

EFFECT OF E - PAYMENT TRANSACTION SYSTEM ON BUSINESS EFFICIENCY OF BANKS IN NIGERIA

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Abstract

The study examined the effect of E-Payment transaction system on business efficiency of quoted Banks in Nigeria. The study has four specific objectives to achieve, four research questions that guided the study and four null hypotheses that were formulated. The study used descriptive research design. The data used were primary data and were drawn from the questionnaires. The data generated from the 25 usable copies of the questionnaire returned (83.33% response rate) out of 30 copies distributed to respondents were presented and analysed. The data collected were analysed using descriptive statistics, correlation and regression analysis. The statistical tool used was Ordinary Least Square Method. The results show that only Automated teller machine and Mobile transaction have positive significant effect on efficiency of business of quoted Banks in Nigeria at the 5% level of significant; while Point of sale and Internet transaction have negative insignificant effect on efficiency of business of quoted Banks in Nigeria. The study, therefore among others recommends that due to the positive effect automated teller machine has on efficiency of business of quoted Banks in Nigeria, managers of banks should consider automated teller machine services as one factor that may enhance or boost the efficiency of business of quoted banks in Nigeria while making decision.

INTRODUCTION

Background of the study

In recent times, the usage of computers and other advanced technology have increasingly been adopted in most practices including accounting. Prior to this, accountants were vigorously involved in all accounting activities as the traditional methods were in place. Daily records had to be kept by humans, preparation of financial statements such as the statement of financial position and statement of comprehensive income were done manually by the accountant (Linus, 2012). According to Francis (2013), the implication of technology has indeed caused obvious changes in organizations relating to their accounting systems and organisational performance, which has been of great concern and interest. Accounting decisions and plans have to be made with consideration of ICT in order for companies to stay relevant and competitive. It is necessary to acknowledge that computerized systems, have improved the functionality of accounting departments in organizations. By so doing, has increased the timeliness of accounting information which enable accountants to prepare reports and operations analysis, which give a clear picture of current operations, useful to the management. Records can be kept and tracked more effectively with the use of computerized system increasing company efficiency and minimizing errors to ensure customer satisfaction. So far, ICT has improved corporate relationships, facilitated speed and enhanced quality delivery in jobs. It has also improved productivity and increased value creation of organizations. ICT is important for a firm's growth and survival, it is an integral part and fundamental to support, sustain and grow a business (Ali, Abbas & Reza, 2013).

The banking industry of the 21st century operates in a complex and competitive environment characterised by these changing conditions and highly unpredictable economic climate. Onyenwigwe (2009) asserts, globalization is the integration of national economics thought trade and financial interaction with the international, economy, made possible through the increasing linkages among countries and direct investment, technological development and advancement in telecommunication, which has increase global welfare and transformed the world into global village. Information and Communication Technology (ICT) is at the centre of this global change curve of Electronic Payment System in Nigeria.

Statement of the Problems

Nigeria commercial banks generally perform the functions of accepting deposit, making payment and giving out loans to deserving customers. Customers of banks today are no longer concerned about safety of their funds and increase in return on their investment only, but also concerned about demand efficiency, fast and convenient services. Olekah (2009) argues that these services rendered by banks were supposed to ease business transactions, rather resulting to woes customers. Today customers want a bank that will offer them services that will meet their particular needs and support their business goals. For instance, businessmen want to travel without carrying cash for security reasons, check their balance online, find out if a cheque is cleared, transfer funds among account and even many want to download transaction records into their own computer at work or home. All these are only achievable through Electronic Payment System.

In Nigeria and abroad); a good number of studies posit positive relationship between Electronic Payment System and business performance (Hossain, Irin and Saha 2015; Hlal and Teruz 2015; Zuriati 2014; and the likes); others support negative relationship (Adudu 2014, Kayola 2011, Slamak 2012 and the likes); as others, a no relationship. The conflict in empirical review (lack of consensus) on the effect of electronic payment system on business efficiency affects decision making of stakeholders. The need for further study becomes necessary to understand the effect of electronic payment system on the efficiency of business organisations in Nigeria, as studies in Nigeria are scanty, and very different from variables of this sort. This calls for further study on this subject.

Objective of the Study

The main objective of the study is to investigate the effect of Electronic Accounting Transaction System on business efficiency of Banks in Nigeria. Specific objectives are;

1. Determine the effect of Automated Teller Machine (ATM) on efficiency of business in Nigeria.
2. Ascertain the effect of Point of Sale (POS) on efficiency of business in Nigeria.
3. Examine the effect of internet transaction on efficiency of business in Nigeria.
4. Investigate the effect of mobile transaction on efficiency of business in Nigeria.

Research Questions

1. How does Automated Teller Machine (ATM) affect efficiency of business in Nigeria?
2. To what extent does Point of Sale (POS) affect efficiency of business in Nigeria?
3. How does internet transaction affect efficiency of business in Nigeria?

4. How does mobile transaction affect efficiency of business in Nigeria?

Research Hypotheses

1. Automated Teller Machine (ATM) has no significant effect on efficiency of business in Nigeria.
2. Point of Sale (POS) has no significant effect on efficiency of business in Nigeria.
3. Internet transaction has no significant effect on efficiency of business in Nigeria.
4. Mobile transaction has no significant effect on efficiency of business in Nigeria.

Scope of the Study

The study examines the effect of electronic payment system on business efficiency in Nigeria. The independent variable - Electronic Payment System is proxied by Automated Teller Machine, Point of Sale, Internet transaction and Mobile transaction; while dependent variable is business efficiency. It covers quoted commercial banks in Nigeria. These banks are Access Bank PLC, Fidelity Bank PLC, First City Monument Bank PLC, First Bank Nigeria Limited, Guaranty Trust Bank PLC, Union Bank of Nigeria PLC, United Bank of Africa PLC, Zenith Bank PLC, Eco bank Nigeria PLC and Stanbic IBTC Bank PLC.

Significance of the Study

The study shall benefit a host of stakeholders particularly the following people

- i. **Bank Executives and Policy Makers:** This study shall enable chief executive officers and policy makers of the banks and financial institution to formulate appropriate policies that will initiate new products of electronic commerce with a view to make strategic decision that would be of benefit to the industry and customers.
- ii. **Corporate Managers (Managing Directors of various organisations):** The study will provide the success and growth associated with the implementation of electronic accounting transaction system highlighted in the area of business activities and also provides guides for the advancement of electronic payment system.
- iii. **Banking Industry:** The results from the study will be significant to all financial institutions in Nigeria for it will give insights for the improvement of electronic payment in the country. It will also add to the body of scholarly literature.
- iv. **Academicians/Researchers:** The study shall provide answers to factors militating against the full implementation of electronic payment system in Nigeria and they will also benefit from the knowledge of electronic payment system available to them. It shall also serve as a guide to student.

REVIEW OF RELATED LITERATURE

Conceptual Framework

Computerized Accounting System

E-payment system is the application of online and Internet technologies to the business accounting function. Similar to e-mail being an electronic version of traditional mail, e-

payment is "electronic enablement" of accounting and accounting processes which are more traditionally manual and paper-based. E-Payment is a term originally coined by Joanie Mann at InsynQ one of the founders of the ASP industry, and was introduced in 1998 along with InsynQ's hosted QuickBooks offerings under the banner of InsynQ Accounting Solutions, and later CPAASP.

Also Nash *et al.*, (1999) argued that with the improvements in technology, information systems have been computerized. Improvements in this technology have replaced manual bookkeeping systems with computerized ones, hence, accounting information systems that were previously performed manually are now performed by computers in most companies. While accounting systems have been around for centuries, the introduction of business technology and Computerized Accounting Systems radically changes the playing field. Hence, in order to ensure that CAS can be used with its upmost benefits, the acceptance and effect of the system on performance is crucial to Entrepreneur context.

The international definition of electronic payment sustains that it is any accounting system that is based on information technology for the capture and processing of financial information in companies, the most important element for electronic accounting to take place is the use of the computer, although it may be undertaken on any electronic device (Amidu, John, & Abor, 2011; Drew, 2015).

According to Kingi (2013) computerized accounting system is an organized procedure to collect record and interpret accounting data with the assistance of a computer or automated device. In other words, it is a computerized system where financial transactions are collected or entered into a computer and further analyzed so as to create necessary documents and hence journalize the financial records to provide the required accounting journals. In light of this definition, the main purpose of a computerized accounting system is to produce reliable and accurate financial information or statements on a timely basis. At the same time, the computerized accounting should generate appropriate information for decision making.

Ovia (2001) argues that electronic payment system is a product of electronic commerce in the field of banking and financial services, in what can be described as Business to Commerce (b2c) domain for balance enquiry, cash withdrew, recording stop payment instructions, balance transfer function, account opening and other forms of traditional banking service, through the use of automated teller machines, point of sales, internet banking, mobile transaction etc.

Business Efficiency

Ojoh (2010) asserted that business efficiency implies proper use of available resources or opportunities to maximise the benefits possible there from. To this end, business efficiency is revenue in relative to expenses.

Efficiency of Firms is measured by the share of operating expense to gross loan portfolio in most cases. The ratio provides a broad measure of efficiency as it assesses both administrative and personnel expense with lower values indicating more efficient operations.

Theoretical Framework

Diffusion of Innovation Theory (DOI)

This is a psychological and sociological theory which is purported by Roger Clarke in 1983, describes the patterns of adoption, explains the mechanism, and assists in predicting whether and how a new invention will be successful. This research work or study is anchored on the theory of diffusion of innovation theory (DOI). Innovation is an introduction of any “idea, practice or object that is perceived to be new” (Rogers, 2003). Rogers (2003) believes that an innovation has two parts; First is “the generation of an idea or invention” and the second is “the conversion of that *new idea+ or invention into a business or other useful application”. Rogers (2003) see diffusion of innovation as the process by which an innovation is communicated through certain channel(s) over time among the members of social system; that is, diffusion is a special type of communication concerns with spread of messages that are perceived as new idea(s), object(s) or practice(s) (that is computerized accounting system).

Technology Acceptance Theory

The technology acceptance theory was propounded by Davis, Bagozzi, and Warshaw (1989) to explain the conceptual model that users’ intention or acceptance degree towards new technology. Technology acceptance theory is constructed on the foundations of perceived usefulness and perceived ease of use. Perceived usefulness refers to individual belief to improve the degree of job performance through using particular new technology and information system. Perceived ease of use indicates how easy an individual learns how to operate or use new technology or information system (Davis et al., 1989). The model places more emphasis on how perceived ease of use would positively affect perceived usefulness; which however this study is anchored upon.

METHODOLOGY

Research Design

The study adopted a quantitative approach for the research methodology. Specifically, the study adopted a descripto-exploratory research design. This research design has both attributes of descriptive and exploratory research design. The study was descriptive in nature because it is a case study of banks located in Anambra state, Nigeria and the researcher will administer a survey (Creswell, 2014).

Population and Sampling Techniques

The population of this study will consist of all the commercial banks registered by the central bank of Nigeria. The name of the banks and the type of licenses are listed in the table below:

Table 1 Population of Deposit Money Banks Operating in Nigeria

S/No	Institutions	Banking License	Type of Institution
1	Access Bank PLC	International Authorization	Commercial Bank
2	Diamond Bank PLC	International Authorization	Commercial Bank
3	Fidelity Bank PLC	International Authorization	Commercial Bank
4	First City Monument Bank PLC	International Authorization	Commercial Bank
5	First Bank Nigeria Limited	International Authorization	Commercial Bank
6	Guaranty Trust Bank PLC	International Authorization	Commercial Bank

7	Skye Bank PLC	International Authorization	Commercial Bank
8	Union Bank of Nigeria PLC	International Authorization	Commercial Bank
9	United Bank of Africa PLC	International Authorization	Commercial Bank
10	Zenith Bank PLC	International Authorization	Commercial Bank
11	Citibank Nigeria Limited	National Authorization	Commercial Bank
12	Eco bank Nigeria PLC	National Authorization	Commercial Bank
13	Heritage Bank Limited	National Authorization	Commercial Bank
14	Keystone Bank Limited	National Authorization	Commercial Bank
15	Stanbic IBTC Bank PLC	National Authorization	Commercial Bank
16	Standard Chartered Bank Limited	National Authorization	Commercial Bank
17	Sterling Bank PLC	National Authorization	Commercial Bank
18	Unity Bank PLC	National Authorization	Commercial Bank
19	Wema Bank PLC	National Authorization	Commercial Bank
20	Suntrust Bank Nigeria Limited	Regional Authorization	Commercial Bank
21	Providusbank PLC	Regional Authorization	Commercial Bank

Source: Central Bank of Nigeria List of Commercial Banks in Nigeria, May 25 2017

The population was generated from the number of employees working in 10 Banks located in Awka, Anambra State. The 10 Banks comprise of the population are. The population was 71 personnel working in the accounting and finance department.

Determination of Sample Size

The sample size for this study was determined using judgmental sampling method by considering the number of commercial banks that are currently quoted on the floor of Nigerian Stock Exchange with its branch at Awka, Anambra State. The ten banks that falls within this range are listed in the table below:

Table 2 List of sampled Commercial Banks in Nigeria

S/No	Institutions	Banking License	Bank Type
1	Access Bank PLC	International Authorization	Commercial Bank
2	Fidelity Bank PLC	International Authorization	Commercial Bank
3	First City Monument Bank PLC	International Authorization	Commercial Bank
4	First Bank Nigeria Limited	International Authorization	Commercial Bank
5	Guaranty Trust Bank PLC	International Authorization	Commercial Bank
6	Union Bank of Nigeria PLC	International Authorization	Commercial Bank
7	United Bank of Africa PLC	International Authorization	Commercial Bank
8	Zenith Bank PLC	International Authorization	Commercial Bank
9	Eco bank Nigeria PLC	National Authorization	Commercial Bank
10	Stanbic IBTC Bank PLC	National Authorization	Commercial Bank

Source: Extracted from the Population based on Data Availability

Y	Business efficiency	As per the questionnaire
X1	Automated Teller Machine	As per the questionnaire
X2	Point of Sale	As per the questionnaire
X3	internet transaction	As per the questionnaire
X4	mobile transactions	As per the questionnaire

PRESENTATION AND DATA ANALYSIS

The summary of the analysis result and its corresponding interpretations of the effect of E-Payment system on business efficiency of quoted Banks in Nigeria are presented below. The data for this study are presented at appendix I.

Descriptive Statistics

Table 4.1: Descriptive Statistics of the Variables

VARIABLES	BE	ATM	POS	IT	MT
Mean	83.52000	83.52000	79.80000	79.80000	79.80000
Median	49.00000	91.00000	79.00000	80.00000	80.00000
Maximum	261.0000	261.0000	200.0000	172.0000	250.0000
Minimum	9.000000	9.000000	10.00000	14.00000	9.000000
Std. Dev.	81.03349	76.20155	46.23311	45.73839	65.40706
Skewness	0.855983	0.884782	0.679757	0.388271	0.914707
Kurtosis	2.519913	2.924429	3.133198	2.252805	3.244769
Jarque-Bera	3.293034	3.267782	1.943769	1.209707	3.548611
Probability	0.192720	0.195169	0.378369	0.546154	0.169601
Sum	2088.000	2088.000	1995.000	1995.000	1995.000
Sum Sq. Dev.	157594.2	139360.2	51300.00	50208.00	102674.0
Observations	25	25	25	25	25

Source: Researcher summary of descriptive statistics (2020)

Table 4.1 above shows the mean (average) for each variable, their maximum values, minimum values, standard deviation. The result provides some insight into the nature of the selected banks' data used for the study. Firstly, it was observed that over the period under review, the sampled companies have positive average business efficiency (BE) of 83.52000, and this means that the selected banks has a positive performance (BE) in the period of the study. The table also reveals a positive average value of 83.52000 for Automated Teller Machine (ATM), 79.80000 for Point of Sale(POS),79.80000 for internet transaction (IT) and 79.80000 for mobile transaction for the selected banks used in the study. These values mean that within the period under review, quoted banks meet up to 83.52 of performance (PF) on the average within

the period under review. The maximum value of ATM is 261.0000 and its minimum value is 9.000000, maximum value for POS is 200.0000 and its minimum value is 10.000000; maximum value for IT is 172.0000 and its minimum value is 14.000000, maximum value for MT is 250.0000 and its minimum value is 9.000000. Moreover, the standard deviation for business efficiency, Automated Teller Machine, Point of Sale, internet transaction and mobile transaction are; 81.03349, 76.20155, 46.23311 and 65.40706 respectively. The large differences between the maximum and minimum value shows that the firm's data used for the study are homogeneous.

Correlation Analysis

Table 4.2: Pearson Correlation Matrix

VARIABLES	BE	ATM	POS	IT	MT
BE	1.000000	0.820389	0.658222	0.769488	0.711335
ATM	0.820389	1.000000	0.819542	0.902383	0.619264
POS	0.658222	0.819542	1.000000	0.882326	0.622250
IT	0.769488	0.902383	0.882326	1.000000	0.707937
MT	0.711335	0.619264	0.622250	0.707937	1.000000

Source: Researcher summary of correlation analysis (2020)

The correlation matrix is to check for multi-collinearity and to explore the association between each explanatory variable and the dependent variable. The findings from the correlation matrix table (table 4.2 above) shows that Business efficiency (BE) has a positive association with ATM (0.820389), POS (0.658222), IT (0.769488) and MT (0.711335). Automated Teller Machine (ATM) has a positive association with POS (0.819542), IT (0.902383) and MT (0.619264). Point of Sale (POS) also has a positive association with IT (0.882326) and MT (0.622250). Internet transaction (IT) also has positive association with MT (0.707937). In checking for multi-collinearity, the study observed that no two explanatory variables were perfectly correlated. This indicates the absence of multi-collinearity problem in the model used for the analysis and justifies the use of the ordinary least square method.

Hypotheses Testing

H₀₁: Automated Teller Machine (ATM) has no significant effect on efficiency of business in Nigeria.

From the result of our test in table 4.3 above, we found out that the value of our t-test for automated teller machine (ATM) is 2.812697 with a probability of 0.0108. This probability value is less than the desired level of significant of 0.05. We reject the null and accept the alternative hypothesis, which says that automated teller machine (ATM) has significant effect on efficiency of business in Nigeria.

H₀₂: Point of Sale (POS) has no significant effect on efficiency of business in Nigeria.

In the result of our test in the table 4.3 above, we found out that the value of our t-statistics for point of sale (POS) is -0.698405 with a probability of 0.4930. This probability value is greater than the desired level of significance of 0.05. We therefore, reject the alternative and accept

the null hypothesis, which says that point of sale (POS) has no significant effect on efficiency of business in Nigeria.

H₀₃: Internet transaction (IT) has no significant effect on efficiency of business in Nigeria.

Drawing inference from table 4.3 above, we found out that the computed value, t-value for internet transaction (IT) is -0.014327, while its probability is 0.9887. Since its probability value is greater than the desired level of significance of 0.05. We therefore, accept the null and reject the alternative hypothesis, which says that internet transaction (IT) has no significant effect on efficiency of business in Nigeria.

H₀₄: Mobile transaction (MT) has no significant effect on efficiency of business in Nigeria.

From table 4.3 above, we found out that the computed value, t-value for mobile transaction (MT) is 2.277558, while its probability is 0.0339. Since its probability value is less than 5% level of significance, we therefore reject the null and accept the alternative hypothesis, which says that mobile transaction (MT) has significant effect on efficiency of business in Nigeria.

Summary of Findings

The study examined the effect of E-Payment system on business efficiency of quoted Banks in Nigeria, and the following were found at the 5% level of significant:

- I. Automated teller machine has positive significant effect on efficiency of business of quoted Banks in Nigeria.
- II. Point of sale has negative insignificant effect on efficiency of business of quoted Banks in Nigeria.
- III. Internet transaction has negative insignificant effect on efficiency of business of quoted Banks in Nigeria.
- IV. Mobile transaction has positive significant effect on efficiency of business of quoted Banks in Nigeria.

5.2 Conclusion

Based on the result, the study concluded that automated teller machine and mobile transaction have positive effect on efficiency of business of quoted Banks which are statistically significant at 5% level. Thus, the study rejects the null hypothesis and accepts the alternate hypothesis, contrary to point of sale and internet transaction, which reveals that both have negative effect with performance.

5.3 Recommendations

Based on the results and conclusions, the following recommendations were made;

- I. Due to the positive effect automated teller machine has on efficiency of business of quoted Banks in Nigeria, managers of banks should consider automated teller machine services as one of factors that may enhance or boost the efficiency of business of quoted banks in Nigeria while making decision.

- II. Due to the negative effect of point of sale on efficiency of business of quoted Banks in Nigeria, management and controlling of point of sale activities is therefore an important factor to be considered in enhancing or boosting the efficiency of business of quoted Banks in Nigeria. It is therefore necessary that adequate management and controlling of point of sale activities should be pursued by the banks managers of the quoted Banks in Nigeria in order to avert the negative effect of it on bank's performance.
- III. Due to the insignificant negative effect of internet transaction on efficiency of business of quoted Banks in Nigeria. The managers should consider internet transaction services as one of factors that may have negative impact on the efficiency of business of quoted Banks in Nigeria when not properly managed, but much attention should be paid to automated teller machine and mobile transaction services that have a significant positive effect on efficiency of business.
- IV. Due to the positive effect mobile transaction has with efficiency of business of quoted Banks in Nigeria, like in the automated teller machine activities; we therefore suggest that, in order to improve efficiency, proper control should be emphasized on the mobile transaction activities by the managers of quoted Banks in Nigeria.

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