

Impact of Electronic Banking on the Operational Efficiency of Small and Medium Scale Businesses in South-western Nigeria

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Abstract: - This research aimed at studying electronic banking and how it has impacted the efficiency of operations of SMSE in Nigeria. The research objective was to investigate the bearing of electronic banking on operational efficiency of SMEs in South-western Nigeria, making use of Lagos and Ogun States as a case study. The study relied on information gathered through surveys. Operational efficacy of micro, small, and medium-sized businesses served as dependent variable while POS machines (point of sale), Internet banking, ATMs, mobile banking apps, and SMS messages served as the independent variables. Primary data was sourced through the use of questionnaire while the multiple linear regression model was used to estimate the sourced data. The findings displayed that while ATM use ($= 0.20$, $p = 0.3114$), MOP ($= 0.04$, $p = 0.5631$), and SMS (0.07 , $p = 0.4339$) had no significant effect on operational efficiency of SMSEs in South-western Nigeria, POS had an impact that is both favourable and considerable. Given the benefit of electronic banking to SMSEs, it was recommended that SMSEs should be motivated and supported to adopt the POS electronic banking platforms.

Key-Words: -Small and medium scale enterprises; Electronic banking; Internet banking; Mobile banking application; Short messaging service; SMEs

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1 Introduction

It has been reckoned that when it comes to economic growth, small and medium-sized enterprises (SMSEs) development have a huge role to play. SMSEs provide businesses, employment opportunities, and income to the majority part of the population in any economy. They are additionally an essential provider of new opportunity positions having been confirmed as center points for showcasing specialized abilities including administrative skills for private sector improvement.

Considering the subject matter, small and medium scale enterprises (SMSEs) possessed an essential feature of cultivating advancement, advancing practical industrialization, accomplishing reasonable monetary extension, and advancing comprehensive turn of events. SMSEs also assist in the sustenance of financial development objectives through the arrangement of business, price stability, decreasing income imbalances and

making helpful qualities for the creating economies. This was in consonance with the investigation from the study of [9] and that of [13] who both stated that SMSEs played a significant role for financial performance. This necessitated the opinion that the degrees of advancement of SMSEs in assisting a developed economy ought to be uplifted with the end goal of diminishing poverty. With the essential role that SMSEs play towards economic development, there ought to be practical methodologies that would zero in on supporting SMSEs which viably would inspire the economies, for this situation, Nigeria.

In any case, SMSEs face different difficulties including cash-flow management, low deals and deficient debt collection instrument, [14]. In recent times, electronic banking has offered a huge chance to develop the inadequacies of SMSEs. With the coming of electronic banking, there have been relative enhancements in proficiency, velocity of administration conveyance and worth creation for

various SME clients. Also, SMSEs that have enjoyed the benefit of improvements in Technology, are described by undeniable degrees of proficiency, simplicity of working together and the comfort that accompanies business activity. Obviously, the innovation of mobile technology is crucial for SMSE growth in developing nations. Therefore, the research investigated the adoption of electronic banking by SMSEs and how this has impacted of their efficiency over time.

1.1 Statement of Problem

It was believed that electronic banking would impact the operational efficiency of small and medium-sized businesses (SMSEs) in areas of openness of transactions, capacity to quick track exchange and affirmation of installments. It would also help in saving tremendous costs that might be related with one or various trade exchanges. This is in support of the study of [2]. However, lovely as the advantages seem to be, there are a couple of difficulties that accompany electronic banking in Nigeria and this study would in general investigate the effect that the use of electronic banking has had on the functional productivity of SMSEs that are situated in Lagos and Ogun States.

It was planned that this research would be useful for the improvement of approaches that are expected for the development of SMSEs in South-western Nigeria. From the proposal of this study, policy frameworks for SMSEs including those of Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) would work with the formation of more positions, decrease of destitution rate and the resulting enhancement of the Gross Domestic Product (GDP) of any country.

1.2 Objectives of the Study

The research broad goal was to investigate the bearing of electronic banking on operational efficiency of SMEs in South-western Nigeria making use of Lagos and Ogun States as a case study. Other particular goals include the following:

- To investigate impact of Point of Sale (POS) Machine on SMSEs efficiency
- To assess the impact of Mobile Banking Applications (Mobile Apps) on SMEs efficiency
- To appraise extent to which Short Messaging Services (SMS) affect the performance of SMSEs
- To examine if there is a connection between Automated Teller Machines (ATMs) and the development of SMSEs

1.3 Research Questions

In view of the problem statement and research objectives, the following research questions are what this study seeks to encapsulate in the course of the research:

1. What is the impact of Point of Sale (POS) Machine on SMSEs?
2. What is the impact of Mobile Bank Applications (Mobile Apps) on growth of SMSEs?
3. To what extent does Short Messaging Services (SMS) affect the performance of SMSEs?
4. What is the connection between Automated Teller Machines (ATMs) and the development of SMSEs?

1.4 Research Hypotheses

H₀: Point of Sale (POS) Machine does not significantly impact SMSEs

H₀: Mobile Banking Applications (Mobile Apps) do not positively affect the efficiency of SMSEs

H₀: Short Messaging Services (SMS) does not have any significant relationship with the performance of SMSEs

H₀: Automated Teller Machines (ATMs) does not have any developmental connections with SMSEs

1.5 Research Scope

The research will focus on South-western Nigerian SMEs especially those located in various parts of Lagos and Ogun States.

2 Literature Review

Electronic Banking or E-banking might be characterized as the ingenious, automated and delicate conveyance of contemporary and traditional financial transactions through electronic channels. These comprise the frameworks that customers use in transacting businesses with an organization while also getting their trade records. With this, the recipients can get hold of data through media transmission networks like the web and telecom companies. These telecom organizations could be either public or private ones. Electronic banking is, subsequently, a wide-

going articulation portraying the technique of performing businesses without the need to actually visit the financial institutions like bank. It is a terminology for the cycle by which bank clients might complete financial exchanges electronically without visiting the bank.

In addition, the study of [15] defined the use of electronic banking as the employment of personal computers and media transmission to put into action, financial transactions rather than human collaborations at the bank. Hence, most customers can get their records, do exchanges and acquire most recent data on monetary items and administrations from public or private organizations, like the web. For instance, utilizing smart gadgets like PC, robotized cash machines (ATMs) including individual computerized colleague also known as the PDA, clients access-banking administrations and do their transactions with less exertion when contrasted with physical banking. The phrase, electronic banking could be clarified in various ways and according to alternate points of view. Regardless, analysts across the world have put forth broad attempts to give an exact and comprehensive idea of electronic banking in their different ideas over the most recent couple of years.

One may also describe it as the direct conveyance of innovative & conventional financial services and products to customers via an electronic, user-friendly route of communication. Additionally, electronic banking is defined by data-driven business benefits with correspondence innovation that includes coding, cards, an IC (incorporated circuit), cards, and telecom organizations, [4].

In, [1], the authors designated the use of computers to bank to include the following stages: internet banking services, personal computer banking, banking by phone, television-based banking, and mobile phone banking. Indeed, e-banking involves the usage of electronics & telecommunications companies in providing an extensive selection of important benefit-added into services and products that are available to bank customers, [17]. In the mean time, the clear helpfulness of an innovation is the conviction by the client that the innovation will further develop their work execution. The alleged convenience checks out how effectively the client can figure out how to utilize the new framework or the innovation, [5]. As per the Technology Acceptance Model, if the new innovation usability is accomplished it is probably going to emphatically prompt apparent value.

In order to investigate, regression analysis was utilised in the findings of the study of [9] which

focused on the link between computerized banking systems viz-a-viz the implementation of small and medium-sized businesses within Anambra state. Anambra State's mechanised cash machine, retail location administrations, short message administrations (SMS) exchange cautions, flexible banking, and the implementation of SMSEs were shown to have a good correlation. With the introduction of portable cash administration (PCA), the authors in [8] focused on how Zimbabwean businesses reacted to it. This commitment utilized the quantitative exploration strategy with a distinct examination plan. The outcomes demonstrated that advantages of portable cash and difficulties in customary monetary administrations impacted firm reception of versatile cash administrations. Indisputably, the review set up that resulting reception of portable cash administrations impacts the presentation of SMSEs. In, [7], the authors examined effect of versatile putting money on monetary execution of limited scope and medium endeavours in Kakamega County. The discoveries uncovered that SMSEs utilized portable financial administrations to send and receive money, to look up account balances, and to understand when to put money in or take money out of their ledger.

Small and medium-sized businesses in Nairobi County have adopted portable banking, according to, [10], although the size of these businesses has not been set in stone. An additional benefit of flexible banking was found to be an increase in customer base due to the ease of instalment payments, increased chance of completion of various other business activities and the ease of access to bank assets through extended deals, expanded benefits and improved business productivity. SMEs performance within Anambra state was examined by [17], to see how credit-only financing impacted their growth. Automatic teller machines have an important sway on the outcome of SME growth in Anambra state, according to these data. The point-of-sale machines have little effect on expansion of SMEs in Anambra state.

Using the context analysis of Nigerian deposit money banks, the study of [18], examined the factors that boost e-banking reception in Nigeria like long bank queues. The study opined that if clients are increasingly active in e-banking exchanges, the banks are more likely to extend their displays and this would reduce bank queues. Electronic banking role in boosting SMSE growth in Kitui County was evaluated by [16], using the chi-square method. The study believed that improved mobile banking transactions would boost the development of SMSEs.

In [12], the authors conducted a research to determine how the use of portable cash exchanges influences the financial standing as a whole of SMEs within the CBD of Nakuru Town. The findings showed that portable cash exchanges had a considerable impact on the income from trades. When it comes to Kenya's 100 most important small and medium businesses, the authors of [11] focused on the effects of financial institutions on productivity. While the amount of credit supplied to Kenyan SMSEs had no effect on the productivity of the country's top 100, the value of SMSEs' resources, obligation value ratios, monthly investment funds and preparation for the SMSEs influenced the benefit (ROA).

3 Methodology

3.1 Data Analyses Method

The study used the correlational descriptive research design to examine how electronic banking variables could impact the operational efficiency of SMEs in Nigeria. Also, this study also adopted the use of a well-structured survey to gather data from the selected sample of the total population using 5-point Likert scale items which were included within the survey as (Strongly Agreed, Agreed, Indifferent, Disagreed and Strongly disagreed). The population of the study was the whole small scale businesses located in Lagos and Ogun state, Nigeria while the selected sample were small scale businesses located only in Agege market in Lagos and Sango Ota market in Ogun state Nigeria. These two locations were selected based on easy accessibility by the researchers. The survey data was gotten from the two sample market through the use of questionnaires.

There were four hypotheses formulated for this study and would be tested using the ordinary least square regression econometric technique. The dependent factor was the operational efficiency of SMSEs while the independent factors included use of POS, Mobile App, ATM and SMS.

3.2 Model Specification

The model utilized in the study was adopted from the studies of [3] and [4], and the model implicit form was:

$$PSMSE = f(POS, MB, ATM, SMS) \quad (1)$$

$$PSMSE = \beta_0 + \beta_1POS + \beta_2MB + \beta_3ATM + \beta_4SMS \quad (2)$$

Where:

PSMSE = Operational Efficiency of SMSEs

POS= Point of Sales Machine

MB= Mobile Banking App

ATM= Automated Teller machine

SMS = Short Messaging Service

4 Data Analysis

The study utilized the regression technique of the Ordinary Least Square (OLS) and this was obviously preferred above the others like the Analysis of Variance (ANOVA) regression due to the fact that the OLS regression has a Best Linear Unbiased Estimates "BLUE" property that is efficient and stable, particularly when measured against the ANOVA regression. The OLS regression was used to examine the significant impact of all the independent variables on the dependent variable.

Before the OLS regression was carried out, a multicollinearity test was carried out. This was done as there should be no multicollinearity among the predicting variables. Multicollinearity means the incidence of high inter-correlations among the independent variables in the model. Hence, Variance Inflation Factor (VIF) was adopted as the diagnostic test for multicollinearity. To indicate the absence of multicollinearity, the coefficient variance figures of all the variables must be significant at 10% level of significance or must not exceed 10. The results presented in Table 1 showed that the coefficient variance figures of all the variables were significant at 10% level of significance with values of 0.043458, 0.005526, 0.039145, and 0.007509 respectively. This then implied that all the variables had no multicollinearity issues.

Table 1. Variance Inflation Factor Table

Variable	Coefficient variance	Uncentered VIF	Centered VIF
POS	0.043458	197.2753	2.031500
MOP	0.005526	11.12958	1.457179
ATM	0.039145	175.4134	1.901157
SMS	0.007509	15.31632	1.603048
C	0.601483	124.6390	NA

Source: Author's Computations

The existence or absence of autocorrelation in the regression model was examined using the Durbin Watson statistic. The durbin-watson result was shown in table 2. The absence of autocorrelation among the model's explanatory variables is shown by a durbin-watson statistic value of 2. The durbin-watson statistic for this study is within the limits of the acceptable threshold, therefore there are no autocorrelation issues. The result is presented in Table 2.

Table 2. Ordinary Least Squares Regression Table

Variable	Coefficient	Std. Error	t-Statistics	Prob.
POS	0.684639	0.208467	3.284161	0.0028
MOP	0.043527	0.074339	0.585519	0.5631
ATM	0.204093	0.197851	1.031547	0.3114
SMS	0.068834	0.086653	0.794364	0.4339
C	0.099872	0.775553	0.128775	0.8985
R-Squared = 0.58 Adjusted R-Squared = 0.52 F-statistic = 9.236662 Prob.(F-statistic) = 0.000078 Durbin-Watson Stat = 2.012926				

Source: Author's computation

From table 2, the regression result was displayed. From the coefficient values, the sign before the figures were examined. The sign could be positive or negative. A positive sign showed a positive and direct relationship between the dependent and all the independent variables while a negative sign showed an inverse or negative relationship. From table 2, the coefficient figures of all the variables carry a positive sign to show the presence of a positive relationship between the dependent variable SME efficiency and all the independent variables POS, MOP, ATM, and SMS.

Furthermore, the significance of each variable was analyzed. A variable was significant if its probability value was significant at 5% level of significance or lower than 5. From table 2, only the probability value of POS was significant at 5% level of significance with probability value of 0.0028. Those of MOP, ATM, and SMS were not significant as their probability values of 0.5631, 0.3114, and 0.4339 was higher than 5. Summarily, one can say that POS was positively significant in impacting SME efficiency while MOP, ATM, and SMS were positively insignificant in impacting the same SME efficiency. Therefore, the use of POS had a positive coefficient of 0.6846 with a p-value of 0.0028. It implies that a unit rise in the number of people using POS should push up the operational efficiency of the SMSEs by 0.6846

units. As this variable increases, it increases the chances of the business performing better.

Furthermore, table 2 also showed that the R² for the model. The R² represents the degree of variation of the dependent variable that was caused by independent variables. It is also known as the coefficient of determination or goodness of fit test. From table 2, the R² of 0.58 implied that the independent variables explained 58% variations in dependent variable. Thus, the results of the model's fit are consistent with this conclusion.

After adjusting for the degree of freedom, the adjusted R² was 0.52 to show that all the independent variables now explain 52% of the dependent variable SME efficiency.

In addition, the overall or joint statistical significance of the independent variables on the dependent variable in the model was tested utilizing the F-statistics. The probability value of the F statistics must be significant at 10% or not higher at 10 to show the joint significance of the independent variables on the dependent variable. From table 2, the f-statistics value was 9.2367 and its probability figure was 0.0000. Since this probability value was less than 0.10, it was agreed that the independent variables were all statistically significant when taken together in impacting dependent variable. This was done since the value was statistically significant.

4.1 Test of Hypotheses

Based on the model in equation (3), the POS was the only significant variable in predicting operational efficiency of SMSEs.

$$PSMSE = 0.10 + 0.68POS^* + 0.04MB + 0.20ATM + 0.07SMS \quad (3)$$

The coefficient was 0.68 and was significant at 95% confidence degree. The other three variables of Electronic Banking, namely Mobile Banking App, ATM and SMS were also positively related to the operational efficiency of SMEs but not statistically significant. Therefore, since POS was the only variable with a probability figure lesser than 0.05, the research rejected the first null hypothesis and accepted all other null hypotheses.

4.2 Discussion of the Findings

From the subject matter, it was observed that electronic banking has huge impact on the functional effectiveness or execution of SMEs in Southwestern Nigeria. This lines up with discoveries of the studies of both, [6], and, [9].

Specifically, the utilization of POS was seen to be the principle driver of SME efficiency. This may be due to its simplicity of ensuring a cashless transaction takes place. Additionally, the POS gadget mitigates the danger of money exchanges like stealing and lack of smaller denominations to give as “change”. In [6] the authors found that customers use Point of Sale Machines (POS) to make instalment payments instead of cash as they found it easier, more beneficial, and that it greatly boosted SME performance. Hence, the financial regulatory authorities should make policies that would favour the adoption of POS in an economy like reduction in transaction costs. This would increase the POS acceptance and usage among business owners.

Moreover, in [9] the authors revealed that there was a positive connection between Automated Teller Machine, Point of Sale Machines, Short Message Services (SMS), Mobile Banking and the exhibition of SMSEs in Anambra State. Hence, the authors concluded that the Point of Sale Machines must be made available to SME owners either freely or at a reduced and subsidized cost.

5 Conclusion

The study examined how electronic banking had impacted the operation efficiency of SMEs in Nigeria. Electronic banking variables of point-of-sale (POS) machine transactions, mobile banking applications, short message services, and automated teller machine were examined against the SME efficiency. The research used the ordinary least square econometric technique to analyze the data and found that only point-of-sale machine positively and significantly impact SME efficiency. The study concluded that the importance of POS machine transactions in an economy cannot be overemphasized as it was proven to positively and significantly impact SME performance. This was because POS benefits both the bank and the SME owners. For the banks, POS allows the bank to have access to new customers especially those in the rural areas and it also allows the banks introduce more banking services to its customers, and so on. All these then have significant impact on the efficiency and effectiveness of bank services rendered. Also, for the SME business owners, POS is an avenue for them to earn income from POS services like payment income, interest charged on cash withdrawal from the POS business, and cash transfer services. Therefore, POS business development is vital to increase the flow of investment funds and SME businesses and also

improve the efficiency of the SME businesses in Nigeria.

Moreover, receiving POS type of electronic banking in Southwest Nigeria would reduce the amount of money printed by the money regulatory organisation responsible for printing; as a result, this will reduce the amount of cash passed through in real money by executives, which in turn will reduce the amount of cash that could be diverted to a variety of jobs. It will also hasten the transfer of capital for the establishment of small and medium-sized enterprises in Nigeria, which would be a direct benefit to those firms.

5.1 Recommendations

1. It was recommended that SMSEs should be motivated and supported to adopt the POS electronic banking platforms.
2. The security of the POS electronic banking platforms should also be enhanced for the benefit of SMSEs while improving the required regulatory framework that would guide their deployment.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

-Ogunwale Olurotimi carried out the introduction and literature review.

-Akintoye Rufus carried out the references and edited the work.

-Ogbebor Ifeanyi did the conclusion, recommendation, and abstract.

-Ademola Olufemi gathered the data and did the analysis and interpretation.

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Conflict of Interest

The authors have no conflict of interest to declare that is relevant to the content of this article.

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