	First difference	Second difference	MaxLag(s)	Model
Order of integration					
CPS	-3.520787	-3.520787**		2	Intercept
I(1)					
NMOP	-3.518090	-3.520787**		2	Intercept
I(1)					
POSTRASCT	-3.533083	-3.557759**		2	Intercept
I(1)					
USSDTRASCT	-3.548490	-3.540328**		2	Intercept
I(1)					
WEBTRASCT	-3.533083	-3.548490*		2	Intercept
I(1)					
ECM	-1.955020**			0	None
I(0)					

***Source*:** Author's computation.

Note: ** denotes statistical significance 5% level.

Results from ARDL/Bounds Test for Cointegration

Dependent Variable	F-Statistic	5% Critical Bounds Values		Cointegration	Decision
		at I(0)	at I(1)		
CPS	0.837583	2.86	4.01	No	Estimate a Short-Run Model
NMOP	15.65003	2.86	4.01	Yes	Estimate a Long-Run Model

***Source*:** Author's computation.