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A COMPARATIVE ANALYSIS OF CUSTOMERS' PREFERENCE FOR ELECTRONIC AND MANUAL BANKING OPTIONS IN NIGERIA

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Abstract
The study investigated the relationship between manual and electronic service delivery options in Nigeria. Adopting Nudge theory as the theoretical framework, a model relating Cheque payment (CHQt) (manual banking option) to automated teller machine (ATMt), point-of-sale (POSt) and web payment (WEBPt) electronic banking options was specified. Time series of the variables were obtained from the CBN Statistical Bulletin and estimated using time series econometric methods of unit root test, cointegration test and first difference model. The results show that there is no long run equilibrium relationship between electronic and manual banking services delivery options, but a positive short run relationship in Nigeria. The study concludes that the introduction of electronic bank service delivery option in the Nigerian banking sector has no significant effect on customers' preferences for manual service delivery option. However, given the effect of ease of use of electronic service delivery options on customers' preference, the study recommends that customers' education and sensitization on the use of various electronic banking options should remain a continuous policy direction of financial institutions in Nigeria.

Key Words: Customers' Preference, Manual, Electronic, Service Delivery, Education Sensitization

1. Introduction

It is a widespread practice in the banking industry, worldwide, to constantly seek ways to improve operational efficiencies (Kavya & Rakesh, 2022). The advancements in technology, especially the internet, have opened up new opportunities for initiatives in the field of digital or electronic banking. Electronic banking is a modern method for conveniently accessing and managing accounts. Put simply, it is a digital method of delivering banking services (the mechanization of conventional banking services). Electronic banking allows customers to conveniently access a bank's products and services through electronic or online platforms, thereby providing alternatives for manual or traditional banking options. The banking system in Nigeria has evolved over the years to offer a wide range of manual and electronic services to its customers (Kabir et al., 2015; Okafor, 2020; Ogbuabor, 2020). Manual bank service delivery options include traditional methods such as over-the-counter transactions, where customers physically visit the bank to carry out transactions, interact directly with bank staff for services such as cash deposits, withdrawals, account inquiries and the use of cheques for payments and transfers, as well as the issuance of paper statements for account monitoring. On the other hand, electronic bank service delivery options have gained prominence in Nigeria due to technological advancements which enables electronic options that include automated teller machines (ATMs), point of sale POS, web bankimg WB, and mobile bankimg MB which provide 24/7 access to cash withdrawals, balance inquiries, and fund transfers (Gronbach, 2020; Madugba et al., 2021). Furthermore, internet banking allows customers to conduct various transactions online, including bill payments, fund transfers, and account management. Mobile banking has also become popular,

enabling customers to perform banking activities through their mobile devices using dedicated applications or USSD codes (Ughulu & Agbonkhese, 2020; Shanab & Anagreh, 2015; Okafor, 2020).

Nigeria, like many other countries, has witnessed the adoption of both manual and electronic banking services options in the banking system (Ajayi, 2014; Adeyemo, et al., 2020). This innovation has been driven by technological advancements and influences consumer preferences. Consequently, the Nigerian banking system has witnessed significant growth in recent years with increased adoption of electronic banking services aimed at enhancing customer convenience and operational efficiency (Raji et al., 2021; Okafor, 2020; Ughulu & Agbonkhese, 2020). Knowledge on the implications of this innovation with reference to banks' service delivery can contribute to a deeper understanding of consumer behaviour and preferences which is crucial for various stakeholders, including banks, policymakers, and consumers. Similarly, an insight into the impact of electronic banking on the efficiency and effectiveness of service delivery can help identify the challenges and opportunities associated with the adoption of electronic banking in Nigeria.

The need for a deeper understanding of the effect of electronic banking in Nigeria has attracted intellectual concerns that have broaden understanding in the field of study. Questions that are addressed include; how electronic service delivery contributes to the overall banking system (Madugba et al., 2021; Raji et al., 2021); how electronic service delivery impact the efficiency and accessibility of banking services and other related questions Shanab and Anagreh (2015). Meanwhile, this study compares customers' preferences for manual with electronic banking options in the banking system in Nigeria. Manual and electronic banking options provides opportunities as well as challenges for banks' service delivery, however, customers preference for electronic and manual service delivery options should be a crucial factor in the overall service delivery in the Nigerian banking system.

Objective of the Study

The main objective of the study is to compare customers' preferences for manual and electronic banking options in Nigeria. The specific objectives are to

1. Evaluate banks customers' preference for point of sale (POS) payment option relative to cheque payment option.
2. Examine banks customers' preference for automated teller machine (ATM) payment option relative to cheque payment option.
3. Evaluate banks customers preference for web (WEB) payment option relative to cheque payment option.

Hypotheses of the Study

The following hypotheses are tested

1. H01; There is no statistically significant relationship between banks customers' preference for point of sale (POS) payment option relative to cheque payment option.
2. H02; There is no statistically significant relationship between banks customers' preference for automated teller machine (ATM) payment option relative to cheque payment option.
3. H03; There is no statistically significant relationship between banks customers' preference for web (WEB) payment option relative to cheque payment option.

2.1 Theoretical Review

Everett Rogers' diffusion of innovations theory is a widely recognized framework for understanding the spread of new ideas and technologies across societies. When examining the application of this theory in comparing customers' preferences for manual and electronic banking options, an analysis can be conducted to assess the progression of electronic banking innovations among various customer segments. When analyzing customers' preferences for manual and electronic banking options, it is anticipated that there will be a gradual transition from manual to electronic banking services as time progresses. Those who are quick to adapt and those who are open to new ideas will be the first to embrace electronic banking options. As more people witness the convenience and efficiency that these services offer, the majority will likely follow suit. The late majority may require more time to embrace electronic banking options, while laggards may persist in their preference for traditional

manual banking methods. It is anticipated that there will be a gradual transition from manual to electronic banking services, with various customer segments adopting these services at different points in time (Rambocas & Arjoon, 2012).

Nudge theory, also known as libertarian paternalism, is a concept in behavioural economics that suggests positive reinforcement and indirect suggestions can influence the behaviour and decision-making of individuals or groups. It proposes that by altering the way choices are presented, individuals can be nudged towards making better decisions without restricting their freedom of choice (Cai, 2020). As banks play the critical role by providing various options and platforms for banks' customers to facilitate financial transactions, create money, and influence credit conditions, banks' customers are at liberty for the choice of service delivery they prefer. Thus, in the context of manual and electronic banking, nudge theory can be applied to compare bank customers preferences for manual and electronic banking options. Deposit money banks redesigning of bank statements to highlight important information, the use of behavioural prompts or reminders, the deployment of several online banking platforms and mobile applications to simplify complex financial information are positive reinforcement or indirect suggestions that could influence banks customers preferences for manual and electronic payment options. Overall, nudge theory can be leveraged in banking settings to compare customers' preferences for manual and electronic banks service delivery options which do not, necessarily, imposing strict regulations or mandates.

2.2 Empirical Review

Issues of electronic banking have attracted the attention of scholar who have added knowledge in the field. David-West et al. (2022) investigated the factors responsible for non-diffusion of mobile money in Nigeria by exploring the dynamics of mobile money utility amongst poor unbanked users and found that lack of customer demand, lack of integration in the ecosystem, lack of trust, and preference for effective local savings schemes are some of the factors that hinder mobile money utilization in Nigeria. The findings have implication for the need of deposit money banks to be innovative and incorporate popular and trusted savings methods the urgency of policy makers as well as other participants to align objectives toward achieving the overarching goal of financial inclusion in Nigeria.

Ohiani (2021) examined the prospects and challenges of technology innovation in the Nigerian banking system and found that the service quality of banks in Nigeria through the kind of technology they have adopted has significant relationship with the intention of customers to adopt mobile banking or not.

Ugwuanyi et al. (2021) investigated how the antecedents of the Technology Acceptance Model (TAM) can be used to create a positive experiential state in the self-service technologies SST system within the retail banking sector. The study found that customers are more likely to use an SST system if it is perceived as easy to use and meets their banking needs. Ugwuanyi et al. argued that deploying cutting-edge technology is important, but it should not be complex and difficult to use and urge bank managers to use SST systems to create a positive experiential state and improve customer satisfaction. This suggested that simply meeting performance expectations does not guarantee satisfaction but targeting cognitive experience to ensure customer satisfaction. More so, monitoring and understanding customers' experiential states and responses is crucial for bank managers (Ugwuanyi et al., 2021). Similarly, Raji et al., [2021] investigated the effect of electronic banking on customer satisfaction in Kwara State, Nigeria and found that reliability is a key factor in customer satisfaction. This suggested that banks should continue to introduce innovations that will improve the reliability of their e-banking services. The study concluded that all attributes of e-banking, including security, transactional speed, responsiveness, user friendliness, and reliability, have a strong relationship with customer satisfaction. The study also supported the technology acceptance model, which suggested that perceived importance and ease of use are critical factors in the acceptance and use of e-banking services. These, further suggested that banks address limitations such as transaction errors and website security to maintain a healthy relationship with customers (Raji et al., 2021).

Madugba et al. (2021) tested two hypotheses to investigate the effect of electronic banking on financial performance of deposit money banks in Nigeria and found that only one electronic banking infrastructure, ATM, has a significant influence on earnings per share of deposit money banks. Additionally, the regression analysis showed that three electronic banking infrastructures, ATM, POS, and NEFT, significantly affect the return on assets of deposit money banks in Nigeria. This suggested that electronic banking has a significant association with the financial performance of deposit money banks in Nigeria. The findings have implication for the relevance of customers' knowhow of the use of web banking and National Electronic Fund transfers, as these methods are used less frequently and the need for deposit money banks to educate their customers on the use of these electronic medium of banking (Madugba et al., 2021).

Adeyemo et al. (2020) examined the benefits of a cashless banking initiative and the e-payment structure in the Nigerian banking sector. It highlighted the fact that the initiative has improved customer satisfaction, provided alternative payment platforms, and enhanced funds management and saving culture among bank customers. However, Adeyemo et al. noted that cash fraud cases have not reduced and to ensure the continued positive impact of the cashless economy, the paper suggested increasing the number of POS terminals and ATM machines, creating awareness about e-banking benefits, investing in technological and infrastructural facilities, reinforcing trust between public and private sectors to tackle cybercrimes, reducing charges imposed on customers, and promoting cooperation among key stakeholders.

Kyari and Akinwale (2020) examined the adoption of Fintech innovation by Nigerian banks and its impact on their financial performance. Kyari and Akinwale found that Nigerian banks have adopted some forms of financial technology, particularly in money transfer payments, but the adoption of other technologies such as peer-to-peer borrowing and investment platforms is still low. The study suggested that in-house research and development, increased expenditure on software and hardware, and external collaboration are important for improving Fintech adoption. The study concluded that Fintech adoption has a positive and significant impact on the financial performance of Nigerian banks.

Gronbach (2020) examineed the use of different payment methods for social cash transfer (SCT) programs in sub-Saharan Africa and the digitization of these payments. The research found that electronic payment methods, such as payment cards, biometric verification, special bank accounts, and mobile phone-based payments, are increasingly being used. Gronbach pointed out that the shift towards digitization is driven by international institutions, donors, and the focus on financial inclusion but cash-based payments are still prevalent Although, concerns over fraud and logistical challenges have led to the adoption of electronic methods, the study discovered that cash payments remain important due to the cash-based nature of the local economy. The study suggested that a broader digital payment ecosystem, financial education, appropriate financial products, and acceptance of SCT payments in local shops are needed for beneficiaries to fully benefit from digitization.

Ogbuabor (2020) study on ICT and financial inclusion in Nigeria found that automated teller machines (ATMs), point of sale (POS), mobile banking, and internet banking have a positive and significant effect on the performance of deposit money banks in Nigeria. The coefficient of determination suggests that about 71% of changes in the performance of deposit money banks can be attributed to the level of cashless policy in Nigeria. Furthermore, the F-statistics indicate that all the cashless variables in the model have a significant effect on the performance of deposit money banks. Overall, Okafor concluded that the cashless policy for business purposes has a positive effect on the performance of deposit money banks in Nigeria.

Okafor (2020) study on cashless policy for business purpose and the performance of deposit money banks in Nigeria found that the use of automated teller machines, point of sale systems, mobile banking, and internet banking has a positive and significant impact on the return on equity of Deposit Money Banks in Nigeria. This suggested that implementing a cashless policy for business purposes can improve the performance of businesses (Okafor, 2020).

Ughulu and Agbonkhese, (2020) examined the impact of e-banking payment instruments on the financial performance of 21 Deposit Money Banks (DMBs) in Nigeria from 2009 to 2017. The study

used quarterly data and employs the fully modified OLS method to estimate the effects of ATM, POS, WB, and MB on bank performance, measured by return on assets (ROA), return on equity (ROE), and net profit margin (NPM). The findings reveal that ATM has a negative effect on ROA but a positive effect on ROE, both significant at the 5% level. However, ATM has a negative effect on NPM, also significant at the 5% level. POS, on the other hand, has a negative effect on ROE but a positive effect on NPM, both significant at the 5% level. WB has a positive effect on both ROA and NPM, significant at the 5% level.

Ali et al. (2019) study of electronic payment systems: architecture, elements, challenges and security concepts showed that electronic payment system are used for transactions ranging from small amounts to large sums of money. Ali et al. emphasized the importance of payment security in electronic payment systems, proposing the use of information security techniques such as steganography and cryptography to protect customer data and prevent fraud. More so, the pros and cons of existing electronic payment systems was analyzed and the relevance of security mechanisms, aiming to enhance customer understanding and satisfaction was emphasized (Ali et al., 2019).

Ajayi (2014) examined the effect of cashless monetary policy on Nigerian banking industry and the findings suggested that there has been significant progress in promoting awareness of a cashless economy. Ajayi argued that many people support the government's efforts to implement this system, as it can help combat corruption and money laundering and identified reduced risk of carrying physical cash as the main advantage of a cashless economy. Although, Ajayi highlight lower costs managing associated various payment products, such as paper money, cheques, and electronic payments like ATMs, smartcards, telephone banking, and internet banking but underscore the fact that the Central Bank of Nigeria (CBN), commercial banks, and other financial institutions are expected to play a crucial role in enhancing the cashless system through effective banking and monetary policies. These have implications for the role of government and CBN strategic roles in introducing, developing, and maintaining cashless banking in Nigeria through policies, financing, infrastructure development, and extensive awareness campaigns which are necessary for Nigerians to play vital role in accepting and utilizing the cashless banking system to improve the financial and economic well-being.

Both qualitative and quantitative research methods (survey and correlational research design) and secondary data as well as primary data through the use of questionnaires were used in the studies considered in this study. More so, descriptive statistics and econometric analysis are employed in the studies reviewed. While research in the field is attracting more attention, it is evident from the extant literature that studies on all aspect of electronic banking option is scanty, however there are evidences that banks' customers have preferences for both manual and electronic banking.

3.1 Theoretical Framework

The theoretical framework is the foundation upon which the model of the study is specified, a priori expectation made and hypotheses tested. The Nudge Theory is used as the theoretical foundation of the study and will form the basis for the a priori expectation and hypotheses test of the study. Developed by Richard Thaler and Cass Sunstein, in 2008, Nudge theory is a concept in behavioral economics that suggests that positive reinforcement and indirect suggestions can influence decision-making. It has been widely applied in various fields, including public policy and consumer behaviour. In the Nigerian banking system, the Nudge theory can be used to explain consumers' preferences for electronic and manual service delivery options. Banks use subtle prompts to encourage customers to adopt digital banking channels, suggesting that it reduces congestion and improves efficiency. Banks also use personalized recommendations and user-friendly interfaces to nudge customers towards using digital banking solutions. Nudges can also be used to promote financial literacy. In terms of electronic service delivery, Banks also nudges customers Banks promotion of digital payment option, increasing access to financial services, and fostering trust in online banking security can be seen as a way nudging customers to develop confidence in the use of electronic banking options. It can be argued that banks adopt Nudge Theory to create a more customer-centric and inclusive banking experience.

Methodology

Quasi-experimental (ex post facto) and correlational research designs are employed in the study. While ex post facto relates to data used (secondary data that generated independent of the researchers influence), correlational design relates to a means comparing the dynamics of the variables over time.

3.2 Model Specification

CHQt = fLATMt, POSt, WBPt) 3.1

Where

CHQt is value of cheque payment

ATMt is value Automated Teller Machine payment.

POSt is value of Point-of-Sale payment

WBPt is value of Web payment.

Cheque payment (CHQt) represents manual banking option, while automated teller machine (ATMt), point-of-sale (POSt) and web payment (WEBPt) represent electronic banking options. Cheque payment (CHQt) - manual banking option is the dependent variable, while automated teller machine (ATMt), point-of-sale (POSt) and web payment (WEBPt) are the independent variables. Thus, the dynamic relationship between the manual and electronic banking option is specified. For the variables to be at the same scale, the log form of the variables is specified for the mathematical model.

$LCHQt = \beta_0 + \beta_1 LATMt + \beta_2 LPOSt, + \beta_3 LWBPt\ t$ 3.1

The econometric model is;

$LCHQt = \beta_0 + \beta_1 LATMt + \beta_2 LPOSt, + \beta_3 LWBPt\ t + Ut$ 3.2

Equation 3.2 states that the value of Cheque payment (LCHQt) (manual banking option) depends on the values of payment of automated teller machine (LATMt), point-of-sale (LPOSt) and web payment (LWEBPt). Monthly time series from January 2009 to December 2021 from the Central Bank of Nigeria Quarterly Statistical Bulletin is used for the analysis of the relationship.

A priori expectation

The a priori expectation of the model is formed with reference to the Nudge theory. The use of electronic service delivery is not necessarily a substitute or complement to manual service delivery. Viewing with the lens of Nudge theory the provision of electronic service delivery options is not a replacement of manual banking options, rather a means of providing flexible and convenience options that will benefit banks' customers. Since from the extant literature customers have preference for both manual and electronic service delivery, the coefficients of the independent variables (β_1, β_2 and $\beta_3 = 0$).

4.1 Model Estimation

The time series properties of the variables are determined using unit root and cointegration tests, and from the results of the tests appropriate estimation method is used to estimate the parameter of the relationship.

4.1.1 Unit Root Test

Phillip Perron unit root test unit is carried out on each of the variables to ascertain the stationarity and order of integration of the variables to determine the choice of appropriate cointegration test.

Table 4.1 Phillip Perron Unit Root Test

At Level					
		LCHQ	LATM	LPOS	LWBP
With Constant	t-Statistic	-0.9969	-0.3084	0.0398	-0.7003
	Prob.	0.7537	0.9197	0.9599	0.8425
With Constant & Trend	t-Statistic	-1.7086	-1.7759	-2.1338	-2.2058
	Prob.	0.7430	0.7118	0.5226	0.4826
Without Constant & Trend	t-Statistic	0.2342	1.0328	1.1609	0.8508
	Prob.	0.7529	0.9205	0.9364	0.8930
At First Difference					
		d(LCHQ)	d(LATM)	d(LPOS)	d(LWBP)
With Constant	t-Statistic	-12.8250	-12.4649	-13.5175	-13.8899
	Prob.	0.0000	0.0000	0.0000	0.0000
With Constant & Trend	t-Statistic	-12.8944	-12.5053	-13.5838	-13.9112
	Prob.	0.0000	0.0000	0.0000	0.0000
Without Constant & Trend	t-Statistic	-12.8329	-12.3688	-13.3139	-13.8121
	Prob.	0.0000	0.0000	0.0000	0.0000

Source; Author's computation 2024

Phillip-perron (PP) unit root test is used to test for the statistical properties of each of the variables in the model. Unit root test on each variable is necessary to know the time series properties of each variable in the model and determine the choice of estimation method for the model. The null hypothesis for Phillip-Perron (PP) unit root test of a variable is - the variable has a unit root, and the alternative hypothesis is that the variable does not have unit root. The null hypothesis is rejected if the (PP) test statistic is greater than the critical value at the choosen level of significance (5%). Alternatively, the null hypothesis is rejected if the probability value is less the choosen level of significance (0.05). The alternative approach is used in this study. From Table 4.1 the probability values of, CHQt, LATMt, POSt and WBPt for constant, with constant and trend and without constant and trend at level are greater than 0.05, thus, the null hypothesis that the variables have unit root at level cannot be rejected. However, the probability values of CHQt, LATMt, POSt and WBPt for the constant, with constant and trend and without constant and trend at first difference are less than 0.05. These show that the series are non-stationary at level, but become stationary after first difference. The unit root test showed that the variables are integrated at order one I(1), thus, Johanson cointegration test is carried out on the model to determine if long run equilibrium relationship exists between the variables in the model.

4.1.2 Johannson Cointegration Test

Sample (adjusted): 2009M04 2021M12
Included observations: 153 after adjustments
Trend assumption: Linear deterministic trend
Series: LCHQ LATM LPOS LWBP
Lags interval (in first differences): 1 to

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.167988	47.20853	47.85613	0.0574
At most 1	0.096302	19.07051	29.79707	0.4879
At most 2	0.023097	3.577716	15.49471	0.9346
At most 3	1.61E-05	0.002457	3.841466	0.9582

Trace test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.167988	28.13803	27.58434	0.0425
At most 1	0.096302	15.49279	21.13162	0.2559
At most 2	0.023097	3.575260	14.26460	0.9012
At most 3	1.61E-05	0.002457	3.841466	0.9582

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source; Author's computation 2024

Trace test indicates no cointegrating equation at the 5% level but the Maximum Eigenvalue tests indicate that one cointegrating equation exists. These show that there is the likelihood of the existence of long run equilibrium relationship between variables in the model. The cointegration result is a necessary condition, while the sign and statistical significance of the error correction term in the vector error correction model (VECM) determines the sufficient condition for the existence of long run equilibrium relationship. The vector error correction model (VECM) is presented below.

4.1.3 Vector Error Correction Model

Dependent Variable: D(LCHQ)
Sample (adjusted): 2009M04 2021M12
Included observations: 153 after adjustments

D(LCHQ) = C(1)*(LCHQ(-1) - 1.48114981928*LATM(-1) + 1.51351569554 *LPOS(-1) - 1.31105644063*LWBP(-1) + 8.86396437403) + C(2) *D(LCHQ(-1)) + C(3)*D(LCHQ(-2)) + C(4)*D(LATM(-1)) + C(5)*D(LATM(-2)) + C(6)*D(LPOS(-1)) + C(7)*D(LPOS(-2)) + C(8)*D(LWBP(-1)) + C(9) *D(LWBP(-2)) + C(10)

	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	0.010952	0.065766	0.166529	0.8680
C(2)	-0.351041	0.327458	-1.072020	0.2855
C(3)	-0.363782	0.326699	-1.113507	0.2674
C(4)	0.252869	0.326613	0.774218	0.4401
C(5)	0.345748	0.321785	1.074469	0.2844
C(6)	0.060492	0.166344	0.363655	0.7167
C(7)	0.047431	0.166301	0.285214	0.7759
C(8)	0.052040	0.142230	0.365886	0.7150
C(9)	-0.019855	0.135618	-0.146405	0.8838
C(10)	0.008200	0.065472	0.125250	0.9005

R-squared	0.014641	Mean dependent var	0.035989
Adjusted R-squared	-0.047375	S.D. dependent var	0.721708
S.E. of regression	0.738606	Akaike info criterion	2.295022
Sum squared resid	78.01206	Schwarz criterion	2.493089
Log likelihood	-165.5691	Hannan-Quinn criter.	2.375480
F-statistic	0.236082	Durbin-Watson stat	1.991797
Prob(F-statistic)	0.988671		

Source; Author's computation 2024

The sufficient condition for the existence of long run equilibrium relationship requires that the coefficient of one period lagged error correction term ECT(-1) in the vector error correction model (VECM) is negative and statistically significant at the choosen level of significance (0.05). From the VECM result above, the coefficient of ECT(-1) is a positive value; 0.010952 with a p-value (0.8680) which is greater 0.05 (5%) the choosen level of significant. This implies that the sign and value of the error correction term ECT(-1) are not statistically significant. Thus, the sufficient condition for the existence of long run equilibrium relationship between the dependent and independent variables in the model does not exist. The result show that there is no long run equilibrium relationship between value of Cheque payment (LCHQt) (manual banking option) and the values of payment of automated teller machine (LATMt), point-of-sale (LPOSt) and web payment (LWEBPt) which are the independent variables. Therefore, first difference model is estimated to evaluate the short run dynamic relationship between the dependent and independent variables of the model.

4.1.4 First difference Model

Dependent Variable: DLCHQ
Method: Least Squares
Sample (adjusted): 2009M02 2021M12
Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLATM	0.804880	0.049686	16.19938	0.0000
DLPOS	0.230967	0.037292	6.193530	0.0000
DLWBP	0.053612	0.033419	1.604252	0.1107
C	-0.045032	0.016205	-2.778849	0.0061

R-squared	0.923764	Mean dependent var	0.034112
Adjusted R-squared	0.922249	S.D. dependent var	0.717541
S.E. of regression	0.200078	Akaike info criterion	-0.354753
Sum squared resid	6.044700	Schwarz criterion	-0.276213
Log likelihood	31.49338	Hannan-Quinn criter.	-0.322852
F-statistic	609.8957	Durbin-Watson stat	2.646946
Prob(F-statistic)	0.000000		

Source; Author's computation 2024

The null hypothesis is the values of automated teller machine (LATMt), point-of-sale (LPOSt) and web payment (LWEBPt) are not statistically significant in the monthly dynamics of the value of Cheque payment (LCHQt). The decision rule is; reject the null hypothesis if the probability value of the coefficient of a variable is less than 0.05 otherwise do not reject the null hypothesis. The probability values of (LATMt) and (LPOSt) are 0.000 and 0.000 respectively – less than 0.05.

following the null is rejected for these variables; (LATMt) and (LPOSt). They are found to be statistically significant in explaining the dynamics of value of Cheque payment (LCHQt). Since the coefficients of (LATMt) and (LPOSt) are positive values (0.804880 and 0.230967) respectively, these show that there is a positive relationship between value of Cheque payment (LCHQt) and (LATMt) and (LPOSt). Although the value of the coefficient of web payment (LWEBPt) is a positive value, the probability value is 0.1107, it greater than 0.05, thus the hypothesis that web payment (LWEBPt) is not statistically significant in explaining changes in the value of Cheque payment (LCHQt) cannot be rejected.

4.1.5 Diagnostic Tests

The model is subjected to diagnostic test to assert the adequacy of the model

Breusch-Godfrey Serial Correlation LM Test

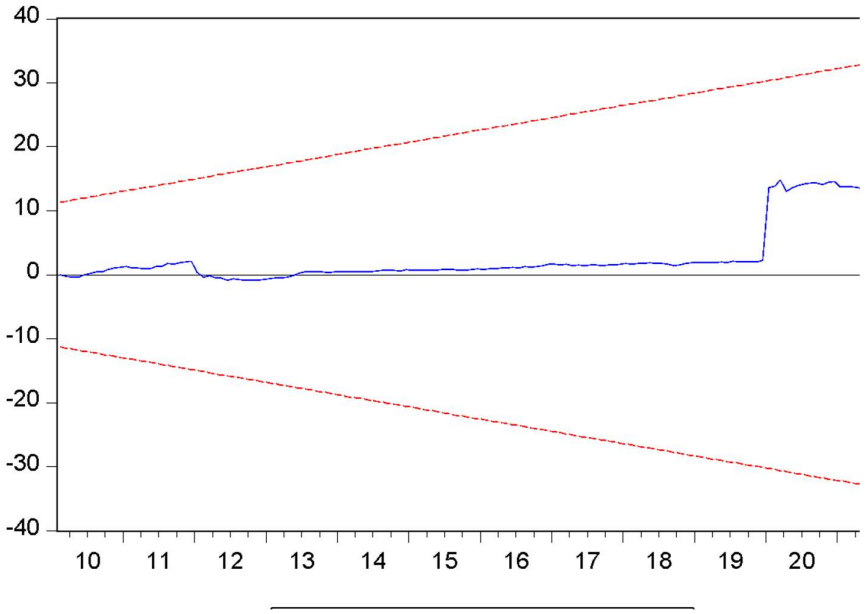
Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.113417	Prob. F(2,141)	0.8929
Obs*R-squared	0.245744	Prob. Chi-Square(2)	0.8844

Source; *Author's Computation*

The null hypothesis for the Breusch-Godfrey serial correlation LM test is that there is no correlation in the model. The decision rule of the test is rejected the null hypothesis if the observe R–square's p–value is less than 5 percent; otherwise, the null hypothesis is not rejected. The p–value for the observe R–square is 0.8844which is greater than 5 per cent, following, the null hypothesis that there is not serial correlation in the model cannot be rejected. The model is free from the econometric problem of serial correlation.

Stability Test



Source; Author's computation 2024

The null hypothesis for the CUSUM test is; the model is stable. The decision rule is; reject the null hypothesis if the CUSUM line falls outside the 5% band, if otherwise, do not reject the null hypothesis. The CUSUM line from the table above falls within the acceptance region, thus, the null hypothesis that the model is stable cannot be rejected.

4.2 Discussion of Findings

The results showed that banks customers have preference for both manual and electronic banking services delivery. The positive and statistically significant relationship between the value of Cheque payment (LCHQt) and those of automated teller machine (LATMt) and point-of-sale (LPOSt) show that there is an increase in the use of both manual and electronic service delivery in the banking system in Nigeria. Thus, the null hypotheses that relate point of sales (POS) and automated teller machine (ATM) payment options to cheque payment option is rejected. However, the relationship between web payment system (WEB) and cheque payment system is not statistically significant. Following, the null hypothesis that relates web payment option to cheque payment option is not rejected. The non-statistically significant relationship between web payment (LWEBPt) and Cheque payment (LCHQt) implies that this electronic payment option is not as popular as point of sales (POS) and automated teller machine (ATM) payment options. The finding is related to that of Gronbach (2020) that examined the use of different payment methods for social cash transfer (SCT) programs in sub-Saharan Africa and the digitization of these payments and found that electronic payment methods, such as payment cards, biometric verification, special bank accounts, and mobile phone-based payments, are increasingly being used in Sub-Saharan Africa. More so, the finding is similar to that of Adeyemo et al. (2020) that showed that the electronic banking initiative has improved customer satisfaction, providing alternative payment platforms, and enhanced funds management and saving culture among bank customers. Furthermore, the findings are in tandem with that of Madugba et al. (2021) that found that customers' knowhow of the use of web banking and National Electronic Fund transfers impeded on customers preference for these electronic banking options. Moreover, the results showed that there is no long run equilibrium relationship between electronic and manual banking services delivery option, but a positive short run relationship.

5.1 Conclusions

Innovation and technological progress are the major driver of effective service delivery in any sector of an economy. This study evaluated customers' preference for manual and electronic banking services option and found that there is no long run equilibrium relationship between electronic and manual banking services delivery options, but a positive short run relationship in Nigeria. Although manual and electronic services delivery are viable options at the disposal of bank customers, there is evidence that banks' customers have preference for both options. Consequently, the study concludes that the introduction of electronic bank service delivery option in the Nigerian banking sector has no significant effect on customers preferences for manual service delivery option. However, aspects of electronic banking options that are seemingly complex are found not to be popular among banks' customers and provides the need for further study on customers preference for electronic banking options in the Nigeria banking system.

5.2 Recommendations

Given banks customers' preferences for both manual and electronic banking options as well as the continuous advancements in technology, it becomes pertinent for banks' customers to be reasonably informed about the various electronic platforms and payment options that improve operational efficiencies. Thus, the study recommends that customers education and sensitization on the use of various electronic banking options should be a continuous policy direction of financial institutions, at this stage, in Nigeria.

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