Electronic Payment System and Stamp Duty Tax in Nigeria

Ihenyen Joel Confidence, PhD and Mefunu Claudius Egba
Department of Accounting, Faculty of Management Sciences,
Niger Delta University, Wilberforce Island, Bayelsa State
DOI: 10.56201/ijssmr.v10.no8.2024.pg1.17

Abstract

This study examined electronic payment system and stamp duty tax revenue. The study employed Unstructured Supplementary Service Data (USSD) transactions, Point of Sales (POS) transactions and Web Based Payment (WBP) Platforms as proxy to electronic payment system (independent variable), while stamp duty tax revenue was the dependent variable. Quarterly time series data from 2013 to 2022 (10 years) of figures representing the volume of transactions carried out from the above mentioned platforms were harnessed from the CBN statistical bulletin of 2023 while value of revenue collected as stamp duty was harnessed from the Federal Inland Revenue Service (FIRS) of Nigeria official website. Simple statistics and Unit Root test were used to validate the data, Ordinary Least Square Regression was used to analyze the nature and significance of effect the independent variable exerts on dependent variable. It was discovered that each of the component of electronic payment system adopted in the study have peculiar effect on stamp duty tax revenue. The study thus recommended that policy makers should not rely on improvement of unstructured supplementary service data and point of sales transactions as a means of improving stamp duty tax revenue rather, they should promote the use of web payment platforms as the medium was seen to significantly influence stamp duty tax revenue positively. It was also suggested that the stamp duty tax be dissected into its' fixed and ad valorem component and be studied so as to have a more clear understanding of its nature with regards to the digital payment systems.

Keywords: *Electronic payment system, Unstructured Supplementary Service Data, Point of Sales, Web Based Payments, Stamp Duty Tax*

INTRODUCTION

Electronic payment system is an accounting information system that stems from the advancement of transaction settlement system. The system has drastically enhanced transaction settlement methods in recent years. These systems, which include digital wallets, mobile payments platforms, and online banking, have completely changed how people and business entities settle transactions by offering a quicker, safer, and more convenient way to move money around (Chen et al., 2021). The increasing need for convenience in financial operations, along with technology advancements and rising internet penetration, has led to the widespread adoption of electronic payment systems (Smith & Lee, 2022).

Nigeria and other African countries have paid a lot of attention to the advent of electronic payment systems because of the development of new forms of electronic communications. The system is a variable of cashless economic policy. Cashless economic policy is a policy promulgated by

authorities to promote cashless basis for transaction settlement. Prior to the emergence of the information era, cashless transaction settlement instruments were mainly cheques and bank drafts. The electronic payment system is a functional network that links bank accounts and facilitates the exchange of money through bank deposits; it is regulated by laws (Summers, 2012). Electronic payment system helps to facilitate the accessibility of demand deposit. For instance, a demand deposit held in a Zenith Bank Plc account of Mr. Ebikaki Eliot with a credit balance of fifty thousand Naira can be accessed with the aide of Automated Teller Machine (ATM) card on electronic devices such as Point of Sales (POS) device and other internet enabled gadgets; with the proliferation of various e-payment channels, the accessibility of demand deposit has become even wider and easier (Kaur & Pathak 2015).

Nigeria's financial environment has undergone a considerable transformation due to the swift growth of electronic payment systems, which have improved transaction efficiency (Akinwale & Ojo, 2022). However, the traditional tax management system has experienced some difficulties as a result of these technological innovations, especially when it comes to stamp duty tax. The administration of stamp duty tax, which is imposed on legal papers and transactions like property transfers, has traditionally involved the physical application of stamps on documents. (Nwachukwu & Ijeoma, 2023). During the 2021 tax week in Nigeria, Mr Nami the chairman of the Federal Inland Revenue Service (FIRS) stated that the stamp duty administration in Nigeria is inefficient resulting into loss of revenue for the government. According to Mailafa (2020), a report on the Medium-Term Expenditure Framework and Fiscal Strategy Program (MTEF/FSP) released by the Federal Ministry of Finance, Budget, and National Planning of Nigeria indicates that the Nigerian government services its debt with nearly 99% of its' total revenue causing the need to improve the revenue drive of the nation. The main problem is that the manner in which stamp duty tax is now collected might not be able to properly account for the peculiarities of electronic transactions, which could have resulted in gaps in revenue collection and compliance (Okeke & Suleiman, 2024). For example, electronic transactions may be circumventing conventional tax collection techniques, resulting in chances for tax avoidance and evasion in the enforcement process (Chukwuma, 2023). Furthermore, a complete grasp of how electronic payment systems impact tax reporting, collection procedures, and compliance is necessary for the incorporation of these systems into the stamp duty framework (Eze & Ifeanyi, 2023).

Aim and Objectives of the study

Based on the above premise, this paper aims to examine how electronic payment systems affect Nigeria's stamp duty tax, with a particular emphasis on how these technologies affect stamp duty tax revenue collection. By tackling this problem, the study hopes to shed light on how the volume of electronic payment system transactions affect the Nigeria stamp duty tax revenue collection and compliance while updating its tax administration to better fit the needs of the digital economy.

Specifically the study will investigate the following;

i.   The effect of the volume of unstructured supplementary service data (USSD) transactions on stamp duty tax revenue in Nigeria.

ii.   The effect of the volume of point of sales (POS) transaction on stamp duty tax revenue in Nigerian.

iii.   The effect of the volume of Web based payment (WBP) on stamp duty tax revenue in Nigeria

Research Questions

Following the outlined problem and the objectives of the study, the research question stated below will serve as a guide in order to address the stated issues;

i.   What is the effect of the volume of unstructured supplementary service data (USSD) transactions on stamp duty (SD) in the Nigeria?

ii.   What is the effect of the volume of Point of sales (POS) transactions on stamp duty (SD) tax in Nigeria?

iii.   What is the effect of the volume of Web based payment (WBP) platforms on stamp duty tax in Nigeria

Research Hypotheses

Sequel to the research questions stated above, these hypotheses have been developed to be tested in order to provide answers to the problems posed above:

H01.   The volume of unstructured supplementary service data (USSD) transactions have no significant positive effect on stamp duty (SD) tax revenue in Nigeria.

H02.   The volume of Point of sales (POS) transactions have no significant positive effect on stamp duty (SD) tax revenue in Nigeria.

H03.   Web-pay transactions (internet transaction) have no positive effect on stamp duty (SD) in Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Review

With the introduction of electronic payment methods and the changing management of stamp duty tax, Nigeria's financial sector has been significantly transformed; it has birthed and modified policies to meet up with the present social-economic realities of the nation. Electronic payment systems have made transactions easier by reducing the need for paper money and cheques. In Nigeria, these systems have developed quickly and become more diverse, incorporating varied range of electronic transaction settlement platforms including unstructured supplementary service data (USSD), Point of Sales (POS), Web base Payment among others.

Unstructured Supplementary Service Data (USSD)

Mallik, Tran and Twagirumukiza (2020) postulate that Unstructured Supplementary Service Data (USSD) is a mobile communication service that is supported by the Global System for Mobile-Communication (GSM); the system permits communication between the user and (or) application through the exchange of data via a telephone network. USSD is like messaging through the cellphone where a user communicates with a preprogramed system in a live session. It is an open connection for the exchange of data.

Digital money which is an electronic payment technology, is supported by the USSD technology; which offers anonymous and adaptable payment system, similar to paper money, but with the additional security requirements required for "electronic mobile transactions". In a related study by Lee, Choi and Rhee (2004), secured digital currency systems can ensure that only genuine users may spend their money without being traced; however, it can also provide traceability for unlawful usage amounting to fraud and (or) money laundry; in order to safeguard the bank from unlawful activity, it is possible to revoke the anonymity of the digital currency. When a user transmits a message through a mobile network operator to the bank's system, the message gets to a standby computer that is committed to USSD operation, the computer replies the user almost instantly, typically in a simple format that can be readily viewed and read on the user phone's display. USSD messages are not mandated by any standard-setting institutions, so each operator is free to implement whatever is most suitable for their clients. For instance, the USSD operated by the Guaranteed Trust Bank PLC in Nigeria can be accessed through the quick code *737#, when this is dialed from a cell phone number that is registered with the bank within the Nigerian territory, the process explained above takes place and various options pops up for the customer to select from. Similarly, the code for Union bank is *826# however the options available for Guaranteed Trust Bank is different from that of the Union Bank. The security features associated with the system is the registration of the phone number with the bank, which entails biometric as well as synchronization of the phone number to the account. The process also assigns a Personal Identification Number (PIN) which is known only to the account holder and may be used for the final authorization of transaction on the USSD platform.

Point of Sale (POS) Transaction

Kim and Kim (2007) defined point of sales (POS) as a "supply chain management system that provides real-time stock management and sales analysis to businesses. Similarly, Sai (2017) defined it as a point where sales are being made and the obligation of tax especially VAT is generated at that point. However, at any point of sales, at least two entities are involved which usually entails an exchange of value between them; one of the parties might be giving a commodity or service in exchange for money. Thus, a transaction takes place at every point of sales. However, there are several categories of POS (Kim & Lim 2011). Some categories of POS systems are configured to take record of sales transaction, analyzing sales and movement of inventories. Some are configured for the purpose of transaction settlement these categories communicate directly with the banks of the parties carrying out the transaction and effect the payment for the transaction that took place at the point of sales as well as taking record of the tax element of the transaction. This system eliminates the use of cash for settlement of the transactions at the point of sales.

Web base Payment transactions (WBP)

There is a constant development occurring in the area of digital payment systems; as different electronic payment gateways have been introduced. The web pay is an online electronic payment platform that is adopted for transaction settlement. It is a third-party transaction settlement system that mediates between buyers and sellers especially in an online market platform. This system is an online real-time transaction settlement system that interfaces between the bank of a vendor and that of a buyer who purchases an article either online or physically. There are various agents

authorized by the central bank of Nigeria to operate the web payment platform within the Nigerian financial environment.

The Non-Cash transaction settlement policy was introduced by the CBN to reduce the cost of currency management, improve the efficacy of the payment systems and rake in more tax revenue to government. Garcia-Swart et al (2006), postulates that proliferation of non-cash transaction settlement system can aide in the projection of tax revenue; especially, the internet transfer system which could likely be influencing tax revenue positively. In a cashless society, clients can pay for goods and services via online platforms, unattended product dispensing machine, mobile POS (point of sale) devices, smart cards, personal digital assistant (PDA), debit and credit cards etc. Governments and businesses provides essential motivation and support for digital transaction (Khan and Craig-Lees, 2009).The operation of the digital payment system is not wholly free, it must be noted. In addition to the Commission on Turnover (CoT) that the Central Bank of Nigeria (CBN) permits retail banks to charge whenever funds are withdrawn or transferred from one account to another, the use of the Point of Sales device also incurs a fee for each transaction processed. (Omose, 2011).

Stamp Duty (SD)

In order to legalize transactions, stamp duty tax is applied to legal documents including financial contracts and property transfers. Stamp duty is a tax that is regulated by the Stamp Duties Act and is handled by the Federal Inland Revenue Service (FIRS). It has various uses; Adeniran (2023), posited that stamp duty is imposed on a number of papers, such as financial instruments, leasing agreements, and property transfers. The stamp duty (SD) basically, is of two categories viz; fixed stamp duties and the ad valorem. The fixed category of stamp duty does not vary in rate, a flat rate applies to chargeable document or transaction. On the other hand, in the ad valorem category of stamp duty charges are proportionate to the value of the transaction. (Price Waterhouse Coopers 2020)

It is essential to integrate stamp duty procedures with digital systems as electronic payments become more common. Stamp duty payment and certification could be expedited by using e-stamping projects in Nigeria. According to Ibrahim (2024), Electronic stamping systems have been implemented by nations to enable digital validation of stamp duties and online payment. Nigeria is gradually adopting this strategy in an effort to improve and modernize the effectiveness of stamp duty collection. However, the pace of adopting the digital stamp duty strategy is not swift enough as it does not measure up to the speed at which the information era moves hence the inefficiencies in the stamp duty administrative system.

Theoretical underpinnings

The Expediency Theory of Taxation

This study anchors on the expediency theory of taxation. Bhartia (2009) propounded and expanded the taxation theory of expediency. According to the theory, every proposal for collection of tax revenue must satisfy the test of practicability, which must be the sole factor considered by authorities when selecting or adopting a revenue collection proposal. The theory's tenets are that it is an egocentric approach to revenue collection; each economy guards only its interest, etc. In

addition, it is proposed that government's socio-economic interest should be disregarded, because it is pointless to have a tax system which cannot be implemented efficiently. However, tax systems are frequently restructured by governments to accommodate the demands of various economic, social, and political groups seeking to further their own interests (Bhartia, 2009). This theory has inadequate support in literature and it could also be possible that the cost of collecting the tax cannot be sustained due to administrative bureaucratic bottle neck.

The theory proposed that a suitable and appropriate channel should be adopted in revenue generation, and that tax system provides government with a potent set of policy instruments which should serve as a panacea for social ills including the disparity of income, regional disparities, unemployment and cyclical fluctuations (Bhartia, 2009). This theory's contribution to the current research is its attempt to shed light on why the ease of a transaction settlement mechanism is so important, especially efficient digital payment system on the collection of tax revenue by the authorities. The theory has only been criticized on the timing of its application.

Empirical Review

Policymakers and researchers have a keen interest in the interface between tax revenue and electronic payment systems (EPS). EPS has transformed financial transactions by offering safe, effective, and practical ways to transmit money. The stamp duty tax has undergone modifications to keep up with contemporary technology improvements. Traditionally, this involved the physical or manual affixing of stamps to legal documents. Efficiency in electronic payment system (EPS), compliance and the effective administration of tax are the tenet of this review, which critically analyzes the empirical data pertaining to the integration of EPS with other economic dynamics with particular focus on tax revenue. The main problem is that there may be gaps in compliance and revenue collection because the current structure for collecting stamp duty tax may not adequately account for the subtleties of electronic transactions.

Okafor (2021) examined electronic banking and entrepreneurial development in Nigeria. Ordinary least-square regression technique was adopted in the study to analysis a set of time series data The study culminated that digital payment system (electronic banking) has positive effect on the entrepreneurial development in Nigeria. This could imply that electronic payment system makes doing business in Nigeria easier as it encourages the development of enterprises. If enterprises springs up as a result of improved transaction settlement system (introduction of electronic payment), it could enhance the earning power of citizens within Nigeria. If individuals earn more, this could result to increased consumption which in turn could translate to increase in consumption tax revenue for the government. However, this assertion might not be correct as there are other factors that influences consumption tax revenue, and the study is limited to only electronic payment system and entrepreneurial development in Nigeria. Thus the need for a specific concept bordering on electronic payment system and stamp duty tax in order to determine how the electronic payment system affects stamp duty.

Similarly, the effect of cashless policy on the Nigerian economy has been studied by Mamudu and Gayovwi (2019). In their study, cashless policy instruments ATMs and the NEFT were found to have a positive and statistically significant effect on Nigeria's GDP in a short-run. The findings

also indicated that CHEV, POSV and MOBP all had negative and negligible effects on Nigeria's GDP. While this study was quite revealing, serving as a guide to policy makers, the study did not incorporate tax revenue as measure of economic growth. Nigeria as a nation is in dare need to improve revenue. Thus, it is important to inform on how cashless policy especially electronic payment platforms has affect revenue generation.

Likewise, digital payment system and economic growth of other climes have also been looked at. Particularly, the effect of digital payments on GDP growth in India was studied by Ravikumar et al (2019). They hoped that their study will shed light on the effect that digital payment systems have on the Indian economy. The research used a co-integration strategy on Ordinary Least Squares (OLS) regression and Auto-Regressive Distribution Lags (ARDL). The findings suggested that digital payments had a significant influence on economic growth in the short run, but they had a negligible impact on growth in the long run.

Applying a slightly different analytical technique, the influence of digital payment system on Nigeria's gross domestic product (GDP) from 2010 to 2018 was also studied by Abdulmumin (2018). This research made use of a number of statistical techniques, including a multiple regression analysis, a Johansen cointegration test, Granger causality test, and a Vector error correction model (VECM). Values of point of sale, automated teller machine, mobile, and internet transactions as well as real GDP were analyzed using quarterly time series data; volume of point of sales, ATM, mobile and internet transactions and real GDP were analyzed using the multiple regression method. The analysis revealed positive but statistically insignificant correlation between the number of mobile transactions and GDP growth in Nigeria, and also a positive but statistically insignificant correlation between the value of mobile transactions and GDP growth. According to the results of the Granager causality test in the study, the value of POS, ATM and mobile transactions are correlated with real GDP. The granger causality test of the study revealed that the amount of POS, mobile, and internet transactions causes real GDP to rise. The models in the study passed the Johansen conintegration test, showing that e-payment systems and GDP growth in Nigeria are linked in a long-run equilibrium. E-payment systems and economic growth in Nigeria were shown to have a short-run association according to the results of the vector error correction model (VECM) for models 1 and 2. Similarly, the study tells the relationship between GDP and cashless economic variables. However, even though, tax revenue is a function of GDP, the study cannot be inferred to explain the relationship between, Stamp duty and cashless economic variables.

Electronic payment system and income generation in Lagos State was investigated by Adegbie and Akinyemi (2020), the study revealed that Automated Teller Machine (ATM) significantly affects personal income tax positive, while Electronic Transfer Card (ETC) significantly affect personal income tax negatively. The stu f digital payment system. The conclusion of the research is the expected financial impact of electronic payment system on tax revenue. However, the geographical scope and the content scope of the study (the study focused on only one aspect of government tax revenue; personal income tax revenue in one state out of the 36 states in Nigeria limits the application of the findings of the study other aspect of revenue generation. That is, where

there are several dimensions of government revenue, this study cannot be applied to demonstrate how cashless economic policy affects consumption tax revenue (especially stamp duty) hence the need for this present study.

In a similar study, Severine (2019) examined electronic payment and revenue collection in local government authorities in Tanzania: evidence from Kinondoni Municipality. The study adopted a semi-structured questionnaire for 77 respondents using simple random sampling procedure. The study utilized descriptive statistics and linear regression to analyze its data. From the study, e-payment was shown to have an impact on revenue collection since it helps the Municipal boost tax compliance. It also showed that e-payment may provide businesses an edge by making it easier to track income and report it accurately. In addition, a linear positive link was found between e-payment and revenue collection with respect to tax compliance, income source monitoring and financial reporting. According the research, all forms of electronic payment comply with tax regulations. Poor connectivity, insufficient understanding, lack of technical help, inadequate familiarity with the technology by tax collectors, and unpredictable power supply were recognized as problems in adopting an e-payment system, along with the beneficial outcomes of e-payment. The study was mainly focused on the Tanzanian local government, though the findings can serve as a guide to policy makers in other clime. However, due to the dynamic and peculiar nature of the Nigeria economy, such finding cannot be directly inferred to reflex the activities within the Nigerian economic space.

The effect of cashless policy on the Nigerian economy was studied by Mamudu and Gayovwi (2019).The study used quarterly time series data on cashless payments in Nigeria from 2011 to 2017 to proxy for the adoption of cashless policy and GDP as a proxy for its impact on the Nigerian economy. The series used the value of cheque transaction CHEV, Value of ATM transaction, Value of POS transaction POSV and Value of Mobile payment transaction MOBP and gross domestic product GDP were integrated at first order according to the Phillips-Perron test, and the findings indicated that they were all stationary at first difference except NEFT which was integrated at level 1(0). Johansen co-integration test showed, however, that CHEV, ATMV, POSV, MOBP NEFT and GDP all have long-term relationships. Cashless policy instruments ATMs and the NEFT were found to have a positive and statistically significant effect on Nigeria's GDP in a short-run. The findings also indicated that CHEV, POSV and MOBP all had negative and negligible effects on Nigeria's GDP. The findings of the study was quite informative, as it informs on the dynamics of the cashless policy variables, however, the conceptual model of the study can be described as being narrow as it focusses only on Cashless policy and the GDP. Thus the findings does depict a holistic representation of how cashless policy affect the nation hence the need for this present study.

Muyiwa, et al (2013) assessed the results of a cashless economy experiment in Nigeria. The study was a survey that relied on a random sample technique. 500 college students, business, people, and government employees were surveyed. Questionnaires were utilized to gather the data was gathered. The response from the respondent in the questionnaire was analyzed with statistical methods. Results showed that 33.3% of respondents believed a cashless policy would increase foreign investment and decrease cash-related corruption, 11.1% believed it would increase employment, and 22.0% demonstrated it would decrease cash-related fraud, all of which have

effects on consumption and, by extension, economic growth. According to the findings, transitioning to a cashless economy is a huge achievement that would likely have an impact on the modernization of Nigeria's payment systems, the affordability of financial services, and the mitigation of the country's high security risk.

Oginni et al (2013) looked at how the rise of the electronic payment system in Nigeria affected the country's GDP. The research analyzed data for a 7-year period (2005-2012) using OLS and TSLS techniques. E-payment systems were shown to have a statistically significant positive association with real GDP per capita and commerce per capita. It was shown that all other forms of electronic payment channels contribute negatively to economic growth, but ATMs alone contribute positively. To facilitate a smooth transition to a cashless economy, it was suggested that the existing cashless policy be geared towards an efficient electronic payment system.

Using macroeconomic data for 70 nations from 2011 to 2015; Zandi (2016), carried out a study on the consequences of electronic payment on economic expansion. The results show that electronic payments contribute to economic expansion by raising per capita spending due to the increased prevalence of card payments. This study could be pointing to the fact that improved electronic payment system can enhance consumption tax revenue for government due to increase in per capita spending. However, it cannot be ascertained from the study whether or not cashless economy policy variables and electronic payment systems in particular can affect consumption tax stamp duty tax.

Empirical gap

Empirical research on the influence imposed by the variables of electronic payment system on economies and economic variables have most often than not reported positive impact. The importance of electronic payment system has caused scholars and researcher alike to draw up different concepts in order to x-ray how the system has affected the society at large. Different methods have also been applied, different phenomenon has also been evaluated using both primary and secondary sources of information.

However, expanding the revenue base of Nigerian economy as well as blocking all leakages has called for the need to look at the present concept of this study, the impact of electronic payment system on stamp duty tax; as the concept seem not to have been adequately studied especially in the context of Nigerian economy. Despite the consistent decry by authorities and policy makers to citizens, scholars and researchers have not made this issue an issue for public discuss; as there seem to be lacking literature on these specifics. This forms a gap which needs to be closed. This study is predicated on this gap, aiming to supply literature that will support policy makers in streamlining their policy as well as establishing possible area which might be affecting stamp duty tax revenue collection using conventional research methods.

METHODOLOGY

This research employs the ex-post facto research approach to determine a cause and effect connection between the variables of electronic payment system using USSD, POS and WBP as proxy and stamp duty tax (SD). It employs all available data representing the volume of POS

transactions, USSD transactions and Web based transaction against Stamp duty from the period 2013 to 2022 in Nigeria.

The data used for this research were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin 2023 and the federal Inland Revenue service (FIRS) official website. The variables can be easily measured and verified, therefore secondary data; volume of unstructured supplementary service data USSD transactions, point of sales (POS) transactions Web based payment (Web pay) transactions as well as the naira value of Stamp duty (SD) revenues for the specified period of the study were obtained from the stated source.

The data acquired for this study were analyzed using various descriptive statistical methods. The average, Mode, Range, and. Mean, median, range value, and information about the sample's distribution as assessed by skewness, kurtosis, and the Jaque-Bera statistic were provided by the descriptive statistics. Unit roots are also examined in this study. Unit roots analysis helps to determine if a time series is stationary at the first step in analysing it. The accurate testing of hypotheses involving the link between two variables requiring unit roots (integrated of at least order one) requires testing for unit roots.So, it's crucial to check if the data are stationary at first difference 1(1);this may be determined with the use of the Augmented Dickey Fuller (ADF)

Multiple regression econometric procedure of the ordinary least square (OLS) was adopted. Coefficient of determination (R^2) was used to test how well the model explained the data. R^2 evaluates how well the hypothesis is supported by the data and how much influence one variable have over the other (independent and dependent variables). This represents the disparity in the dependent variable that can be ascribed to changes in the independent variables.

To ensure the reliability of the data, the research used a basic statistical technique in the investigation. Furthermore, to indulge on the analysis of facts of the influence of electronic payment system on stamp duty tax in Nigeria, Multiple regression models was used. The volume of point of sales, unstructured supplementary service data USSD Transfer and web based transactions WBP are the Independent variables while the stamp duty tax revenue is the Dependent variable.

Thus a models will be used; in the model, the functional relation is expressed as:

SD= F (VUSSD, VPOS, WBP) …………………………………………….……1

The model in equation 1 is modified to its Econometrics model for operationalization and to explain the relationship between the variables.

$SD = \beta_0 + \beta_1 VUSSD_t + \beta_2 VPOS_t + \beta_3 WBP_t + \mu_t$…………………..………………..1.1

The data are changed such that they are logarithm form. Logarithm is essential to lower the issue of heteroscendasticity because it condenses the scale on which the variables are measure, making it tenfold difference among the values into only twofold differences one the log transformation has been performed (Gujarati 2004).

$LnISD_t = \beta_0 + \beta_1 LnVUSSD_t + \beta_2 LnVPOS_t + \beta_3 LnVWBP_t \mu_t$…….……..………... 1.2

Where:

SD =   Stamp Duty

VUSSD=   Volume of USSD Transactions

VPOS=   Volume of POS Transactions

VWBP=   Volume of WEBPAY Transactions

LN=   Natural Log

T =   Time Period

Where $\beta_0>0$, $\beta_1>0$ $\beta_2>0$, β_0, β_1, β_2 β_3 = Constant Parameters.

μ = the error term which is the disturbance term or random variable.

RESULTS AND INTERPRETATION

Table 1. **Descriptive Statistics**

	LOGSD	**LOGUSSD**	**LOGPOS**	**LOGWBP**
Mean	0.437948	6.977286	7.020953	6.675170
Median	0.318439	7.045775	7.042866	6.405622
Maximum	1.796456	8.384358	8.332135	9.347808
Minimum	0.108734	5.326735	5.074158	5.461387
Std. Dev.	0.358514	0.776936	0.892166	1.024945
Skewness	2.410809	-0.100077	-0.319848	1.330778
Kurtosis	9.190683	2.558349	2.013557	4.173989
Jarque-Bera	102.6209	0.391862	2.303801	14.10355
Probability	0.000000	0.822069	0.316036	0.000866
Sum	17.51792	279.0914	280.8381	267.0068
Sum Sq. Dev.	5.012752	23.54154	31.04243	40.97000

Source: Researcher's Computation Using Eviews 10

The minimum and maximum value of LOGSD (0.108734) and (1.796456) respectively, with the mean value of (0.437948) and standard deviation of (0.358514). Then, the minimum and maximum value of LOGUSSD is (5.326735) and (8.384358) respectively, where the mean is (6.977286) and the standard deviation is (0.776936). LOGPOS also has minimum and maximum value of (5.074158) and (8.332135) respectively, with a mean value of (7.020953) and standard deviation of (0.892166). And LOGWBP also has minimum and maximum value of (5.461387) and (9.347808) respectively, with a mean value of (6.675170) and standard deviation of (1.024945). A close observation of skewness which measurement not only indicates the amount of skewness but also the deviation showed that the variables were rightward and positively skewed. Thus, the study concludes that the data disposition is relatively normal; The Kurtosis estimates the peak or flatness of the data with respect to normal disposition, the co-efficient of LOGSD indicating a low kurtosis relative to normal, while the co-efficient of LOGUSSD, LOGPOS and LOGWBP are also of low kurtosis relative to normal.

Table 2: Unit Root Test

Variables	ADF Test	Remarks	PP Test	Remarks
LOGSD	-14.82666	I(1)	-16.40790	I(1)
LOGUSSD	-5.914911	I(1)	-5.936196	I(1)
LOGPOS	-5.933915	I(1)	-15.64813	I(1)
LOGWBP	-7.207753	I(1)	-7.767178	I(1)

Critical Values of ADF Test: Critical Values of PP Test:

1% level = -4.262735   1% level = -4.219126

5% level = -3.552973   5% level = -3.533083

10% level = -3.209642   10% level = -3.198312
a/b/c, indicates significance at 1%, 5% & 10% respectively.
Test includes Trend and Intercept

Source: Researcher's Computation using Eviews 10

Table 3 Regression model

Dependent Variable: LOGSD

Method: Least Squares

Date: 17/08/24   Time: 12:48

Sample: 1 40

Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.357214	0.319362	-4.249770	0.0001
LOGUSSD	0.109067	0.159148	0.685321	0.4975
LOGWBP	0.354815	0.067476	5.258390	0.0000
LOGPOS	-0.190043	0.125250	-1.517311	0.1379

R-squared	0.700184	Mean dependent var		0.437948
Adjusted R-squared	0.675199	S.D. dependent var		0.358514
S.E. of regression	0.204322	Akaike info criterion		-0.243604
Sum squared resid	1.502903	Schwarz criterion		-0.074716
Log likelihood	8.872081	Hannan-Quinn criter.		-0.182539
F-statistic	28.02456	Durbin-Watson stat		2.677870
Prob(F-statistic)	0.000000			

Source: Researcher's Computation using Eviews 10

Test of Hypotheses

H01. The volume of unstructured supplementary service data (USSD) transactions have no significant positive effect on stamp duty (SD) tax revenue in Nigeria.

From table 3 there is an indication that the volume of USSD have a positive effect on SD; with a coefficient of 0.109067. However, the P-value of 0.4975 indicates an insignificant effect at 5% significance level. Thus, the positive effect of USSD on SD is insignificant; therefore, the null hypothesis is accepted as the hypotheses implies that the effect must be positive and significant.

H02. The volume of Point of sales (POS) transactions have no significant positive effect on stamp duty (SD) tax revenue in Nigeria.

Again, the analyzed outcome of the model indicated in the third table above (Table 3), shows the coefficient of LogPOS is -0.190043 indicating a negative effect. This implies that the volume of POS transaction has a negative effect on SD revenue in Nigeria. However, with a P-value of 0.1379, the effect is also not significant at 5% significance level; thus, the null hypothesis is accepted.

H03. Web-pay transactions have no significant positive effect on stamp duty (SD) in Nigeria.

The results in model of the analysis in table3 indicates that the volume of Webpay (WBP) transactions have a positive effect on stamp duties (SD) with a coefficient of 0.354815, and with a P-value of 0.0000 the effect is significant. Thus, the null hypothesis is rejected.

Adjusted Coefficient of Determination

The 0.700184 R-square indicates that 70% of the changes in the SD amounts from the changes in the explanatory variables (USSD, POS, and WBP). The adjusted R-square of 0.675199 indicates that the model used is proper for the study denoting that when adjusted for other variables influencing the dependent variable the independent variables still predicts 68% of the changes in the dependent variable.

Discussion of Findings

From the regression result of the model, the analysis indicates a positive value for the coefficient of LogUSSD of 0.109067, a negative value for the coefficient of LogPOS of -0.190043 and a positive value of 0.354815 for the coefficient of LogWBP. This implies that an increase in the volume of USSD and WBP transactions will lead to a rise in the amount of SD revenue collected while a decrease in POS transaction will cause an increase in SD. Precisely, 1% increase (decrease) in the volume of USSD transactions will lead to 0.109% increase (decrease) in SD revenue similarly, 1% increase (decrease) in the volume of WBP transactions will as well lead to 0.35% increase in SD revenue; conversely, 1% decrease (increase) in the volume of POS transaction will result to 0.19% increase (decrease) in SD revenue. However, with a respective probability value of 0.4975, 0.1379 and 0.000 for LogUSSD, LogPOS, and LogWBP, it is only WBP that has a noticeable influence on SD at 5% significant level. This findings indicates some level of similarities with that of Adegbie and Akinyemi (2020), depicting the dynamics among the variables of electronic payment system. In their study, they reported that each component of cashless policy has distinct effect on government revenue. The insignificant nature of the effect of USSD and POS to SD might be linked to the cap on transactions on the platforms, most Web based platforms gives users the leverage to adjust their transaction limits even to the extent of removing the cap on the transaction. According to a press release by FIRS, Customers who make electronic transfers through Money Deposit Banks (MDBs) in Nigeria that total ten thousand naira (N10,000) or more are additionally required to pay N50 as stamp duty. Thus a platform that does not limit transactions will definitely rake in more of such revenue. This aligns with the expediency theory of taxation.

Conclusion and recommendation

Electronic payment system has been perceived to have positive effect on the Nigerian tax revenue; however, this study have been able to show the nature and magnitude of effect the variables of the system exerts on the tax revenue specifically on Stamp Duty (SD) revenues. This study was able to empirically establish the effect and significance with the aid of descriptive statistics and multiple regression analysis on the quarterly secondary data of the study variables spanning over a period of 10 years, drawn from CBN statistical bulletin and the FIRS official website using E-view. The study reveals that the volume of web payment transactions (WBP) exerts a positive and significant effect on Stamp Duty (SD) revenue. The study also reveals that Unstructured Supplementary Service Data (USSD) have no significant effect on Stamp Duty (SD) revenue. From the regression result, the coefficient of determination (R-squared) is 0.700184 which is approximately 70% implying that the explanatory variables in the model accounts for 70% of the variation in the explained variable. With an adjusted R-Squared value of 0.675199 indicating 67.5% this implies that adjusting for other variables which have not been included in the model, the explanatory variable will still account for 67.5% variation of the explained variable, indicating the the model is a good one.

This study therefore concludes that all electronic payment system variables does not affect tax revenue in the same manner; as it is seen, some variables affect tax revenue positively, while other variables could affect it negatively. And also, while some of the variable's effect are significant, others could be insignificant.

From the findings, the study thus recommends as follows

1. The findings of the study indicate that the volume of unstructured supplementary service data transaction positively but insignificantly affects stamp duty revenue. This could be as a result of the fixed stamp duty applicable to transactions value of ten thousand (N10,000) naira and above. Hence, it is recommended that further studies should be carried out on how electronic payment system affects the fixed and ad valorem components of the stamp duty revenue.
2. Government should not rely on point of sales transactions to improve stamp duty revenue.
3. In addition to facilitating the accessibility of internet and internet enabled devices, government should also provide incentives to encourage the use of web payment platforms for transaction settlement purposes as this can improve that duty revenue.

References

Adegbie, F. F., & Akinyemi, O. O. (2020). Electronic payment system and revenue generation in Lagos State. *Journal of Accounting and Financial Management, 6*(1), 78-90.

Adeniran, O. T. (2023). *The Role of Stamp Duty in Nigeria's Financial Sector*. Nigerian Journal of Taxation, 9(2), 77-89.

Bhartra, P. (2009). Tax evasion; an evil for the economy. *Journal of Finance and Public Management*, 6(1), 123-132.

Chen, J., Zhang, Y., & Li, X. (2021). *The Impact of Electronic Payment Systems on Financial Transactions*. Journal of Financial Technology, 15(2), 45-62.

Chukwuma, E. (2023). *Challenges in Tax Collection: The Case of Stamp Duty in Nigeria's Digital Economy*. Journal of African Taxation, 11(1), 89-104.

Davis, R., & Patel, N. (2023). *Modernizing Tax Administration: Integrating Electronic Payment Systems*. International Journal of Tax Policy, 29(1), 103-118.

Eze, U., & Ifeanyi, N. (2023). *Adapting Tax Administration to Digital Payments: A Nigerian Perspective*. International Journal of Tax Administration, 26(3), 56-72.

Garcia -Swartz, D.; Hahn, W. & Layne-Farrar, A. (2007). Further thoughts on the cashless society: A reply to Dr. Shampine, Review of Network

Gujarati, D.N. (2004) Basic Econometrics. 4th Edition, McGraw-Hill Companies.

Johnson, H., & Williams, S. (2023). *Evolving Stamp Duty Tax in the Digital Age*. Taxation Review, 37(4), 215-230.

Kaur, K., and Pathak, A. (2015). E-payment system on e-commerce in india. *Karamjeet Kaur International Journal of Engineering Research and Applications,* 5(2), 79-87.

Kim, S., & Kim, T.(2007). Point of sales system design in security level. *International Journal of Multimedia and Ubiquitous Engineering*, 2(3), 131-136.

Lee, H.J., Choi, M.S., & Rhee, I.Y. (2004). Traceability of double spending in secure electronic cash system. Proceedings of the 2003 International Conference on Computer Networks and Mobile Computing IEEE Computer Society.

Mailafia O. (2020, June 22nd) The revenue crisis and challenge of government. Punch Editorial, https://punchng.com/the-revenue-crisis-and-challenge-of-government/

Mamudu, Z. U. and Gayovwi G. O (2019). Cashless policy and its impact on the Nigerian economy" I*nternational Journal of Education and Research*, 7(3), 67-89

Millik B., Tran H. &Twagirumukaza T., (2020). The impact of e-taxation on revenue generation. *International Journal of Advanced Research*, 2(2), 449-458.

Miller, A., & Thompson, R. (2024). *Stamp Duty Tax and Digital Transactions: A Comparative Analysis*. Journal of Taxation and Compliance, 41(3), 67-82.

Muyiwa, O., Tunmibi, S. and John-Dewole A.T. (2013) Impact of Cashless Economy in Nigeria. *Greener Journal of Internet, Information and Communication System*s. 1 (2), 40-43.

Nwachukwu, C., & Ijeoma, M. (2023). *Stamp Duty Tax and Electronic Transactions: A Review of Current Practices*. Taxation and Finance Journal, 30(4), 122-137.

Oginni S. O., El-Maude J. G., Mohammed A., Michael E. O. (2013*).* Electronic payment system and economic growth: a review of transition to cashless economy in Nigeria.*International Journal of Scientific Engineering and Technology* 2(9), 913-918.

Okafor C. A. (2021). Electronic banking and entrepreneurial development in Nigeria.*International Journal of Business & Law Research,* 9(1), 79-88.

Okeke, S., & Suleiman, Y. (2024). *Electronic Payment Systems and Their Implications for Stamp Duty Tax in Nigeria*. Journal of Public Policy and Taxation, 27(2), 143-158.

Price Waterhouse Coopers (2020) A guide to stamp duties in Nigeria. Retrieved from https://www.pwc.com/ng/en/publications/a-guide-to-stamp-duties-in-nigeria.html

Sai K.O., (2017). An analysis of point of sale systems physical configurations and security measures in Zimbabwean SMEs, *International Journal of Education and Multidisciplinary Studies,* 6(2), 181.

Smith, R., & Lee, J. (2022). *Advancements in Electronic Payment Technologies*. Financial Services Review, 28(1), 89-104.

Summers, B.J. (2012). "*Payment Systems- Design, Governance and Oversight,"* London: Central Banking Publications.

Zandi, S.K (2016). The impact of electronic payment on economic growth. Moody's analytics. Retrieved from:https://tralac.org/images/docs/9254/the-impact-of-electronic-payments-on-economic-growth-moodys-analytics-visa-february-2016.pdf