



# DIGITAL SERVICE DELIVERY AND BUSINESS PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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### ABSTRACT

The aim of this study is to digital service deliveryand business performance of deposit money banks in Nigeria. The study adopted explanatory research design. The population was 14 listed deposit money banks as enshrined in Nigeria Stock Exchange since they are all represented in Rivers State. However, our cross-sectional data would be collected from 140 individuals, 10 purposively selected from each of the 14 banks. The Multiple Regression Statistical and Structural Equation Model tools were adopted. The findings of the study showed that digital service delivery significantly and insignificantly relates with business performance. Based on the findings, the study concluded that digital service delivery has impact on business performance positively and negatively. Based on this, we recommended that deposit money banks' state of technology-in-use should be upgraded to allow for bank efficiency of the system so as to ensure a functional cashless society.

# KEYWORDS

Digital Service Delivery, Business Performance, Deposit Money Banks.



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#### Introduction

Banks generally are service delivery-based; they are basically providing undifferentiated products like the rival operators in the market place (Adewoye, 2013). Going by undifferentiating its service provision, it is an effective and efficient service delivery that makes an organization more endearing to customers and distinguishing them from other relative brand the competitive environment.

In contemporary day business operations however, many factors especially Information and Communication Technologies (ICT), has greatly refashioned habitual ways on how businesses are done and has misshapen various schemes of service delivery. It was avowed that digital technologies' usage know no border line irrespective of the industry, since it aids the enhancement of information dissemination, improved efficiency in service delivery, as well as increase transparency and accountability (Shailendra, 2020). Durdana and Vatroslav (2004) argued that service providers globally now desire best an enhanced methods through which they can differentiate themselves in terms of their offerings and techniques to which they can increase their competitive edge over others; and as such, this desire have forced those firms into making their core offerings available to teeming customers using channels that are non-traditional.

Emeh et al. (2017) states, digitalized services or marketing assist business establishments to be far and wide, intensify customer chains, proffers convenience, pump-up revenue, and bank operators through it can reach distinction in their operations via its applications. It is gain-saying that, digital banking service has aids customers to access theirbank account balance after transactions, as well as discharge other services like purchasing and searching of offerings on internet, make enquiry for balance and bank interest rate enquiries, sending monetary funds or other related money-kind to friends and family and settling of utilities or offering bills(Mohammed & Siba, 2009).

Conceptualization of digital service delivery has been used differently from different perspectives, and have been measured in variety of ways; for instance, a study on how Nigerian deposit money banks' service delivery was affected by mobile banking (m-banking) was conducted by (Adewoye, 2013) and the author used proxies preserving cost of transaction, notifying customers on earlier transaction (transaction alert), time saving which also include transactional convenience; Choudtury and Bharttachargee (2016) investigated on e-banking channels and customer loyalty while used ease-of-use, usefulness, cost-saving, and self-control as indicators of the predictor variable, Jeong and Yoon (2013) examined main implications of m-banking adoption, they adopted, self-efficacy, credibility and other proxies for the study. Similarly, in the study of Ho and Ko (2008), the authors used cost saving, offering, internet data cost, self-control cost on customer other measures of online banking.

The concept has gained an improved attention from researchers and practitioners in recent times, and it is a focus in almost all industries. Organizations will performance better when adopted strategies and investments are yielding desired results. In this study also, we adopted efficiencyand site traffic (Wood, 2006; Neely, 2002). This paper fronts its argument on the issues of poor service deliver resulting to incessant complaints by customers on quality concerns and employee's pro-activeness. Mainly, would be to investigate the nexus between digital service delivery and business success of deposit money banks in Nigeria, with emphasis on industry technology on consumer negating the role of such devices on organizations. Also, the choice of the study to adopt automated record, payment portal security and bank efficiency and site traffic as missives of both variable (predictor and criterion-Tian et al. 2015; Bach et al.2020). The choice of these sub-variables is motivated by the fact given, to ascertain the relative implication of technology-based delivery on the fortunes of DMBs.

Digital service delivery is a form of service that is provided to customers via electronic channels, especially in the banking sector. Its adoption has fostered swift and efficient service delivery to customers presently, hardly would one see any bank without an ICT gadgets and department, which specifically ensures that banks are effective in resolving problem of customers, and cost related issues, effective in terms of convenience, speed, space, safety, and the amount of information available to customers to access. Similarly, increased presence of digital platforms in performing bank transactions have aided in remedying the reoccurring issues of rubbing

banks customers who move about with huge capital outlays; it is also ensuring quality financial service delivery, transparency and swift service performance.

Despite these perceived achievements of digitalized banking and the cashless policy, many customers still carry physical cash around, while others are still skeptical about having their money saved in banks due to the issue of security in the digital platforms, haven been proliferated in the Nigerian society. Not only that, other are still reluctant adopting internet medium for banking activities which is unconnected to poor power infrastructure, poor internet network, complexity and huge cost associated with obtaining internet-enabled gadgets considering the economic state of the nation. From another perspective, most people in the rural areas have complained that almost all the banks of different generations and cited in the urban areas as well as poor internet network in the rural places: thereby making it difficult for them to adequately us internet banking reliably. Given that reasonable amount of research exist on digital marketing focusing on the banking industry, but little attention was accorded to business performance. Therefore, the purpose of this study is to examine the nexus between digital service delivery and performance of deposit money banks business in Nigeria.

#### **Literature Review**

### **Theoretical Foundations**

Diffusion of Innovation Theory (DIT): Diffusion of innovation theory (DIT) was proposed by Everett Rogers in 1962. Plethora of researchers and business establishments has written amply on this phenomenon. The theory presumed that introduction of new technological innovations passes through differing phases before they are gradually and generally be adopted by whosoever that find it relevant (Wogu, 2013). As explained by Asemah et al. (2017), DIT delineates the course by which a new conception or practice is talked through definite conduits ultimately among affiliates of a shared system. The authors further noted that DIT delineates the militating impediments that impactindividual's contemplations, thoughts, orientations and actions and the mechanism of embracing something new in terms of idea, technology or conception.

Rogers postulated fivequalitiesto explain DIT in the business sphere: (a) relative advantage, which can be suggested as a degree of brand user remarks on what to expect given presentproduct by taking upa new in town or modified one; (b) compatibility, this is the pointwhere the innovation moves in the same directionalong similar brand purchaser's tenets and conducts; (c) trialability, is also the capableness of anew product to be subjected on probationary at the absence ofbodaciousloyalty given thelittlestbusiness; (d) complexity, this is the extent to which the improvement or new invention is perceived to be important and relevant to the social environment and (e) observability, lastly, this is the levelwhere social actorswithininteractiveenvironment notice the assumed change (Ma et al., 2014; Dibra, 2015; Zhang et al., 2015). By using the DIT, deposit money banks (DMBs) can carry-out system-wide revamps to improveresults for its advancement (Dearing, 2009). DMBs may build a competitive advantage by augmenting the speed of new product adoption (Bashir et al., 2016). DMBs in Nigeria have been able to adopt new innovation to aid them carry out their operations efficiently and effectively, but they are not yet there.

# Conceptual Review Concept of Digital Service Delivery

The phenomenon; "digital service delivery" denotes the e-delivery of information including data and substance across pool ofplatforms through mechanisms like website or mobile applications and other internet enabled devices. Though digital system, information is gifted in a fashion that is facile to use, comprehend and normally added transactional facilities to include capitulatingkinds for proceeding and receiving values. Digital service delivery is more globallyadopted in government spheres in terms of creating the overall collaboration of populaces with the public sector a more amusing and efficient involvement. However, this is correspondingly imperative in the private sectors like DMBs in terms of improving the client experience while progressing productivity (Karippachehril&Tavoulareas, 2014).

Consequently, Shamar (2017) noted that the use of scientific means to supply banking offerings is what e-banking service delivery entails. Some individuals mistakenly assert that e-banking just refers to an online or mobile banking podium, while genuine digital requires much more. At the bank's branch or outlet, headquarter,

a digital service delivery mechanisms, ATMs, and point-of-sale gadgets, a digital bank would act similarly. Locke (2017) submitted that developing a more robust IT architecture is one way that digital banks might achieve a substantial competitive advantage. Banks can eliminate staff errors and speed up processes by supplanting manual back-office activities with more robust automated software solutions. This shift in thinking could result in reduced workable units, allowing managers to focus on assignments that necessitate human participation. The same studies added that an automation provided by digital service initiative minimizes the demand for paper, which in turn frees up space that could otherwise be used for technology. Further, Adewoye (2013) noted that the banking industry, like any other industry, has undoubtedly seen technological advancements; one of these is the adoption of digital service delivery, which has a significant impact on financial operations. Customers benefit from their convenience, and financial services are provided much beyond the regular service period. Owing to the introduction of self-service-technology present to DMBs, digital banking systems, including mobile banking, have continued to serve the public. Computer-based methods to services are being adopted by every facet of the business environment and economy, be it financially or non-financially-oriented. The digital service delivery in the banking space is usually linked to the core banking system and connects to consumers.

#### **Business Performance**

Business performance is the cause of constant fight that industry player is involved in: it is the main reason for establishing any business strategy. Business performance is used to indicate the (in)tangible output or result of a business establishment which is measured against its predetermined output or goals and objectives (Richard et al., 2009, Upadhays et al., 2014). Business performance is defined as the operational ability to satisfy the desires of the organization's key stakeholder's (Smith & Reece, 1999). According to Didier (2002) holds that performance involves the achievement of goals that were stated in line with company's orientations: it is the difference between outcome and objectives. This means that before me or an organization is said to have performed, there is always a performance standard set by the organization, and the standard needs to be adequately adhered to. According to Michael (1995), performance is generally measured result, usually greater than those provided or arising from the prior results. Roistadas (1998) opined that performance is a complex association that involves seven strong factors: effectiveness, efficiency, quality, productivity. Qualify work, innovation and profitability. It shows that these criteria are important performance indicators that every performing and even non-performing organization should pay keen attention to. In the view of Bacnadin (1995), performance should be viewed as toted of the effect of work; this is based on the ground that it offers strong connection with the firm's strategic objectives, the customers' satisfaction and level of output. It was added that performance is accomplished by channeling all organizational strength's towards attaining the set objectives and by ensuring that customers are adequately satisfied (Ion &Criveanu, 2016). Omar and Zineb (2017) hold that business performance dwell mainly by focusing on the capability of and ability of a business establishment to efficiently utilize its available resources to the actualization of desired results which are consistent with company's objectives.

Efficiency is the measurement of the association between inputs and outputs and/or how successful those inputs have been transformed into outputs. Efficiency in terms business operation and processes reveals the performance of input and output ratio, and it could improve organization performance with regards to managements, productivity, quality and productivity (Demartini&Paeloni, 2011; Heliman&Kanned-Phillips, 2011). Efficiency is organization's ability to do something or produces something without incurring must waste of materials, time or energy; it is also the degree to which organizations can produce results with minimal time frame (Buder &Felden, 2012). Efficiency is the measure of operational excellence and productivity; it deals with reducing loss and enhancing operational margins. Efficiency represents a pinnacle height of performance that employs the smallest volume of efforts to accomplish the maximum sum in productivity. Efficiency demonstrated as a quantifiable phenomenon being resolute inemploying the fraction of useful productivity to aggregate input.

Site Traffic Increase: Banks, performance in respect to online platforms, is associated to the ability to attract more customers (traffic) into their web or mobile platforms for service delivery and converting these traffics into sales and profitability (Alga et al., 2012). Banks make heavy investment on their online banking activities

in order to attract more customers to their site and their use of those sites in performing banking needs. Site traffic is fundamentally the life-blood of any organization, especially those domiciled online. This is because the higher and increased visit to the company's site, the higher chances you have engaging with a lead or customers. Specifies on banks, the more better services banks are able to provide online the higher tendencies that more customers would make first trail, and thereby, increasing usage rate of the website. According to Pratik, Tarbani and Pavan (2014), traffic begins with high-extent activities of clicking a link and increases with low-extent activities like wandering through network switches and cables. When customers visit different bank web applications to carry out different activities, that is where traffic begins and by so doing, the long effect will be reflecting positively on the performance of the firm.

Automated Records: Automated records involve managing of documents via the application of technical and scientific control to all documents a company needs to carry out its business transactions effectively and sustainably (Adeoti & Asabi, 2018). The computer is a product of today's modern technology, which is the coordination of science to the gathering, recording, processing, and communication of enterprise data via electronic platform. The computer is the most repeated application channel that includes all e-commerce processing systems, management information systems, other business enterprise support systems, and so on. The computer is a critical constituent in the evolvement of many business establishments for automated records (Ware, 2015). According to Chionye (2003), automated recording for marketing information system is the skill of detecting, recording, sorting, measuring, and analyzing in a meaningful way an organization's financial transactions for decision making. Summarizing facts included in the record from time to time for important demonstration and clarification to interested actors as a decision-making assistance.

Muazu and Alhassan (2014) expressed the opinion that several record books are now accepted and that the selection of a record book to be adopted is a matter of company type. The bookkeeper ensures that all transactions are recorded in an appropriate day book; the client directory, the card provider's lead and the general leader (Ademola et al., 2012). The common record keeping systems used by companies as noted by Ademola et al. (2012) are a single income record maintaining system that employsaccount for expenditure and income alone, a cash-bookrecordsrequiringtwo-sided business transaction recording eachvia debts and loans (purchase daybook, cash daybook, sales daybook). In a study conducted by Ware (2015) on "computerized accounting system an effective means of keeping accounting records in Ghanaian banks: a case study of the Ga Rural Bank" noted that automated accounting system is also referred to computerized accounting system (CAS). The data keepers can utilize software according to Malcom (1997) to store information, summarize information, generate, publish, and classify transactions in categories and subcategories with a computerized record keeping system. Data storage for a computerized system is a very valuable component. You can enter data in a manually written system for as long as you are.

Payment Portal Security: Payment portal security is the use of security applications and devices to ensure that bank's payment systems are secured or protected. Financial institutions may suffer considerable losses as a result of unauthorized personnel or those who exceed their power disclosing crucial information that should remain confidential. Entering, changing, or overwriting data into the database without consent or exceeding one's authority is a sort of attack that has the potential to cause significant harm to banks and their clients. A financial organization can be harmed by security extortions due to a variety of flaws. A database connected to an unrestricted network is open to cyber-hacking and cannot be appropriately protected by a single control or security mechanisms. Many issues with transaction security arise from the transmission of unprotected data (Lukic, 2015). Also, Pakojwar and Uke (2014) noted that internet fiddles are designs that backstab the handler in numerous efforts to take advantage of them. This hackeris fashioned tohijackthe reserved assets of banks' client straightly rather than private data through fabricated undertakings, declaration tricks and more.

Further, Fang Zeyin (2012) examined existing mobile banking security elements and flaws, and proposed safe and sound panaceas for e-banking security encryption cards, laying the theoretical framework for financial security, commercial development, and far-reaching application for m-banking. Lin (2011) investigated how mobile trust for digital securities affects mobile phone investors' willingness to engage in securities trading activities, concluding that initial confidence in marketing of assets via the gadgets. Lin (2011) used the diffusion

of innovation and credence theory to investigate the credibility and payment process of m-banking. The findings reveal that perceived competence and relative advantage has a positive significant influence on mobile phone users' attitudes toward adopting mobile banking. Okifo and Igbunu (2015) studied "electronic payment (e-payment) in Nigeria: its economic benefits and challenges from literature backing, the studied stated that e-payment have some benefits like turning Nigeria into cashless society and removal of the fear of the unknown. According to Tamara, Abdullah, Molummad, Dirar and Fairouz (2015), organizations need to implement new security-driven technologies in their business operations in order to enhance their business efficiency and also to maximize competitive advantage and to achieve success in the worldwide economy. Yam et al. (2011) stated that internet (e-payment) security emphasizes more on access control, authenticity, confidentiality, and data integrity.

#### **Empirical Review**

#### Digital Service Delivery and Business performance

In a study by Adewoye (2013) on the influence of m-banking on service delivery in the Nigeria deposit money banks, it was stated that the inception of digital banking has hugely enhanced banking efficiency in terms of providing services to customers. The result of their findings indicated that m-banking plays key role in taming bank service delivery, particularly on transaction convenience, saving of time, quick transaction alert and save of service cost, which aids in building customer rapport and satisfaction. According to Garau (2002), digitalizing bank operations, otherwise called Information and Communication Technology (ICT) involvement have transformed mechanisms used in performing business transactions and meeting increasing yearnings of customers; accordingly digitalization of the banking sector has been recognized for its potentials for enhancing customer base, reduction of transaction costs, enhancing the quality and timeliness of response, improves the chances for advertising and branding, facilitates self-service and service customization, and increases customers communication and nexus.

Rajiv Amit and Ritu (2020) studied the effect of service delivery system process and moderating effect of perceived value in e-banking acceptance. Collecting data from 416 respondents and analyzed with regression, the study found that behavioural intention and client satisfaction were affected by e-banking service delivery system process, that client satisfaction functionsfractionally in mediating the ties linking internet banking service delivery system and behavioural intention. Lawrence et al. (2019) studied on "the necessities for scooping out client service delivery in Nigerian banking sector viatechnology-orientedroutes, with the aim of identifying factors needed to accentuateestablishinge-banking delivery to a hastily emerging market suggested by complications in service requirements. The study found that substitute service routes obtainable by technology-based applications increased the delivery of banking services to banks customers. Okoye et al. (2018) did a research to investigate the relationship between technology-based financial services delivery and customer satisfaction in Nigeria. The outcome of their study influenced the notion that customer satisfaction emanating from key features of service quality, likereliability, convenience, PEOU, etc. result to customers' willingness to adopt and use e-banking mechanisms.

#### Methodology

The study adopted the positivism philosophy, which is the foundation of deductive and quantitative methods, emphasizes the existence of objective reality that is independent of the object being observed. This study employs the sequential explanatory design. Our main objective is to validate the theoretical view that digital service delivery is a significant element of business performance.

It was however, focused on the listed deposit money banks that have their branches in Rivers State. Information obtained from the Nigerian stock exchange, 14 listed deposit money banks in Nigeria were chosen. Hence, our population includes these 14 listed firms since they are all represented in Rivers State.

For quantitative analysis, our study includes all the 14 banks in our study population. Hence, census was employed. However, our cross-sectional data were collected from 140 individuals, 10 purposively selected from each of the 14 banks. Each respondent would be given a copy of the questionnaire by hand at their preferred location. This would be followed by follow-up visits and/or reminder text messages.

A pilot study was conducted to scrutinize the validity/reliability of the DSDBPQ instrument. The pilot study would involve 14 persons that are purposively selected from the sampled banks. The pilot study results would be employed to ascertain both the reliability and construct validity of the research instrument, and hence, would not be included in the main thesis results. Furthermore, CFA was conducted in validating statement items on all the studied variables and to determine the construct validity of research instrument. Diverse inferential statistics and relative econometric methods were employed to analyzed the collected quantitative data here. Descriptive statistic method was used in representing demographics with frequency, percentages, tables and graphic representation would be used to analyze the demographic bio-data of the thesis participants. Finally, structural equation modeling and cross-sectional multiple regression were employed analyzing the specified hypotheses that states the nexus among proxies.

#### **Results and Discussion**

It was analyzed that male participants constitute approximately 56.3% of our sample, while female participants constitute approximately 43.7%. For educational qualification, we can see that participants who have first degree (62.5%) constitute the largest study group, followed by participants who have second degree (18.8%), while participants who indicated others and those who have PhD respectively represent approximately 12.5% and 6.3% of our sample. None of the participants indicated WAEC/NECO. For work experience, respondents who have been with their current bank for 9 years or above constitute the largest study group, representing almost 38% of the sample, followed by respondents who have 3 – 5 years of experience (28.13%), while those who have worked with their current bank for 6 – 8years constitute about one quarter of the sample. The smallest study group comprises participants who have 0–2years work experience. For job position, we can see that respondents who work in the technical unit constitute the largest study group, representing approximately 34% of the sample, while respondents who function as human resource managers and those who work in the customer service department respectively represent 22.5% and 20% of the sample. Also, the Figure shows that participants who are accountants represent about 13.8% of our sample, while the smallest study group comprises respondents who indicated others.

# Confirmatory Factor Analysis (CFA)

Table 1: Measurement Model: Reliability and Validity for AR, PPS, BE and ST

Construct	Item	Loading	CR	AVE	A
AR	AR1	0.756			
AR	AR2	0.801	0.876	0.639	0.811
AR	AR3	0.822			
AR	AR4	0.818			
PPS	PPS1	0.768			
PPS	PPS2	0.874	0.873	0.635	0.858
PPS	PPS3	0.697			
BEF	BEF1	0.878			
BEF	BEF2	0.733	0.799	0.514	0.773
BEF	BEF3	0.759			
BEF	BEF4	0.412			
ST	ST1	0.866			
ST	ST2	0.854	0.920	0.741	0.885
ST	ST3	0.888			
ST	ST4	0.836			

As evidenced in Table 1, the study witnessed all the observed variables (statement items) loaded was high against their elemental factors (latent variables), owing to factor loadings ranging from 0.697 to 0.903. These values are all above the suggested minimum of 0.6, implying that they are valid measures of their latent factors. Also, for all cases, CR, AVE and Cronbach Alpha ( $\alpha$ ) are higher than their suggested threshold values of 0.6 respectively. All these imply that our data achieve convergent validity. For discriminant validity, we follow the

usual procedure by comparing the Cronbach Alpha ( $\alpha$ ) with the pairwise correlation coefficient between the constructs. All in all, our measurement analysis shows that automated records and payment portal securities are all objectively and validly measured by their respective statement items contained in our research instrument.

#### **Hypotheses Testing**

Table 2: Regression Analysis showing the relationship between automated records, payment portal security and bank efficiency

	R	R Square	Adjusted R Square	F	Unstandardized Coefficients (Beta)	Sig.	Durbin Watson
	.2383ª	.0568	.0267	1.8875			1.6602
Constant					2.6766	0.0002***	
Automated records		-			.2045	.0206	
Payment portal security					0009	.9949	

Dependent Variable: Bank Efficiency Source: Data Output from SPSS (2022)

**H**<sub>1</sub>: Automated records does not have significant relationship with efficiency of deposit money banks in Nigeria. The relationship between automated records and bank efficiency results are reported in Table 2. Hence, our focus is on the estimated coefficient on *AR* and its associated p-value in Table 2. The 5% level of significance is preferred.

**Decision rule**: Reject  $H_1$  if the p-value associated with AR(0.026) is lower than 5% or 0.05. Otherwise, do not reject  $H_1$ . From Table .2, the beta on AR has an estimated value of 0.2045 while its associated p-value is 0.0206, which is lower than 0.05. This implies that the t-test is statistically significant at the 5% level. Hence, our data provide evidence against  $H_1$ , leading us to conclude that automated records have a significant effect on bank efficiency.

**H**<sub>3</sub>: Payment portal security does not have significant relationship with efficiency of deposit money banks in Nigeria. The relationship between payment portal security and bank efficiency results are reported in Table 2. Hence, our focus is on the estimated coefficient on *PPS* and its associated p-value in Table 2. Again, the 5% level of significance is preferred.

**Decision rule**: Reject  $H_3$  if the p-value associated with PPS(-0.0009) is lower than 5% or 0.05. Otherwise, do not reject  $H_3$ . From Table 2, the beta on PPS has an estimated value of -0.0009 while its associated p-value is 0.9949, which is much higher than 0.05. This implies that the t-test is not statistically significant at the 5% level. Hence, our data do not provide evidence against  $H_3$ , leading us to conclude that payment portal security has no significant effect on bank efficiency.

Table 3: Regression Analysis showing the relationship between automated records, payment portal security and site traffic

	R	R Square	Adjusted R Square	F	Unstandardized Coefficients (Beta)	Sig.	Durbin Watson
	.2504ª	.0627	.0328	2.0984			1.8758
Constant					2.2713	0.0005***	

Automated records			.0783	.4168
Payment portal security			0724	.5831

Dependent Variable: Site Traffic

Source: Data Output from SPSS (2022)

 $H_2$ : Automated records do not have significant relationship with site traffic of deposit money banks in Nigeria. The relationship between automated records and site traffic results are reported in Table 3. Hence, our focus is on the estimated coefficient on AR and its associated p-value in Table 3. Again, the 5% level of significance is preferred.

**Decision rule**: Reject  $H_2$  if the p-value associated with AR(0.783) is lower than 5% or 0.05. Otherwise, do not reject  $H_2$ . From Table 3, the beta on AR has an estimated value of 0.0783 while its associated p-value is 0.4168, which is higher than 0.05. This implies that the t-test is not statistically significant at the 5% level. Hence, our data do not provide evidence against  $H_2$ , leading us to conclude that automated records have no significant effect on site traffic.

**H<sub>4</sub>**: Payment portal security does not have significant relationship with site traffic of deposit money banks in Nigeria. The relationship between payment portal security and site traffic results are reported in Table 3. Hence, our focus is on the estimated coefficient on *PPS* and its associated p-value in Table 3. Again, the 5% level of significance is preferred.

**Decision rule**: Reject  $H_4$  if the p-value associated with PPS(-0.0724) is lower than 5% or 0.05. Otherwise, do not reject  $H_4$ . From Table 3, the beta on PPS has an estimated value of -0.0724 while its associated p-value is 0.5381, which is much higher than 0.05. This implies that the t-test is not statistically significant at the 5% level. Hence, our data do not provide evidence against  $H_4$ , leading us to conclude that payment portal security has no significant effect on site traffic.

**Table 4: Summary of the Main Regression Results** 

S/n	Null Hypothesis	Results	Decision	Remark
1	Automated records do not have significant relationship with efficiency of deposit money banks in Nigeria.	t-statistic is not significant	Rejected	Impact
2	Payment portal security does not have significant relationship with efficiency of deposit money banks in Nigeria	t-statistic is not significant	Not Rejected	No Impact
3	Automated records does not have significant relationship with site traffic of deposit money banks in Nigeria	t-statistic is not significant	Not Rejected	No Impact
4	Payment portal security does not have significant relationship with efficiency of deposit money banks in Nigeria	t-statistic is not significant	Not Rejected	No Impact

## **Discussion of the Findings**

This sub-section discussed the stated findings.

Automated Records has a significant and positive influence on business performance and as such enhances indices such as bank efficiency and site traffic.

Hypothesis one ( $H_1$ ) stated that, automated records do not significantlynexus with bank efficiency inDMBs in Nigeria. Outputs from regression analysis revealed a positive relationship between AR and BEF. The R and R<sup>2</sup> of 0.2383 and 0.0568 respectively shows weak relationship between AR and BEF. This shows that bank efficiency is a positive function of automated records. As evidenced in Table 2, the beta on AR has an estimated value of 0.2045 while its associated p-value is 0.0206, which is less than 0.05. This implies that the t-test is statistically significant, indicating a statistical evidence against  $H_1$ . Therefore, we do reject hypothesis two by concluding that automated records has significant relationship with bank efficiency. Also, the  $R^2$  (= 0.0568) is

very low as against Durbin Watson Statistic (DW = 1.6602) which output is close to 2, implying that the relationship between AR and bank efficiency as specified in our model is not spurious.

Hypothesis two ( $H_2$ ) on the other hand states that, automated records does not significantly relations with site traffic of DMBs in Nigeria. Outputs from beta regression analysis revealed a positive relationship between AR and ST. The R and  $R^2$  of 0.2504 and 0.0627 respectively shows weak relationship between AR and ST. This shows that ST is a positive function of automated records. As evidenced in Table 3, the beta on AR has an estimated value of 0.0783 while its associated p-value is 0.4168, which was higher than 0.05. This has showed that t-test is not statistically significant, indicating no statistical evidence against  $H_2$ . Therefore, we do not reject hypothesis two, leading us to conclude that automated records insignificantly relates with site traffic of deposit money banks in Nigeria. From table 3, the  $R^2$  (= 0.2504) suggests that the estimated model has a moderate fit. However, the  $\bar{R}^2$  of 0.0328 shows that the estimated model is very poorly fitted, with automated records accounting for only approximately 3% of the observed cross-sectional variation in bank site traffic. The evidence on the relationship between automated records and business performance is observed to be significant and insignificant with AR having a significant impact on bank efficiency while insignificant with site traffic. More importantly, results of our research indicate that digital delivery service predicts additional variance above and beyond automated variance in order to predict business performance outcomes.

The present findings supported the works of Isibor et al. (2018) who found that automated records adopted in Nigeria has a significant relationship with efficiency. Moreover, Jeong and Yonn (2013) agreeon a strong positive consequence of automated records on efficiency and site traffic. Quite a lot of other researches to mention Kärnä et al. (2004) also agreed that IT-basedvia automate records produced positive reaction on service delivery. Rodriguez and Ajjan (2014) concurred with previous authors that the automated records has a positive relationship with business performance. Ogunlowore and Oladele (2014) found that there is a significant relationship between automated records has a significant relationship with service delivery.

# Payment portal security has a significant and positive relationship with business performance and as such enhances indices such as bank efficiency and site traffic.

Hypothesis three (H<sub>3</sub>) stated that, payment portal security do have significant nexus on bank efficiency in DMBs in Nigeria. Outputs from regression analysis revealed a negative relationship between *PPS* and *BEF*. The R and  $R^2$  of 0.2383 and 0.0568 respectively shows weak relationship between *PPS* and *BEF*. This shows that *BEF* is a negative function of PPS. As evidenced in Table 3, the beta on *PPS* has an estimated value of -0.0009 while its associated p-value is 0.9949, which is greater than 0.05. This implies that the t-test is statistically not significant, indicating a non-statistical evidence against  $H_3$ . Therefore, we do not rejected hypothesis three thereby concluding that payment portal security has no significant relationship with bank efficiency. Also, the  $R^2$  (= 0.0568) is very low as against Durbin Watson Statistic (DW = 1.6602) which output is close to 2, implying that the relationship between *PPS* and bank efficiency as specified in our model is not spurious.

Hypothesis four (H<sub>4</sub>) on the other hand states that, payment portal security does not have a relationship with site traffic in DMBs in Nigeria. Outputs from beta regression analysis revealed a negative relationship between *PPS* and *ST*. The R and R<sup>2</sup> of 0.2504 and 0.0627 respectively shows weak relationship between *PPS* and *ST*. This shows that *ST* is a negative function of payment portal security. As evidenced in Table 3, the beta on *PPS* has an estimated value of -0.0724 while its associated p-value is 0.5381, which was higher than 0.05, thus,the t-test is not statistically significant, indicating no statistical evidence against  $H_4$ . Therefore, we do not reject hypothesis four, leading us to conclude that payment portal security has no impact on site traffic in DMBs in Nigeria. As evidenced in table 3, the  $R^2$  (= 0.2504) agreed an estimated model to have a moderate fit. However, like the case of model 1, the  $\bar{R}^2$  of 0.0328 shows that the estimated model is very poorly fitted, with payment portal security accounting for only approximately 3% of the observed cross-sectional variation in bank site traffic. This study examined the relationships between digital service delivery in a sample of employees in deposit money banks in Nigeria. We found negative relationships between payment portal security and business performance measures (bank efficiency and site traffic).

The finding is not in support of Gholami et al. (2010) findings that e-payment adoption increases firm performance in terms of customer satisfaction, convenience and customer retention. Similarly, Adebayo et al. (2017) revealed that payment portal security affect consumer's buying behaviour and in most cases, the purchase outcome and user experiences. Contrary to our findings, Ali et al. (2016) found that payment portal security determinant of e-service quality that produced significant positive consequences on the level of rapport with customers in Bank Melli branches in South Tehran.Mazumder et al. (2015) found that payment portal security has positive and significant impact on efficiency.

#### **Conclusion**

The subject of digital service delivery has become of a great value to all banking customers, to the staff of the banks, the government and the parties having interest in the financial sector. The study also established that while the digital service delivery is of values and generally will improve the service to customers and firms in the banking industry, there are issues of knowledge on automated record, payment portal security etc. which cast down on the application of digital banking technology in Nigeria. The result of the findings on the dimensions of digital service delivery, namely automated records and payment portal security contributes significantly and insignificantly towards achieving business performance of DMBs in Nigeria. In light of this, the study therefore concludes that:

- i. Automated records in deposit money banks in Nigeria will enhance bank efficiency but statistically not significant with site traffic.
- ii. Payment portal security has no impact on business performance, thus not significant.

#### Recommendations

The result of this study is suitable for any kind of organization having great challenges on bank efficiency and site traffic. Based on the conclusion, recommendations are made as follows;

- i. The state of technology-in-use should be upgraded to allow for bank efficiency of the system so as to ensure a functional cashless society.
- ii. Deposit money banks that are desirous of improving their business performance (bank efficiency and site traffic) must as a matter of organizational strategy, employ effective digital service delivery strategies.
- iii. The clients should also be sensitized through various positive means to improved self-assured on the use of mobile application banking and security guide system.
- iv. There should be homogeneousness in the technology application and improvement in customers' rapport so as to ensure efficiency of the system.

#### REFERENCES

- Ademola, G.O., Samuel, O.J. &Olore, I. (2012). The roles of record keeping in the survival and growth of small scale enterprises in Ijumu Local Government Area of Kogi State. *Global Journal of Management and Business Research*, 12(13), 54-66.
- Adeoti, J.O., & Asabi, M. O. (2018). Effect of record keeping practices on the performance of micro enterprises in Lagos State, Nigeria. *Amity Journal of Corporate Governance*, 3 (2), 1-10
- Adewoye, J. O. (2013). Impact of mobile banking on service delivery in the Nigerian commercial banks. *International review of Management and Business Research*, 2 (2), 333-344.
- Ali, N, Saeid, J, Reza, S. & Hamed, M. (2016). Effects of e-banking services quality on customers satisfaction and loyalty. Case study: Agricultural Bank of Khuzestan Province. *Journal of Current Research in Science*, 5 (1).
- Asemah, E. S., &Nwammuo, A. N. (2017). Implications of social judgement theory for persuasive advertising campaigns. *Journal of Research in National Development*, 15(1).
- Bach, M.P., Staresinic, B., Omazic, M. A., Aleksic, A., &Seljan, S. (2020). m-Banking quality and bank reputation. *Sustainability*, 12.doi: 10.3390/su12104315
- Bashir, M., Yousaf, A., & Wani, A. (2016). Green marketing and CSR: A proactive and innovative tool to gain competitive excellence. *Journal of Supply ChainManagement Systems*, 5, 35-55.
- Chionye, L.E. (2003). Fundamentals of Accounting. Bendons and Associates Publishers.
- Dearing, J. W. (2009). Applying diffusion of innovation theory to intervention development. *Research on Social Work Practice*, 19, 503–518.
- Dibra, M. (2015). Rogers' theory on diffusion of innovation: The most appropriate theoretical model in the study of factors influencing the integration of sustainability in tourism businesses. *Procedia Social and Behavioral Sciences*, 195, 1453-1462.
- Gholamali, S., Ali, R. & Amir, H. A. K. (2010). The impact of e-service quality on the improvement of the level of communication with customers of bank Melli Branches in South Tehran Affairs Office. *Procedia Economics and Finance*, 36 (2016), 448 455.
- Ho, S-H. & Ko, Y-Y. (2008). Effects of self-service technology on customer value and customer readiness: The case of internet banking, *Internet Research*, 18(4), 427-446
- Karippachehril, I. G., &Tavoulareas, E. (2014). *Getting digital service delivery Right*. https://blogs.worldbank.org/governance/getting-digital-service-delivery-right
- Kärnä, S., Junnonen, J., &Kankainen, J. (2004). Customer satisfaction in financial services. *Conference on Lean Construction, .... Michigan*. Michigan. Retrieved from http://www.cem.tkk.fi/fsr/Propal/management/Customer satisfaction in construction.pdf
- Kesharwani, A., & Bisht, S. S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *International Journal of Bank Marketing*, 30(4), 303–322. https://doi.org/10.1108/02652321211236923
- Lawrence, U. O., Alexander, E. O., Johnson, I. O., &Isibor, A. A. (2018). Technology-based financial services delivery and customer satisfaction: a study of the Nigerian banking sector. *International Journal of Civil Engineering and Technology (IJCIET)*,9(13), 214-223. Available online at <a href="http://www.iaeme.com/ijciet/issues.asp?JType=IJCIET&VType=9&IType=13">http://www.iaeme.com/ijciet/issues.asp?JType=IJCIET&VType=9&IType=13</a>

- Lin, H. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, 31(3), 252-260
- Locke, C. (2017). *The irresistible rise of digital banking*". Banking Technology. https://www.fintechfutures.com/2013/01/the-irresistible-rise-of-digital-banking/
- Lukic, A. (2015). Benefits and security threats in electronic banking. *International Journal of Managerial Studies and Research*, 3 (6), 44-47
- Ma, L., Lee, C., & Goh, D. (2014). Understanding news sharing in social media: An explanation from the diffusion of innovations theory. *Online Information Review*, *38*, 598-615
- Malcolm S. (1997). *Strategic and purchasing & supply chain management*. (2nd Edition): Pearson Education Ltd. England
- Mazumder, F. K., Jahan, I. & Das, U. K. (2015). Security in electronic payment transaction. *International Journal of Scientific & Engineering Research*, 6(2), 955-960
- Muazu, I. & Alhassan, M. (2014). Record keeping and the bottom line: Exploring the relationship between record keeping and business performance among small and medium enterprises (smes) in the tamale metropolis of Ghana. *Research Journal of Finance and Accounting*, 5(2), 107-117
- Muhammad, H. & Siba, N., (2009). The effect of social influence, trust, and entertainment value on social media use: Evidence from Pakistan. *Cogent Business & Management*, 7, 1, 1723825. https://doi.org/10.1080/23311975.2020.1723825
- Ogunlowore A. J. & Oladele, R. (2014). Analysis of electronic banking and customer satisfaction in Nigeria, *European Journal of Business and Social Sciences* 3(3).
- Pakojwar, S & Uke. N.J. (2014). Security in online banking services A comparative study. *International Journal of Innovative Research in Science, Engineering and Technology*, 3 (10), 16850-16857
- Rodriguez, M., & Ajjan, H. (2014). CRM/social media technology: Impact on customer orientation process and organizational sales performance. *Journal of Marketing Development and Competitiveness*, 8(1), 85–97.
- Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.
- Sharma, G. (2017). What is digital banking. <a href="https://www.ventureskies.com/blog/digital-banking">https://www.ventureskies.com/blog/digital-banking</a>
- Tian, Y., Nagappan, M., Lo, D., & Hassan, A. E. (2015). What are the characteristics of high-rated apps? A case study on free Android applications. *IEEE International Conference on Software Maintenance and Evolution* (ICSME), Bremen, 301-310.
- Ware, E. O. (2015). Computerised accounting system an effective means of keeping accounting records in Ghanaian banks: a case study of the Ga Rural Bank. *International Journal of Research in Business Studies and Management*, 2 (11), 111-141
- Zhang, X., Yu, P., Yan, J., & Spill, A. M. (2015). Using diffusion of innovation theory to understand the factors impacting patient acceptance and use of consumer e-health innovations: A case study in a primary care clinic. *BMC Health ServicesResearch*, 15(71), 1-47.