EFFECT OF TRANSFORMATION OF PAYMENT SYSTEM ON COMMERCIAL BANKS PERFORMANCE IN NIGERIA

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Abstract: Transformation in the global payment system has been the most continuous and dynamic process, the financial system has witnessed in recent times. Despite all that CBN and other authorities in the Nigerian financial system seem to have done in transforming the payment system; it appears that not much impact can be seen on the operational performance of commercial bank especially in the creation of wealth, for its shareholders commensurate to the risk exposure of their stock. This study conducted an empirical analysis of the performance of the three commercial banks from 1989 through 2018; classified into pre implementation era (1989-2005) and post implementation era (2006-2018). Accounting data such as Economic Value Added (EVA), Return on Equity (ROE), Earnings per share (EPS) and Earnings Growth (EG) represented performance in commercial banks while transactions values of Automated teller machines, Mobile banking, Web pay, Point of sale (POS) and National electronic fund transfer (NEFT) were used as proxy for transformation in payment system. Statistical Package for Social Sciences (SPSS) was used in the analysis of the secondary data and a test for mean difference reveals a significant difference in means of performance indicators (EG, EVA and ROE) of commercial banks between the two periods. Correlation result revealed a positive correlation between the performance indicators and proxies for transformation in the Nigerian payment system. The regression analysis on the other hand showed that transformation in the payment system significantly affected EVA, EPS, and ROE, while its effect on EG remained insignificant. It was recommended among others that emphasis should be made on the use of WEBPAY which provided convenience, minimal risk to customers as well as significantly affected all key performance indicators.

INTRODUCTION

The Nigerian payment system refers to set of rules, procedures, and mechanisms for transferring money between two or more individuals or financial institutions and their customers in Nigeria. The payment system is a channel flow from one segment to the other (Ozurumba, 2018). It is a system used to settle financial obligations through the transfer of assets or monetary values. The payment system globally is dynamic and in Nigerian has evolved over time, beginning with the crude batter system (the exchange of goods and services for one another) to the use of money in the form of cowry shells, coins and currency notes. Each stage of the payment system model had its peculiar challenges which precipitated the transformation from one stage to the other.

The Central Bank of Nigeria (CBN) in its oversight function of the monetary policies in Nigeria regulates changes in the payment system alongside the operations of commercial banks. The Charles Soludo's 13-point reformation agenda of 2005 which lead to banks consolidation in Nigeria resulted to fewer banks with strong capital base to fund information and communication technology (ICT) driven operations for better performance; hence the researchers opinion to classify periods earlier than 2005 as pre transformation era and post transformation period, for 2006 and beyond. This consolidation led to economic growth and development through financial inclusion (Okoye, Adetiloye, Etim, &Evbuomwn, 2016 as cited in Lawrence et-al, 2018). Could this advancement in service delivery of banks have resulted in improved economic value as well as shareholders wealth maximization?

In 2010 the central bank of Nigeria (CBN) observed that the aggregate cash transaction represents over 99% of the customer's activity in the commercial bank; with automated teller machine (ATM) withdrawals and over the counter (OTC) withdrawals accounting for about 85% (Umeano, 2012). It also observed that aggregate in-bank-cash withdrawal less than one hundred thousand naira accounted for about 86% of the over the counter (OTC) transaction while 14%is basically contributed by transactions above one hundred thousand naira. In view of this, there arose an urgent need to adequately manage the cost emanating from such an enormous transaction in order to appropriately compensate for the minute proportion of the total revenue apportioned to in-bank-cash transaction. In fact, the cost of cash to the Nigerian financial system from 2009-2012 was estimated to had risen from N50bn-N192bn (Umeano, 2012), hence the emphasis on a payment platform other than cash. The Nigerian payment system is gradually migrating

from the cash to the cashless (electronic), in other to be in tune with global trend. Currently the cashless Nigerian policy which stipulates a cash handling charge on daily cash deposit or withdrawals exceeding N500,000 and N3,000,000 for individuals and corporate entities respectively; is aimed at reducing (though not eliminating) the volume of cash in circulation at a given time. Certain minute charges were also approved by CBN for the use of ATM, POS, Webpay, NEFT; which are resultant revenue to the commercial banks and outlay to their customers for convenience enjoyed. Are these truly affecting the return on investment of equity holding visa vice the commercial banks firm value?

A lot has been written concerning the impact of the use of electronic payment system on the performance of commercial banks, using parameters relating to accounting profit as a proxy for performance which are subjective and as such create uncertainty in the long-run stability of commercial banks. There is certainly little or nothing done to determine the effect of transformation in the payment system on commercial banks performance relative to shareholders wealth maximization and sustainability accounting (firm value), hence the desire of the researcher to adopt economic value added as a proxy for performance in this work. Economic Value added is a measure of performance that provides a useful assessment of how much shareholders value has being added (increased) during a given period. It is a measure of performance that is directly correlated with shareholders wealth (Wolf, 2014).

AIM AND OBJECTIVES OF THE STUDY

The aim of this study is to examine the effect of the transformation in the Nigerian payment system (represented by the value of POS, ATM, web pay, and NEFT transaction in commercial banks) on the performance of commercial banks (proxied by EVA, ROE, EPS, and EG). It specifically accomplished the following objectives:

i. Review changes in banks operational performance between the two distinct periods classified as pre and post implementation era of the various electronic payment channels.
ii. Isolate the effect of the use of these various electronic payment channels on the economic value added (EVA) of commercial banks in Nigeria.
iii. Determine the extent to which the use of these various electronic payment channels impact on the earnings growth (EG) of commercial banks in Nigeria.
iv. Assess the extent to which transformation in the payment system impact on the value of earnings per share (EPS) or net income per unit of share of commercial banks in Nigeria.
v. Determine the impact of the changes in the payment system on shareholders return and risk preference of commercial banks in Nigeria.
vi. Ascertain the impact of the transformed payment system on commercial banks performance and overall firm value.

HYPOTHESES

The following null hypotheses were tested in this study at 0.05 alpha level:

1. There is no significant mean difference between bank performance during the pre and post implementation era of transformation in the Nigerian payment system.
2. The use of ATM, POS, web pay, mobile pay and NEFT has no significant effect on the economic value added of commercial banks in Nigeria.
3. Adoption of the electronic payment system has no significant effect on shareholders equity returns of commercial banks in Nigeria.
4. The use of ATM, POS, NEFT, web pay and mobile pay has no significant effect on the earnings growth of commercial banks in Nigeria.
5. Transformation in the Nigerian payment system has no significant effect on earnings per share (EPS) of commercial banks in Nigeria.
6. The overall performance and firm value of deposit money banks are not affected by transformation in the Nigerian payment system.

CONCEPTUAL, THEORETICAL AND EMPIRICAL LITERATURE

The payment system is a subset of the financial system which can be described as a complex network of financial interactions and intermediation between savers of fund and users of fund in an economy (Nwezeaku, 2012). Regulatory bodies as well as facilitating institutions aids intermediation in the financial system; which is composed of a set of institutions, instruments, markets, rules and regulations that determine the mechanism(operation) of these components in the economic system (Ozurumba, 2018).

The component institutions of the financial system are basically the banking industry, the non-bank financial institutions. The regulatory apparatus are put in place by governmental agencies to define, determine, as well as regulate the operations in the system and they include the bank and other financial institutions act (BOFIA) and the insurance act etc. The financial system is basically operated by two distinct markets namely the capital market and the money market .Both markets present a platform to show case instruments of intermediation at their various capacities.

Global transformation in payment system have currently migrated to the use of crypto-currency which is a digital asset designed to work as a medium of exchange. In Nigeria however, the payment system has evolved from the crude batter system to the use of cowry shell, coinage, paper money, and currently the electronic payment system. Global finance technology based transformation in the payment system are not without challenges as data security and real time response to customers need remain the crux of major fintech legislations while most global company in the industry has resorted to cloud technology in other to meet increasing stringent compliance regulations.

The electronic payment platforms currently used in Nigeria are; the POS, ATM, NEFT, web pay and other debit card mechanism. Transformation in the payment system grossly affects the operational model of commercial banks being a key player in the payment system in the area of increased cost of purchase and installation of information technology (ICT) and the electronic payment platforms. The financial deregulation of 1980s had both an income and substitution effect on banks. It increased income for banks through increase demand for financial products as well as increase competition through the availability of substitutes. However caution must be taken in asserting that loss of market share in savings and lending business especially to corporate sector by the banks is an indication of secular decline in banking firm or industry at large. On the other hand, were the commercial banks earnings truly improved by the use of electronic payment system to the extent that its shareholder's wealth is maximized?

INFRASTRUCTURES OF THE ELECTRONIC PAYMENT SYSTEMS IN NIGERIA

Certain infrastructures are put in place in Nigeria to enhance its electronic payment system. They are:

a) National automated clearing system, used for automatic verification thereby reducing the clearing period to T+2.

b) Real time gross settlement system; which settles transactions on one to one basis once processed to ensure that payments remain final and irrevocable.

c) National central switch; which is set up to ensure interconnectivity between electronic fund transfer switches of various banks

d) T24system; is a core bank application introduced by CBN in 2006 to automate trading in securities

e) Internet banking: were customers instructions and desires are taken and resolved through the internet(e-banking)

f) Smart card banking; which performs banking transaction through the use of electronic cards such as debit cards etc.

g) Mobile or telephone banking; which implies the conduct of banking operations through the use of mobile phones or fixed wireless phones

h) E-Naira; which is the CBN virtual or digital currency denominated in naira to provide a unique medium of exchange, store of value when compared to cash.

KEY PERFORMANCE INDICATOR IN THE COMMERCIAL BANKS

Bank performance generally refers to how well a bank faired within a trading period in the realization of its objective and this can presumably be isolated through a review of its published financial statement. It is the ability of the bank to achieve the objective set by both management and stakeholders (Rose, 2001) which might be; large range growth rate, or on the contrary conservative growth which minimizes risk as well as preserving the image of a sound banking with modest return to shareholders. The following performance indicators will be adopted in this analysis:

a) Economic value added

b) Return on equity

c) Revenue growth

d) Earnings per share

Economic Value Added (EVA): Economic Value added is a measure of performance that provides a useful assessment of how much shareholders value has being added (increased) during a given period. It is a measure of

performance that is directly correlated with shareholders wealth (Emile Wolf, 2014). Propounded by the consultancy firm Stern Stewart, EVA incorporates the cost of capital which is relative to the shareholders risk assessment in its computation. The weighted average cost of capital represents the composite cost of all capital employed in the realization of net operating income which must be readjusted for tax and interest expenses previously deducted.

Return on Equity (ROE): Return on equity attempts to explain the benefits attributable to shareholders by virtue of their investments. ROE measures how the shareholders faired within the period under review (Akujiobi, 2010). It is the ratio of earnings per share to book value of equity per share (Brealey, Myers, & Allen 2014). ROE as a measure of performance reveals in accounting terms the amount generated by one naira worth of equity. It exceeds Return on Assets (ROA) in absolute terms due to the use of financial leverage.

Earnings Growth and Earnings per Share: Earnings growth(EG) represents percentage change in gross earning over a distinct period while earnings per share refers to net operating profit(profit after tax) per aggregate number of ordinary shareholding ranking for dividend in the relevant period.

Theories in a Payment System: Certain theories underline the transformation in the payment system, they include but not limited to: payment system theory, e-monetary theory and theory of loss allocation for consumers. These are models and rule that underpin the operation of an electronic payment system as well as present a settlement pattern for losses incurred in electronic transactions.

EMPIRICAL REVIEW

Abanenewe et-al (2013) citing the work of Harnando and Neto on internet delivery channel changing banks performance, observed that the impact of internet banking on the performance of banks as a payment transformation delivery channel takes time to appear. They concluded that the adoption of transaction website has a positive impact on profitability in the long run. This impact becomes significant in terms of ROA and ROE after three years, thus, depicting the existence of a time lag in precipitation. They equally, citing Shuqaur (2003) on practical electronic banking services by the Jordanian banks identified that high cost of electronic banking service (due to staff training, and infrastructural cost) may impact negatively on bank performance in the short run. They conducted a test for difference of means correlated between the pre and the post adoption of the electronic payment system using this two parameters namely ROA and ROE at 5% level of significance and observed that e- banking significantly improved performance in terms of return on equity (ROE) but not return on asset (ROA), as the test for difference of means applied to pre and post e- banking technology shows no positive impact on the profitability indicators measured with ROA. They therefore concluded that the capital intensity of e-banking such as increased cost of assets and maintenance implied an increase in total cost of asset of banks which resulted to a negative return on total asset (ROA) observed.

Mohamed and Saad (2011) reviewed the impact of electronic banking on the Jordanian banks performance using a panel of data of fifteen (15) banks for the period of 2000-2010. Adopting accounting profit as a proxy for performance, they regressed on relevant variables using ordinary least square regression and observed that electronic banking has a significant negative impact on the performance of Jordan banks. He concluded that bank customer in Jordan preferred the traditional channel to electronic banking, in the execution of their transaction and therefore required a convincing strategy that can enforce a change in taste.

Nwaezeaku and Ugwueze (2016) in their work titled e-banking and commercial banks performance in Nigeria adopted the' Eagle –Granger co-integration model' in the analysis of the effect of value of POS transactions (independent variable) on monthly commercial banks deposit (dependent variable).They assumed that a linear combination of two non- stationary time series when co-integrated may be stationary at the same number of differencing; co-integration implying the existence of a long run relationship between the variables. In their observation at 5% level of significance, Nwaezeaku and co. identified the absence of co-integration between POS and savings deposit as well as private sector time deposit in Nigeria but on the contrary a long-term relationship existed between POS and demand deposit in Nigeria. Hence their conclusion that an existence of a long run relation between demand deposit and POS in Nigeria implies that e-banking can impact on the performance of commercial banks.

Obiekwe and Anyanwuokoro (2017) on a broader view investigated electronic payment methods and profitability of banking firms using a panel data analysis of five (5) banks between 2009 and 2015.The sturdy analysed the data using a panel least square technique which revealed that ATM and mobile phone payment has significant effect on banks profitability while POS indicated an insignificant effect. This could be likened to the view of Nwaezeaku and Ugwueze

(2016) that the relationship between POS and banks profitability can be significant in the long run. They therefore recommended an increased awareness creation on the use of POS.

Muyiwa, Tunmibi, and John Dewole (2013) in their work titled impact of cashless economy in Nigeria conducted a survey with questioners as data collection instrument. Through the use of descriptive statistical technique, they observed that the cashless policy will improve employment level, reduce risk associated with the movement of cash as well as attract foreign investment in Nigeria. It is therefore a step forward in the modernization of the Nigerian payment system.

Mustapha (2018), in his work titled E-payment technology effect on bank performance in emerging economics evidenced from Nigeria, empersized that the exclusion of cost of equity in the computation of performance indicators such as accounting profit is incomprehensive as it negates the shareholder risk preference which is crucial in accessing performance, He therefore adopteda new measure of analysis-the single index performance indicator known as the satino index which provides an appropriate performance benchmark that considers the cost of equity in the internal measures of profitability. He used two variables as dependent (regressed) based on his scope, which includes performance index and risk exposure variable while adopting the total value of payment from various electronic channels as regressors (explanatory variables). His assessment of the regressors indicates negative impact of the ATM due to high cost of initial investment and installation of the machines at various bank locations. The POS on the other hand affected bank performance positively as it increased the visibility and coverage of banks with a lower running cost than the ATM. The mobile banking, he observed affected bank performance positively but with an individual negative effect. This he presumed to be due to the number of failed transactions which discouraged individuals from adopting the use of the mobile app.

Other literatures such as Kashif's in Parkinstine (as cited by Mustapha) reveals a positive effect between mobile money transfer and bank profit basically because profit was measured using return on equity (ROE).Mustapha however, concluded based on inference drawn from his methodology that the performance of banks improved in Nigeria after the introduction of the electronic payment system into the financial sector.

METHODOLOGY
Model Specification
The model below was used to investigate the relationship between the transformation in the payment system and commercial banks performance in Nigeria:

$$EVA_t = \alpha_0 + \alpha_1 POS_t + \alpha_2 WEBPAY_t + \alpha_3 MOBILEPAY_t + \alpha_4 ATM_t + \alpha_5 NEFTS_t + e_{1t}$$

$$ROE_t = \beta_0 + \beta_1 POS_t + \beta_2 WEBPAY_t + \beta_3 MOBILEPAY_t + \beta_4 ATM_t + \beta_5 NEFTS_t + e_{2t}$$

$$EG_t = \gamma_0 + \gamma_1 POS_t + \gamma_2 WEBPAY_t + \gamma_3 MOBILEPAY_t + \gamma_4 ATM_t + \gamma_5 NEFTS_t + e_{3t}$$

$$EPS_t = \gamma_0 + \gamma_1 POS_t + \gamma_2 WEBPAY_t + \gamma_3 MOBILEPAY_t + \gamma_4 ATM_t + \gamma_5 NEFTS_t + e_{3t}$$

Where;

$\alpha_0, \beta_0, \gamma_0 =$ Estimated value of dependent variables when all the other variables are zero

$\alpha_i, \beta_i, \gamma_i =$ Correlated volatility of estimated value of dependent variables $e_{it} =$ Error terms

The data used in this study were obtained from CBN statistical bulletin. The sample period under review is twenty eight years (1989-2018) split into pre (1989- 2004) and post (2005-2018) implementation era respectively. Three distinct techniques were adopted in the analysis. They are: mean, correlation coefficient and regression technique. The statistical package for social science (SPSS) however was used in analyzing the data.

RESULTS AND DISCUSSION

It is important to note that results and discussion answer the research questions sequentially.

Table 1: Mean result of bank performance during pre and post transformation in payment system

Indicator	ERA	N	Mean	Std. Deviation	Std. Error Mean
Earning	Pre	16	38579854.94	34454034.563	8613508.641
	Post	14	498138500.00	233623592.297	62438531.417
EG	Pre	16	74.58	56.133	14.033
	Post	14	85.11	76.355	20.407
EPS	Pre	16	449.24	267.996	66.999
	Post	14	216.93	784.843	209.758
ROE	Pre	16	66.76	28.437	7.109
	Post	14	31.17	28.120	7.515
EVA	Pre	16	5143927.99	5919472.804	1479868.201
	Post	14	51116761.41	27075497.530	7236231.095

The result in Table 1 revealed greater values for earnings growth EG, and Economic value added EVA, with corresponding risk; during the post implementation era which implies that commercial banks performed better in the post implementation era of transformation in the payment system than in the pre. This was further verified as hypothesis is tested.

Table 2: Correlation Matrix for EVA

		EVA	POS	WEBPAY	MOBILEPAY	ATM	NEFT
	EVA	1.000	.064	-.564	.177	.186	.282
	POS	.064	1.000	.133	.012	-.020	.020
Pearson Correlation	WEBPAY	-.564	.133	1.000	-.347	-.382	-.469
	MOBILEPAY	.177	.012	-.347	1.000	.995	.906
	ATM	.186	-.020	-.382	.995	1.000	.928
	NEFT	.282	.020	-.469	.906	.928	1.000

The results in Table 2 showed a strong negative relationship between WEBPAY and EVA in Nigeria. This implies that decrease in WEBPAY as a payment system, increased the EVA while the increased of the other payment platforms increases EVA of commercial banks in Nigeria.

Table 3: Correlation Matrix for ROE

		ROE	POS	WEBPAY	MOBILEPAY	ATM	NEFT
	ROE	1.000	.370	.568	-.230	-.280	-.327
	POS	.370	1.000	.133	.012	-.020	.020
Pearson Correlation	WEBPAY	.568	.133	1.000	-.347	-.382	-.469
	MOBILEPAY	-.230	.012	-.347	1.000	.995	.906
	ATM	-.280	-.020	-.382	.995	1.000	.928
	NEFT	-.327	.020	-.469	.906	.928	1.000

The results in Table 3 revealed the extent of the relationship between the independent variables and ROE of commercial banks in Nigeria. There is a weak negative relationship between MOBILEPAY, ATM, NEFT and ROE. This implies that a decrease in the use of each (MOBILEPAY, ATM and NEFT) may not really improve the return available to equity holders (ROE) in Nigerian commercial banks. However, POS and WEBPAY related positively with ROE and as such should be encouraged.

Table 4: Correlation Matrix for EG

		EG	POS	WEBPAY	MOBILEPAY	ATM	NEFT
	EG	1.000	.061	.043	-.191	-.205	-.234
	POS	.061	1.000	.133	.012	-.020	.020
Pearson Correlation	WEBPAY	.043	.133	1.000	-.347	-.382	-.469
	MOBILEPAY	-.191	.012	-.347	1.000	.995	.906
	ATM	-.205	-.020	-.382	.995	1.000	.928
	NEFT	-.234	.020	-.469	.906	.928	1.000

The results in Table 4 showed the extent of the relationship between the independent variables and EG of commercial banks in Nigeria. There is a weak negative relationship between MOBILEPAY, ATM, NEFT and growth in commercial banks earnings (EG) in Nigeria. This implies that decrease in each of the (MOBILEPAY, ATM and NEFT) may slightly or not really improve the earnings growth (EG) of commercial banks in Nigeria. However, POS and WEBPAY related positively with EG

Table 5: Correlation Matrix for EPS

		EPS	POS	WEBPAY	MOBILEPAY	ATM	NEFT
	EPS	1.000	-.009	-.049	-.029	-.169	.019
	POS	-.009	1.000	.995	.906	.819	.566
Pearson	WEBPAY	-.049	.995	1.000	.928	.866	.622
Correlation	MOBILEPAY	-.029	.906	.928	1.000	.919	.787
	ATM	-.169	.819	.866	.919	1.000	.872
	NEFT	.019	.566	.622	.787	.872	1.000

The results in Table 5 showed the extent of the relationship between independent variables and EPS of commercial banks in Nigeria. There is a weak negative relationship between POS, WEBPAY, MOBILEPAY, ATM and the EPS of commercial banks in Nigeria. This implies that decrease in each of these (POS, WEBPAY, MOBILEPAY and ATM) contributes to minute increase in EPS of commercial banks in Nigeria. However, NEFT related positively with EPS which signifies that constant use of NEFT may improve.

Table 6: Summary of Regression Results for EVA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	14.117	2.640		5.347	.00
	POS	.060	.185	.059	.327	.74
	WEBPAY	-.044	.014	-.587	-3.063	.00
1	MOBILEPAY	2.279E-007	.000	1.906	.950	.35
	ATM	-1.635E-006	.000	-2.429	-1.064	.29
	NEFT	1.837E-007	.000	.534	1.009	.32

R = 0.611, R^2 = 0.373, Adjusted R^2 = 0.242, DW = 2.190, F = 2.853, Sig. = 0.037 Substituting these values in the model, we have:

$EVA \square\ 14.117 \square\ 0.06POS \square\ 0.044WEBPAY \square\ 2.279 \square\ 10^{\square 7}MOBILEPAY \square\ 1.635 \square\ 10^{\square 6}ATM \square\ 1.837 \square\ 10^{\square 7}NEFT$

Table 7: Summary of Regression Results for ROE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	35.016	11.075		3.162	.004
	POS	.965	.774	.203	1.247	.224
	WEBPAY	.144	.060	.416	2.396	.025
	MOBILEPAY	1.760E-006	.000	3.173	1.748	.093
	ATM	-1.083E-005	.000	-3.470	-1.679	.106
	NEFT	3.365E-007	.000	.211	.441	.663

R = 0.698 R^2 = 0.487   Adjusted R^2 = 0.380   DW = 1.589   F = 4.550 Sig. = 0.005

Substituting these values in the model, we have:

$ROE \square\ 35.016 \square\ 0.965POS \square\ 0.44WEBPAY \square\ 1.76 \square\ 10^{\square 6}MOBILEPAY \square\ 1.083 \square\ 10^{\square 5}ATM \square\ 3.365 \square\ 10^{\square 7}NEFT$

Table 8: Summary of Regression Results for EG

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	100.096	29.297		3.417	.00
	POS	.517	2.048	.055	.253	.80
	WEBPAY	-.088	.159	-.129	-.554	.58
	MOBILEPAY	1.036E-006	.000	.948	.389	.70
	ATM	-5.555E-006	.000	-.903	-.326	.74
	NEFT	-9.934E-007	.000	-.316	-.492	.62

R = 0.275 R^2 = 0.076   Adjusted R^2 = -0.117   DW = 2.099 F = 3.94   Sig. = 0.848 Substituting these values in the model, we have:

$EG \square\ 100.096 \square\ 0.517POS \square\ 0.088WEBPAY \square\ 1.036 \square\ 10^{\square 6}MOBILEPAY \square\ 5.555 \square\ 10^{\square 6}ATM \square\ 9.934 \square\ 10^{\square 7}NEFT$

Table 9: Summary of Regression Results for EPS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	450.214	105.297		4.276	.000
	POS	4.340E-005	.000	4.535	1.532	.139
	WEBPAY	.000	.000	-4.172	-1.209	.239
	MOBILEPAY	-2.577E-007	.000	-.009	-.015	.988
	ATM	-2.891E-006	.000	-1.278	-1.493	.148
	NEFT	5.308E-005	.000	1.170	2.668	.013

R = 0.635 R^2 = 0.403   Adjusted R^2 = 0.278   DW = 2.492 F = 3.236   Sig. = 0.023

Substituting these values in the model, we have:

$EPS \;\square\; 450.214 \;\square\; 4.34\square\,10^{5}POS \;\square\; 0.000WEBPAY \;\square\; 2.577\square\,10^{7}MOBILEPAY \;\square\; 2.891\square\,10^{6}ATM \;\square\; 5.308\square\,10^{5}NEFT$

Summary of Regression Result: The apriority signs varied from the researcher's expectation while the coefficient of determination reveals thus;

The Coefficient of Determination (R^2)

The coefficient of determination (R^2) from the result of EVA is 0.373. This implies that 37.3% of the total variation in EVA is explained by the variables representing transformation in the payment system. In essence, this shows that the explanatory power of the variables in the model is low. The adjusted R^2 supports the claim of the R^2 with a value of 0.242indicating that 24.2% of the total variation in EVA is explained or caused by the transformation in the payment system variables. Also, based on ROE, the coefficient of determination (R^2) is 0.487. This implies that 48.7% of the total variation in ROE is explained by the transformation in payment system variables. In essence, this shows that the explanatory power of the electronic payment system variables in the model is low. The adjusted R^2 supports the claim of the R^2 with a value of 0.380 indicating that 38% of the total variation in ROE is explained or caused by the transformation in the payment systems. It is important to note that, 40.3%of the total variation in EPS is explained by the transformation in mode of payment variables ($R^2 = 0.403$). Also, for EG, the coefficient of determination (R^2) is 0.076. This implies that 7.6% of the total variation in EG is explained by the adoption of electronic payment variables. In essence, this shows that the explanatory power of the variables representing transformation in payment system on the model is low. The adjusted R^2 supports the claim of the R^2 with a value of 0.117 indicating that 11.7% of the total variation in EG is explained or caused by the transformation in the payment system

ECONOMETRIC CRITERIA

The Durbin-Watson Statistic:

In testing for autocorrelation in the model, the Durbin-Watson statistic is used. From the regression result, the DurbinWatson statistic ranges from1.589-2.190. This implies that there exists some degree of negative autocorrelation, which is stronger the higher the value of Durbin-Watson statistic.

Hypotheses Testing:

The level of significance (sig.) representing the probability value (p-value) computed is compared to alpha (0.05) level of significance by the researcher at a degree of freedom n-k. The null hypothesis was rejected in favor of the alternative if pvalue (sig) is less than or equal to 0.05 at n-k degree of freedom.

To ascertain the effect of transformation of the Nigerian payment system on commercial banks performance, a hypothesis testing of the difference in means a reveals that there is no significant difference in means of Earnings Growth (EG) and Earnings per share (EPS) of commercial banks during the pre and post implementation era of transformation in the payment system while Economic Value Added (EVA) and Return on Equity (ROE) improved in the post implementation era. The web pay is the only payment platform that significantly affected EVA and ROE when regressed while NEFT had a significant effect on EPS. This could be attributable to the fact that NEFT and web pay are internet based payment platform which appears to provide more customer convenience as well as less cost to both the commercial banks and users and as such attracts increased patronage. Cost of installation of ATM and risk associated with the use of POS and MOBILEPAY may be responsible for its insignificant impact. Growth in earning of commercial banks (EG) however, is not affected by transformation in the Nigerian payment system, as other factors of business diversification may be responsible.

Test of Model Significance:

From the summary of regression results, it is observed that transformation in the Nigerian payment system significantly impact on EVA (F = 2.853, Sig. = 0.037), EPS (F = 3.236, Sig. = 0.023) and ROE (F = 4.550, Sig. = 0.005) while it has no significant impact on EG (F = 3.94, Sig. = 0.848) of commercial banks in Nigeria. This implies that the proxies for transformation in the payment system jointly influence commercial bank performance proxies except earnings growth (EG).The formulated model has explanatory power; because the variables for transformation in the Nigerian payment system jointly influenced the dependent variables (EVA, EPS and ROE) while growth in earnings (EG) may not significantly be affected by changes in the mode of payment.

CONCLUSION AND RECOMMENDATIONS

The core objective of this work is to ascertain the effect of transformation in the payment system on commercial banks performance using the difference in means, correlation and regression analysis. The results show that there is a

significant difference in means of performance of commercial banks with the existence of transformation in the payment system. All the proxies selected for payment system exacted significant effect on the performance indicator as specified in the model except earnings growth. Also the correlation matrix resolves that performance in commercial banks relates positively with transformation in the payment system except for a few week negative relationship which implies that transformation in the Nigerian payment system will certainly improve the performance of commercial banks especially the shareholders wealth maximization.

REFERENCES

[1]   *Abaeaewe, Z.C., Ogbulu, O.M. &Ndugbu, M.O. (2013). Electronic banking and bank performance in Nigeria. West African Journal of Industrial and Academic Research, 6(1).*

[2]   *Akujuobi, L.E (2008). Investment analysis. Adupudo Press Owerri Imo State. Akujobi, L.E (2010). Corporate finance. Springfield Publishers ltd, Owerri Imo State.*

[3]   *Al-Samdi, M.O. & Al-Wabel, S.A (2011). The impact of E-banking on performance of Jordanians banks. Journal of Internet Banking and Commerce, 16 (2).*

[4]   *Brealy R.A, Myers S.C, & Allen f. (2014). Principles of corporate finance. McGraw- hill companies Irwin, New York. [5] Callado, F., Hromcoava, J., Utero, N. (2012). Cash paper-based and electronic payment.*

[6]   *A theoretical approach.*

[7]   *Wolf, E. (2014). Institute of Chartered Accountant of Nigeria Study Pack.*

[8]   *Hernando, I. & Nieto, M.J (2006). Is the internet delivery channel changing banks performance? The case of Spanish banks, Benco de Espana, working paper series Madrid.*

[9]   *Lawrence, U.O., Alexandra, E.O., Johnson, I.O. & Isobar, A.A (2018). Technology based financial service delivery and customers' satisfaction, A study of Nigerian banking sector. International journal of Civil Engineering. IAEME, 9 (13).*

[10]   *Mustapha (2018). E-payment technology effect on banks performances in emerging economics evidenced Nigeria. Journal of Open Innovation; Technology, Market and Complexity.*

[11]   *Muyiwa, O., Tunmibi, S., & John-Dewole A.T (2013). Impact of cashless economy in Nigeria. Greener Journal of Internet Information and Communication System.1 (2), pp.040-043.*

[12]   *Nwaezeaku N.C (2012). Theory and practice of financial management. Adyudo Press Owerri.*

[13]   *Nwaezeaku, N.C., &Ugwueze C.A (2016). E-banking and commercial banking performance in Nigeria; A co-integration and causality approach. International Journal of E-education, E-business, E-market and E-leasing.*

[14]   *Obiekwe C.J, Anyanwaokoro .M. (2017). Electronic payment method and profitability of banking firms in Nigeria. International Journal of Finance and accounting, Scientific and Academe Publishing.doi:10,5923/j.ijfa.20170603.01.*

[15]   *Ozurummba, B (2018), Nigerian financial systems. Unpublished Journal (lecture note) Payment System Vision 2020. Nigerian Payment System, Risk and Information Security [16]Management Framework. CBN publication.*

[17]   *Rose, P.S (2001). Commercial banks management. McGraw-Hill Irwin.*

[18]   *Saidi, A.M (2018). E-payment technology effect on banking performance in emerging economics. Evidence from Nigeria. Journal of Open Innovation: Technology, market and complexity, 4(43) 001-014.*

[19]   *Umeano, C.P (2012). Cashless Policy Nigeria. An overview. Central bank of Nigeria bullion. 36 (2)*