FINTECH NUCLEUS

2019 | NIGERIA

:

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GLOSSARY

AI	Artificial Intelligence
ATM	Automated Teller Machine
BOFIA	Banks and Other Financial Institutions Act
CAMA	Companies and Allied Matters Act
CBN	Central Bank of Nigeria
DMBs	Deposit Money Banks
Fintech	Financial Technology
GDPR	EU General Data Protection Regulation
ICO	Initial Coin Offering
Insurtech	Insurance Technology
ISA	Investment and Securities Act
ITU	International Telecoms Union
MMOs	Mobile Money Operators
NCC	Nigerian Communications Commission
NDIC	Nigeria Deposit Insurance Corporation
NDPR	Nigeria Data Protection Regulation
NFIS	National Financial Inclusion Strategy
NIBSS	Nigeria Inter-Bank Settlement System
NITDA	National Information Technology Development Agency
NPPS	New Payment Products and Services
NSE	Nigerian Stock Exchange
P2P	Peer-to-Peer
PFMs	Personal Finance Managers

PISPs	Payment Infrastructure Service Providers
POS	Point of Sale
PSBs	Payment Service Banks
PSPs	Payment Service Providers
RBP	Regulation for Bill Payments
RMT	Ready-Made Token
SAPs	Software Application Providers
SEC	Securities and Exchange Commission
USSD	Unstructured Supplementary Service Data
VAS	Value Added Service
VC	Virtual Currencies
VCPPS	Virtual Currencies Payment Products and Services

INTRODUCTION

WELCOME TO FINTECH NUCLEUS 2019

The Financial Services Industry in Nigeria is experiencing a tremendous change, as startups and traditional players within the industry continue to leverage new technologies in providing financial services.

With an estimated population of over 193 million, 162 million mobile subscribers, internet penetration rate at 84%, about 104.6 million internet users as of August 2018, and the financial exclusion rate standing at 41.6%, Financial Technology ("Fintech") opportunities in Nigeria continue to deepen.

In terms of funding, according to the Nigeria Startup Funding Report (Q3 2018), the total amount of investment in technology companies in the country within the periods starting Q1 to Q3 2018 stood at $118,463,785. Interestingly, 73% of this fund was invested in Fintech companies. This is not surprising. In the same 2018, within the Global Fintech space, Fintech companies backed by venture capital raised nearly $40 billion (up 120%) across 1,707 deals globally (up 15%) over the past year. We expect this trend to continue through 2019.

In this edition of our Fintech Nucleus, we start with Finley's 1836 electric telegraph and deep-dived into the Fintech space and ecosystem. We explore the regulatory framework for the Nigerian Fintech space covering major trends in payments, Insurtech and Artificial Intelligence ("AI"), to mention but a few. And with a bias for AI Fintech startups, we take a wrap of the Fintech Nucleus with our Fintech feature.

We hope you find this edition of the Fintech Nucleus insightful and informative. If you would like to discuss any of the information contained in this report in more detail, please reach out to us.

AARON OLAJIDE
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THE ICEBERG OF FINTECH

THE HISTORY OF FINTECH

From the invention of early calculation devices such as the abacus to the advent of the double-entry accounting system, financial technology (Fintech) has always been with us. The evolution of Fintech as we know it today is traced back to the invention of the electric telegraph and the Morse Code by Samuel Finley Breese Morse in 1836. Long-distance communication became a thing and — as telegraph lines were laid first around North America and built across the Atlantic Ocean — Morse's telegraph soon connected the four corners of the globe and provided the basic infrastructure for financial globalization.

Using Morse's inventions, the US Federal Reserve Banks developed a proprietary communications structure in 1918 — a dedicated fund transfer system — to move funds electronically between the 12 Reserve Banks. This was in use until the early 1970s when the Banks switched to telex (as the basis of its transfer system) and eventually to computers. In 1950, modern Fintech trends began to surface when the Diner's Club Inc. introduced a Frank McNamara's invention: The Diners Club Charge Card, which allowed members to trade on their credit. The Club Card effectively functioned as a credit card. In clarifying the inspiration that gave birth to this brilliant idea, "[l]egend has it that McNamara was [once] dining with clients and forgot his wallet and had to call his wife to his rescue."[1] The American Express Company soon copied Frank's invention and started issuing travel cards in 1958.

"…The Fintech evolution has completely changed the way we live and bank; now, there is absolutely no need to carry wallets around anymore: it is now possible to catch a ride or buy a ticket with a single click."

In 1960, Quotron Systems Inc. introduced Quotron—the first electronic system to provide stock market quotation. In 1966, the telex network replaced the telegraph and offered the

1. Digifez, 'Fintech 101: What is Fintech and What is Its Modern History?' (2017) Available from: http://digifez.com/fintech-101-fintech-modern-history Accessed on 21 February 2019

world an instantaneous means of making long-distance communication and also made global financial transactions possible. In 1967, artificial intelligence began to influence financial technology when the first robot cashier — or the Automated Teller Machine ("ATM"), as most of the world knows it — was introduced in the United Kingdom (the "UK") by Barclays bank. This invention made it possible for the banked to withdraw their money from machines anytime of the day. John Shepherd-Barron, credited with the invention of the ATM, said at the time: "It struck me there must be a way I could get my own money, anywhere in the world or the UK. I hit upon the idea of a chocolate bar dispenser, but replacing chocolate with cash. "[2]

Fintech continued to evolve at a tremendous pace, thanks to such inventions as E-Trade and online banking in the 1980s and digital wallets and mobile payment systems in the 1990s. The advent of the internet also ignited the Fintech revolution and growth, but it was really the financial crisis of '08 and near-collapse of the financial system that marked the turning point for Fintech. Massive job loss in the financial sector, global distrust in established banking institutions, new financial rules and regulations, millennials' tendency to deal with companies offering financial solutions like Google and Alibaba, and the launch of smartphones made serious impacts and caused a paradigm shift of the Fintech industry.[3]

The Fintech evolution has completely changed the way we live and bank; now, there is absolutely no need to carry wallets around anymore: it is now possible to catch a ride or buy a ticket with a single click.[4]

INSIDE FINTECH

WHAT REALLY IS FINTECH?

The term "Fintech" holds different meanings for different people. It may therefore be hard to go with a dictionary meaning. Here is a modest attempt: Fintech is a term used to describe disruptive technologies in the financial services industry. It is also used to describe companies or businesses investing in or developing innovative technological solutions to provide financial services, alongside or in competition with established institutions.[5] But to truly understand Fintech, one must have an understanding of the Fintech ecosystem distinguished by its components.

2. Said Business School, University of Oxford, 'The Evolution of The Fintech Industry' Available from: https://bit.ly/2SFhGjE Accessed on 22 February 2019
3. Ademola Adeyoju, 'FINTECH AND AI: A DISRUPTIVE UNION, (2019) Available from: https://bit.ly/2Dz1f35 Accessed on 20 February 2019
4. Ibid (n 2)
5. Ibid (n 3)

Briefly, the Fintech ecosystem consists of payment and remittance platforms, digital banks, robo advisors, personal finance managers ("PFMs"), and wealth, asset, and investment managers. Others include RegTechs (technologies that help facilitate regulatory compliance and checks) and Insurtech (the use of technology that leverage artificial intelligence and Big Data to create more efficient means of providing insurance coverage, create customized insurance policies, simplify policy management, and enhance customer satisfaction).[6] From a broader perspective, government agencies, regulators, private and institutional investors, as well as financial institutions also form part of the Fintech ecosystem and play significant roles in driving Fintech evolution and growth.

THE GLOBAL FINTECH INDUSTRY

The global Fintech industry is big and growing at a rapid rate. After landing at $19 billion in total in 2015, and falling to $15 billion by mid-August 2016, the interest in funding rose astronomically in 2018. According to CB Insights' 2019 Fintech Trends, Fintech companies backed by venture capital raised nearly $40 billion (up 120%) across 1,707 deals globally (up 15%) over the past year -2017. Putting it in another perspective, Apple Inc. alone —with its Apple Pay digital wallet— has 400 million account holders holding an Apple Store or iTunes account- that's more than what the top 3 banks in the world have in retail banking customer base.[7] And with billions of dollars in funding, traditional financial institutions are struggling to keep up.

"…in 2018…Fintech companies backed by venture capital raised nearly $40 billion (up 120%) across 1,707 deals globally (up 15%) over… 2017."

FINTECH IN AFRICA

Africa is home to hundreds of Fintech startups. Since 2015, these startups have "secured over $100 million in investment".[8] In Nigeria alone, mobile money operations — sponsored by the surge in e-commerce and smartphone penetration — grew from an average monthly transaction value of $5 million in 2011 to $142.8 million in 2016.[9] Kenyan M-Pesa — widely regarded as the pioneer Fintech startup in Africa — grew to 17 million customers in just 6

6. Lea Nonninger and Mekebeb Tesfaye, 'Latest fintech industry trends, technologies and research from our ecosystem report' (2018) Available from: https://read.bi/2AFgbfa Accessed on 20 February 2019
7. 7. Brett King, 'The Rise of Fintech and the Death of Traditional Banking' (2018) Available from: https://bit.ly/2OzQZeT Accessed 29 December 2018
8. 8. Christie Uzebu, 'The Rise and Rise of Fintech in Africa' (2018) Available from: https://bit.ly/2SGzATg Accessed 30 December 2018
9. KPMG, 'Fintech in Nigeria: Understanding the Value Proposition' (2016) Available from: https://bit.ly/2T8K4Qm Accessed 3 March 2019

years. It now provides its services to over 25 million customers across Africa, Asia, and Europe.

THE RACE TO REGULATE FINTECH

Fintech, being a big deal, attracts the need for regulators to provide innovation driven regulatory framework. They however, find it quite challenging to keep up with its meteoric rise. On the international scene, the United Kingdom, Singapore, and Malta are making significant progress and seeing an inpouring of investment. With its innovative rulebooks, Fintech-friendly projects, and displacement of restrictions for Fintech businesses, the UK's Financial Conduct Authority is considered the most forward-thinking regulators in the world. The government of Singapore also rolled out initiatives and programmes that led to the pouring in of about US$229 million investment in 2017. And Malta is fast becoming a sweet spot for Fintech startups, due to the country's proactive regulations and incentive system.

While the Central Bank of Nigeria ("CBN") has shown some interest in regulating financial technology and services in Nigeria, there is currently no Fintech-specific legislation in Nigeria. While it may be good for Fintech to be allowed to grow unhindered, the lack of Fintech-friendly regulations also inhibits Fintech's ability to attain its maximum potential in some ways. For instance, crowdfunding, which is a form of equity or debt financing, is being held back by legislations such as the Companies and Allied Matters Act ("CAMA") and the Investment and Securities Act ("ISA") which prohibits certain enterprises from raising funds from the public.

"While the Central Bank of Nigeria ("CBN") has shown some interest in regulating financial technology and services in Nigeria, there's currently no Fintech-specific legislation in Nigeria."

Apart from CAMA and ISA, another legislation that affects Fintech activities is the Banks and Other Financial Institutions Act, 2004 ("BOFIA") which mandates the registration as bank or other financial institution any entity that wishes to engage in marketplace lending activities. Also, the Money Lender Laws of different states regulates money-lending and chargeable interest rates. Then, there are Guidelines such as the approved CBN Guidelines on Mobile Money Services in Nigeria, 2015, which requires mobile money operators to obtain an operational license from the CBN. Among other stipulations, the Guidelines direct that all transactions initiated and concluded within the mobile payment system must have a unique transaction reference and that all transactions must have such elements as the transaction reference number, payer and payee phone numbers, transaction amount, and other relevant details.[10]

Recently, the CBN Licensing Regime for Payment System Providers was released. The Regime is meant to position Banks to adequately address the emerging issues of Fintech with respects to cyber risks, risk management framework, and capital adequacy, among other things.

Other laws and regulations that touches on and apply to Fintech industry generally include the Regulations on Instant Electronic Funds Transfer Services, the Mobile Payment Regulatory Framework, the Guidelines on International Mobile Money Remittance, CBN Anti-money Laundering/Combating the Finance of Terrorism (AML/CFT) Risk-based supervision framework, 2011, the Corrupt Practices and Other Related Offences Act, and the Money Laundering (Prohibition) Act, 2011 (as amended), just to mention a few.

FINTECH: DRIVING FINANCIAL INCLUSION

In rounding off this section, we note that financial inclusion is still an issue in Nigeria. With an overall financial exclusion rate that stands at 41.6%,[11] financial inclusion remains a critical challenge. One of the factors responsible for this is frailty of existing policies and regulations which do not allow for the engagement of innovators and innovative models.[12]

"[In Nigeria] …overall financial exclusion rate…stands at 41.6%."

But it is not all doom and gloom. In 2018, the Central Bank of Nigeria ("CBN") and the Nigerian Communications Commission ("NCC") signed a MoU on digital payment systems. In that same year, the CBN issued the Regulatory Framework for the Use of Unstructured Supplementary Service Data ("USSD") for Financial Services in Nigeria, and collaborated with the Nigeria Inter-Bank Settlement System ("NIBSS") to create a regulatory sandbox that will allow financial technology startups to test solutions in a controlled environment. The CBN is also partnering with the private sector to roll

10. See the CBN Guidelines on Mobile Money Services in Nigeria. Available from: https://bit.ly/2Ti6y1G Accessed 31 December 2018 11.
11. EFInA Access to Financial Services in Nigeria (A2F) 2016 Survey. Available from: https://bit.ly/2qXpWAO Accessed 1 January 2019 12.
12. Central Bank of Nigeria, 'Exposure Draft of the National Financial Inclusion Strategy Refresh' (2018) Available from: https://bit.ly/2PhcKQT Accessed 31 December 2018

out a 500,000-agent network to offer basic financial services.

Recently, the Nigerian Securities and Exchange Commission (the “SEC”) constituted a ‘FinTech Roadmap Committee of the Nigerian Capital Market’ to: develop a Fintech roadmap for the Nigerian capital market; inform the SEC on approaches to innovation within the financial sector; promote access to capital, financial inclusion, enable greater transparency and more efficient compliance in a fast digitalizing financial service sector; serve as a think-tank which will provide guidance on independent research for examining the role and value of Fintech in the financial ecosystem; and seek responsible policy regulatory regimes that balance financial innovation and consumer protection. If the Committee succeeds in its mandates and Nigeria successfully develops and deploys a Fintech-friendly regulation, the future of Fintech — and consequently, the Nigerian economy — looks blindingly bright.

FINTECH IN NIGERIA

Over time, the Nigerian economy has been responding quite well to Fintech. There has been an astronomic increase in the number of Fintech startups, products, funding and operations, covering more diversified subsectors, despite challenges.

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According to the Nigeria Startup Funding Report (Q3 2018), the total amount of investment in technology companies in Nigeria within the first to third quarter of 2018 stood at $118,463,785. Interestingly, 73% of this sum was invested in Fintech companies. We attribute this upward trajectory to the quality of companies and founders in the Fintech space, the surge in e-commerce and smartphone penetration.

According to the Nigerian Communications Commission ("NCC"), there are currently over 162 million mobile subscribers in Nigeria and about 104.6 million internet users as of August 2018. Internet penetration stands rate has also grown to 84%. This interrelated expansion of mobile internet access, combined with a fast growing young population, relatively strong talent pool and huge financial inclusion potential (overall financial exclusion rate currently stands at 41.6%), constitute strong indicators of Fintech opportunities in revolutionising 'consumer' experience within the Nigerian financial services industry. From insurance to payments to banking to lending to wealth management.

In our view, whilst the Fintech focus today is largely driven by the need to increase financial access, the Nigerian Fintech sector still has quite a margin to cover compared to her global contemporaries. In this Fintech race, we believe Fintech companies and new entrants in Nigeria need to have clear-eyed strategy, in addition to pursuing business-model innovation, unleashing local talents, building long-term resilience and promoting local development. More importantly, there is a need for innovation driven regulatory framework that pragmatically facilitates growth and investment in the sector.

MAJOR FINTECH TRENDS

We explored major trends within the Nigerian Fintech space in payments, AI and Insurtech, just to mention a few.

PAYMENTS [P2P TRANSACTIONS]

Nigeria has experienced significant growth in the development of mobile payments solutions in the last decade. Mobile payment consists of payments and transfers with mobile devices. Mobile payment can be used at the Point of Sale ("POS"), replacing debit card, credit card or cash payments. It also includes the use of mobile payment apps for online purchases (e-commerce, m-commerce), and peer-to-peer ("P2P") transactions which are electronic money transfers made from one person to another through an intermediary.

We recognize that Nigerian Banks are dominant players in the mobile payment sector. Nonetheless, Nigerian Fintech companies remain key players and partners in the sector, and in the ownership of P2P payment platforms. Fintech has also fueled the growth of alternative lenders (an example are operators of P2P Lending platforms) who offer both higher yields to investors as well as faster, cheaper and more convenient loans for borrowers compared to traditional banks. Interestingly, there are also Nigerian Fintech startups introducing a lot of technology, algorithms, and machine learning to

"there are… Nigerian Fintech startups introducing a lot of technology, algorithms, and machine learning to revolutionize credit risk assessment, credit disbursement, and customer banking"

revolutionize credit risk assessment, credit disbursement, and customer banking.

Within the bill-payment space, the CBN in February 2018 issued the Regulation for Bill Payments in Nigeria (“the RBP”). The RBP covers bill payments on various payment channels and any payment platform that seeks to integrate the payment side of commercial activity and merchant aggregators in Nigeria. The RBP requires any person or entity desirous of operating a bill payment platform to apply to the CBN for a license or be integrated to a duly licensed Payment Service Provider (“PSP”). We consider this a strategic move from the apex bank, and expect to see more of these trends in 2019. Other regulations within this space include, the CBN Guidelines on Mobile Money Services in Nigeria, the CBN Guidelines on Operations of Electronic Payment Channels in Nigeria, the CBN Guidelines on International Money Transfer Services in Nigeria, and the Licence Framework for Value Added Service ("VAS") issued by the Nigerian Communications Commission ("NCC"), just to mention a few.

CROWDFUNDING

Crowdfunding is a method of funding campaigns online. It involves the use of small amounts of capital from a large pull of individuals to finance cultural, social, or commercial causes, by leveraging on vast networks of people through social media and crowdfunding websites to bring investors and borrowing entrepreneurs together.

Communication between investors and borrowers is established through the internet and the role of the intermediary is assumed by the crowdfunding platform. The intermediary usually receives a fee for its services, calculated in percentage of the amount raised. The funders receive either monetary compensations (as in profit sharing in equity-based crowdfunding and real estate crowd investing, or interest income in crowd lending and the purchase of a discounted invoice in invoice trading), or a non-monetary compensation in return for their investment, which may take the form of products or services. Besides that, funding may also be provided without any direct and measurable consideration for the investment, as in donation crowdfunding.

In 2016, (as previously noted) the Securities and Exchange Commission (“SEC”) of Nigeria, banned equity crowdfunding, due to the lack of clear rules and restrictive provisions on “invitations to the public to subscribe for shares’” as contained in the applicable laws, whilst donation and reward-based crowdfunding are still legal. The Crowdfunding Potential for Nigeria report released in 2017 by the Crowdfunding Hub says that SEC's ban has stifled the setting up of crowdfunding platforms, despite its significant potentials in Nigeria.

"…we are aware that an enabler for crowdfunding has been included in the recent review of the amendments to the Investment and Securities Act ("ISA"), now before the National Assembly."

Moving forward, we are aware that an enabler for crowdfunding has been included in the recent review of the amendments to the Investment and Securities Act ("ISA"), now before the National Assembly. We are also seeing startups offering diversified crowd-lending and crowd-investing services and further a rise in crowdfunding solutions especially in major sectors like agriculture, which majorly consists of smallholder farmers who lack access to finance or who are simply interested in diversifying their investment portfolios. There is also an uptick in real-estate crowdfunding. We hope 2019 will offer more desirable framework for crowdfunding to further broaden and deepen its opportunities within the Nigerian Fintech space.

CRYPTOCURRENCY

Cryptocurrencies are virtual (digital) currencies built with cryptographic protocols that make transactions secure and difficult to fake. Their emergence has, no doubt, attracted investments in payments infrastructure that provides new methods for transmitting value over the internet. We recall however, that in January 2017, the CBN via its circular warned Nigerians to be cautious of investing in cryptocurrency, as doing so would be at their own risk. A follow-up press release issued by

"…the development of... Virtual Currencies ("VCs") Payment Products and Services ("VCPPS") and their interactions with other New Payment Products and Services ("NPPS") in Nigeria necessitates that regulators work towards developing clear guidelines that reduce associated volatility and fraud risks, whilst maximizing the potentials of VCs."

the apex bank in February 2018, reiterated its earlier position that cryptocurrencies are not legal tenders in Nigeria, nor are they deposits or financial instruments licensed or regulated by the apex bank. Hence, the Nigeria Deposit Insurance Corporation ("NDIC") does not insure them.

Consequently, at the moment, Nigerian laws do not protect dealers and investors of cryptocurrency in any way. Thus, they may be unable to seek legal redress in the event of failure of the exchangers or collapse of the business. In our view, the development of these Virtual Currencies ("VCs") Payment Products and Services ("VCPPS") and their interactions with other New Payment Products and Services ("NPPS") in Nigeria necessitates that regulators work towards developing clear guidelines that reduce associated volatility and fraud risks, whilst maximizing the potentials of VCs. We have already seen SureRemit, a Nigerian non-cash remittance service provider utilizing the blockchain and the Ready-Made Token ("RMT") token to facilitate global remittances, secure $7Million in funding through an Initial Coin Offering ("ICO") in 2018.

INSURTECH

The Fintech revolution is forcing the financial services industry and everything it touches to evolve innovatively, including the Nigerian insurance sector. With just about 1% of Nigerians holding an insurance policy at the moment, compared to other African countries, like Kenya (2.7%) and South Africa (16.99%), in addition to the growth of the middle class, and increased economic activity, the Nigerian insurance industry has a very bright future. In this wise, we recognize digital technology as a major tool that can be leveraged to: (x) drive the needed growth of the industry, and; (y) increase access to insurance products and services. Indeed, Insurtech solutions will continue to play a major role in shaping the future of the industry.

"…We are…keen on seeing existing and new entrant Insurtech startups adopt more bullish strategies, in terms of competing with and even displacing traditional insurers."

Moving forward, we expect to see traditional insurance companies embed digital technology across their organizations. We also expect that these companies will be on the lookout to collaborate, invest in, and acquire Insurtechs in order to speed up innovation and the digital evolution. We believe integrating Insurtech startup technical capabilities and entrepreneurial culture with traditional insurance will position traditional insurance companies as the digital insurers of the future. Currently, most Insurtechs are being launched to, help solve traditional insurer problems across the organization, from general operations inefficiencies to enhancing underwriting, distribution, claims functions, and customer relations. We are, however, keen on seeing existing and new entrant Insurtech startups adopt more bullish strategies, in terms of competing with and even displacing traditional insurers. We are also keen on seeing how P2P insurance models will play out within the Industry.

PAYMENT SERVICE BANKS

From Payment Service Providers ("PSPs") to Mobile Money Operators ("MMOs") to Software Application Providers ("SAPs") and Payment Infrastructure Service Providers ("PISPs"), just to mention a few, the Nigerian Fintech payment space has been having a swell time. The recent addition to the block are the Payment Service Banks ("PSBs"). In October 2018, the Central Bank of Nigeria ("CBN") issued the Guidelines for Licensing and Regulation of Payment Service Banks in Nigeria ("the PSB Guidelines"). The essence of the PSB Guidelines is to enhance financial inclusion by increasing access to deposit products and payment/remittance services to small businesses, low-income households and other financially excluded entities through high-volume low-value transactions in a secured technology-driven environment. This is in alignment with the 2018 CBN Revised National Financial Inclusion Strategy ("the NFIS").

"Under the PSB Guidelines, promoters of a PSB are required to apply to the CBN for a Payment Service Bank license with a Non-refundable application Fee of ₦500,000, and a Non-Refundable licensing Fee of ₦2Billion. In addition, a PSB is required to have a minimum capital base of ₦5Billion."

Under the PSB Guidelines, promoters of a PSB are required to apply to the CBN for a Payment Service Bank license with a Non-refundable application Fee of ₦500,000, and a Non-Refundable licensing Fee of ₦2Billion. In addition, a PSB is required to have a minimum capital base of ₦5Billion. Eligible promoters of

PSBs under the PSB Guidelines include banking agents, telecommunications companies (Telcos) through subsidiaries and retail chains (supermarkets, downstream petroleum marketing companies). Others are postal services providers and courier companies, Mobile Money Operators (MMOs) — MMOs that desire to convert to PSBs are required to apply and comply with the requirements of the PSB Guidelines — Fintech companies, financial holding companies and any other entity on the merit of its application, subject to the approval of the CBN. We note that switching companies which already have record/data of the financial system operators are not be allowed to own PSBs to avert conflict of interests.

In our view, the PSB Guidelines is relatively robust, innovation-driven, and significant in deepening Fintech penetration in Nigeria. The minimum capital requirement and associated fees may however be challenging for entrants, widening the already burdensome but promising investment climate. To cross this hurdle, eligible promoters may need to combine traditional and alternative funding options and structures. We envisage that eligible promoters, including investors, will take full advantage of the opportunities offered, and are keen to seeing how this will play out in 2019.

CYBERSECURITY

We share the sentiment in PwC's Global Fintech Report 2017, and in the next few years, we expect to see more partnerships between financial institutions and Fintech firms. We note that while partnership constitutes incredible opportunities for the Financial Services Industry, it is not without risks. Indeed, cyber vulnerabilities are likely to arise where systems run by different entities are integrated. In order to minimize resulting cybersecurity risks and compatibility issues, parties are expected to conduct thorough testing, integrate data closer, and clearly delineate their areas of responsibilities. We have also seen low cybersecurity literacy increase cyber vulnerabilities of end users of Fintech in Nigeria.

In terms of regulatory framework, there is the Cybercrime (Prohibition, Prevention, etc.) Act 2015, which among others, seeks to promote cybersecurity and the protection of computer systems and networks, electronic communications, data and computer programs, and privacy rights. We note that while the Act is quite commendable, it is not adequate in dealing with specific cybersecurity issues that threaten Fintech.

"In June 2018, the CBN released the Exposure Draft of the Risk-Based Cyber Security Framework and Guidelines for Deposit Money Banks and Payment Service Providers, in order to ensure the safety and soundness of banks and payment service providers."

Interestingly, in June 2018, the CBN released the Exposure Draft of the Risk-Based Cyber Security Framework and Guidelines for Deposit Money Banks and Payment Service Providers, in order to ensure the safety and soundness of banks and payment service providers. The Guidelines seek to address emerging challenges and stipulate minimum requirements in the areas of cybersecurity governance and oversight, cybersecurity risk management system, cyber resilience assessment, cybersecurity operational resilience, cyber-threat intelligence and metrics, monitoring and reporting. We understand that the Guidelines are to act as standard requirements, in a bid to curb cyber security threats. We look forward to seeing these Guidelines come into effect in 2019, and we expect to see how Deposit Money Banks (DMOs) and Payment Service Providers (PSPs) comply with same.

DATA PRIVACY

Over time, we have seen a general increase in concerns on data collection and privacy. Indeed, it is typical of Fintech companies to collect large amounts of data about their customers, including sensitive personal information, financial records, online spending behaviour and social media patterns. These Fintech companies also store and analyze customers' data for the purposes of marketing, sales, and financial decision-making as in credit assessment. This makes data protection and privacy a top priority in Fintech.

There is already a right to privacy provided in Section 37 of the 1999 Constitution, which guarantees the protection of the privacy of citizens, their homes, correspondence, telephone conversations and telegraphic communications. There is also the Cybercrime (Prohibition, Prevention, etc.) Act 2015, which seeks to prevent the interception of electronic communications and imposes data retention requirements on financial institutions. We further note the significance of CBN's Consumer Protection Framework, NCC's Registration of Telephone Subscribers

Regulation and NCC's General Consumer Code Practice for Telecommunications Services.

"…in January 2019, the National Information Technology Development Agency ("NITDA") released the Nigeria Data Protection Regulation ("the NDPR") to regulate and control the use of data in the Country. The NDPR takes after the EU General Data Protection Regulation ("GDPR") and any breach of its provisions is considered a breach of the 2007 NITDA Act."

Remarkably, in January 2019, the National Information Technology Development Agency ("NITDA") released the Nigeria Data Protection Regulation ("the NDPR") to regulate and control the use of data in the Country. The NDPR takes after the EU General Data Protection Regulation ("GDPR") and any breach of its provisions is considered a breach of the 2007 NITDA Act. We note that under the NDPR, all public and private organizations in Nigeria that control data of natural persons (including Fintech companies), must within 3 months of the issuance of the NDPR, make available to the general public their respective data protection Policies, which must conform with the NDPR. More so, within 6 months of the issuance of the NDPR, each organization is required to conduct a detailed audit of its privacy and data protection practices.

There is also the recent Federal Competition and Consumer Protection Act 2019 which aims to facilitate access by all citizens to safe products and secure the protection of the rights of all consumers in Nigeria. It further seeks to ensure that all service providers (including Fintech firms) comply with the international standards of quality and service delivery. Despite our reservations on some of the provisions of the Act, we are interested in its operational impacts on the Nigerian Fintech space.

We expect to see more enforcements within this space, even as it affects the Fintech sector. The Data Protection Bill and the Digital Rights and Freedom Bill are also under consideration. If passed into law, they would deepen the Nigerian data protection and privacy regime.

ARTIFICIAL INTELLIGENCE

The discourse on the application of artificial intelligence (AI) in Fintech is intense. Within the Nigerian financial services industry however, AI proliferation is still very much in its first phase, but heating up. We have seen traditional banks in Nigeria launch AI-powered digital assistants like the Stanbic IBTC BlueBots — designed and deployed to reduce human or manual intervention, eliminate errors and reduce cost of processing in the bank's reconciliation processes — Access bank's Tamara, UBA's Leo and FCMB's Temi, just to mention a few. Fintech startups as Kudi.ai use AI to facilitate financial transactions and payment on chat platforms like Facebook Messenger, Slack, and Telegram. Mines.io also uses AI technology in mining high-volume data like phone records, bank records, and payment transactions in real-time, to instantly assess credit risks. We are also aware of the strides Fintech firms as Lidya.co are making within this space. The Federal Government ("FG") also recently expressed its interest to key into the International Telecoms Union ("ITU") Mandate on AI ecosystem. It is not surprising that the Nigerian Stock Exchange ("NSE") recently launched the X-Bot, an AI powered Chatbot that responds directly and automatically to enquiries through Facebook Messenger.

> **"…while AI shows great promise for the Nigerian financial industry, it is likely to be more of an evolution than a great leap forward into new data sources and methods."**

In our view, the opportunities for the application of AI in financial services industry are immense and we expect the effect to grow significantly in the next few years. We note however, that while AI shows great promise for the Nigerian financial industry, it is likely to be more of an evolution than a great leap forward into new data sources and methods. In 2019, we expect to see more serious adoption of AI in Fintech, and deliberate efforts towards an unambiguous regulatory framework for AI, particularly for the Nigerian Fintech sector.

OUR 2019 FINTECH FEATURE

Our Fintech Feature tends towards AI Fintech startups to look out for in 2019.

BRANCH is a Fintech firm that offers personal finance loans to small business owners. Applying machine learning, Branch adopts an algorithmic approach to determine credit worthiness via customers' smartphones. With AI at the core of its operations, Branch leverages AI to serve customers who are traditionally unable to receive loans from traditional financial institutions, eliminating the need for collateral, paperwork, or guarantors. Branch has over two million customers, with over ten million issued loans and over 250 million dollars disbursed. The Fintech firm is one of the three Nigerian Fintech firms that ranked among the 250 fastest-growing Fintechs in the world by CB Insights. More recently, the Fintech firm won the AI excellence award at African Fintech Summit. In 2019, we expect the Fintech firm to continue its drive in leveraging smartphone penetration and AI in providing secure, convenient and customer-first financial product for customers.

MINES is a technology company that uses big data and proprietary risk algorithms to help local institutions banks, mobile operators, payment processors and retailers make lending decisions in emerging markets. With Kwikmoney, the Fintech startup also offers instant loans (in 60 seconds) and savings. Mines maintains offices in Silicon Valley and Nigeria, combining world-class AI technology, extensive use of data and strong focus on local partnerships, to build financial inclusion. In our view, the company's local partnership model, extensive use of AI and her expertise gives her a distinctive edge. In August 2018, this white-label lending startup closed a $13 million Series

A round led by The Rise Fund, the global impact fund formed by private equity giant TPG, and 10 others, including Velocity Capital.

KUDI is an AI startup that allows users to make payments and send money by chatting with a bot. Users can chat with the bot on Facebook Messenger, Slack and Telegram. The AI powered chatbot helps users transfer money, keep track of account details, buy airtime, pay recurrent bills. She also reminds users of due bills and produce users' account information as quickly as requested. Kudi is available round the clock, and it has bank-grade security standards. The Fintech startup was part of the Y Combinator Winter 2017 batch.

REΛCH is a personal finance app that helps users track their expenses, set weekly budgets and shows them insights on how to better manage their money. With REΛCH, users get a personalized financial plan regardless of their financial needs, obtain quick loans and build a track record. Niki by REΛCH, an AI chatbot and personal financial assistant, also sends messages to users to keep them on track with their financial goals.

MOWALI is a Pan-African mobile money interoperability service launched by two of Africa's largest mobile operators and mobile money providers, Orange Group and MTN Group, in November 2018. A digital payment infrastructure, Mowali connects financial service providers and customers in an inclusive network, and makes it possible to send money between mobile money accounts issued by any mobile money provider in Africa, including banks, money transfer operators and other financial service providers, in real time and at low cost. Mowali will immediately benefit from the reach of MTN Mobile Money and Orange Money. Bringing together over 100 million mobile money accounts and mobile money operations in 22 of sub-Saharan Africa's 46 markets. Interestingly, the MTN Group has expressed intentions to obtain a payment service banking license in Nigeria. This will further deepen Mowali's growth.

CONTRIBUTORS

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