NIGERIAN FINANCIAL LANDSCAPE AND FINTECH DISRUPTIONS: THE WAY OUT OF THE QUAGMIRE

PAUL OGONNAYA SAMUEL LL.B(Hons), BL(First Class).

Abstract

The growing trend of financial technology has become a favourite subject of legal commentary in recent times. The incessant growth of these technological innovations has had a great impact on every aspect of the Nigerian national development, and as such the Nigerian financial sector is not left out. Financial Technology (FinTech) has grown with the advent of new technology applications such as blockchain, crowdfunding, robo-advisors, artificial intelligence, e-wallet, InsurTech and other forms of technological innovations. Application of these software technologies into the Nigerian financial sector promises to transform the way in which consumers interact with the financial services industry as well as the solutions offered by the industry. These technologies however also present their own challenges to the Nigerian traditional financial system. This paper focuses on the impact of these technological innovations on the Nigerian financial sector within its attendant disruptions and carves a path on how to get out of the seeming quagmire.

Keywords: Financial system, FinTech, Disruptions, Blockchain, Crowdfunding, Robo-advisor.

1.0. AN OVERVIEW OF THE NIGERIAN FINANCIAL SYSTEM

In any economy, the financial sector is the hub of productive activity. It comprises of an impressive network of banks and other financial institutions and a wide range of financial instruments. In Nigeria, the financial system is made of financial institutions, such as banks, insurance companies, specialized banks, capital market, finance companies, discount houses, bureau de change, mortgage institutions, community banks, and the development finance institutions (DFIs), each covering a particular area of activity or activities.[1] It performs the core

[1] Central Bank of Nigeria: Supervision Framework <www.cbn.gov.ng/Supervision/framework2.asp> last accessed 12 March, 2019.

function of financial intermediation, adequate payment services as well as the fulcrum for monetary policy implementation.[2]

The Nigerian financial system is made up of two basic sectors; the formal sector and the informal sector.[3] The formal sector consist of banks and non-bank financial institutions which comprises of the financial market (money market and capital market), regulatory and supervisory authorities, foreign exchange markets, brokerage firms, deposit money banks (DMBs), development finance institutions (Urban Development Bank, Nigerian Agricultural and Rural Cooperatives bank) and other finance institutions (such as insurance companies, pension funds, finance companies, Bureau de change, and Primary Mortgage Institutions), among others; commercial banks being the most relevant financial institutions in Nigeria. The informal sector on the other hand comprises of self-help groups (e.g. local money lenders), financial corporative and credit associations like savings and loan association etc.[4]

1.1. Financial System Regulatory Framework

Finance and banking operations are governed by rules and regulations which are reviewed regularly to reflect the changing economic environment. Over the years some rules and statutes which govern the operation of the banks were enacted which includes; the Central Bank of Nigeria (Establishment) Act;[5] Bank and other Financial Institutions Act;[6] the Dishonoured Cheque (Offences) Act;[7] the Failed Bank (Recovery of Debts) and Financial Malpractices in Banks Act;[8] and the Money Laundering (Prohibition) Act.[9] The National Insurance Commission Act[10] and the Insurance Act[11] provide the regulatory framework for the operation of the insurance industry. The major regulatory/ supervisory authorities for the formal financial institutions in Nigeria are the Federal Ministry of Finance (FMF), Central Bank of Nigeria (CBN), Nigeria Deposit

[2] According to the Central Bank of Nigeria research series (1993) the Nigerian financial system refers to a set of rules and regulations and the aggregation of financial arrangements, institutions, agents, that interact with each other and the rest of the world to foster economic growth and development of a nation.

[3] The Monetary Policy Department of the Central Bank of Nigeria, *The Nigerian Financial System at a Glance* (March 2017 Literacy Publication) p. 5.

[4] ibid.

[5] Laws of the Federation of Nigeria (LFN), CAP. C4, 2004.

[6] Ibid, CAP. B3, 2004.

[7] ibid, CAP. D11, 2004.

[8] ibid, CAP. F2, 2004.

[9] ibid, CAP. M18, 2004.

[10] ibid, CAP. N53, 2004.

[11] ibid, CAP. I17, 2004.

Insurance Corporation (NDIC), Securities and Exchange Commission (SEC), Nigerian Stock Exchange (NSE), National Insurance Commission (NAICOM), Federal Mortgage Bank of Nigeria (FMBN), and the National Board for Community Banks (NACB); while the informal sector on the other hand is largely loosely organized without any form of formal regulation.

2.0. WHAT IS FINTECH

FinTech is a term used to refer to 'financial technology'. FinTech is a relatively new concept for many consumers and various attempts have been made towards a comprehensive definition of the term, however there is no generally accepted definition for the term today as the term is still loosely defined. According to Arner, DW; Barberis, JN; Buckley, RP[12] 'Financial technology' or 'FinTech' refers to technology-enabled financial solutions. The term FinTech is not confined to specific sectors (e.g. financing) or business models (e.g. peer-to-peer (P2P) lending), but instead covers the entire scope of services and products traditionally provided by the financial service industry". According to Farha Hussain,[13] it can be defined as the act of creating and then popularizing new financial instruments as well as new financial technologies, institutions and markets. It includes institutional, product and process innovation'. To Kim, Y., Park, Y. J., & Choi, J.[14] 'FinTech is a service sector, which uses mobile-centered IT technology to enhance the efficiency of the financial system'. McAuley, D.[15] viewed it as 'an economic industry composed of companies that use technology to make financial systems more efficient'. Investopedia[16] defined it as a portmanteau of financial technology that describes an emerging financial services sector in the 21st century. According to FinTech weekly,[17] 'FinTech describes a business that aims at providing financial services by making use of software and modern technology. Ernst&Young[18] also defined it as an 'Organization combining innovative business models and technology to enable, enhance and disrupt financial services'.

---

[12] Arner, DW et al.,"The Evolution of FinTech: A New Post-Crisis Paradigm?" <http://hdl.handle.net/10722/221450> accessed 12 March, 2019.

[13]David Varga, 'Fintech, The New Era of Financial Services' <www.researchgate.net/publication/321208233>accessed 2 February, 2019.

[14] Kim, Y. – Park, Y. J. – Choi, J, 'The Adoption of Mobile Payment Services for "Fintech", *International Journal of Applied Engineering Research*, 11(2), p. 1058-1061.

[15] McAuley, D., 'What is FinTech?-Wharton FinTech-Mediun', <https://medium.com/wharton-fintech/what-is-fintech-77d3d5a3e677> last accesed 12 March, 2019.

[16]Available at <www.investopedia.com/terms/f/fintech.asp> accessed 12 March, 2019.

[17]<www.fintechweekly.com/archive> accessed 12 March, 2019.

[18] Ernst&Young, *'German FinTech landscape: opportunity for Rhein-Main-Neckar'* <www.ey.com/Publication/vwLUAssets/ey-fintech-studie-herbst-2016/$FILE/ey-fintech-studie-herbst-2016.pdf> last accessed 12 March, 2019.

Despite the differences, definitions agree that FinTech refers to companies that develop financial services and products by relying on much more intense use of information technology. Thus, simply put, FinTech otherwise known as Financial Technology is the application of financial technological innovations in rendering financial services thereby making the financial service process easier, cheaper and faster.

FinTechs generally aim to attract customers with products and services that are more user-friendly, efficient, transparent, and automated than those currently available. In addition to offering products and services in the banking sector, there are also FinTechs that distribute insurance and other financial instruments or provide third party services. In a general sense of the term, "FinTech" encompasses companies that simply provide technology (such as software solutions) to financial service providers.

3.0. BASIC CATEGORIZATION OF FINTECH

Companies in the FinTech industry are loosely divided into four major segments in accordance with their distinctive business models and innovations in the financial sector of the economy.[19] By analogy with traditional value-adding areas of a universal bank, FinTechs can be distinguished on the basis of their involvement in financing, asset management, payments, as well as other Fintechs like Insurech etc[20].

3.1. The Financing Segment Of FinTech

The financing segments include Fintechs that makes financing available for both private individuals and businesses. This segment can be further divided into Fintechs whose offerings are based on the participation of a large number of contributors (the crowdfunding sub-segment) and those that offer factoring services or credit without the participation of the crowd (the credit and factoring sub-segment).[21]

I. CROWDFUNDING OR EQUITY FINANCING

Crowdfunding or Equity Financing is the use of small amounts of capital from a large number of individuals to finance a new business venture. Crowdfunding makes use of the easy

[19] G. Dorfleitner et al., "*FinTech in Germany: Definition of FinTech and Description of the FinTech Industry*" (Springer International Publishing AG, 2017).
[20] ibid.
[21] Ibid.

accessibility of vast networks of people through social media[22] and crowdfunding websites to bring investors and entrepreneurs together, and has the potential to increase entrepreneurship by expanding the pool of investors from whom funds can be raised beyond the traditional circle of owners, relatives and venture capitalists.[23]

Crowdfunding provides a forum to anyone with an idea to pitch it in front of waiting investors since it enables Investors to select from hundreds of projects and invest as little as $10. For instance, an individual who wanted to create a new potato salad recipe with a fundraising goal of $10 was able to raise more $55,000 from 6,911 backers.[24]

Crowdfunding may be donation-based (where the contributor receive no remuneration for their contributions); reward-based (where the contributor receive some form of non-monetary consideration -such consideration can take the form of the right to pre-order a product or some other form of prestige, such as having the investor's name included in the credits of the funded project); investment based (where investors receive a share of equity, debt or hybrid ownership); or equity based (where investors get to participate in the launch of a new product or receive a gift for their investment[25] -for instance, where the maker of a new soap sends a free bar to each of its investors.

II. PEER-TO-PEER LENDING

Peer-to-peer (P2P) lending also known as social lending/crowdlending is a method of debt financing that enables individuals to borrow and lend money without the use of an official financial institution as an intermediary.[26] Peer-to-peer lending removes the middleman from the process. It enables private individuals and businesses to secure loans from the crowd. In return for the provision of the loan, investors receive a pre-determined interest rate.

Traditionally, individuals and small businesses who want a loan usually apply for one through the bank. The bank would run extensive financial checks on the applicant's credit history to determine if the entity would qualify for a loan and if yes, determines the interest rate that will be charged on the loan. Individuals that want to avoid being charged high interest rates or that

[22] Available at <www.investopedia.com/terms/s/social-media.asp>accessed 12 March, 2019.
[23]Available at<www.investopedia.com/terms/c/crowdfunding.asp> accessed 12 March, 2019.
[24] ibid (n. 19).
[25] Ibid.
[26]https://www.investopedia.com/terms/p/peer-to-peer-lending.asp last accessed 12 March, 2019.

would otherwise be rejected for a loan application due to poor credit history, may opt for an alternative way of borrowing funds, hence – peer-to-peer lending.[27]

With peer-to-peer lending, borrowers take loans from individual investors who are willing to lend their own money for an agreed interest rate. The profile of a borrower is usually displayed on a peer-to-peer online platform where investors can assess these profiles to determine whether they would want to risk lending money to a borrower. A borrower might receive the full loan amount or only a portion of what he asked for from an investor. In the case of the latter, the remaining portion of the loan may be funded by one or more investors in the peer lending marketplace. In peer-to-peer lending, a loan may have multiple sources and monthly repayment has to be made to each of the individual sources.[28]

P2P platforms connect borrowers to investors with attractive interest rates. For lenders, the loans generate income in the form of interest which can often exceed the interest amount that can be earned through savings vehicles, such as saving accounts and credit default swaps (CDs). In addition, an investor is able to earn a higher return on his investment than he can get from the stock market through the interest payments he receives monthly from the borrower. On the other hand, P2P loans give borrower access to financing that they may not have gotten approval for, from standard financial intermediaries. Furthermore, a borrower gets a more favorable interest rate on her loan than one she would otherwise have gotten from a bank.[29]

3.2. The Asset Management Segment of FinTech

The asset management segments include Fintechs that offer advice on disposal and management of assets, and aggregated indicators of personal wealth. They include:

I. SOCIAL TRADING

Social trading is a form of investment in which investors (or "followers") can observe, discuss, and copy the investment strategies or portfolios of other members of a social network. Individual investors are supposed to benefit from the collective wisdom of a large number of

[27] https://www.investopedia.com/terms/p/peer-to-peer-lending.asp last accessed 12 March, 2019.
[28] Ibid.
[29] Ibid.

traders. Depending on the business model of a social trading platform, users can be charged for spreads, order costs, or percentages of the amount invested.[30]

In addition, innovative software solutions and computer systems play an important role in the business models of many Fintechs in the asset management segment.

II. ROBO-ADVISOR (ROBO-ADVISER)

Robo-advisors (robo-advisers) are digital platforms that provide automated, algorithm-driven financial planning services with little to no human supervision. A typical robo-advisor collects information from clients about their financial situation and future goals through an online survey, and then uses the data to offer advice and/or automatically invest client assets. They consider the investor's risk tolerance, the preferred duration of the investment, as well as other goals.[31]

The main advantage of robo-advisors is that they are low-cost alternatives to traditional advisors. By eliminating human labor, online platforms can offer the same services at a fraction of the cost. Most robo-advisors charge an annual flat fee of 0.2% to 0.5% of a client's total account balance. That compares with the typical rate of 1% to 2% charged by a human financial planner, and potentially more for commission-based accounts.[32]

Robo-advisors are also more accessible. They are available 24/7 as long as the user has an internet connection. Furthermore, it takes significantly less capital to get started, as the minimum assets required to register for an account are typically in the hundreds to thousands ($5,000/₦1,800,000 is a standard baseline). One of the most popular robo-advisors, Betterment, has no account minimum at all. In contrast, human advisors do not normally take on clients with less than $100,000/₦36,000,000 in investable assets, especially those who are established in the field. They prefer high-net-worth individuals who need a variety of wealth management services and can afford to pay for them.[33]

---

[30] G. Dorfleitner et al., "*FinTech in Germany: Definition of FinTech and Description of the FinTech Industry*" (Springer International Publishing AG, 2017).

[31] https://www.investopedia.com/terms/r/roboadvisor-roboadviser.asp last accessed 12 March, 2019.

[32] Ibid.

[33] Ibid.

Efficiency is another significant advantage these online platforms have. The hallmark of automated advisory services is their ease of online access. For instance, before robo-advisors, if a client wanted to execute a trade, he/she would have to call or physically meet a financial advisor, explain their needs, fill out the paperwork and wait. Now, all of that can be done with the click of a few buttons in the comfort of one's home.[34]

III. PERSONAL FINANCIAL MANAGEMENT (PFM)

The personal financial management (PFM) sub-segment includes FinTech companies that offer private financial planning, in particular the administration and presentation of financial data using software or app-based services. PFMs enable clients to visualize the assets they have deposited with different financial institutions as well as loans borrowed from different lenders in one application. The app or software often requires a one-off or annual fee from users. In order to integrate the accounts of different providers into a PFM system, PFMs interface with the portals of financial institutions, which are frequently open-access, using application programming interface (API) technology.[35]

3.3. The Payment Segment Of FinTech

The payment segment is an umbrella term that applies to Fintechs whose applications and services concern national and international payment transactions. Companies in this category let people send money to each other without needing to turn to banks. This system of payment is quick and cost effective unlike banks which tend to charge exorbitant fees for simple payments like peer-to-peer transfers. These include:[36]

I. BLOCKCHAIN AND CRYPTOCURRENCY

Blockchain refers to a decentralized digital ledger that can record transactions across multiple computers such that the recorded transactions cannot be altered retrospectively.[37] Participants can, therefore, audit and verify the transactions in a simple and cost-effective way. Blockchain is an online platform for digital assets. This includes FinTechs that offer virtual currencies

[34] Ibid.
[35] G. Dorfleitner et al., "*FinTech in Germany: Definition of FinTech and Description of the FinTech Industry*" (Springer International Publishing AG, 2017).
[36] Ibid.
[37] https://www.investopedia.com/terms/b/blockchain.asp last accessed 12 March, 2019.

(cryptocurrency) as an alternative to typical fiat money. As with legal means of payment, it is possible to save, use, and exchange cryptocurrencies. Banks are not needed to serve as intermediaries. One of the best-known cryptocurrencies is Bitcoin. With this technology, all transactions are registered and stored on a variety of servers. Approved data is entered into the ledger as a collection of "blocks" and stored in a chronological "chain" that cannot be altered. This makes it very difficult to falsify the information. Some of the benefits of blockchain include:[38]

Fewer Intermediaries: Blockchain is a true peer-to-peer network that will reduce reliance on some types of third-party intermediaries – like banks, lawyers, and brokers.

Faster Processes: Blockchain can speed up process execution in multi-party scenarios – and allow for faster transactions that aren't limited by office hours.

Transparency: Information in blockchains is viewable by all participants and cannot be altered. This will reduce risk and fraud, and create trust.

Efficiency: Distributed ledgers help businesses create leaner, more efficient, and more profitable processes.

Security: The distributed and encrypted nature of blockchain mean it will be difficult to hack. This shows promise for business and IT security.

Automation: Blockchain is programmable – which will make it possible to automatically trigger actions, events, and payments once conditions are met.

II. ALTERNATIVE PAYMENT METHODS

Alternative payment methods generally refer to mobile and online payment solutions that are provided by Fintech companies. In order to be able to utilize such solutions, people need to possess a smartphone or a computer and have access to the internet. The users of these solutions can make money transfers and payments quickly, seamlessly and at an acceptable price. The transactions are usually peer-to-peer and they are conducted in real-time. This attribute gives Fintech companies a competitive edge over traditional financial intermediaries.

[38] Nandip Aulak, What is Blockchain & how can it benefit small businesses https://www.coworker.com/lab/author/nandip-aulak/ last accessed 12 March, 2019.

In addition, the emergence of the aforementioned alternative and seamless payment solutions is affecting the behavior of consumers, who start to prefer digital channels when dealing with money transactions instead of visiting the 'physical locations' of financial intermediaries. Examples of these alternative payment methods are:

a. Mobile Banking

Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct financial transactions remotely using a mobile device such as a smartphone or tablet.[39] With mobile banking, you can open a new account, check your balance, transfer funds and pay bills from the comfort of your house. A study conducted in the US in November 2016 revealed that 72 percent of the financial services consumers use digital channels to open checking accounts.[40]

b. Internet Banking

Internet banking also referred to as online banking or e-banking allows a user to execute financial transactions via the internet.[41] Internet banking is closely related to mobile banking. The difference is that instead of using an application, customers use the web. You may access the web by use of your smartphone, tablet or a personal computer(PC). All the transactions are conducted through the website of the financial institution.[42] Statista notes that the share of individuals using internet banking in the UK increased from 30 percent in 2007 to 60 percent in 2016, pointing to the increasing popularity of internet banking.[43]

c. E-Wallet/Digital Wallet

A digital wallet is a system that securely stores users' payment information and passwords for numerous payment methods and websites. By using a digital wallet, users can complete

[39] https://en.wikipedia.org/wiki/Mobile_banking last accessed 12 March, 2019.
[40] www.creditcards.com/credit-card-news/online-mobile-banking.php last accessed 12 March, 2019.
[41] https://www.investopedia.com/terms/o/onlinebanking.asp last accessed 12 March, 2019.
[42] Ibid.
[43] www.statista.com/statistics/286273/internet-banking-penetratin-in-great-britain/sta> last accessed 12 March, 2019.

purchases easily and quickly with near-field communications technology. They can also create stronger passwords without worrying about whether they will be able to remember them later.[44]

Digital wallets can be used in conjunction with mobile payment systems, which allow customers to pay for purchases with their smart phones. A digital wallet can also be used to store loyalty card information and digital coupons.[45]

Digital wallets allow many in developing nations to participate more fully in the global financial system. Digital wallets allow participants to accept payments for services rendered, as well as receive funds or remittances from friends and family in other nations. Digital wallets do not require a bank account with a physical firm or branch, often allowing those in more rural areas to connect.[46]

3.4. Other FinTechs

INSURTECH

These are Fintechs that offer insurance or facilitate its acquisition. They provide insurance services online or via mobile, or assist traditional insurance companies to provide innovative services to insurance clients. Among other things, they offer peer-to-peer-insurance, wherein a group of policyholders come together and assume collective liability in the case of damages. If no loss occurs within the group, there is partial reimbursement of the insurance premium.[47]

4.0. IMPLICATIONS OF FINTECH DISRUPTIONS IN THE NIGERIAN FINANCIAL SECTOR

These financial innovations and financial technology (Fintech) have brought about a radical change in traditional financial services. The world has seen the emergence of more than 12,000 start-ups and massive global investment in the Fintech space. These innovators are utilizing technology tools to bring in seamless and innovative financial services for the banked and unbanked population and it is these positive disruptions that are successfully transitioning the economy of the world and the Nigerian financial sector is not left out in this great transitioning.

[44] https://www.investopedia.com/terms/d/digital-wallet.asp last accessed 12 March, 2019.
[45] Ibid.
[46] Ibid.
[47] G. Dorfleitner et al., "*FinTech in Germany: Definition of FinTech and Description of the FinTech Industry*" (Springer International Publishing AG, 2017).

Financial Technology ("Fintech") is gaining momentum in the Nigerian financial sector and appears to disrupt the status quo of the traditional financial services industry. It has radically changed the way financial services are offered, from air ticket bookings and payment of utility bills, to shopping on e-commerce platforms, mobile payments, crowdfunding and peer-to-peer lending etc. We now live in a world with endless possibilities in the area of flexible payment systems and swift electronic-based customer care service system. Put differently, the Application Program Interface ("API"), designed to interface with the developed software/programs, can now execute payment instruction with zero third party human interface. Fintech innovations hold potential benefits for all users of financial services. These include expanding access to financial services (financial inclusion), reaching under-served consumers, reducing transaction costs, providing greater transparency with simpler products and clear cost disclosures, providing greater convenience and efficiency, and enabling tighter controls over spending and budgeting.[48] Collectively, these can result in an enhanced customer experience by providing a better understanding of products and terms.

I. OPPORTUNITIES FINTECH PRESENT TO THE NIGERIAN FINANCIAL SECTOR

Some of the opportunities Fintech present to the Nigerian Financial sector include:

• **Financial inclusion**: Digital finance has improved access to financial services by under-served groups. Technology can reach remote locations. Only six out of 10 adults have a bank account, but there are more mobile devices than people in the world.[49] The promise of digital finance to reach scale, reduce costs and, if coupled with the appropriate financial capability, broaden access, is unprecedented. Financial services could be provided to more people with greater speed, accountability, and efficiency.

• **Better and more tailored banking services**: Banks are already regulated and thus, they know how to bring products to a regulated market. Fintech companies could help the banking industry improve their traditional offerings in many ways. Banks may, for example, provide white-label robo-advisors to help customers navigate the investment world and create a better and tailored

[48] Perchstone & Graeys, 'Nigeria: Technological Disruptions In Financial Services: A Wake-Up Call For The Nigerian Regulatory Framework' <http://www.mondaq.com/redirection.asp?article_id=543476&author_id=1032150&type=articleauthor>

[49] World Bank, Global financial development report, 2014, siteresources.worldbank.org/EXTGLOBALFINREPORT/Resources/8816096-1361888425203/9062080-1364927957721/GFDR2014_Complete_Report.pdf.

customer experience. Partnerships with finTech companies could also increase the efficiency of incumbent businesses.

• **Lower transaction costs and faster banking services:** Innovations from fintech players may speed up transfers and payments and cut their costs. For instance, in the area of cross-border transfers, fintech companies in some cases can provide faster banking services at lower cost

• **Improved and more efficient banking processes:** Innovation may allow the conduct of operations in a safer environment (thanks to the use of cryptographic or biometric technologies and more interoperable systems decreasing the chances of failure).

• **Potential positive impact on financial stability due to increased competition:** The entry of new players competing with incumbent banks could eventually fragment the banking services market and reduce the systemic risk associated with players of systemic size, as also analysed by the FSB.[50]

• **Regtech**: Fintech could be used to improve compliance processes at financial institutions. Regulation is increasing globally but the effective development and application of "regtech" could create opportunities to, for example, automate regulatory reporting and compliance requirements as well as facilitate more cross-sectoral and cross-jurisdictional cooperation for improved compliance (eg AML/CFT). Regtech may provide banks with more effective ways to improve their compliance and risk management. It may also be a means of coping with change in the regulatory environment and driving down the costs involved in meeting the corresponding requirements.[51]

---

[50] See FSB, Financial Stability Implications from Fintech, June 2017, www.fsb.org/wp-content/uploads/R270617.pdf.

[51] Regtech could result in new processes, new distribution channels, new products or new business organisations that help banks comply with regulatory requirements and manage risk more effectively and efficiently. Some regtech firms offer compliance and risk management solutions to banks, through outsourcing or insourcing processes. Examples include the FundApps automated monitoring service for regulatory changes in the United Kingdom, and Fintellix in India, which offers data management for compliance with accounting rules.

Regtech may open up opportunities for digital transformation of control and support functions within banks (risk, compliance, legal, finance, IT).

Regtech could address a wide array of requirements related to regulatory reporting, financial crime, operational risk (including cyber-security and fraud detection), consumer protection and data protection regulation. Examples in these domains include BearingPoint's Abacus solution for compliance with the European supervisory reporting requirements, and Trulioo's and Qumran's "know your customer" solutions in Canada and Switzerland, respectively, for compliance with AML/CFT rules. In Italy, anti-money laundering requirements for the opening of a new online account can be met by making a transfer from any bank account the customer holds at any other bank. All other necessary information and documents can be exchanged between the customer and the bank using

II. KEY RISKS ASSOCIATED WITH THE EMERGENCE OF FINTECH

While some see these technological disruptions in the Nigerian financial sector as the right step towards reforming the industry to become more efficient and customer centric, it is without gainsaying that these technological disruptions also has its negative impact on the Nigerian financial sector. The key risks associated with the emergence of fintech include strategic risk, operational risk, cyber risk and compliance risk.[52]

•**Strategic risk**: The potential for rapid unbundling of bank services to fintech firms, increases risks to profitability at individual banks. Existing financial institutions could stand to lose a substantial part of their market share or profit margin, if new entrants are able to use innovation more efficiently and deliver less expensive services that better meet customer expectations. In today's environment, a deterioration of profitability -due to a lack of anticipation and agility; loss of profitable direct customer relationships; and/or margin compression- might weaken the ability of incumbent institutions to weather future business cycles, evident where for example, banks react to falling profits by engaging in riskier activities, such as moving down the credit spectrum.

• **High operational risk (systemic dimension):** The rise of fintech leads to more IT interdependencies between market players (banks, fintech and others) and market infrastructures, which could cause an IT risk event to escalate into a systemic crisis, particularly where services are concentrated in one or a few dominant players. The entrance of fintech firms to the banking industry increases the complexity of the system and introduces new players which may have limited expertise and experience in managing IT risks.

---

e-mail, webcam, chat and other online tools. The technologies used include IT (software, cloud computing, API, automation and AI), data technologies (big data, machine learning, risk scoring, real-time monitoring), identity technologies (biometrics, vocal recognition) or new technologies such as the DLT that combines cryptography and IT solutions.

Another potential use of regtech includes risk data reporting capabilities. During the financial crisis, firms were unable to aggregate risk data and perform analytics to aggregate risk exposures in response to events in a timely fashion. These failures influenced the BCBS's compilation of the Principles for risk data aggregation and reporting. Regulators have placed increased expectations on firms to be able to accurately and completely aggregate risk data, with a view to improving their risk management and also facilitating supervisory requests, such as supervisory stress testing. Use of AI, advanced data analytics and other emerging technologies could improve firms' ability to provide coherent and timely risk data. See IOSCO, *Research Report on Financial Technologies*, February 2017.

[52] Basel Committee on Banking Supervision Sound Practices, 'Implications of fintech developments for banks and bank supervisors' (Bank for International Settlements, February 2018) p. 25 <http://www.bis.org/> last accessed 12 March, 2019.

Also, a proliferation of innovative products and services may increase the complexity of financial services delivery, making it more difficult to manage and control operational risk. Banks IT systems may not be sufficiently adaptable, or, implementation practices such as change management, may be inadequate. As such, some banks are using greater numbers of third parties, either through outsourcing (eg cloud computing) or other fintech partnerships, thereby increasing complexity and reducing the transparency of end-to-end operations. This increased use of third parties and partnering may increase risks surrounding data security, privacy, money laundering, cyber-crime and customer protection. This is particularly the case if banks are less efficient in applying the required standards and controls to manage those risks, or where fintech firms may not be subject to the same stringent security standards. In addition, use of third party service providers could increase banks' step-in risks: banks may find themselves in the position of having to support a provider in financial distress or face discontinuation of critical services that they provide.

• **Compliance risk (Increased difficulties in meeting compliance):** The higher level of automation and distribution of the product or service among banks and fintech companies can result in less transparency on how transactions are executed and who has compliance responsibilities. This can increase conduct-risk for banks as they may be held accountable for the actions of fintech partners if a customer suffers loss or compliance requirements are not met.

Also, the risk of not complying with data privacy rules may increase, with the development of big data, more outsourcing due to tie-ups with fintech firms, and the associated competition for ownership of the customer relationship.

• **Outsourcing risk:** If more parties are involved in the offering of financial products and services than at present, ambiguity could arise regarding the responsibilities of the various actors in the value chain, potentially increasing the likelihood of operational incidents. Within banks, a proliferation of innovative products and services from third parties could increase operational complexity and risks, if controls fail to keep pace. A key challenge for financial institutions will lie in their ability to monitor operations and risk management activities that take place outside their organizations, at the third parties'.

• **Cyber-risk**: New technologies and business models can increase cyber-risk if controls do not keep pace with change. Increased interconnectivity between market players can create benefits

for banks and consumers, while amplifying security risks. Heavier reliance on APIs, cloud computing and other new technologies facilitating increased interconnectivity with actors or sectors not subject to equivalent regulatory expectations, could potentially make the banking system more vulnerable to cyber-threats, and expose large volumes of sensitive data to potential breaches. This emphasizes the need for banks, fintech firms and supervisors to promote the need for effective management and control of cyber-risk

• **Liquidity risk and volatility of bank funding sources**: The use of new technology and aggregators creates opportunities for customers to automatically change between different savings accounts or mutual funds to obtain a better return. While this can increase efficiency, it can also affect customer loyalty and increase the volatility of deposits. This in turn could lead to higher liquidity risk for banks.

5.0. TACKLING FINTECH DISRUPTIONS: THE WAY OUT OF THE QUAGMIRE

I. GOVERNANCE

Safety, soundness and financial stability can be enhanced by implementation of supervisory programmes to ensure that banks have effective governance structures and risk management processes that appropriately identify, manage and monitor risks arising from the use of fintech including associated new business models applications, processes or products. These structures and processes may include:

- ❖ Robust strategic and business planning processes that allow banks to adapt their business strategies to take into account, the potential impact new technologies and market entrants may have on their revenue.

- ❖ Staff development processes that ensure that bank personnel have the appropriate awareness and capability to manage fintech risks.

- ❖ Sound new product approval and change of management processes to appropriately address changes not only in technology, but also in business activities

- Risk management processes in line with the portions of the Basel Committee's Principles for sound management of operational risk (PSMOR) that are relevant to fintech developments.[53]

- Processes for monitoring and reviewing new products, services or delivery channels for compliance with applicable regulatory requirements, including, as appropriate, those related to consumer protection, data protection and anti-money laundering and countering of terrorism financing.

- Setting up and effectively implementing risk policies, processes and systems and reviewing risk appetite and risk tolerance thereby creating a strong risk control environment

- Banks relying on these innovative technologies should ensure they have effective IT and other risk management processes and control environments that effectively address new sources of risk.

II. FINTECH EDUCATION/TRAINING

Safety and soundness could be enhanced by banks assessing their current staffing and training programmes to ensure that the knowledge, skills and tools of their staff remain relevant and effective in supervising the risks of new technologies and innovative business models. Banks may need to consider the addition of staff with specialized skills to complement existing expertise.

Current bank regulatory, supervisory and licensing frameworks generally predate the emergence of technology-enabled innovation. Where appropriate, a review by bank of their current supervisory frameworks in the light of new and evolving fintech risks could uncover ways in which elements of these frameworks could evolve in a manner that ensures appropriate oversight of banking activities while not unduly or unintentionally hampering beneficial innovation

III. COLLABORATION/ PARTNERSHIP

[53] Basel Committee on Banking Supervision Sound Practices, 'Implications of fintech developments for banks and bank supervisors' (Bank for International Settlements, February 2018) p. 25 <http://www.bis.org/> last accessed 12 March, 2019.

Banks and fintech companies can operate as joint ventures, partners or other structures where delivery of services is shared across parties. For instance, they could partner on the lending platforms in the marketing of credit products, as well as the approval process, funding and compliance management. Also, Innovative payment services are emerging with joint ventures between banks and fintech firms offering innovative payment services. Consortiums supported by banks are currently seeking to establish mobile payments solutions as well as business cases based on digital ledger technology (DLT) for enhancing transfer processes between participating banks. Furthermore, Robo-advisor or automated investment advisory services can be provided by fintech firms through a bank or as part of a joint venture with a bank.

Moreso, new technologies such as biometry, video, chatbots or Artificial Intelligence may help banks to create sophisticated capacities for maintaining a value-added remote customer relationship, while securing transactions and mitigating fraud and risks.

There should be symbiotic relationship between banks and fintech companies because it is mutually beneficial.

IV. OPENNESS/INVESTMENT

Active participation and embracement of innovation is at the heart of the digital revolution. Fintech offers banks access to technology; brings new ideas to the market at a considerable speed; enables it to add value to data; and changes the bank culture. Thus, for banks this means engaging with external technology solutions, knowledge capital and resources, and often opening up the organization's own intellectual property, assets and expertise to outside innovators to help generate new ideas, change organizational culture, identify and attract new skills, and discover new areas for growth.

Embracing these themes and creating the right foundations will allow banks to disrupt their own business model rather than sit on the sidelines watching challenger models disintermediate them.

6.0. CONCLUSION

Generally, there has been significant investment in the Nigeria's technology and innovation space. According to the Nigeria Start-up Funding Report,[54] the total amount of investment in technology companies in the country within the periods starting Q1 to Q3 2018 stood at $118,463,785 with 73 percent of this sum invested in fintech companies.[55] These numbers demonstrate that innovative business ideas with strong investor appeal continue to come out of Nigeria. The recipients of these investments span across payments, P2P lending, financial management and financial inclusion within the financial services industry.[56]

Stemming from the above, it is evident that the catalyst impacts of fintech and its potential to unleash a new era of competition, innovation and job -thus creating productivity in our economy- is inestimable at this point, and very worthy of encouragement. Businesses as well as authorities now have structured access to unlimited data, especially with the advent of social media, that sophisticated algorithms can quickly interrogate and transform into services and products. These ongoing changes in the financial landscape caused by fintech are already affecting the under-banked, or completely unbanked, and are creating convenient and easy-to-use solutions in areas formerly without such services. Although the new global trends are receiving increasing attention from many kinds of stakeholders, there is no gainsaying that the impact on the Nigerian Financial sector is both positive and negative. This article focused on the impact of fintech disruptions on the Nigerian financial sector and offered a number of recommendations on how to get out of the quagmire that seemingly befalls the Nigerian financial sector as a result of the great transition caused by these financial innovation

[54] Published by Techpoint.ng.

[55] Olaniwun Ajayi LLP, 'Fintech Forward Look 2019' <www.olaniwunajayi.net/blog/wp-content/uploads/2019/01/Olaniwun-Ajayi-LP-FINTECH-Forward-Look-2019-1.pdf> accessed 12 March, 2019.

[56] Ibid.