Afropolitan Journals

ISSN: 3027-2971 www.afropolitanjournals.com

Financial Technology as a Tool for Promoting Financial Inclusion in Nigeria: A Theoretical Review

Ezeocha, Chukwuemeka Maurice

Department of Banking and Finance, Federal Polytechnic, PMB 1012, Kaura Namoda, Zamfara State, Nigeria.

Corresponding author: *ezewhite255@yahoo.com*

DOI: https://doi.org/10.62154/qqr2sy50

Abstract

Financial technology - FinTech, as a concept and practice, started gaining serious worldwide traction following the outbreak of the global financial crisis in 2008. Thus, this paper is undertaken to critically discuss the emerging trends in financial technology and how they enhance financial inclusion, as well as the problems faced by financial technology in financial inclusion, with specific focus on Nigeria. The paper adopts the exploratory qualitative research approach, using secondary data sources involving extensive review of recent articles, periodicals, empirical and analytical studies, policy discussions and working papers as well as other documented materials found to be pertinent to the study. The paper reveals that over the last decade, Fintech's contribution to financial inclusion in Nigeria has exploded. FinTech has improved the usual way of rendering financial services, and has created new inventions that have made financial activities not only more accessible, but also faster, thereby easing the lives of financial service users in Nigeria, where mobile network technology is powering financial inclusion and bringing more people into the financial system. Despite the contributions of FinTech to financial inclusion in Nigeria, the paper notes the issue of high level of attrition in customer patronization and the threat of Cyber-attacks as major challenges. Based on this therefore, the paper recommends the need for regulatory bodies to do more to bring synergy between the operating companies and their interactions with the customers and prospective consumers for proper sensitization about these fintech services, considering the disinterest of many due to distrust of the system. Furthermore, the paper recommends that the regulatory bodies should develop a more effective framework for monitoring cyber risk management at financial institutions using technology and laws that will duly prosecute cyber criminals and serve as a deterrent to others.

Keywords: Financial Inclusion, Financial Technology, Fintech Innovations, Nigeria.

Introduction

Decades ago, Nigerians and businesses were heavily dependent on the traditional banking model for financial services and transactions. However, over the last decade, the tide of this traditional way of banking, which is generally through conventional local banks, has shifted. Financial technology has improved and is creating strategies for improving financial inclusion in Nigeria. Globally, financial exclusion has been a major challenge confronting nation states, especially those that are underdeveloped or developing. According to the

World Bank Global Findex Database 2021 report, about 24% of the world's population remained financially excluded, while the position of developing countries within the same period was slightly worse, as it stood at 29% (World Bank, 2021). Similarly, the Enhancing Financial Innovation and Access (EFInA) 2020 report indicated that specifically for Nigeria, about 38 million adults or 36% of the population remained financially excluded with attendant consequences for poverty reduction and even economic development (EFInA, 2021). This means they do not use any financial products and services, both formal or informal. Financial exclusion in this case, refers to the degree or extent at which eligible persons are financially disadvantaged or unable to access finance and financial services in a fair, cost effective and equitable manner (Ozili, 2021).

Financial Technology- FinTech is especially important in countries like Nigeria with a larger population, but low financial inclusion rates. The survey conducted by EFInA in 2021 revealed that although the percentage of financially excluded adults decreased, the actual number of financially excluded adults increased from 36.6 million in 2018 to 38.1 million in 2020. This increase in financially excluded adults is because the population is growing faster than the rate of financial inclusion growth. Financial inclusion calls for democratizing financial services, catering for equal unrestricted distribution, and financial services provided in a responsible manner, by legitimate institutions and at a reasonable price and on a cost-effective manner (Salampasis & Mention, 2018). FinTech has gone through so many changes and a lot of evolution in the past couple of years; the recent hype or boom of FinTech can be attributed to the fact that technology has advanced significantly across the globe. Financial technology is a major catalyst in changing the paradigm of the banking services in Nigeria (Iwedi, et tal., 2022)

Historically, the drive behind Fintech's recent explosion in Nigeria is the cashless policy introduced by the Central Bank in 2012, which was aimed at reducing the amount of cash available in circulation, while encouraging the use of payments via electronic means. Additionally, the Covid-19 pandemic forced many businesses to forge ways to reach their customers without physical meetings, thereby making digital technology the only way through which transactions by proxy could work. So, local banking systems had no choice but to adapt and use fintech-cashless ways to serve their customers, while still using the traditional banking process to stay in business and stay competitive. This trend implied that a door had been flung open for Fintech to become the framework, allowing several companies to sprout in the last decade, rendering services that rely heavily on technology as a means of doing business to contribute to financial inclusion.

The assumption of financial inclusion being significantly influenced by growth in financial technology in Nigeria is a topic of debate among contemporary Researchers. The growth in financial inclusion is yet to be determined if the rate is generated by growth in financial technologies. This is yet to be translated to the amelioration of the average living standard and life expectancy which can be reduced through poverty alleviation and equitable distribution of wealth in Nigeria. There is too much speculation and optimism concerning the role of financial technologies on financial inclusion in Nigeria (Kadjie et al., 2022).

Problem Statement

Despite the growing chunk of literature on financial inclusion in Nigeria, extant literature appears insufficient about the role of Fintech as a means through which financial inclusion can be enhanced in Nigeria, and the associated challenges of Fintech in this regard. This has become necessary, given the dynamism of financial technologies in response to the complexities of the financial system in an emerging economy like Nigeria. Just recently, specifically on April 30, 2024, the Central Bank of Nigeria imposed restrictions on Fintech companies in Nigeria, which was reportedly aimed at protecting the financial system, maintaining stability, and preventing risks associated with crypto assets and foreign currency speculation (Tunji, 2024). One month after, the ban on five prominent Fintech companies, which included Opay, Moniepoint, Kuda, Palmpay, and Paga, was lifted to allow them to resume onboarding new customers (Ogaga, 2024). All these go to show that fintech is still evolving in Nigeria, hence the need for a current study that captures the present realties, not just in terms of the role of fintech, but also its challenges, in promoting financial inclusion in Nigeria.

Paper Objectives and Methodology

The objectives of this exploratory qualitative research paper include to critically discuss the emerging trends in financial technology and how they enhance financial inclusion, as well as the problems faced by financial technology in financial inclusion, with specific focus on Nigeria. To achieve these, the paper adopted the exploratory research approach using secondary data sources involving extensive review of recent articles, periodicals, empirical and analytical studies, policy discussion and working papers as well as other documented materials found to be pertinent to the study.

Review of Relevant Literature

The Concept of Financial Technology

Financial technology as a concept and practice, began to gain serious worldwide traction following the outbreak of the global financial crisis in 2008 (Anyfantaki, 2016; Frost, 2020). Financial technologies are the modern tools for facilitating financial inclusion and it has been defined by various scholars from different dimensions. Financial technology has been explained as a new industry that uses technology to improve activities in finance. Fintech has also been explained as a new technology and innovation that aims to compete with traditional financial methods in the delivery of financial services. Some have viewed Fintech as a technology which disrupts traditional ways of conducting financial transactions by digitizing process previously handled with paper money and human interactions.

Financial Technology or FinTech is a broad term used for technology and innovation that deliver financial services through software. Unlike traditional finance provided by conventional brick-and-mortar-based institutions, FinTech tends to be more online-based to improve delivery, convenience, and cost. It includes online saving and deposits, loans, remittances payments, credit, and assets trading, including cryptocurrencies (Aja, 2021). Financial technology, is the process of offering financial services mainly through technological media and devices. These economic engagements include payments, savings, insurance, investments, e-commerce, etc. Recently, fintech has also ventured into modelling lifestyles like booking flight tickets and taxi rides, as well as the health sector to request medical services and the educational sector, to mention a few (Temitayo, 2023).

Schueffel (2016) viewed FinTech as a stand-alone industry on its own, which applies technology to the enhancement of financial services. It is a set of new technologies designed and deployed to disrupt traditional ways in which financial services are rendered (Ogbuji, et al. 2020). This disruption occurs on account of the fact that financial technologies thrive on innovations which help to optimize customer experience and consequently promote organizational efficiency (Miao & Juanjuan, 2018). However, for innovative practices and processes to qualify as having been carried out by financial technologies, they must be recent and of a financial nature. This is because when technology is old, it loses its ability to challenge traditional banking norms and practices (Beck, 2020)

It is in the above regard that Khera et al. (2021) asserted that financial technologies are technology-driven innovations that birth new business processes, products and models which have material impact on the way and manner financial services are rendered to individuals, households, and businesses. In the views of Karsh and Abufara (2020), financial technology is a financial solution that is digitalized and offered to vulnerable groups and businesses to meet their financial needs. On their own part, Kanga, et al. (2021) posited that financial technologies are a combination of new disruptive technology applications that facilitate the rendition and supply of typical financial services, using online medium The entrance of this innovative disruptive technology into the traditional financial services space, according to Ogunode (2022), has given it a face-lift, while also attracting a mix of threats and opportunities for the traditional financial services operators. In essence, the crux of financial technology- Fintech, is using technology to improve the delivery of financial services, which usually involves developing applications and software. Financial technology is considered a disruptive innovation in the contemporary World because it has forced many financial institutions to have a rethink on the way in which they conduct their businesses so as to align with the current changes.

Conceptualizing Financial Inclusion

Financial inclusion presents multiple definitions in the extant literature. Financial Inclusion is a state where financial services are delivered by a range of providers, mostly the private sector, to reach everyone who could use them (Kama & Adigun, 2013). Financial inclusion is beyond access to finance, usage and quality are also important. Some people may have access to financial services at affordable prices, but choose not to use certain financial services for reasons such as religion or culture. Statistics show disparities due to factors such as income, age and gender. Others may lack access due to high costs of the services, unavailability of services due to regulatory barriers, or a variety of other market and cultural factors (Demirgüc-Kunt et al, 2015).

Financial inclusion within the context of the 2018 revised CBN National Financial Inclusion Strategy, is achieved when adult Nigerians have easy access to a broad range of formal financial services that meet their needs and are provided at an affordable cost (CBN, 2018). The definition of financial inclusion used in the NFIS includes element such as ease of access to financial products and services; use of a broad range of financial products and services; financial products designed according to need; and affordability of financial services even for low-income groups. It is widely agreed that financial inclusion is multidimensional, encompassing access to, use of and capability in relation to a range of financial services. In view of this, financial inclusion therefore refers to efforts to enable all individuals and companies to access financial products and services irrespective of personal income or net value. The aim of financial inclusion is to eliminate barriers that exclude people from financial sector involvement and remove barriers that discourage their use of these services for their livelihoods. Financial inclusion is also referred to as financial inclusiveness.

In Nigeria, some commentators believe that financial inclusion can accelerate economic diversification in the country, yield economic gains and bring about shared prosperity in Nigeria (Adeola & Evans, 2017). Other commentators believe that financial inclusion can promote economic development through poverty reduction, wealth creation and improved standard of living. Financial inclusion is a policy agenda for development in many countries, with its objectives often achieved through a combination of activities, policies and programs designed to help reach the unbanked population. When done correctly, financial inclusion can uplift poor people from poverty. However, when done incorrectly, it can expose poor people to risk in the formal financial system, particularly risks associated with the use of financial products and services. Such risks, when they materialize, can worsen the welfare of the poorest, increase income inequality and may lead to social exclusion, which is undesirable (Ozili, 2020).

While underscoring the importance of financial inclusion, CBN (2018) noted that financial sector development makes two mutually reinforcing contributions to poverty reduction. This is through its impact in accelerating economic growth and direct benefits to the poor. Evidence shows that appropriate financial services can help improve household welfare and spur small enterprise activity. There is also macroeconomic evidence to demonstrate that economies with deeper financial intermediation tend to grow faster and reduce income inequality.

Historical Perspective of Financial Inclusion Journey in Nigeria

The financial inclusion journey in Nigeria can be said to have started arguably in 1977, and has been largely regulatory-induced. The Nigerian government recognized the importance of financial inclusion when in 1977, it introduced the Rural Banking Scheme, with a key objective of ensuring that every local government in Nigeria had at least one bank branch. It was expected that the rural banking policy would enhance financial inclusion in Nigeria by encouraging banking habits among the largely agrarian rural population, providing a platform for the mobilization of savings in the rural areas through the diffused network of branches in all parts of the society, providing credit for the growth of the small-scale industries and entrepreneurs, and promoting balanced development and eventual reduction in the rural-urban migration.

Between 1977 and 2012, a myriad of policy initiatives aimed at fostering financial inclusion have been formulated. These include the rural banking policy as earlier stated, and the establishment of the Peoples Bank and Community Banks respectively, targeted at the poor and downtrodden in the Nigerian society. However, the measures did not achieve much success due to haphazard implementation, bureaucratic bottlenecks, poor inter agency collaborations and defective regulatory oversight (CBN, 2021). The CBN also introduced Microfinance Regulatory Policy framework in December 2005 to enhance credit accessibility to the lower segment of the society. Specifically, the microfinance policy sought to promote, support and enhance the accessibility of credit by low-income households, micro entrepreneurs, and the economically active poor in order to provide the necessary financial services required to expand and consolidate their business ventures. Thereafter, came the advent of National Financial Inclusion Strategy (NFIS) of 2012 and its subsequent revision in 2018 by the CBN, of which fintech was a cornerstone. The National Financial Inclusion Strategy (NFIS) was launched following the 2011 Maya Declaration on financial inclusion at the Global Policy Forum (GPF) in Riveria Maya, Mexico, and it marked another important milestone in the efforts of the Nigerian government to drive financial inclusion.

The Financial Inclusion Strategy by the Central Bank of Nigeria: The Journey So Far

It is impossible to talk about the contribution of Fintech to financial inclusion in Nigeria without looking carefully at the CBN's strategies that kick-started the process's explosion in the first place. The Central Bank of Nigeria (CBN), with support from major financial players, has been working to deepen financial inclusion in the country. Through its National Financial Inclusion Strategy (NFIS) of 2012, the apex bank set a target to ensure 80 percent of Nigeria's adult population has access to financial services by the end of 2020. The NFIS articulated a demand-and-supply-side with regulatory barriers to financial inclusion, and was built on four strategic areas: agency banking, Mobile Banking/Mobile Payments, Linkage models, and client empowerment.

Some of the CBN's strategies included recreating the Know Your Customer (KYC); devising and implementing a framework that regulates agent banking; creating a Financial Literacy Framework; implementing an exhaustive Consumer Protection Framework to protect clients' interests and retain confidence in the financial sector; continued pursuance of mobile payment systems and other cashless policies; and implementation of Credit Enhancement Facilities/Programs to inspire micro, small, and medium enterprises (MSMEs) to grow to achieve the CBN's target of 80% inclusion. The CBN strategy is to implement a national financial inclusion such that the unbanked (customers yet to be financially serviced) be reduced from 43.6% in 2010 to 20% by 2020 (Temitayo, 2023). The stakeholders involved in NFIS implementation are: public sector institutions, regulatory institutions, financial services providers, distribution actors, development partners and users.

With this in mind, the CBN has partnered with other stakeholders to implement some modalities to meet the target, which was aimed at increasing the total number of people in the formal sector from 36.3% in 2010 to 70% by 2020 (CBN, 2012). But as of 2020, Nigeria failed to meet the original target; which was to see Nigeria achieve 20% of the exclusion rate of adults in the financial system; the actual was 35.9% (Aja, 2021). However, in 2018 when the CBN realized the country wouldn't meet its inclusion targets, released an exposure draft in which it proposed Payment Service Banks (PSB), aimed at deepening financial inclusion in Nigeria. In July 2019, the apex bank set a new financial inclusion target geared at giving access to 95 percent of Nigeria's adult population by 2024. This further drove interest from telecom operators and fintech to operate in the country's financial markets and drive inclusion

Also, in December 2022, the CBN launched the naira redesigned policy and cash withdrawal limit to tackle inflation and mop up excess liquidity outside the banking system. This further accelerated the adoption of digital payments by several informal small businesses. The policy made a vast majority of Nigeria's 39.6 million micro, small and medium-sized enterprises, which contribute 48 percent to GDP and account for 96 percent of businesses and 84 percent of employment that are heavily cash reliant and informal to adopt digital payment channels (Okojie, 2023)

As reported in BusinessDay of August 9, 2023, data from the Nigeria Inter-Bank Settlement System (NIBSS) shows that the volume of mobile transactions increased by 505.2 percent to 672 million from 111 million in the first quarter of 2023.In terms of value, N9.1 trillion was reported from January to March, 2023, compared to N3.5 trillion in 2022. The Point of Sales (POS) data reported a 37.5 percent rise to 387 million in the first three months of the year, from 281 million in the corresponding period. In terms of value, transactions performed using the POS channel increased to N2.8 trillion from N1.8 trillion, accounting for a 52.2 percent increase in the period under review. The data is an indication that Nigeria's vibrant markets which are filled with people buying and selling goods and services, likely using FINTECH innovations like their smartphones or debit cards to do transactions with just a few screen taps. Advances in digital finance mean that Nigeria's 200 million people, mainly in the vast informal economy, can accept payments and transfer funds anywhere across the country (Okojie, 2023)

Digital Financial Services Recognized by the Central Bank of Nigeria

Mobile Money Services Scheme

Mobile money services involve the use of mobile phones for the initiation, authorization and confirmation of the transfer of value out of a current/checking, savings, or stored value account. Mobile money services have become a large force in Nigeria with the introduction of Telcos into the space. Nigeria's mobile money landscape is, however, dominated by banks, technology and financial services companies. The arguments in favor of a Telco-led mobile money framework are further supported by their subscriber base, available infrastructure and agent network which is far greater than that of the banks in terms of numbers and geographical spread.

Payment Service Banks (PSBs) Model

In October 2018, the Central Bank of Nigeria (CBN) issued the Guidelines for Licensing and Regulation of Payment Service Banks (PSBs) in Nigeria. The Guidelines require licensees to leverage on mobile and digital channels to enhance financial inclusion and stimulate economic activities at the grassroots level through the provision of financial services. The PSBs are to facilitate high-volume and low-value transactions in remittance services, micro-savings and withdrawal services in a secured technology-driven environment to further deepen financial inclusion and help in attaining the policy objective of reducing the exclusion rate to 20.0 per cent by 2020. Thus, the primary targets of PSBs are individuals and small businesses without bank accounts, the underserved and the financially excluded. As such, the Telcos have set up channels for distribution as required by the Guidelines.

In fact, it is important to note that the financial inclusion policies since after the launching of the NFIS, have focused on networks and agent banking. In 2018, the CBN created a license for a payment service bank (PSB) that offers digital payments but no loans, and in 2022 it granted PSB licenses to two large telecommunication firms functioning as mobile money operators (MMOs), which has propelled inclusion. In 2019, the CBN created SANEF (Shared Agent Network Expansion Facilities) in cooperation with commercial banks, the national payments system NIBSS and MMOs to promote financial access points, provide a platform for account opening at any agent location, propel enrollment for bank verification numbers (BVN) and deepen financial literacy. (Torsten & Jack, 2023).

The Mobile Money scheme and the PSB model run concurrently and drive the CBN's financial inclusion objective while, at the same time, providing additional revenue stream for Telcos. As of today, in Nigeria, there are several telecommunication outreach programs in the country. Which serves a population of over 200 million people with mobile network operating services. These mobile operators leverage technology for their benefit. MTN, Globacom, and Airtel are the leaders in this sector.

Critiquing FINTECH Innovations and Applications, and their Impact on Financial Inclusion in Nigeria

Some major technology-driven Innovative Solutions promoting financial inclusion in Nigeria are as follows:

Mobile Applications (Mobile Apps)

Mobile Apps are applications that have been developed by the banks to encourage online transactions. With these apps, consumers do most of their transactions online, implying that they do not have to visit banks. Wherever customers live within the country, they should be able to access the mobile app and carry out transactions in as much as there is internet access. This form of innovation to improve financial inclusion appeals more to millennials that are more interested in using technology to transfer money, rather than visiting the banks for physical cash.

The key huge challenge to consumers relying on their bank's mobile app for financial transactions is irregular and limited access to the internet in Nigeria. Consumers may be interested in using the app but discouraged because they often do not have regular enough internet access for usage of the app to be feasible.

Mobile Money or Mobile Payment

Mobile money is a financial service that allows people to send and receive money, make payments, and save money using their mobile phones (Monapp, 2023). Mobile money has quickly become popular in Nigeria, where it is now used by millions of people and has made financial services more accessible to rural dwellers and the unbanked people, thereby eliminating the stress of having to travel long distances to a bank to access financial services, as was obtainable in the past. Mobile money has also made financial services more affordable as mobile money transactions are typically much cheaper than traditional banking transactions due to the fact that their operators charge lower costs than traditional banks.

Mobile money works by using a digital wallet that is stored on a user's mobile phone. Users can deposit money into their digital wallets from a variety of sources, such as bank accounts, mobile money agents, and retailers. Once money has been deposited into a digital wallet, it can be used to send and receive money, make payments, and save money. Mobile money offers a number of benefits, prominent among which include accessibility, affordability, convenience and security. Mobile money is more accessible than traditional banking services, especially for people living in rural areas and for people who are unbanked. Mobile money transactions are typically much cheaper than traditional banking transactions. Mobile money is convenient and easy to use. Users can access their mobile money wallets from anywhere in the world with a mobile phone signal. Mobile money is a secure way to store and transfer money. Mobile money operators use a variety of security measures to protect users' funds.

Mobile money has had a significant impact on financial inclusion in Nigeria and Africa as a whole. It has made financial services more accessible and affordable for millions of people who were previously underserved by the formal financial system. Mobile money is now used by a wide range of people in Nigeria, including farmers, small business owners, and students. It is also used by the government to distribute social welfare benefits. Mobile money is playing a vital role in promoting financial inclusion in Nigeria. It is making it easier for people to save money, invest in businesses, and improve their livelihoods.

Digital Lending

Digital lending platforms are revolutionizing the way that small businesses and individuals access loans in Nigeria. By leveraging technology to automate the lending process, digital lenders are able to offer lower interest rates, faster approval times, and more flexible repayment terms than traditional banks. This has made it easier and more affordable for people to start and grow businesses, and to invest in their education and other productive assets.

Digital lending offers a number of benefits for both borrowers and lenders. For borrowers, Digital lenders typically offer lower interest rates than traditional banks because they have lower overhead costs. Digital lenders can approve loan applications in minutes or hours, compared to days or weeks for traditional banks. Digital lenders offer a variety of repayment terms to fit the needs of their borrowers. For lenders, by using data to assess borrowers' creditworthiness, digital lenders can reduce the risk of defaults. Digital lending automates the lending process, which reduces costs and improves efficiency. Digital lending allows lenders to reach borrowers who may not have been able to access a loan from a traditional bank.

Digital lending is having a significant impact on financial inclusion in Nigeria. By making it easier and more affordable for people to access loans, digital lending is helping to level the playing field and create opportunities for everyone. Digital lending is now used by a wide range of people in Nigeria, including small business owners, farmers, and students. It is also used by the government to distribute social welfare benefits. Digital lending is playing a vital role in promoting financial inclusion in Nigeria. It is making it easier for people to start and grow businesses, invest in their education and other productive assets, and improve their livelihoods.

Unstructured Supplementary Services Data (USSD)

USSD, which is sometimes referred to as ‘Quick Codes’ or ‘Feature codes’, is a GSM service that allows high-speed interactive communication between subscribers and banks across a GSM Network. It allows users without a smartphone or data/internet connection to use mobile banking through the *99# code. The banks have different codes that allow consumers to carry out financial transactions on their mobile phones. Most financial institutions have sought the services of different Telcos to deploy unique USSD Codes, allowing millions of Nigerians to enjoy basic banking services from the comfort of their homes and without the need for internet connection. The USSD is not only beneficial because it is relatively cheaper method, but it also allows for rapid communication between the user and an application (in this case, the bank), giving the system real-time characteristics. This provides an easy and convenient mode for many customers in rural areas who may not have access to home internet or banks.

USSD does not rely on the internet but GSM technology, which makes it more suitable than using a mobile app in a country where there is limited access to the internet. This also means that those who do not have internet access but do have the GSM network on their phone can make and receive calls as well as carry out financial transactions. This is also beneficial to those in the rural areas where there may not be internet facilities, as they can rely on their GSM network.

For users without a smartphone, USSD still enables financial inclusion, as the codes are not just limited to smartphones. The codes can be used on any type of mobile phone. For those who do not have smartphones, they will still able to use their classic mobile phones to make transactions. Even though these phones have less-advanced features and generally focus on their ease of use, they can still be used for USSD transactions. This makes financial services inclusive for those customers who do not have or cannot operate a smart phone.

The major challenge in the use of USSD is the banks' charges associated with it. The customers are charged to use this service and it presents a limitation. Another challenge is the potential for security breaches, which may make consumers vulnerable. Theft of mobile phones and SIM cards poses a challenge, as these devices are usually connected to bank accounts or provide customer details. Stolen SIM cards and phones can be used to gain access to accounts and defraud users. Another situation that has exposed the security shortcomings of the USSD system is SIM swaps. A SIM swap is when a network user replaces their SIM with a new SIM, moving their data or existing number to this new SIM.

Insurtech Platforms

Insurtech startups are using technology to revolutionize the insurance industry in Nigeria. By developing innovative products and services that are tailored to the needs of underserved segments of the population, Insurtech startups are making insurance more accessible and affordable for millions of people. One of the key ways that Insurtech startups are promoting financial inclusion is by offering micro-insurance products. Micro-insurance products are designed to provide affordable insurance coverage to low-income individuals and businesses. For example, some Insurtech startups are offering micro-insurance products that cover farmers against crop failure, or small businesses against property damage.

Another way that Insurtech startups are promoting financial inclusion is by making insurance more convenient to purchase and use. In the past, people had to go through a complex process to purchase an insurance policy. Insurtech startups have made it possible for people to purchase insurance products online or through a mobile app. This has made insurance more accessible to people living in rural areas and to people who are not familiar with the traditional insurance system.

Insurtech offers a number of benefits for both consumers and insurance companies. For consumers, insurtech can provide more affordable insurance, as Insurtech startups are able to offer lower premiums than traditional insurance companies because they have lower costs. Insurtech startups also make it easy for people to purchase and use insurance products as well as develop new insurance products that are tailored to the specific needs of underserved segments of the population. For insurance companies, Insurtech helps them to reduce costs by automating processes and improving efficiency. It also helps insurance companies to reach new customers and to expand their market share as well as ensures developing new insurance products and services that can help insurance companies to attract and retain customers (Monapp, 2023).

Insurtech is having a significant impact on financial inclusion in Nigeria. By making insurance more accessible and affordable. Insurtech startups are helping to protect millions of people from financial hardship in the event of an unexpected event. Insurtech startups are also playing a role in educating Nigerians about insurance and its benefits. Many Insurtech startups offer educational resources on their websites and social media pages. They also conduct workshops and seminars to teach people about insurance.

Third Party Payment Apps

These are apps provided by FinTech companies that have been approved by the Central Bank of Nigeria and licensed as Mobile Money operators to provide financial services. The apps are a hybrid of mobile apps from banks, using USSD for transactions and services from Mobile Money agents (Wayne, et al. 2020) These apps allow consumers to send money to anyone in Nigeria with a phone number or email address. Third-party apps also offer a wallet service. Consumers can transfer money from their other accounts into their wallets, and they can link their bank account(s) and debit card (popularly known as ATM cards in Nigeria) to their wallet. Consumers can also pay for services using money from their wallet. These third-party payment apps are complementing the efforts of banks toward financial inclusion. FinTech companies rely on banks, telecommunication companies and other stakeholders to meet their objectives. They are making efforts to become a one-stop hub for financial transactions. This involves the use of wallets, mobile banking agents and opportunities for individuals to pay for services through their platforms.

Mobile Banking Technology

Mobile banking technology is used by individuals and small business owners that have been accredited by financial service providers in Nigeria to carry out transactions on behalf of the banks and other financial service providers using FinTech (Wayne, et al. 2020).

This mobile banking technology is not limited to banks, telecommunications companies have also come on board to work with mobile banking agents to reach out to consumers.

These telecommunication companies can integrate these mobile banking technologies into their existing telecommunication networks. Consumers can use this mobile banking technology irrespective of which type of mobile phone they have, and this gives the telecommunication companies an added advantage to reach out to their customers. Mobile Money agents bring the bank to the consumers, especially those in rural areas where there is no bank branch or ATM to access their money. These money agents can assist these consumers to receive money without going to an ATM. They can also make payments and transfer money using the agents.

Their services, however, rely on equipment, mobile networks and internet connectivity to function independently. They need the internet to access customers' accounts, record deposits and carry out other transactions. In situations and locations where there is no internet, these transactions may not be completed, and consumers will not have alternative options other than USSD or to travel to the bank to use an ATM. This can lead to customer dissatisfaction. Furthermore, the money agent may not be able to solve the problems customers encounter, as they are simply an agent.

Problems Faced by Fintech in Financial Inclusion in Nigeria?

The fintech sector, by comparison, is new and still in its early development stage. Several hurdles must be scaled if there is considerable growth in an industry that promises excellent prospects for financial inclusion.

Some notable challenges be-devilling the sector include;

Regulatory Issues

Regulation surrounding financial inclusion in Nigeria today is quite inadequate. Regulatory bodies still fear that the Nigerian financial sector is not mature enough to handle the fast fintech trends in the world, despite their understanding of the need for growth that can be brought about by technology. For instance, the CBN recently prohibited financial institutions operating within its territory from transacting using cryptocurrency.

Customer Low Financial Literacy Level

The high level of illiteracy in financial awareness ultimately culminated in the high number of unbanked and underserved customers. Customers, especially the low-income earners and artisans, instead use more unconventional means of financial transactions than formal ones because of the perceived lengthy and too much paperwork associated with using the legal system. There is not yet adequate sensitization, through workshops, seminars, conferences, summits, and executive education programs to help awaken the financially illiterate to the benefits of Fintech in financial inclusion.

Distrust by Consumers

The standard behaviour of the consumers of financial services in Nigeria, especially those in rural areas, is usually a resistive one because of the fear of being short-changed. They would instead stick to the old, crude, conventional ways they are used to. It often takes a lot of sensitization and persuasion to convince this unbanked category to accept innovations. Like with every sector of the Nigerian economy, there is always that general attrition in the participation of innovations, especially when it has to do with finance, and fintech as a sector is not an exception.

Increase in Cyber Attacks due to Digitization

There is no denying the fact that although Fintech has opened a new market for improvement in financial payments and transactions, it has also created a loophole for cyber attackers to exploit to steal the personal information of consumers of their products. Many banks have signed contracts with fintech companies to maintain the databases of their customers. The security of this process is no longer solely in the hands of the banks. As such, there is a double problem of attack from hackers. These digital attacks through cyberspace threaten financial stability as a single attack can make service through the system unavailable for several days, which takes vigorous work to run again.

Conclusion and Recommendations

The rapid penetration of Nigeria's financial services over the years has been noteworthy, and the increasing ownership of smartphones, especially among the low-income groups, has been instrumental in reforming the financial services landscape. According to data by the Nigerian Communications Commission, Nigeria has about 323.62 million active mobile SIM cards as of February 2023 and from the figure, 156.9 million mobile phone subscribers were connected to the internet in the same period. Mobile money providers, digital wallets, digital banks, and online payment platforms providers have emerged as key players in expanding financial inclusion in Nigeria (Okojie, 2023). Over the last decade, Fintech's contribution to financial inclusion in Nigeria has exploded. It has improved the usual way of rendering financial services, and has created new inventions that have made financial activities not only more accessible, but also faster. FinTech is easing the lives of customers worldwide and in developing countries like Nigeria where mobile network technology is powering financial inclusion and bringing more people into the financial system. FinTech has changed the way we transfer money, borrow and lend, find and interact with customers, get insurance, engage with customers, and get engaged with banks. All of these functions have now become sub categories with the Fintech ecosystem. (Okojie, 2023).

However, despite FinTech's contribution to financial inclusions, because the trend is relatively new, it has not come without its own challenges. These challenges range from a high level of attrition in customer patronization, especially among those unbanked and underserved consumers, to the threat of Cyber-attacks. Based on the foregoing therefore, there is a need for regulatory bodies to do more to bring synergy between the operating companies and their interactions with the customers and prospective consumers for proper sensitization about these fintech services, considering the disinterest of many due to distrust of the system. Furthermore, it would help if the regulatory bodies develop a framework for monitoring cyber risk management at financial institutions, using technology and laws that will duly prosecute cyber criminals and serve as a deterrent to others.

References

Adeola, O., & Evans, O. (2017). Financial inclusion, financial development, and economic diversification in Nigeria. *The Journal of Developing Areas*, *51*(3), 1-15.

Aja, K. (2021). FinTech, the answer to financial inclusion in Nigeria. https://nairametrics.com/fintech-the-answer-to-financial-inclusion-in-nigeria/

Anyfantaki, S. (2016). The evolution of financial technology. *Economic Bulletin;1 (44), 47-62.*

Beck, T. (2020). Fintech and financial inclusion: Opportunities and pitfalls. ADBI Working Paper 1165. Tokyo: Asian Development Bank Institute. Available: https://www.adb.org/publications/fintech-financial-inclusion-opportunities-pitfalls

Central Bank of Nigeria (2012). National Financial Inclusion Strategy (NFIS). A Central Bank of Nigeria Publication. www.cbn.gov.ng/national-financial-inclusion-strategy

Central Bank of Nigeria (2018). National Financial Inclusion Strategy (Revised): Financial inclusion in Nigeria. www.cbn.gov.ng/national-financial-inclusion-strategy

Central Bank of Nigeria (2021). Central Bank of Nigeria e-payment statistics for the financial System. Available: www.cbn.gov.ng/payment system/e-payment statistics

Demirguc-Kunt, A., Klapper, L., Singer, D.; & Van Oudheusden, O. (2015). The global findex database 2014: Measuring financial inclusion around the world. Policy research working paper 7255, World Bank Group, Washington, DC.

Enhancing Financial Innovation and Access. (2021). EFInA access to financial services in Nigeria 2020 survey. Available: https://efina.org.ng/publication/access-to-financial-services-in-nigeriasurvey-2020/.

Frost, J. (2020). The economic forces driving fintech adoption across countries. Bank for International Settlements. BIS working papers No 838.

Iwedi, M., Kocha, C. & Wike, C. (2022). Effect of digitalization of banking services on the Nigerian economy. *Contemporary Journal of Banking and Finance*, *2(1), 1-9*.

Kadjie, C. F., Hikouatcha, P., Njamen Kengdo, A. A., & Nchofoung, T. N. (2022). Determinants of adoption of electronic payment by small and medium-sized enterprises (SMEs) in Cameroon. *African Journal of Science, Technology*, *Innovation and Development*, *1-13.*

Kama, U. & Adigun, M. (2013). Financial inclusion in Nigeria: Issues and challenges. Central Bank of Nigeria Occasional Paper, No. 25

Kanga D, Oughton C, Harris L & Murinde, V. (2021). The diffusion of fintech, financial inclusion and income per capita. The European Journal of Finance;*1–29*.

Karsh, S. A.& Abufara, Y. (2020). The new era of financial technology in banking industry. *Journal of Southwest Jiaotong University;55(4):1-13*

Khera, P.; Ng, S.; Ogawa, S.; & Sahay, R. (2021). Measuring digital financial inclusion in emerging market and developing economies: A new index, IMF Working Paper, WP/21/90.

Miao, Z. & Juanjuan, Y. (2018). Research on financial technology and inclusive finance development. advances in social science. *Education and Humanities Research; 294(1):65-71.*

Monapp (2023). The role of technology in promoting financial inclusion in Nigeria. Available:https://www.linkedin.com/pulse/role-technology-promoting-financial-inclusion-nigeria-monapp-xmjbf/

Ogaga, A. (2024). CBN lifts ban on Opay, Moniepoint, two other fintech banks. Daily Post Newspaper, June 3, 2024. Retrieved from https://dailypost.ng/article/cbn-lifts-ban-on-opay,moniepoint-two-other-fintech-banks

Ogbuji, I. A.; Ologundudu, M. M. & Oluyomi, O. O. (2020). Comparative analysis of financial technology and traditional bank performance in Nigeria: THE CAMELS APPROACH, *Unilag Journal of Business. 6(1):145-169*.

Ogunode, O. A.; Akintoye, I..R.; Ajayi, M. & Joshua, A. A. (2022). Cyber security and financial innovation of selected deposit money banks in Nigeria. *Universal Journal of Accounting and Finance, 10(3):643-652*

Okojie. J (2023). How tech is driving financial inclusion for MSMEs. BusinessDay, August 9, 2023. Available: https://businessday.ng/features/article/how-tech-is-driving-financial-inclusion-for-msmes/

Ozili, P.K. (2020). Theories of financial inclusion. Özen, E. and Grima, S. (Ed.) Uncertainty and Challenges in Contemporary Economic Behaviour (Emerald Studies in Finance, Insurance, and Risk Management), Emerald Publishing Limited, Bingley, 89-115. Available: https://doi.org/10.1108/978-1-80043-095-220201008.

Ozili, P.K. (2021). Financial inclusion and business cycles. *Journal of Financial Economic Policy, 13(2), 180-199*.

Salampasis, D.G. & Mention, A.L (2018). Open innovation in financial institutions: Individual and organizational considerations. *International Journal of Transitions and Innovation Systems*, *6(1), 62-87*.

Schueffel, P. (2016). Taming the beast: A scientific definition of fintech. *Journal of Innovation Management. 4(4):32-46*.

Temitayo, O. (2023). The impact of fintech on financial inclusion in Nigeria. Retrieved from: https://vazilegal.com/impact-of-fintech-on-financial-inclusion-in-nigeria/

Torsten, W. & Jack, J. K. R. (2023). Nigeria—fostering financial inclusion through digital financial services", IMF Selected Issues Paper.

Tunji, S. (2024). CBN bans banks, fintechs from international money transfer services, hikes application fee by 1,900%. Nairametrics. Retrieved from: https://nairametrics.com

Wayne, T.; Soetan, T.; Bajepade, G. & Mogaji, E. (2020). Technologies for financial inclusion in Nigeria. Research Agenda Working Papers. Vol 2020 No 4 pp 40-56

World Bank Group (2021). The global findex database 2021 – financial inclusion, digital payments, and resilience in the age of COVID-19, The Global Findex Database 2021 (worldbank.org)