THE IMPACT OF FINANCIAL TECHNOLOGY (FINTECH) ON FINANCIAL SERVICE DELIVERY OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

This study examines the impact of financial technology (FINTECH) on financial service delivery of deposit money banks in Nigeria. The research design used as a guide is ex-post facto method, as the study entails the use of annual reports and accounts of listed deposit money banks in the Nigerian Stock Exchange (NSE); secondary data were sourced from the bank's financial reports for the period of ten years from 2012 to 2021 as contained in bank's annual reports and accounts. Descriptive statistics, correlation and regression analysis are used to analyze the data using SPSS 22 statistical software. The result showed that mobile banking, internet banking and POS banking have significant impact on the financial service of listed deposit money banks in Nigeria. Based on findings the study recommends that mobile banking should focus more towards improving benefits associated with mobile transactions by providing more convenience to users in terms of user friendliness, fast network, payment methods etc. Psychological factors should be protected by building users trust on internet transaction, providing them better security and privacy infrastructure companies can reduce the impact of internet risk and gain more users also POS banking should be made to enabled anyone, from business-entrepreneurs who want to turn their passion into their profession, to open a retail store and grow and hence will improve the banking sector.

Keywords: Impact, FINTECH, Financial Service Delivery, Deposit Money Banks, Nigeria.

1.1   Introduction
In an increasingly connected world, having financial services readily available is absolutely key to businesses being able to innovate, grow and sustain themselves in entrepreneurial

environments. However, despite connectivity being higher than ever before, a large number of people around the world remain without access to basic banking and financial services. According to the World Bank's report on financial inclusion and development, despite efforts to create better financial services in the developing world, approximately 2bn people still remained unbanked (do not own a basic bank account) (Saad, 2016). Mehrotra, Puhazhendhi, Nair and Sahoo, (2009), emphasized that access to financial services allows the poor to save money outside the house safety, and helps in mitigating the risks that the poor faces as a result of economic shocks.

Hence, providing access to financial services is increasingly becoming an area of concern for every policymaker for the obvious reason that it has far reaching economic and social implications. Financial service has therefore become an explicit strategy for accelerated economic growth and is considered to be critical for achieving inclusive growth in a country. This realization, in the recent past, was the major impetus for the adoption of policies and measures aimed at growing global financial service as a means of promoting world economic prosperity. Notwithstanding this global consensus, achieving pervasive financial inclusion has remained a global challenge with as much as 54.0 percent of adults worldwide being financially excluded (without access to financial services). The situation is even worse in the developing economies where some countries have as much as 70.0 percent financial exclusion levels.

Financial service is the economic service provided by the finance industry, which encompasses a broad range of businesses that manage money including, banks, credit cards companies, insurance companies, accountancy companies, investment funds among others (Irena, 2020). Conceptualization of financial services may exclusively focus on products offered by formal financial institutions and exclude financial activities of the informal sub-sector. This includes products that enable individuals to deposit funds, save, withdraw funds, access credit, and carry out insurance and funds transfer facilities (Allen et al., 2016). Financial services may also be conceptualized as all formal and informal activities that enable individuals to save, access credit, insure themselves and transfer money (Akpandjar et al., 2013; Shem et al., 2012; Armendàriz & Morduch, 2010). The study focused only on financial services that enable mobile transactions over time (mobile banking).

Financial technology, also called FinTech, is the "marriage" between technology and finance. When combining both technology and finance, they create a multiplier effect, which is more substantial than the different use of the two. Zetzsche et al. (2017) point out that the current FinTech stands out from two significant trends. The first trend is the pace of change driven by Big Data, machine learning, commoditization of technology and Artificial Intelligence (AI). The second trend is the fact that more new non-financial firms have entered and invested in financial services businesses. Fintech is a key area in the development of Industry, since it requires the use and integration of different technologies, such as AI and Data Science, and it also provides a platform as a service and software as a service for Industry (Dhanabalan, & Sathish, 2018; Mashelkar, 2018).

Notably, disruption has occurred in virtually all industries in the last two decades, and it's also starting to transform the financial industry. Banks, which maintained their dominant position, are seeing the emergence of new competitors that threaten to steal a substantial

market share, if not displace the incumbent banks from their leadership position (Buchak, Matvos, Piskorski & Seru, 2017). Banks therefore are eager to cooperate with the FinTech companies because, banks need to accelerate innovation process, which consumes a lot of time and monetary and acquire competitive advantage and boost customer value, since the FinTech companies may provide different or better products than the banks. Additionally, the banks attempt to save costs and avoid utilizing their resources on perilous innovations that might lead to unpredictable outcomes. Therefore, it is on this background this study examines the impact of FinTech on financial service delivery of deposit money banks in Nigeria. In line with the objective of this study, the following hypotheses were formulated to guide the study:

H0₁: Mobile banking does not have significant impact on the financial service of listed deposit money banks in Nigeria.

H0₂: Internet banking does not have significant impact on the financial service of listed deposit money banks in Nigeria.

H0₃: POS banking does not have significant impact on the financial service of listed deposit money banks in Nigeria.

Literature Review and Theoretical Framework
2.1   The Concept of FinTech
FinTech refers to firms that premise their financial services on a sound technology platform in a bid to invent new financial products and services which can reach a wider variety of entities, corporate and individual customers alike (Mlanga, 2019).). FinTech has gained ground by the reason of its use by startup firms gaining entry into the market as they try to change the traditional method of doing things by leveraging on cutting edge technological channels in areas of asset management and money transfer (Truong, 2016). One remarkable feature of FinTech is its ability to ensure efficiency within the market and at same time keep transaction costs very low. Also, Kim, Park, Choi and Yeon (2015) in Erman (2017) described FinTech as a platform which provides for the intersection of technology and finance. Simply put a combination of information technology and provision of financial services (Lee & Kim, 2015 in Erman, 2017). FinTech can be viewed as technologically enabled innovation within the financial system that can lead to the formation of new services, business models, products, processes and even institutions covering a wide assortment of financial innovations (IAIS, 2017). These products and services which range from crowdfunding to E-Trading as far as blockchain technology have accounted for the visible change in the world of finance across the world.

2.2   Concept of Financial Services
Financial services refer to formal financial services; otherwise, the term informal financial services are used. The coverage of services includes general financial services such as saving, credit, payment, investment, insurance and pension services. Thus, the development finance literature conceptualizes financial services in two ways. Conceptualization of financial services may exclusively focus on products offered by formal financial institutions and exclude financial activities of the informal sub-sector. This includes products that enable individuals to deposit funds, save, withdraw funds, access credit, and carry out insurance and funds transfer facilities (Allen, Demirgüç-Kunt, Klapper & Pería, 2016). Financial services may also be conceptualized as all formal and informal activities that enable individuals to save, access credit, insure themselves and transfer money (Akpandjar, Quartey & Abor, 2013; Shem,

Misati & Njoroge, 2012; Armendàriz & Morduch, 2010). Therefore, the term financial service/s refers to formal financial services; otherwise, the term informal financial service/s is used. The coverage of services includes general financial services such as saving, credit, payment, investment, insurance and pension services.

2.3   Empirical Studies

Between 2005 and now, Financial Technology had attracted lots of interest, numerous research works has been carried out in the advanced and developing countries. Oladejo and Adereti (2010) observed that the 1990s witness the proliferation and hyper growth of internet and internet technologies, which together are creating a global and cost-effective platform for business to communicate and conduct commerce. Despite the enormous investment in IT during recent years, demonstrating the effect of such on organizational performance has proven extremely difficult.

Joachim (2017) focused on exploring the determinants of the use of financial services in Tanzania with respect to the role of household behavioural factors. Both quantitative and qualitative research methods were employed to achieve the research objective. The empirical findings revealed that behavioural factors matter for the use of financial services. Firstly, the examination of household financial experiences on a sample of 30 households through the application of financial diary methodology revealed a variety of household financial experiences that highlight the necessity of financial services to households. Secondly, despite the fact that most households do not use financial services, it is found that households hold positive beliefs about financial services for saving facilities, security, finance, money management and improving economic well-being. Thirdly, structural equations models indicated that attitudes towards financial services, perceived behavioural control and subjective norms significantly impact the intention to use financial services. Perceived behavioural control was observed to prominently influence the use of financial services.

Ouma, Odongo and Were (2017) examined whether the pervasive use of mobile telephony to provide financial services is a boon for savings mobilization in selected countries in sub Saharan Africa. The findings showed that availability and usage of mobile phones to provide financial services promotes the likelihood of saving at the household level. Not only does access to mobile financial services boost the likelihood to save, but also has a significant impact on the amounts saved, perhaps due to the frequency and convenience with which such transactions can be undertaken using a mobile phone. Both forms of savings, that was, basic mobile phone savings stored in the phone and bank integrated mobile savings are likely to be promoted by use of mobile phones.

Theodora (2017) investigated the trends and determinants of household use of financial services in Ghana. Using the Ghana Living Standards Survey (GLSS) data and the Global Findex data, the study examined the trends in saving and borrowing by individuals from 1991 to 2014. Furthermore, using the Finscope Ghana 2010 data, the study employed Multinomial Logit regression in examining the factors that influence individuals' decision on saving, borrowing and insuring using formal versus informal institutions. A Heckman Probit regression model was employed in the analysis. The results showed a relatively stable trend in the proportion of individuals that saved from 1991 to 2006. However, from 2006 to 2013, there was a large increase in the proportion that saved. There was an oscillating trend in the

pattern of borrowing from 1991 to 2014. Over the years, there was a general decline in the proportion of individuals that borrowed from informal institutions, and an increase in the proportion that borrowed from formal institution.

Godgift, Charles and Obakayode (2018) examined the impact of Financial Technology in the Operations (Payments/Collections) of SMEs in Nigeria. The study conducted a survey of 120 Small and Medium Scale Enterprises across the four (4) identified geo-political zones in Lagos state. These SMEs with employment ranging from 2-10 employees in the fashion, educational, online merchants, pharmaceuticals, automobile, cosmetics, agro-allied, printing, bakery, eatery, I.T. firms and retail enterprises. This was done in such a way that the four axes were represented, each axis having thirty (30) SMEs. One hundred (100) Questionnaires were found useful for the purpose of the study representing 83% of the total questionnaire distributed. The data was analyzed using inferential statistics. The study revealed that Financial Technology (FinTech) has great impact on the economy, and therefore contributing positively to national development. It also discussed the benefits and risks of embracing and investing in FinTech.

Similarly, Simon, Michael and Thomas (2019) used interpretive in-depth case study research to study how a European financial services provider has formulated and implemented a DTS. By focusing on the underlying processes and strategizing activities, the study showed that digital strategy making not only represents a break with the conventions of upfront strategic information systems (IS) planning, but revealed a new extreme of emergent strategy making. Specifically, the study concluded that a DTS is continuously in the making, with no foreseeable end. The study model showed that the crafting of a DTS is a highly dynamic process involving iterating between learning and doing.

Chang, Baudier, Zhang, Xu, Zhang and Arami (2020) described the impact and revolution of FinTech and Blockchain in the financial industry and demonstrates the main characteristics of such technology. The study presented three critical challenges as well as three ethical issues about using Blockchain technology. In order to have a good understanding of the industry, a qualitative method was adopted, and sixteen experts were interviewed. It was identified that knowledge hiding in Blockchain was common and the rationale behind was analyzed using the TPB (Theory of Planned Behavior) approach. The analysis results revealed that knowledge hiding was due to affective, behavioral and cognitive evaluations.

2.4   Theoretical Literature
The major theories backing the advent of FinTech are the innovation theories. These theories will be considered in this section of the study.

2.4.1   Innovator's Solution Theory
Christensen and Taylor (1997) as cited by Kariuki (2010) advanced the theory based on the analysis of the major reason behind firms failing is the lack of ability to innovate. The major thrust of the theory is that big firms are not so oriented to tackle the problem of disruptive innovation as such disruptive ideas may serve as a threat to management, power structure and corporate culture. As a result, existing forces within markets and firms tend to resist innovation that may come as a result of FinTech. However, the proponents of this theory assume that firm managers should establish a wall between the oncoming innovation and the

existing structure and hierarchy. In this case, an independent business unit can be established to provide a safe environment for innovation (Kariuki, 2010).

2.4.2   Disruptive Innovation Theory

This theory as proposed by Christensen in 1997 assumed that in an ever-changing world, innovation is the best key to competitive advantage. Although, innovation increases the rate of uncertainty and market pressure, and as a result, the more radical the type of innovation, the more difficult it is to easily conclude on its market acceptance, disruptive innovation improves the growth of any company and lays down a new trend in the market. These theories demonstrated how business adopt new technologies for competitive advantage. In essence, how mobile payment, internet banking and POS transaction is use for effective financial service.

3.1 Methodology

The design used in this research is the ex-post method, as the study entails the use of annual reports and accounts of the selected bank listed on the Nigerian Stock Exchange (NSE). The working population of the study consists of all the 16 deposit money banks (before adjustment to the listed banks in 2021) quoted by the NSE as at December, 2021. The researcher used secondary source of data for the purpose of this study. Financial Service is measured by the deposits/savings from financial service transactions, Mobile Banking is measured by the transactions from mobile banking, Internet Banking is measured by the transactions from internet banking and POS Banking is measured by the transactions from POS banking. The study employed descriptive statistics, correlation and regression techniques of analysis to analyse the data with the aid of STATA statistical tools of analysis.

4.1   Result and Discussion

This section presents and discusses the result of the data analysis. Analysis of the results obtained from the frequency and percentage method, descriptive statistics and correlation presented in tabular form followed by regression.

4.2   Descriptive Statistics

The descriptive statistics shows the mean and standard deviation of each independent variables from the mean and standard deviation of the dependent variable.

Table 4.1: Descriptive Statistics of the Variables

	N	Minimum	Maximum	Mean	Std. Deviation
FINS	50	7.0152	8.9957	8.0823	0.6548
MOBB	50	6.0350	6.9818	6.6144	0.2934
INTB	50	6.0441	8.6833	6.7599	0.5564
POSB	50	6.0455	8.2270	6.7265	0.5845

Table 4.1 shows the descriptive statistics result of the dependent and independent variables. A total of 100 observations were recorded. FINS (Financial Service) which is dependent variable has an average of 8.0823 with a minimum of 7.0152 and a maximum 8.9957 with standard deviation of 0.6548 showing that there is much variation among the FINS of the sampled banks. The implication is that user-friendly of mobile banking application, real time response of internet transitions and accessibility of the POS devices of some banks result in

differences in revenues, deposits and transactions among the sample banks. MOBB (Mobile Banking) has an average of 6.6144 with a minimum of 6.0350 and a maximum 6.9818 with standard deviation of 0.2934 showing that there is no much variation among the MOBB of the sampled banks. INTB (Internet Banking) has an average of 6.7599 with a minimum of 6.0441 and a maximum 8.6833 with standard deviation of 0.5564 showing that there is no much variation among the INTB of the sampled banks. POSB (POS Banking) has an average of 6.7265 with a minimum of 6.0455 and a maximum 8.2270 with standard deviation of 0.5845 showing that there is no much variation among the INTB of the sampled banks. The implication is that as peoples are getting more use to mobile banking, internet banking and POS banking; physical banking may be out of date, resulting to retrenchment of some customer related staff among the sampled banks.

4.3   Correlation Result
The correlation result shows the relationship between each independent variable and the dependent variable.

Table 4.2: Correlation result

	FINS	MOBB	INTB	POSB
FINS	1			
MOBB	0.050	1		
INTB	0.332	-0.088	1	
POSB	0.433	0.117	0.591	1

Table 4.2 shows the correlation result of the dependent variable FINS and the independent variables MOBB, INTB and POSB. The relationship between FINS and independent variable MOBB is positive but weak with a coefficient value of 0.050 representing 5%, this means that, all things being equal the higher the MOBB the higher the FINS. The relationship between FINS and independent variable INTB is positive and moderate with a coefficient value of 0.332 representing 32.2%, this means that, all things being equal the higher the INTB the higher the FINS. The relationship between FINS and independent variable POSB is positive and moderate with a coefficient value of 0.433 representing 43.3%, this means that, all things being equal the higher the POSB the higher the FINS. The relationship between INTB and MOBB is negative and weak with a coefficient value of -0.088 representing 8.8%, this means that, all things being equal the higher the INTB the lower the MOBB and vice-versa. The relationship between POSB and MOBB is positive but weak with a coefficient value of 0.117 representing 11.7%, this means that, all things being equal the higher the POSB the higher the MOBB and vice-versa. The relationship between POSB and INTB is positive and moderate with a coefficient value of 0.591 representing 59.1%, this means that, all things being equal the higher the INTB the higher the POSB and vice-versa.

4.4   Regression Result
The regression result shows the impact of each independent variable oo the dependent variable. The regression coefficient values indicate the extent of the impact which range from 0% to 100%. This section also presents the F statistics, R^2 and adjusted R^2 of the model.

Table 4.3: Regression Results

Dependent Variable: FINS				
Variable	Coefficient	Std. error	t-statistic	prob.t
(Constant)	4.138	2.306	1.794	0.079
MOBB	0.041	0.303	2.136	0.003
INTB	0.143	0.197	2.727	0.001
POSB	0.402	0.188	2.145	0.037
R- squared	0.197			
Adj. R- squared	0.144			
F-statistics	3.757			
Prob. (R- squared)	0.017			

Table 4.3 shows regression results of the model. The model consists of dependent variable FINS and independent variables (MOBB, INTB and POSB). In the model the multiple coefficients of determination R^2 is 0.197. This means that 19.7 percent of change in FINS was caused by changes in independent variables while the 80.3 percent change in FINS was caused by other factors not included in the model. The f-statistics is 3.757 with p-value of 0.017 which is less than 0.05 and is statistically significant which mean the model is fit, because it accounts for the variation in the dependent variable. The impact of independent variable MOBB on dependent variable FINS is positive with coefficient value of 0.041, meaning that a unit increase in the MOBB while other variable remains constant lead to an increase in FINS by 4.1 percent. The impact of independent variable INTB on dependent variable FINS is positive with coefficient value of 0.143, meaning that a unit increase in the INTB while other variable remains constant lead to an increase in FINS by 14.3 percent. The impact of independent variable POSB on dependent variable FINS is positive with coefficient value of 0.402, meaning that a unit increase in the POSB while other variable remains constant lead to an increase in FINS by 40.2 percent.

4.5 Discussion of Findings

The findings of this study related to hypothesis one revealed that mobile banking have significant impact on the financial service of listed deposit money banks in Nigeria, the implication is that several banking apps exist that help users understand and analyse their spending habits on an annual, monthly and even daily basis. In addition, John (2017) established that each year, more and more banking consumers are turning to mobile banking applications to stay up to date with their banking needs. Supported by disruptive innovation theory which demonstrate how businesses adopt new technologies for competitive advantage. This finding is consistent with the findings of Gerben, Federico and Ferdinand (2016); Ouma, Odongo and were (2017); Theodora (2017).

Also, the findings of this study related to hypothesis two revealed that internet banking have significant impact on the financial service of listed deposit money banks in Nigeria. Internet banking provides consumers with a convenient method of conducting bank business from the comfort and security of their own home and personal computer (Scott, 2017). Consumers now have the ability to perform transactions internet that were traditionally reserved for tellers inside a bank branch. The implication is that, teller transactions have declined because Internet users have the convenience of transferring funds, making deposits and requesting withdrawals from their personal computers. Disruptive innovation improves the growth of

any company and lays down a new trend in the market. This finding is consistent with the findings of Gerben, Federico and Ferdinand (2016); Ouma, Odongo and were (2017); Theodora (2017).

Moreover, the findings of this study related to hypothesis three revealed that POS banking have significant impact on the financial service of listed deposit money banks in Nigeria. In essence, POS banking is use for effective financial service. The implication is that poor network and high cost of operation have remained major challenges to the deployment of the POS terminals as revealed by Sylvester, Emmanuel, Obas, Andrew, and Abel (2015). This finding is consistent with the findings of Gerben, Federico and Ferdinand (2016); Ouma, Odongo and were (2017); Theodora (2017).

5.1 Conclusion and Recommendations

This research provides beneficial information to understand Fintech space from financial service perspective. This study concluded that availability of banking mobile improves financial service growth and development towards facilitating quick transaction, reducing delay in transfer and other business transaction activities. Also, internet banking has made much faster for both customers and banks, providing banking throughout the year 24/7 days from any place have internet access and also well-organized cash management for internet optimization. Lastly, POS banking is attracting more customers' as well as investors' attention in POS business terminals. It provides convenience in terms of capital, labour, time all the resources needed to make a transaction. Based on the above findings and conclusions, the study recommends that management of banks should focus more towards improving benefits associated with mobile, internet and point of sales transactions by providing more convenience to users in terms of user friendliness, fast network, payment methods etc. Adding wide range of products so that users have more choice can also increase perception about benefits of mobile banking.

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