April 2019

THE FUTURE OF FINTECH IN NIGERIA

FINTECH ROADMAP COMMITTEE OF THE NIGERIAN CAPITAL MARKET

CONTENTS

1 EXECUTIVE SUMMARY

A Proactive Regulatory and Enabling FinTech Environment in Nigeria's Capital Market

The Securities Exchange Commission (the Commission) at its 3rd quarter Capital Market Committee meeting of 2018, held on November 14, 2018, inaugurated a FinTech Roadmap Committee (the Committee) for the Nigerian Capital Market (NCM).
In furtherance of its terms of reference, the Committee examined the benefits, entry barriers and the regulatory hurdles faced by FinTechs as banking and securities regulators attempt to encourage and regulate financial innovation while protecting investors and consumers.

Fintech practices and developments in advanced FinTech jurisdictions indicate that FinTechs' participation has a deepening effect on capital markets with positive impact on those economies. Nonetheless, the growth pattern of FinTechs vis-à-vis the capital markets in those jurisdictions is the outcome of collaborative/cooperative efforts between regulators, traditional capital participants and FinTechs.

Despite its huge potentials and the convergence of pertinent growth indicators in Nigeria, the NCM is not perceived as attractive to FinTechs compared to China, Singapore, US, UK and other European FinTech hubs. Deliberate collaborative steps/strategy must therefore be targeted at propagating/harnessing the NCM FinTech landscape for a more robust NCM. In this wise, the NCM can borrow a leaf from advanced FinTech jurisdictions but the challenges preventing the full adoption of FinTech in the NCM ecosystem must be addressed first.

Regarding challenges in the way of Fintech adoption in the NCM, the unclear regulatory environment for FinTech in the Nigerian capital market has been highlighted by both industry and regulators. FinTechs are generally confused about which law or regulation is applicable to FinTech solutions. Whilst the current structure of the NCM is not supportive of venture capital and growth funding structure which are needed by FinTechs, the existing regulatory framework is also inimical to crowdfunding- another FinTech friendly funding model.

Relatedly, FinTech development in the NCM has generally been slowed by the lack of access to data or its non-availability in most cases, and in addition to frequent capital flight and low investor confidence, institutional knowledge gap and weak digital infrastructure have also dampened FinTechs' interest in the NCM.

Whilst, FinTech involvement in the NCM will increase the Commission's concern about market integrity, disclosure and compliance requirement, as seen from advanced FinTech jurisdictions, this concern can be a largely addressed with RegTech platforms which provide advanced inspection and investigation processes.

In this wise, it is important for the Commission to engage with other regulators and agencies with respect to FinTech for information exchange, disclosure purposes and technology classifications. Such engagement is necessary to prevent regulation from standing in the way of innovation and competition as well as to ensure that regulation countenances technology-types and use cases for solutions bearing in mind that one size does not fit all FinTechs.

It is proposed that with the right developmental and regulatory framework, the underlying benefits of FinTech could be better harnessed in fostering financial inclusion and generally improving capital markets operations, and in this regard, FinTech awareness/education is highly recommended. Whilst FinTech activities will doubtlessly occasion a disruption of capital market activities, a proper structure of the NCM ecosystem and regulatory collaboration will deepen market penetration, propagate new products and services as well as address the problem of unavailability of funds. Additionally, a strategic engagement of FinTechs in the NCM will safeguard investors' interest, improve data collection, enhance data privacy and consumer protection, eradicate regulatory uncertainty, set defined markets for each regulator, encourage innovation, develop existing talents, robust communication channel and policy promotion.

Finally, the Commission must be FinTech proactive by facilitating responsible policy that balances financial innovation and investor protection, with a view to optimizing the value offerings of FinTech in the NCM and the Nigerian financial ecosystem whilst keeping abreast of FinTech developments globally.

2 INTRODUCTION

The advent of technology in our daily activities has provided varying adoption models and peculiarities in its engagement by various users. Laudably, technology has been ushered into the Financial Service (FS) sector commonly known as Financial Technology (FinTech), and it is here to stay. The FinTech buzz is ringing, and various jurisdictions have adopted or are adopting and testing multiple regulatory and adaptive business models in ensuring a sustainable environment for their FinTech boom and the ultimate growth of the financial services industry, and wider economy and job creation.

Interestingly, Investors continue to demonstrate confidence in Nigerian startups as the total Nigeria Startup Funding in 2018 amounts to $178,440,980, which was a 56% increase compared to investments in 2017 which stood at $115,000,000. Records show that 58% of those funds were received by FinTech start-ups in 2018 amounting to $103,410,795.[1] Despite these laudable feats, the margin of local investment in FinTech remains conspicuously deficient to the foreign capital input and there are imminent risk of capital importation in the future to the detriment of our Capital Market and economy. Technology is now serving as a value proposition in the Financial Systems Industry. Currently active mobile network countrywide is about 162 million lines with Internet Penetration in Nigeria estimated at 47.9%[2] leading to increased rates of banking with over 40 million bank accounts compared to the 3 million CSCS investment accounts[3]. FinTech companies are using automation, digitization and simplification to reduce costs, increase efficiencies, build client relationships and facilitate regulatory compliance. The solutions are helping all – Front, Middle and Back Office Operations and the Capital Market stands to benefit from all of these.

Capital formation means increasing the stock of real capital in a country. For making additions to the stock of Capital, savings and investments are essential, however due to lack of awareness, majority of retail clients have kept their investable capital as bank deposits or land/property, which leaves other investment assets to suffer thereby stunting economic growth by depleting the amount of capital in circulation. Furthermore, the existing Capital Market Regulation has stifled the Crowdfunding industry and introduction of innovative trading platforms and solutions that drive market inclusion which is a major contribution in recent times from the FinTech industry and a few players have started operating on their own but run the risk of sanctions and lack transparency. The

[1] Techpoint Africa: Nigerian Startup Funding Report 2018

[2] (African average is about 35.2% and global average is about 54.4%)

[3] Sankore Research

Capital Market Industry is now aware of the threats and opportunities brought by the era of digital transformation that has been underway for over a decade now.

There are countless opportunities for collaboration between the capital market and the FinTech community. The interests of the capital market are best served when clear areas of innovation, intervention and improvement are clearly outlined and articulated. In this report, we highlight various new technologies that are currently driving innovative businesses for FinTechs and other industries, and how these technologies can birth new products and services that will deepen the Capital Market, increase market participation and penetration. Invariably, FinTechs would play a major role in the capital market as they continue building capacities that enhance client relationships, trading options, financial inclusion, user experience, reduction of structural costs, facilitation of regulatory compliance, and tackling existing industry challenges such as investments and trading operations.

The Nigerian FinTech space is developing very fast. Traditional financial institutions particularly the banking sector, are redefining their financial offerings by 'finnovating' and blurring the lines that the average Financial technology (FinTech) start-ups had initially created through their disruptive technology. The emergence of these FinTechs' is profoundly changing the way individuals and businesses within the financial community interact albeit certain concerns remain unattended between the various market participants. Currently, the Nigerian Banking sector and the Central Bank of Nigeria (CBN) have taken enthusiastic steps towards this emerging Financial Service (FS) market through creation of piecemeal regulations and adoption of products to service consumer demands to the exclusion of other Non-Banking Financial Institution (NBFI), other Financial Institutions or the Capital Market.

Internet penetration in Nigeria at 47.9% is higher than the global average and with increased mobile network, the Banking sector has experienced increased participation. However, it is apparent that the disruption in the banking sector vis-a-vis low investment inclusion in the Capital Market does not translate to increased banking and investment in the capital market. Particularly the cause of these markets disparities is clearly due to the lack of industry stakeholder collaboration, innovative and technologically driven solutions, lack of a coordinated framework by multiple regulators, unawareness of service offerings and less capital requirement for Non-Banking Financial Institution (NBFI) leading to less access to customers, poor investment offerings and low market penetration for NBFI as compared to their banking counterpart. Conversely, the Capital Market Industry is now aware of the threats and opportunities brought by the era of digital transformation that has been underway for over a decade now. Technology is now serving as a value proposition in the Capital Market Industry and there are countless opportunities for collaboration between the capital market and the FinTech community.

SEC as the major policy-maker in the Capital Market in attempting to develop a regulatory framework for FinTech has the onerous task of designing policies that prioritise the foundational constraints, drive financial inclusion, encourage growth, sustainable long term capital formation, innovation efficiency and an enabling environment, while balancing the need for addressing systemic risk and safeguarding consumers. The applicability of current regulations, and the language of those forthcoming, need to be clear and transparent so FinTech firms can appropriately navigate the industry's ever-changing environment. Failure to do so will have a dramatic impact on the potential of FinTechs to participate in and drive the Capital Market growth and the Nigerian economy. Furthermore, the regulatory architecture must remain dynamic to handle the innovation coming from FinTechs and the fast pace at which they move and evolve.

To fully dimension how to maximize the benefits that FinTechs contribute to an economy and provide an enabling regulatory framework to propel this. The Securities and Exchange Commission set up this Committee with the following terms of reference –

- Develop a FinTech roadmap for the Nigerian Capital Market;
- Inform the SEC on approaches to innovation within the financial services sector;
- Promote access to capital in the financial services sector;
- Enhance Financial Inclusion in our economy;
- Foster greater transparency within the financial services sector;
- Enable more efficient compliance in regulatory regime;
- Serve as a think tank which will provide guidance on independent research for examining the role and value of FinTech in the financial ecosystem;
- Seek efficient and responsible policy regulatory regimes that balance financial innovation and consumer protection.

The work of the Committee culminated in this report and we hope the Commission and other policy-makers will work together to create a standardized and accommodative framework for the growth and innovation of FinTech in the Nigerian Capital Market based on the recommendations in this report.

3 FINTECHS AND THEIR IMPORTANCE TO THE NIGERIAN CAPITAL MARKET

3.1. Current Structure of FinTechs in the Nigerian Capital Market

Innovation and technology have brought about a radical change in traditional financial services. The world has seen the emergence of more than 1 million tech startups and massive global investment of USD111.8 billion in 2018 alone in the FinTech space. These innovators are leveraging technology to bring in seamless and innovative financial services for the banked and unbanked population. The global FinTech software and services sector is expected to boom as a USD45 billion opportunity by 2020, growing at a compounded annual growth rate of 7.1 percent.

Nigeria is transitioning into a dynamic ecosystem offering FinTech start-ups a platform to succeed and potentially grow into multimillion-dollar businesses. The Nigerian economy, which is predominantly cash driven, has been responding well to the FinTech opportunity, partly demonstrated by the exponential growth in mobile money operations from an average monthly transaction value of US$5 million in 2011 to US$142.8 million in 2016. The growing FinTech penetration can be attributed to a surge in e-commerce, and smartphone penetration. Nigeria's growth wave is still far behind global counterparts, but it is stacked well, largely due to a strong talent pipeline of easy-to-hire and inexpensive tech workforce that is growing in experience and skills depth.

There are pertinent indicators of the FinTech Opportunity as noted by the KPMG FinTech in Nigeria Report and some of these are:

i. The fast- growing young population (115 million people below the age of 35)
ii. Exponential growth of mobile phone lines (estimated at 150 million as at July 2016)
iii. Huge financial inclusion potential (less than 50 million people with bank accounts in a population of 170 million people based on Bank Verification Number- BVN data)
iv. Relatively strong talent pool base that can be trained to develop digital solutions (buoyed by Nigerians in diaspora)

From Payment Solutions Service Providers (PSSPs) to Payment Terminal Service Providers (PTSPs), Payment Gateway Providers, Savings/Investment platforms, Remittance platforms, Bill Payment Platforms, E-wallets, Agency Banking, Mobile Money Operators, the Nigerian FinTech ecosystem continues to grow.

The FinTech opportunities in Nigeria has the potential to redefine the financial services and regulatory landscape in the next five years, giving Nigeria the opportunity to establish itself as one of the most successful FinTech hubs in the world.

However, with the current operational model in Nigeria, the economy lacks a few of the attributes of a successful FinTech Hub such as:

i. Government programs and incentives
ii. Infrastructure readiness and access cost
iii. Regulatory framework
iv. Business environment
v. Access to low cost, long term capital

Some other roadblocks in the widespread adoption in Nigeria are the lack of authentic consumer information on digital media and poor technology / digital infrastructure. As identified, regulatory mandates and a robust business environment will be some of the most impactful levers in catalyzing the Nigerian FinTech market to come up to speed and enable it address these roadblocks.

Notwithstanding the tremendous transformation caused by disruptive technologies in the financial services sector, the overall deployment and adoption of FinTechs in the Nigerian Capital Market (NCM) is far less than that of our counterparts in developed and emerging economies. Although the current activities in the NCM can be described as deeper than what was obtainable about a decade ago; few technology-based products and platforms that were unavailable years back are now operational such as the E-Dividends, Direct Cash Settlement and Dematerialization. However, to achieve increased financial inclusion in the NCM, FinTech solutions should be deployed in a number of areas in the NCM, such as in the registration of securities and operators, surveillance of market, rule-making, investigation and enforcement, governance and disclosure, and market development, reporting, access to market data, trading technologies, to name a few.

3.2. The Impact of FinTech in an Emerging Market - Nigeria

According to the Hong Kong Trade Development Council (HKTDC) Research, Nigeria is an emerging Market with the GDP of $376.28 Billion and GDP per capita of $1,994 while the service industry accounts for 55.80% of the GDP composition. Nigeria has made significant progress in socioeconomic terms over the last 15 years; however, the country continues to face massive developmental challenges, which include diversifying the economy, addressing significant infrastructure deficit, and building strong and effective institutions, as well as governance structures and public financial management systems.

As part of the Economic Recovery and Growth Plan of the Federal Government (2017 -2020), the Federal Ministry of Finance and Central Bank of Nigeria have been mandated amongst other things to:

- Restructure, strengthen and rationalize the regulatory and supervisory framework.
- Address the low capitalization and poor governance practices of financial intermediaries that submit inaccurate information to the regulatory authorities and incur costs within the financial system.
- Collaborate with banks and financial institutions to develop a structured financing plan to offer less expensive and more accessible credit to the real sector.
- Direct Federal Government policy towards financial deepening (establish links between rural and urban, banking and non-banking, and formal and informal financial systems) and financial product diversification.
- Stimulate financial inclusion initiatives (e.g., provide access to banking services in remote locations)

Traditional financial institutions such as Banks and Insurance companies have existed in Nigeria for decades; however, the level of financial inclusion in Nigeria is still low. According to Enhancing Financial Innovation and Access in Nigeria, Nigeria has an adult population of 99.6 million Nigerians and 36.8% of them are financially excluded. Out of this, 68.9% have access to a smartphone and 63.3% live in rural areas. Transactions are largely cash based as 82% of Nigerians currently receive their main income in cash. If traditional financial institutions have existed for decades and have not been able to significantly close the financial inclusion gap, it indicates that we must leverage a scalable system or technology to drive financial inclusion. The Nigerian Financial Inclusion strategy aims at closing the financial inclusion gap by 20% in 2020.

The aforementioned poses a huge opportunity for FinTechs to provide value by creating technology driven solutions. This explains why the rise of FinTechs in Nigeria has undoubtedly caused an indelible disruption that has re-defined the delivery of financial products to customers. Waking from the traditional mode of delivering financial services to customers, there is some degree of awareness and usage of digitally powered products even though the usage is still generally low.

The rise of FinTechs has the potential to proffer answers to the challenges experienced in Nigeria's Financial Services sector that has existed for decades. FinTechs are leveraging online and offline capabilities to drive financial inclusion. The use of Mobile Money, artificial intelligence, Unstructured Supplementary Service Data (USSD), Near Field Communication technology etc. are also gaining adoption in the Nigerian ecosystem. FinTechs that have dominated Nigeria's space include Paga, Flutterwave, Remitta, Paystack, Piggybank, Onefi, etranzact, fetwallet, interswitch et al. They have provided simple solutions such as airtime purchase, P2P Lending, B2P lending, funds transfer and payment processing services to name a few.

According to the Nigerian Interbank Settlement System, mobile money operators had 8.5 Million customers as at December 31 2018. They processed N1.8 trillion worth of transaction in 87.1 Million deals. Total Number of Mobile Money agents were 38,416 and they are 21 licensed mobile money operators in Nigeria.

In a bid to further drive financial inclusion, the Central Bank of Nigeria has released a framework for the creation of Payment Service Banks. This enables FinTechs, Telcos and the likes to leverage their existing customer base and data to provide access to basic financial services while extending this to include payments, savings, credit, insurance, pension and capital market products.

Lastly, FinTechs have the capacity to drive scalability and convenience for a customer population like Nigeria where transactions are largely cash based and a sizeable portion of the population is financially excluded. Despite the economic headwinds, the level of innovation for financial services that Nigeria has achieved is commendable. However there is much more that can be achieved with appropriate economic conditions and appropriate framework from all stakeholders in the FinTech Ecosystem.

4 COMPARATIVE ANALYSIS OF FINTECH PRACTICES

4.1. The Role of FinTech Hubs – The Places Where FinTech Firms are Catalyzed and Growing

As a key driver of financial inclusion and economic development, FinTech innovation has become a major area of focus for many countries, financial institutions and investors. Traditional banking institutions are seeking increased collaborations with FinTechs through direct investments or revenue sharing models while governments are investing more in RegTech and innovation friendly regulations as well as facilitating regulation to enable FinTechs drive economic growth and employment opportunities.

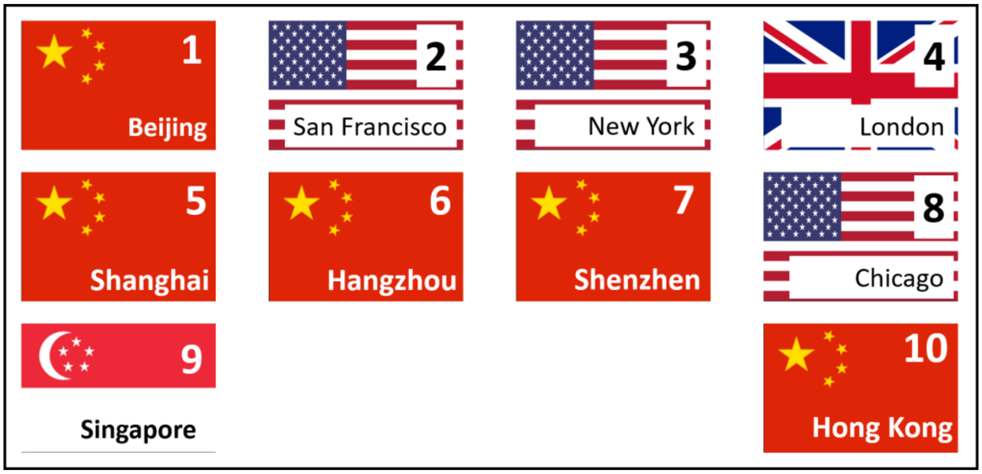
Global investments in FinTechs more than doubled from $50.8 billion in 2017 to $111.8 billion in 2018 with FinTech hubs in The Americas, Europe and Asia all seeing significant growth in investments year-on-year, including, big ticket deals such as Vantiv's acquisition of Worldpay for $12.86 billion, Ant Financial's VC raise of $14 billion and PE firm Blackstone's $17 billion investment in Refinitiv[4].

The global regulatory environment continued to shift in 2018, with the degree of change not expected to drop off in the near future. The implementation of Payments Service Directive (PSD2), General Data Protection Regulation (GDPR), MiFID II, new IFRS standards and the EU Benchmark Regulation forced many organizations to adjust their operations in 2018.
These and more regulatory changes helped increase interest in RegTech during 2018, both from traditional corporates looking for ways to better manage their compliance obligations and from other investors.

These investment activities, collaborations with traditional financial institutions, innovation availability of skills, government policy and regulation define the relevance and growth of a city or country as a FinTech hub. According to the Global FinTech Hub report, cities in China, USA, UK and Singapore lead as top 10 FinTech Hubs in the world:

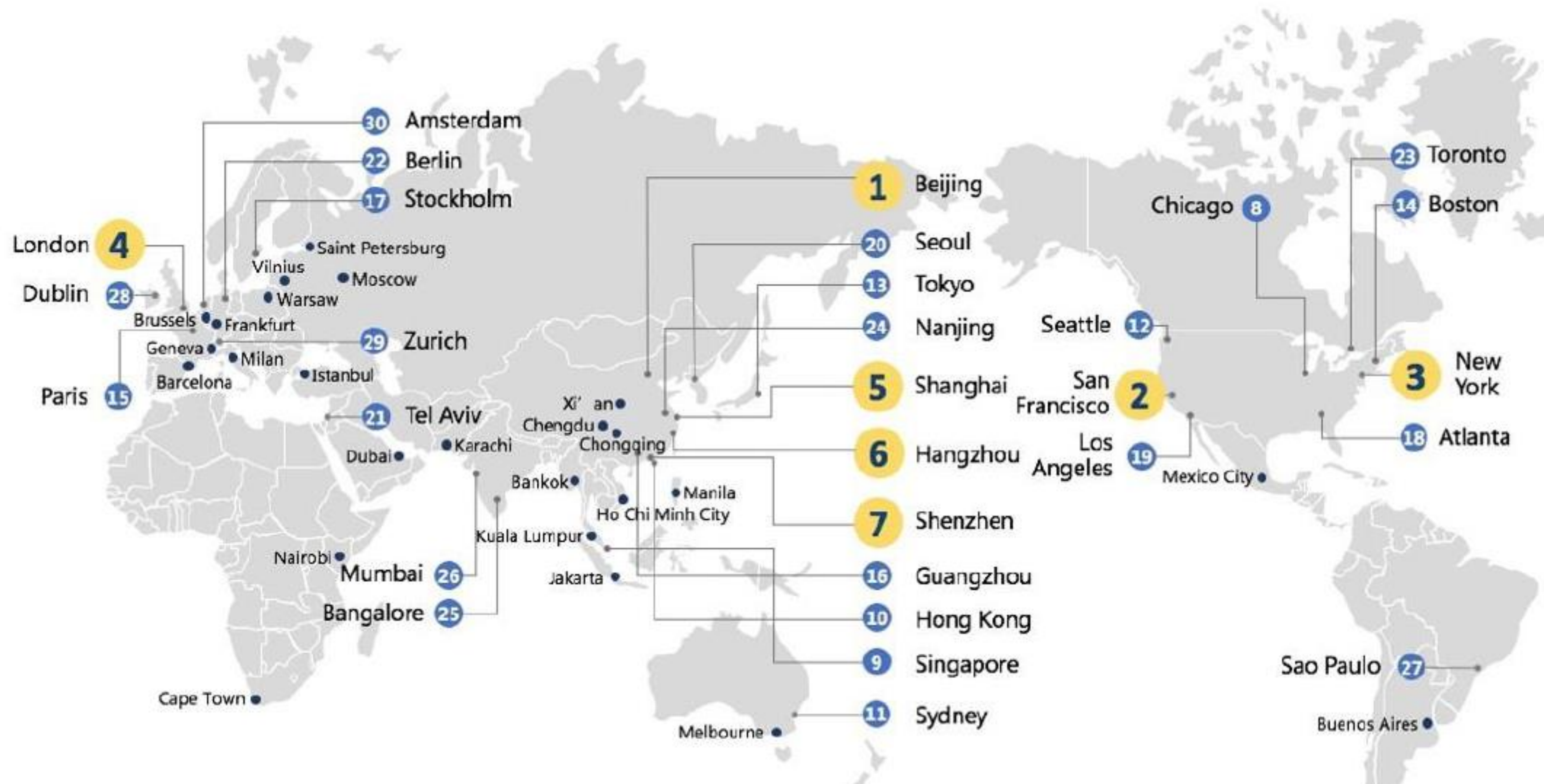
[4] KPMG report (The Pulse of FinTech 2018)

Ranking of global FinTech Hubs:



Source: Global FinTech Hub Report 2018 – University of Cambridge

Global Landscape and Ranking of FinTech Hubs



Note: The above yellow-numbered cities are the 7 Global FinTech Hubs, the blue-numbered cities are the 23 Regional FinTech Hubs, and the 25 unnumbered cities are the new leaders (Emerging FinTech Hubs).

Source: Global FinTech Hub Report 2018 – University of Cambridge

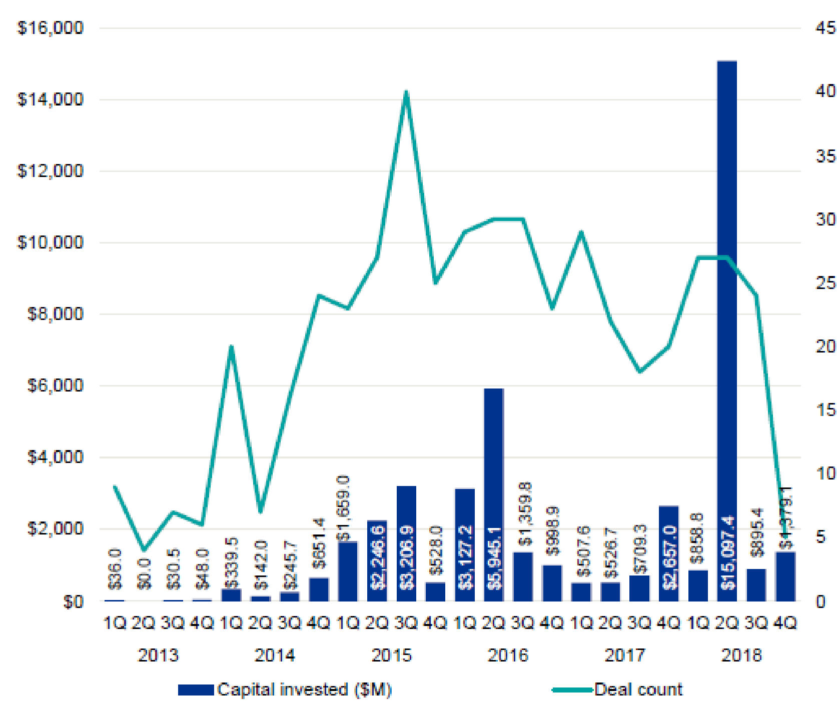
4.2. *Environment and Regulatory Policies*

Given the advancement of FinTech Hubs in China, UK and Singapore this report will review case studies in these countries to establish the most appropriate adaption to drive FinTech regulation and growth within the Nigerian context.

China

China is considered one of the most progressive countries in terms of FinTech & innovation with investments reaching a record high of $18.2 billion in 2018 compared to $4.4 billion dollars in 2017. Some of the biggest FinTechs in China include Ant Financial, JD Finance and Baidu.

Trend of FinTech Investments in China



Key Regulators:

People's Bank of China
Reserves. $ 3.21 trillion

China Securities Regulatory Commission

Hong Kong Stock Exchange
Market Cap. $ 3.67 trillion

Shanghai Stock Exchange
Market Cap. $ 2.7 trillion

--- KPMG Pulse of FinTech 2018

China maintained a light touch of FinTech regulation between 2013 and 2015 which enabled an explosive growth of the FinTech landscape in the country. However, this led to increased fraud cases and risk events, specifically targeting internet lending.

Since 2015, China has managed to tighten up its regulation in lending, payments, insurance and internet finance. As at 2017, the country had about seventy equity crowdfunding platforms and a significant P2P lending market. In 2016, China announced a cap on the country's peer-2-

peer lending whereby individuals could only borrow a maximum of CNY 200,000 and companies could borrow CNY 5 million per borrower.

Regulatory environment of China

FinTechs in China is regulated by the following bodies:

CATEGORY OF FINTECH IN CHINA	REGULATOR
Third party payment service	Peoples Bank of China (PBOC)
P2P lending	China Banking Regulatory Commission (CBRC)
Equity crowdfunding	China Securities Regulatory Commission (CSRC)
Online fund sales	China Securities Regulatory Commission (CSRC)
Online insurance	China Insurance Regulatory Commission (CIRC)

Some of China's guidelines and regulatory initiatives include:

- *The Guiding Opinions on Promoting the Healthy Development of Internet Finance 2015 (2015 Internet Finance Guidelines)* - The guidelines explain how China's financial and internet regulations would apply to the country's growing internet finance industry.
- *The Measures for the Administration of Payment Services of Non-Banking Institutions 2010* - Regulates 3rd party payment services. Non-financial companies must obtain a payment business license from the Peoples Bank of China (the "PBOC") for 3rd party payment services.
- *Interim Measures for Administration of the Business Activities of Peer-to-Peer Lending Information Intermediaries* - Regulates the business activities for P2P lending.
- *Plan to Implement Special Rectification Work on Internet Finance Risks* - Plan seeks to standardize the regulation and supervision of internet finance by balancing the goals of protecting consumers and encouraging financial innovation.
- *Plan to Implement Special Rectification Work on Equity Crowdfunding* - Specifies activities that equity crowdfunding businesses are not allowed to engage in including:
    - Public offering of securities to unspecified investors or more than 200 specified investors without CSRC approval.
    - Illegal private equity fund management business, such as raising funds from individuals or organizations other than from qualified investors (capped at 200).
    - Misappropriating or occupying investors' funds
    - Making false and misleading claims in publicizing or promoting finance products or businesses.

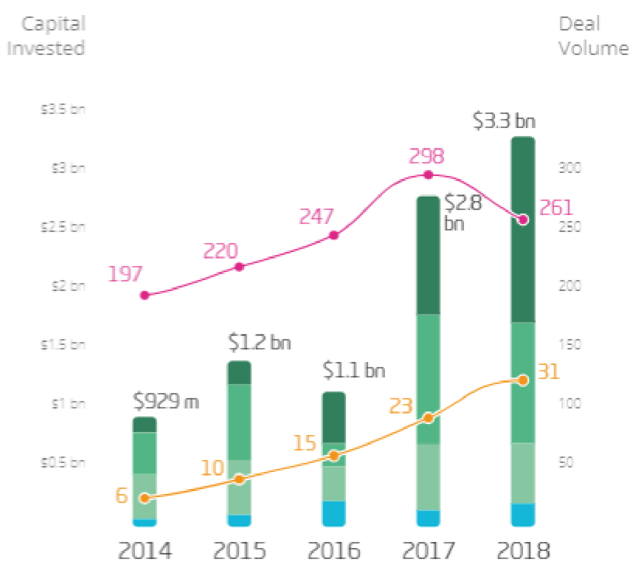
- Conducting securities business (such as any brokerage or advisory service in relation to securities investment) without the CSRC's approval.

United Kingdom

The United Kingdom is considered the most advanced in FinTech regulations and attracts the most significant FinTech investments in Europe such as Vantiv's acquisition of Worldpay for $12.86 billion, which was one of the biggest deals in 2018.

Trend of FinTech Investments in the UK

(Venture Capital and Private Equity Only)



	2014	2015	2016	2017	2018	YoY	5 Yr
Deal Volume							
VC	197	220	247	298	261	-12%	32%
PE	6	10	15	23	31	35%	417%
Capital Invested ($M)	929	1,275	1,150	2,810	3,319	18%	257%
Angel / Seed ($M)	64	61	219	141	199	42%	212%
Early VC ($M)	376	375	295	562	511	-9%	36%
Later VC ($M)	359	642	198	1,099	1,025	-7%	185%
Growth PE ($M)	130	197	438	1,008	1,583	57%	1114%

UK FinTech Report 2018 – Innovate Finance

Key Regulators:

Bank of England
Reserves. $ 48.89 billion

Financial Conduct Authority

London Stock Exchange
Market Cap. $ 3.88 trillion

In April 2016, The FCA introduced the Innovative Finance ISA for loans arranged via P2P platforms in April 2016. In particular, crowdfunding platforms need to comply with Client Money regulations (CASS).

On 13 January 2018 the Open Banking (PSD2) directive came into force. The directive would require Banks to open up their banking information so that it can be shared more securely between organizations. This would allow third parties such as FinTechs to build innovative products.

FCA signed Co-operation Agreements with FinTech regulators in several countries including China, the USA, Singapore and Australia.

- The agreements allow parties to share information on financial services innovations as well as emerging trends and regulatory issues.
- Some of the agreements contain a referral mechanism for innovative businesses seeking to enter the other's market.
- Regulators provide support to the FinTechs at each point in order to reduce regulatory uncertainty and time to market.
- Once referred by the regulator & before applying for authorization to operate in the new market, the business will be assigned a team to assist them understand the regulations in the new market.
- The business will be assisted during the authorization processes with access to expert staff and possible specialized authorization process.
- Following authorization, the business will have a dedicated contact to turn to for support for a year.

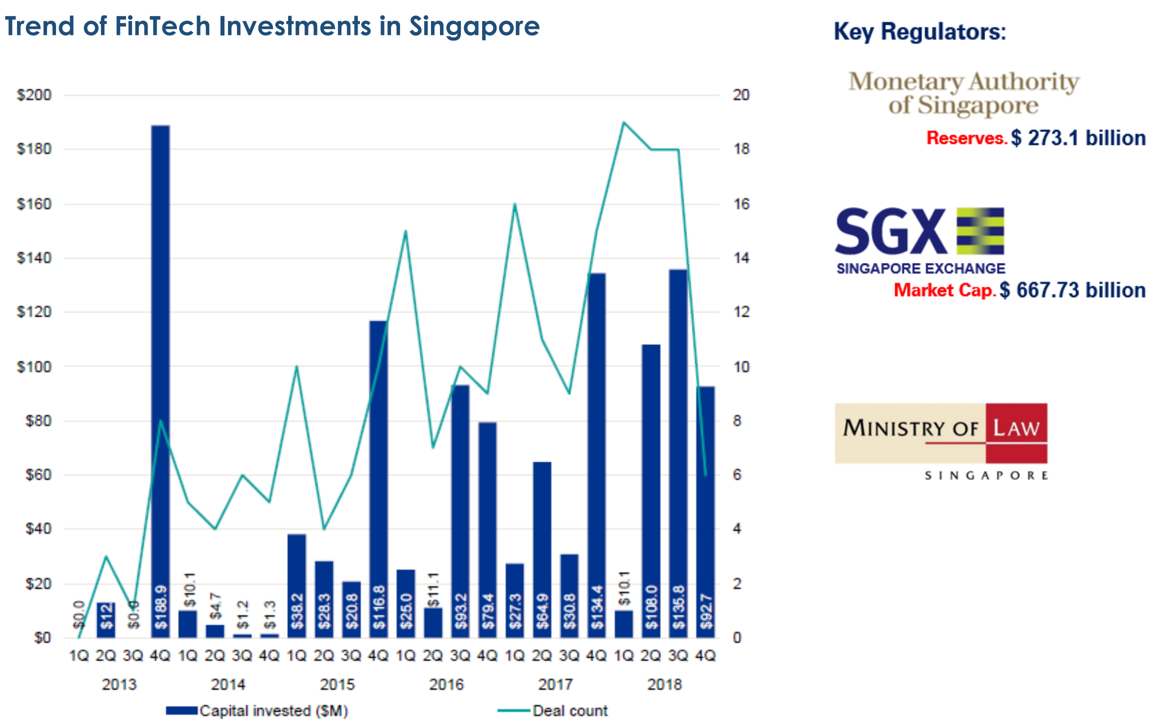
A key regulatory initiative by the UK is "Project Innovate" which was introduced by the FCA in 2014 to aid FinTechs introduce their innovative financial offerings. Its five core initiatives were:

1. *A Regulatory Sandbox* - for FinTechs to test their innovation in the market without regulatory involvement.
2. *An Innovation Hub:* for FinTechs to identify & understand applicable regulation, harness expertise of regulators, prepare applicable applications and inform the FCA of any constraints in existing approach
3. *An Advice Unit:* to provide feedback to firms developing automated advice and guidance models.
4. *A Direct Support Team:* to provide a dedicated contact for FinTech that are considering applying for authorization.

5. *Regulatory Technology (RegTech) tools and services:* This applies to new RegTechs and allows the FCA to help start-ups, FinTechs and academics to learn about the different types of RegTech.

Singapore

The FinTech sector is regarded as the fastest growing in Singapore with total investments in this sector totaling $347 million in 2018. The main regulator, the Monetary Authority of Singapore organizes one of the world's largest FinTech festivals, the Singapore FinTech Festival, drawing more than 30,000 participants comprised of FinTech players, technopreneurs, policy makers, financial industry leaders and investors.



--- KPMG Pulse of FinTech 2018

In addition to the FinTech festival, other initiatives by the regulator include:

- *The Regulatory Sandbox* - for aspiring FinTechs to set up in Singapore within a specific range of operations in a well-defined space.
- FinTech Innovation Lab ('Looking glass') - a platform that allows stakeholders in FinTech sector to connect, collaborate, and co-create.
- FinTech Fast Track program by the Intellectual Property Office of Singapore: to accelerate patent applications. FinTech patents are issued within 6 (six) months as opposed to 2 (two) years.

Worthy Mention - Malta

Malta is considered a 'Blockchain Island' given its progress and effective regulation of blockchain related technologies. The following bills were unanimously passed by its parliament:

- Innovative Technological Arrangement and Services Act
- Malta Digital Innovation Authority Act
- Virtual Financial Asset Act

Malta Digital Innovation Authority Act (MDIA)

MDIA Act provides for the constitution of the Malta Digital Innovation Authority (MDIA). The act outlines the sole mission of the Authority, which is to enhance the development of blockchain technology in the country. According to the law, the work of MDIA is to certify the developed DLT platform software and how the software will be managed. In turn, the certification offers some certainty to the users of the DLT platforms based in Malta in the areas of technical, legal and token-economics (tokenomics).

Innovative Technological Arrangement and Services Act (ITAS)

The ITAS Act puts in place the framework in which the Innovative Technology Arrangements and Services (ITAS) can run. The act further establishes criteria for defining these innovative technological arrangements and drafting registration requirements for Innovative Technological Services (ITS) and Innovative Technology Arrangements (ITA). It also registers entities that provide the Innovative Technology Services (the ITS providers).

The Virtual Financial Assets Act (VFAA)

The VFAA legislation was put in place to create a framework in which the regulatory body can work either directly or indirectly with various financial assets platforms that include the ICO providers, custodian wallet providers, token exchanges, brokerages, nominee service providers, portfolio managers and different investment advisers. The VFAA Act also came up with guidelines and requirements for an STO (Security Token Offering and the ICO (Initial Token Offering). This includes the whitepapers that are to be presented to the Malta Financial Services Authority. One of the rules requires that the token issuer appoint a VFA agent who then goes through approvals by the MFSA and acts as a competent authority for monitoring and reporting on any token offerings.

5 FINTECH CHALLENGES

Despite the potential benefit of FinTech to the Nigerian capital market, there is still lot of work to be done, as numerous challenges exist for industry experts and stakeholders to tackle. These challenges have restricted the adoption of FinTechs fully into the capital market ecosystem and prevented FinTechs from maximizing their full potential in our market.

FinTech Innovation, which is commonly referred to as "Disruptive Technology" is responsible for significantly altering traditional processes in the financial system with the use of innovative technology. This disruptive nature of FinTech solutions initially created challenges for the industry, as practitioners in the financial system regarded it as competition. Innovative technology triggered creative disruption and threatened the operations of various financial system operators and intermediaries. This challenge has however been addressed in certain jurisdictions with the acceptance of FinTechs as collaborators and enablers, rather than competition. Whilst considerable success has been achieved in addressing this challenge in some jurisdictions, there exist certain challenges, which still hinder the growth of the sector, particularly in the Nigerian capital market.

5.1 REGULATION

The existing regulatory framework of every capital market determines the emergence of new products or services in that market. Regulators must come up with the appropriate framework and policies that drive the adoption of innovative technology in solving problems in the financial services sector and ensure that adequate regulatory safeguards are put in place to ensure the protection of consumers.

The existing framework in the Nigerian capital market neither provides enough clarity on the role of FinTech companies nor clearly articulates what is expected of them in terms of registration requirements and compliance. In addition, the framework creates uncertainty of how regulators intend to treat certain FinTech products like crypto assets.

This situation is a major challenge and threatens the growth of the sector, as innovators not only remain uncertain about the future of their innovations, but the regulator is also perceived as being ambivalent to technological innovation.

It is pertinent that regulators in Nigeria are not perceived as stifling creativity in the space as studies have shown that jurisdictions with a thriving FinTech industry boast of regulatory frameworks that contemplate and accommodate the activities of FinTech companies, while clearly spelling out the status of FinTech products and services.

There is currently a lack of a single source of truth for FinTech regulation and requirements. There is no clear definition of regulatory responsibility for FinTech themes. For instance, some FinTechs obtain licenses from CBN while others obtain theirs from the SEC. This leads to a lack of clarity of the types of licenses to be obtained for specific FinTech products.

Tendency to over-regulate FinTech activities without enough understanding of the technologies of the solutions offered by FinTechs is also a major issue. In addition, the time taken for SEC registration in Nigeria is perceived as too long.

5.2 ACCESS TO DATA

Simply put, data is the tool that drives engagement and innovation. The unavailability of access to data remains a huge challenge to FinTechs in the Nigerian capital market. This makes it difficult to identify potential customers, develop applications to meet the specific needs of investors and monitor competition.

The importance of data is underscored by its description as the "new oil" in this technological age. Commonly referred to as "Big Data", its availability aids the creation of new products and services or facilitates improvements to existing processes in terms of either time or cost reduction. Closely related to access to data is data analytics, which involves examining data to draw conclusions about information and machine learning techniques for predictive insights.

The efficiency of every FinTech company is therefore dependent on access to data and its ability to transform it into products and services. The absence or insufficiency of data completely makes the generation of Big data impossible and constitutes a huge challenge to FinTech companies whose efficiency relies on data.

In this era of Big Data and data analytics, regulators also need to jettison conventional supervisory approach and adopt the use of supervisory technology for regulators (SupTech) in analyzing the vast amount of data at their disposal and automate the supervisory process to achieve effective supervision of regulated entities and increased transparency in the supervisory process.

Access to data is now well regulated with the coming into force of several regulatory frameworks and measures to guide and regulate how data is collected and processed by Data Controllers and Processors. For instance, the European Union General Data Protection Regulation (GDPR) which governs the mode of acquiring, handling, processing and disposal of personal data of European Union Citizens (whether in or outside the European Union) now makes it difficult for third parties to randomly collect personal data for processing.

Before data is processed by a Data Controller/Processor, there must be a legal basis, one of which is to obtain consent from the data subject. Jurisdictions like China[5] mandates that the consent of a data subject must be obtained before personal data is processed. Data subjects have expressed their resentments regarding giving out their personal data to companies or government agencies due to lack of trust and transparency on how they treat and handle their personal information. According to the Rivest-Shamir-Adleman (RSA) Security LLC's Data Privacy & Security Report, 41 percent of the respondents said they falsify data intentionally, due to security concerns, when signing up for services online, including services rendered by FinTechs[6]. This is to avoid the risk of having their data resold or exploited for economic gains.

However, for FinTechs, data and the process of mining it is an asset. This is because the more data they have at their disposal, the more they are able to project and undertake analysis for the purpose of developing new products for the market. With the GDPR, this accumulation of data now presents itself as an obligation as the companies would be required to put adequate security measures in place to strictly ensure that the data collected and processed is safe and secure.

In Nigeria, the Data Protection Regulation 2019, issued by the National Information Technology Development Agency, also sets out the mode and procedures for the collection, accumulation and processing of data. The Regulation affects FinTechs as it invariably limits the amount of data available for collection by FinTechs because of the requirement to ensure lawful processing. Lawful processing for FinTechs would include obtaining consent from data subjects, performing a contract to which the Data Subject is a party, protection of the vital interest of the Data Subject, compliance with legal obligation and public interest. There could be great difficulty in obtaining consent from data subjects due to the large volume of data that will be processed using Big Data Analytics by FinTechs although, FinTechs could explore other legal basis for processing or anonymizing the data. FinTechs also now have the obligation to ensure that the personal data collected is not compromised by third parties.

[5] Accenture reported that China accounted for 46% of all Fintech investments in 2018, https://newsroom.accenture.com/news/global-fintech-investments-surged-in-2018-with-investments-in-china-taking-the-lead-accenture-analysis-finds-uk-gains-sharply-despite-brexit-doubts.htm
[6] https://www.paymenteye.com/2018/02/08/fake-data-survey-reveals-extent-of-false-data-supplied-by-consumers/

5.3 CYBER SECURITY

The dependence on data by FinTechs speaks to the fact that a huge volume of personal and proprietary data is vulnerable to attack and possible improper use. This threat of data theft and compromise underscores the importance of cyber security and this threat is a real and present danger and is disproportionally magnified by interconnected financial systems.

Cyber-attacks are currently on the high and major FinTech companies from inception allocate huge budgetary votes for cyber security in order to protect their data integrity and confidentiality. Whilst one challenge relates to protecting the data itself, another challenge is the cost associated with protection of data.

The UK Cyber Security market is one of the largest in Europe and valued at about $5 Billion. In 2016, the UK Government released its National Cyber Security Strategy 2016-2021, which would see the government spend about £1.9 Billion.

Similarly, the Singapore government recently passed its Cyber Security Bill into law; one of the implications of the bill is an increment to the compliance cost of cyber security requirements. The situation in the United States is no different as the Bank of America and J.P. Morgan each spend about $500 Million a year on cyber security.[7] It is projected that private companies in the US would spend about $1 Trillion on cyber security through 2021, while government spending is estimated to reach $22 Billion by 2022. In addition, the US government seeks to pump in $100 Million to the newly established office of cyber security, energy security and emergence.[8]

The narrative above depicts huge cost implications for cyber security, which is prohibitive to several FinTech companies in Nigeria.

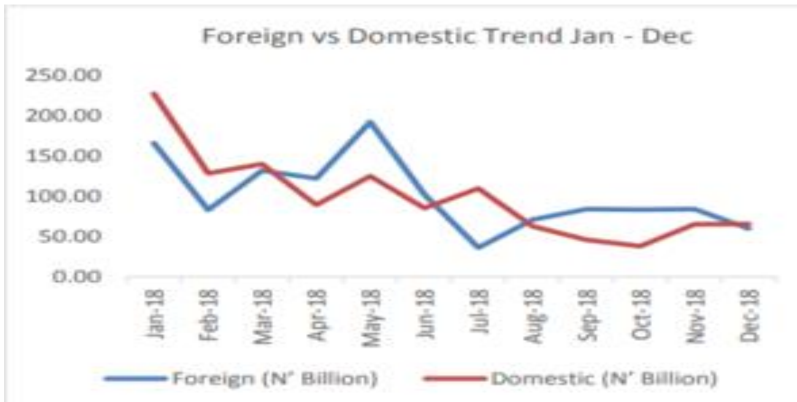
Even on the regulatory front, regulators would necessarily have to upscale their operations, invest in human capacity development and build institutional capacity in previously uncharted realms of cybersecurity, intellectual property, and data privacy and protection.

If the threat posed by inadequate cybersecurity is left unchecked, information technology risks could ultimately lead to financial instability because as more start-ups seek to leverage data, it would invariably lead to potential vulnerability of consumer data.

[7] https://stateof.today/a-lack-of-cybersecurity-funding-and-expertise-threatens-u-s-infrastructure/
[8] https://www.forbes.com/sites/ellistalton/2018/04/23/the-u-s-governments-lack-of-cybersecurity-expertise-threatens-our-infrastructure/#702c8dd549e0

5.4 CAPITAL MARKET LIQUIDITY

Nigeria's capital market liquidity is over-dependent on foreign capital. Adverse changes in the macro-economic environment leads to capital flight and dearth of liquidity in the market.
We need to grow the domestic contribution as a shock absorber. While institutional investments can be better, the retail investments present the more challenging but vital opportunity for the sustainable growth of the capital market.



[9]

Regulation has stifled the Crowdfunding industry, which is a major contribution in recent times from the FinTech industry. A few players have started operating on their own but run the risk of sanction due to lack of transparency. Very few operators in Nigeria's capital market have shown a commitment to growing the retail market as it is perceived as an expensive investment with questionable ROI.

5.5 LACK OF MARKET CONFIDENCE

Non-Banking Financial Institutions (NBFIs) are not perceived as strong institutions the way banks are. The top 5 banks employ over 36,000 staff with yearly revenues in excess of N2 Trillion whereas the top 5 NBFI's are struggling to reach 10% of these figures[10]. Moreover, banks are insured the by Nigeria Deposit Insurance Corporation (NDIC).

The low confidence is also as a result of no clear sense as to what the value proposition of the FinTech industry or firms bring to plats. Consumers are not sure what solutions are being offered by other financial classes and FinTechs have less access to these customers. The NBFIs also do not possess the quantum of trust that is backed by the brand awareness of the Banks as consumers find it harder to trust companies that are limited as information made available cannot be used to make investment decisions.

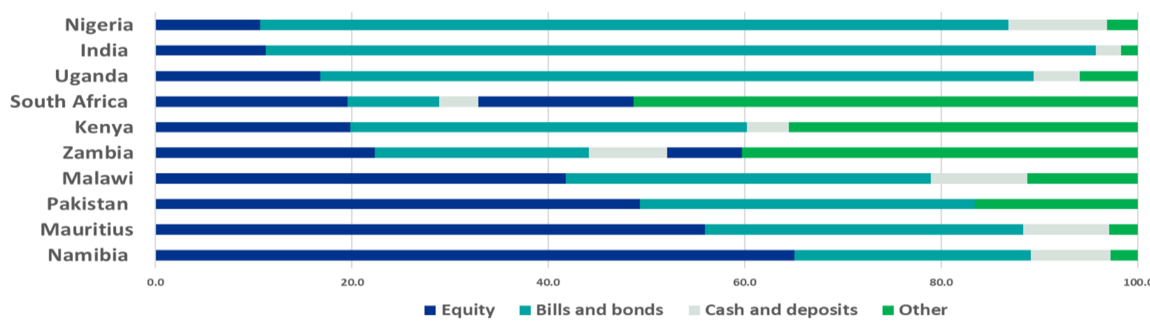
[9] http://nse.com.ng/market_data-site/other-market-information-site/
[10] https://businesspost.ng/2017/05/30/number-nigerian-banks-employees-rise-77690-q1/

Unlike the banking sector, the capital market has a lengthy transaction process which discourages potential market entrants. The key problem areas include:

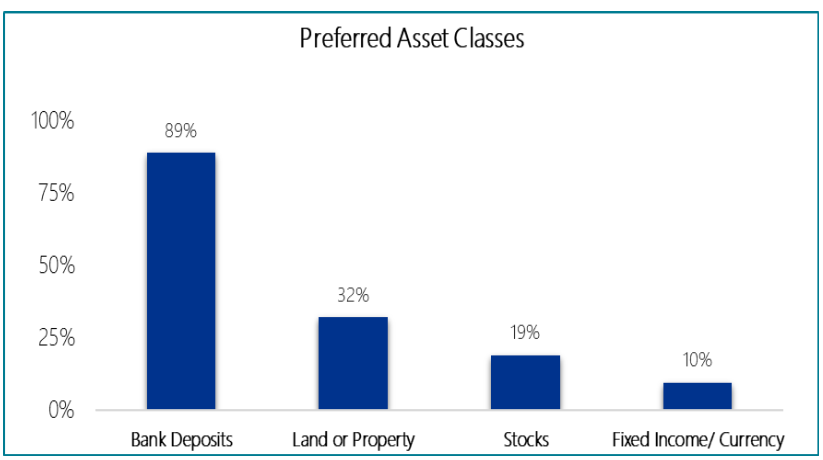
- Low investments participation
- Poor trading operations process/infrastructure
- Poor communication of value proposition
- Dearth of innovative solutions to bring FinTechs into the mainstream market and encourage retail and institutional participation in their funding

5.6 INSTITUTIONAL KNOWLEDGE GAP

The Pension industry's holdings of FGN paper amounted to 69.7% of their AUM in February 2018, compared with 72.3% one year earlier[11]. Most pension managers are largely risk managers and have a rather conservative approach to equity and non-conventional investments outside government securities and commercial paper.



Retail customers have a low level of financial literacy and may consider non conventional investment products outside of bank deposits and land/property to be complex



Due to lack of awareness, the typical retail investor portfolio is as seen above. Majority of retail client assets are either stuck in bank deposits or land/property which leaves other investment

[11] https://www.pencom.gov.ng/wp-content/uploads/2019/03/SUMMARY-OF-PENSION-FUND-ASSETS-AS-AT-31-DECEMBER2018.pdf

assets to suffer, thereby stunting economic growth[12]. In order to achieve better retail participation, the regulators, capital market operators and FinTechs need to do a lot more to promote the services that they currently offer.

5.7 LACK OF INNOVATION

The industry is not dynamic and innovative in providing solutions for retail investors and this would need to change for the market is to grow and thrive as with other jurisdictions. The government has to offer incentives to encourage investment in Fintech innovation, the regulators a more inventive approach and the operators more solutions to engage and encourage broad based retail participation.

Majority of the fund managers focus on High Net-worth Individuals (“HNI”). There needs to be a better understanding of the investment needs of the public and design products and services around this. The process of getting new products out to the public is unnecessarily cumbersome and there is not enough collaboration between traditional firms and FinTechs to drive the innovation as we have in the banking sector. It also takes longer to push out new products.

5.8 WEAK DIGITAL INFRASTRUCTURE

For a viable FinTech ecosystem in the Nigerian Capital Market, it is imperative to have in place, a supportive digital infrastructural architecture. The country still has a rather low penetration of mobile, high-speed broadband and IoT infrastructure to facilitate smooth connectivity across all channels.

Some FinTechs have to incur heavy expenditure to generate power, procure cloud infrastructure or run data centres, and access internet broadband to power their solutions, thereby passing these costs to the final consumer.

Poor connectivity in urban settlements often times result in failed transactions. The efficient, good quality and low-cost telecommunication services required to extend financial inclusion to rural populations is being hampered by the high cost of expansion to those areas. In most villages and rural settlements, there is limited or no electricity, which makes powering phones or towers difficult, as many of these areas do not even have the telecommunications signal to support mobile telephony.

Over the decades, we have observed that markets and innovation thrive with the right hard and soft infrastructure: hard infrastructure ranging from transport links to broadband and

[12] Sankore Research

payments architecture; and soft infrastructure from the rule of law to market practices, codes of conduct, regulatory frameworks and prominent components of digital infrastructure such as cloud computing, network infrastructure and internet broadband.

The right digital infrastructure will create safer, efficient and more transparent platforms for financial services, building confidence and ensuring speed and stability in the system. The business promise of most of tech startups are anchored on speed of service delivery, security of transactions/business operations, ease of doing business, and possibly, low cost of transactions.

Most FinTech start-ups depend on services already provided by existing financial industry players - from KYC and identity verification, to payments processing, assets custody, access to credit history, settlement, industry data access, and other activities that may be specific to the nature of their business. Unfortunately, the requisite infrastructure for FinTech startups to access these services are either unavailable, difficult to find, fragmented, or not automated.

5.9 UNDERDEVELOPED VENTURE CAPITAL/GROWTH FUNDING STRUCTURE

The low level of participation by Venture Capital/Growth Funds in FinTech investment, coupled with the attractiveness of FinTech firms to angel investors have been a challenge in the ecosystem. The non-existence of numerous marketplace platforms where FinTech start-ups can demonstrate and provide briefs about their innovative offerings to potential investors has further exacerbated the problem. To the extent they exist, International funding partners have been the major funding source for FinTech start-ups to access capital at seed stage.

Lack of developed platforms for alternative funding models providing capital formation for FinTech start-ups is an impediment within the space. These start-ups have few funding options at seed stage to provide the initial startup capital required to acquire license and scale their operations. A developed VC/growth funding structure would not only guarantee t access to substantial and sustainable funding, but also provide FinTechs with access to key partnerships, collaborations and industry knowledge.

There is currently no single source of guidance or regulation around funding for FinTechs through VCs in Nigeria. More often than not, the requirements vary from VCs to VCs, thereby subjecting the standards to variation and uncertainty. Harmonizing the requirements and streamlining the process for accessing VC/growth funds under certain form of regulation will go a long way in helping FinTech start-ups in the Nigerian Capital Market. Mobilizing both domestic and foreign venture capital funds will also help create awareness amongst investors and showcase the huge potentials available in the FinTech space.

5.10 LACK OF INCUBATOR-ACCELERATOR ENTREPRENEURIAL SUPPORT SYSTEM

FinTech start-ups require support to thrive in an ecosystem, and Incubators-Accelarators provide this sustenance in form of access to office space, legal/marketing/regulatory/managerial guidance, accounting/tax advisory and capital. While there have been attempts by the innovation hubs to offer support to start-ups, the effect has not been felt across the FinTech start-ups community. Start-ups such as Paga, Paystack and Flutterwave have raised funds outside the shores of the country.

In addition to the dearth of well-developed systems integration partners, the quality of the incubator / accelerator entrepreneurial support system for FinTech in Nigeria is still heavily reliant on foreign technical support and investment.

Developing economies like as India, Brazil, China and Russia, where government-owned technology incubation centres have proven to be great accelerators for FinTech start-ups, have experienced phenomenal results through partnerships with universities (to provide resources for R&D) and private organizations (to provide funding).

In highly sophisticated and technical sub-sectors such as the capital market, there is also the need for thorough orientation of the founders/drivers of FinTech start-ups on industry practices. It is difficult for FinTech firms to thrive without guidance/support around compliance standards and regulatory frameworks. This is even more imperative for start-up founders with technology background, who barely have basic knowledge of the capital market, banking system and the requisite regulatory environment underpinning these markets.

Adequate entrepreneurial support systems will provide FinTechs with the required assistance in go-to-market and to develop growth strategies. It will also help the firms test and refine their products via robust proof of Concept projects with Nigerian financial institutions, thereby building confidence among global Financial Institutions to adopt FinTech solutions developed in Nigeria. Ultimately, with the right incubation/acceleration support, FinTech solutions can be taken beyond the prototype stage and effectively marketed to global players.

6 RECOMMENDATIONS FOR ADDRESSING FINTECH CHALLENGES

6.1. Deepening Market Penetrations

In order to improve penetration of investment products, the SEC should consider the following initiatives:

1. COLLABORATION:

a) Collaborate with the Central Bank of Nigeria to:

- Streamline customer onboarding. This can be done by revising regulations to make BVN sufficient for opening accounts in the capital market, insurance, pension and credit space.
- Simplify the process of new product registration
- SEC should take responsibility to collaborate with Self-Regulatory Operators to provide access to information for FinTech oriented public/startups.

b) Collaborate with the National Pension Commission to:

- Ease tensions between fund and pension managers as the pension managers should be natural clients of the fund managers, which in turn must be encouraged to seek and invest in viable FinTech initiatives for medium to long term wealth growth and creation
- Share Knowledge: The Pension Commission need to have a long-term orientation towards asset allocation which fund managers have. Both parties should be able to leverage each other's information/research and expertise in order to efficiently allocate available assets.
- Revise Regulation: Some SEC rules need to be revised as it works against the efficient use of available pension assets. For example, there should be limitations on the total number of Pension assets invested in government securities in order to spur growth in other areas of the economy.

c) Collaborate with the National Insurance Commission (NAICOM) to:

- The insurance sector needs to evolve in order to be competitive. NAICOM should fast-track the implementation of the minimum paid-up share capital.

- Insurance companies need to adopt the use of FinTechs as distribution channels for the promotion and sales of their products and services, this will improve the prospects of faster products and services delivery.
- Technology has certainly made insurance more reachable, but it is yet to address such core pertinent issues as the huge gap on consumer education around how insurance actually works. Consumers have low trust in the industry, particularly when it comes to transparency and fairness of premium pricing and claims.
- Partner with religious institutions on the sensitization of the markets.

d) Collaborate with Educational Institutions to:

- Develop industry relevant curriculum. The NDIC has a similar programme introduced into the leading federal universities curriculum already and it is called Train-the-Trainer Programme where experienced NDIC staff train university lecturers on the courses and the lecturers in turn train University undergraduates.
- Create cross industry financial literacy programs targeted at retail clients
- Have targeted seminars and conferences on financial literacy in the area of the capital market in different regions/selected cities in Nigeria.

e) Strategic Government Interventions

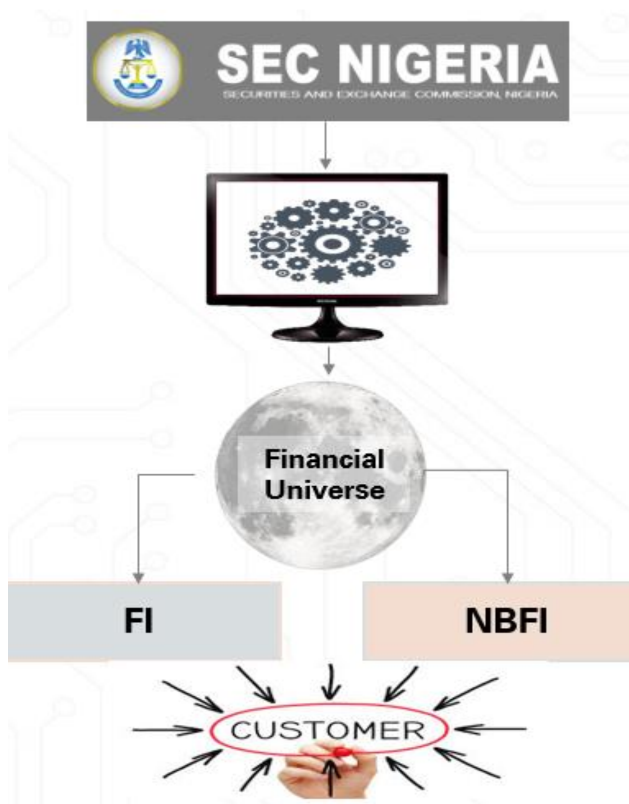
- Collaborate with Universities and other tertiary institutions to deepen training and research in software skills and engineering
- Establish / provide grants for training prospective software developers to high globally recognized standards
- Implement fiscal policies to provide tax breaks for institutions and individuals investing in start-ups and FinTechs.

2. FOSTERING AN INNOVATIVE ENVIRONMENT:

The SEC needs to intensify its efforts to raise awareness on the benefits of investing in the Nigerian capital markets and more specifically, encourage the development and introduction of FinTech led innovation in the market. This will enable an improved user experience and broader market participation. The creation and hosting of a sandbox environment has been proven to be a sound method of fostering innovation in capital markets.

3. INVEST IN REGTECH AND PROCESS IMPROVEMENT TECHNOLOGIES

Leveraging on RegTech platforms will strengthen inspection and investigation processes. It would also be an avenue to digitize the rules/codes and ensure transparent enforcement and prosecution with a view to publishing the outcomes within global standards.



6.2. Consumer Protection, Security & Data Privacy

Since customers are at the core of innovation in financial services, the following recommendations should be considered to ensure consumer protection, security & data privacy:

1. **GOVERNMENT AND REGULATORS:** SEC should collaborate with other regulators and governments agencies to firm up FinTech oriented privacy and security policies. Existing policies should also be revised to reflect existing realities in an innovative environment that encourages data sharing in a secure manner

    - Current global privacy regulations should be reviewed for adaptation to Nigerian FinTechs, especially international regulations and standards such as the Convention N°108, the OECD Guidelines on the Protection of Privacy and Trans border Flows of Personal Data, and the EU General Data Protection Regulation.
    - Regulate and enforce competition rules in financial markets to prevent formation of data provider monopolies

2. **FINTECHS:**

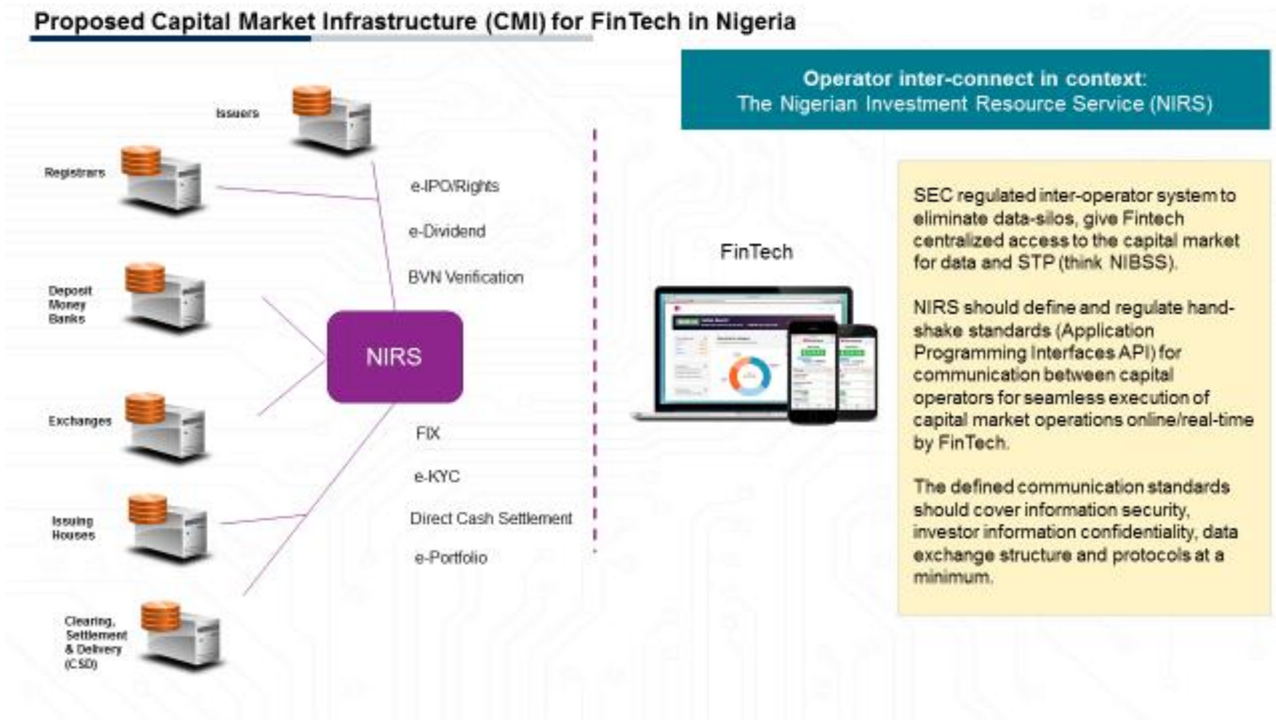
    - Use customer data only while customers are using their services. Terms of use should not include indefinite amounts of time for data exploitation or background data collection
    - Data minimization; processing only necessary data should be practiced by FinTech companies
    - Consumers should be given the full right and control over the data they intend to share with FinTech organizations
    - Embrace best practices in information security and embed security into their product design and technology architecture to optimize experience and modularity
    - Develop clear procedures for responding to cyber incidents and this should include mechanism for dynamically recovering from such events, and reporting security breaches
    - Periodically assess their security posture for systemic vulnerabilities by conducting Vulnerability Assessments and Penetration Testing and develop a "Sensitive Data Utilization Map" documenting processes and systems where sensitive data traverse
    - Invest in security for APIs and integrations with external parties

6.3. FinTech Friendly Regulation/Policies and Compliance

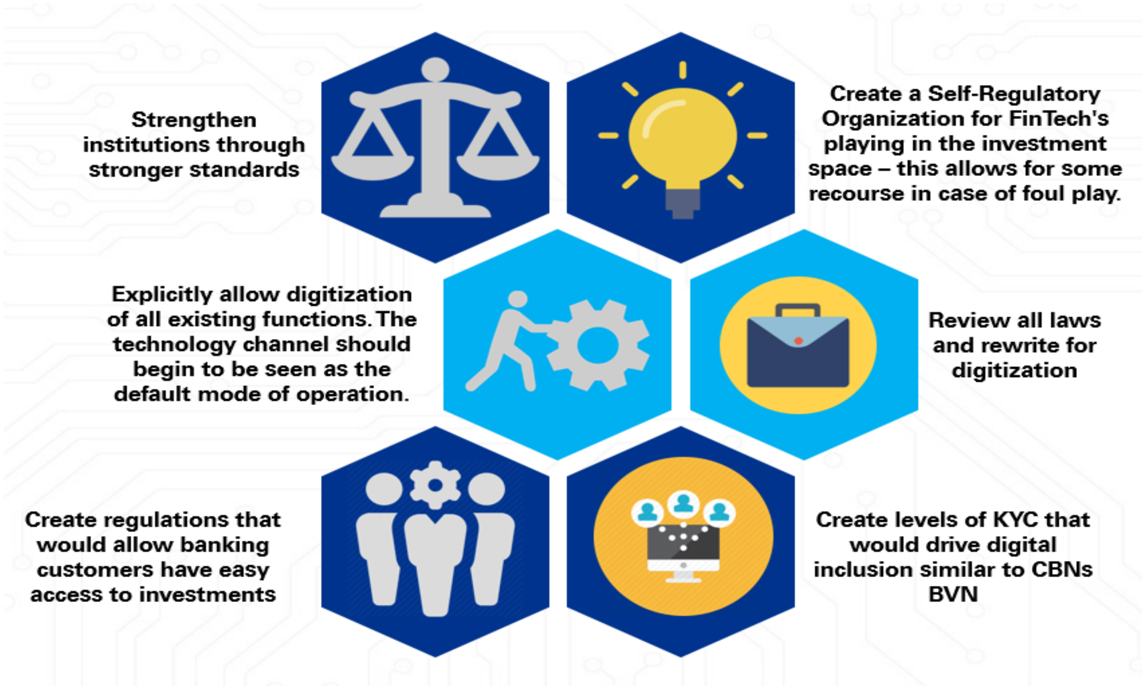
To address regulatory challenges that FinTechs encounter, the following are recommendations for SEC:

1. DRIVING A HARMONIZED REGULATORY AGENDA

- SEC should work with other regulators to create a centralized committee of all impacted regulators charged with the responsibility to formulate and ratify policies and regulations for FinTechs.
  - Different FinTech businesses regulated by different bodies within the committee:
  - Equity financing/crowdfunding, be regulated by the SEC,
  - Payments and lending to be regulated by the CBN;
  - Online insurance by NAICOM, etc.



- SEC should work with other regulatory agencies to create clear and specific licensing regimes for different FinTech businesses in Nigeria. SEC's focus should be on equity crowdfunding, wealth-tech, blockchain and VFA, coin exchanges etc.
- The Nigeria Inter-Bank Settlement System (NIBSS) Plc has made significant progress in setting up a regulatory sandbox, which will be available to FinTechs. SEC and other regulators in the industry should leverage on this to create a national sandbox instead of building individual ones.
- SEC should work with other government agencies to provide incentives to startups (e.g. tax holidays).
- Digital first regulations: SEC and other operators should continuously review and update market infrastructures to ensure documents' digitization, Big Data and Analytics, Personal Financial Management, RegTech etc.



2. CRYPTO-CURRENCIES, VIRTUAL FINANCIAL ASSETS AND ICOS

- SEC needs to decide on its preferred classification of crypto-currencies (either as Commodities, Securities or Currency). The recommended classification is either as Commodities or Securities but NOT as Currency.
- SEC should be responsible for the regulation of Virtual Financial Assets Exchanges and develop a framework around it.
- For the regulation of crowdfunding, interest based crowdfunding should be regulated by the Central Bank of Nigeria (CBN) while equity-based crowdfunding should be regulated by the SEC (ICO, STO or IPOs).
- SEC should issue guidelines and standards for White Papers and ICOs.
  - Advertising and issuance procedures should be defined without ambiguity
  - SEC should create appropriate licensing regimes for new entrants into the crowdfunding ecosystem
  - SEC should develop a detailed framework for VFA based economy.
- AML and KYC Procedures: SEC should develop a stringent framework for KYC and due diligence which will apply regardless of the legal status of an ICO or token.
- SEC should have clear taxonomies of tokens based on their nature, characteristics and economic realities as their determining factors.

- The taxonomy of traditional securities should remain intact, and serve as useful, instructive and illustrative guide for the taxonomization of the new cryptocurrency capital market investment products and services.
- The global best practices, with their roots in the Malta ICO Guide, should be followed by SEC. The Malta Guide broadly taxonomises tokens as
  - ✓ Payment token
  - ✓ Asset token
  - ✓ Utility token

- Alternative, but more descriptive global practice glossary terms, to which SEC must have a recourse in regard to taxonomization efforts are:
  - Securities (old products. See above)
  - Crypto-securities
  - Crypto-utilities

3. ACCELERATING INVESTMENTS IN FINTECHS

- SEC needs to establish a clear FinTech vision and agenda.
- SEC should consider creating "Speed Funds" where HNIs in Nigeria can invest in FinTechs through the capital markets.
  - This will help to attract local ownership of FinTechs, which could turn out to have significant market share and capitalization in the future.
  - An example is the NASD Enterprise Portal (NASDeP) an initiative that provides growth-oriented enterprises an opportunity to raise capital.
- SEC should shorten the timeline for registration to encourage investment and participation in the capital markets
- SEC, SROs & Securities Exchanges should ensure that listing requirements are FinTech-friendly; Also, capital raising processes should be simplified for FinTechs.

4. DIRECTORY SERVICES

- Create a RegTech platform to manage registration, licensing and approval of FinTechs.
  - Single point where FinTechs can apply for licenses and approvals
  - Directory service where other parties (such as investors) can access useful information about FinTechs in Nigeria
- SEC should look to organize hackathons to develop software solutions for:
  - Automation of SEC's regulatory processes
  - Implementation of the Nigerian Investment Resource Service (NIRS) Architecture

- Create a FinTech Office within SEC to:
  - Manage Investor Relationships
  - Engage and provide regulatory clarifications to new entrants
  - Facilitate regulator-innovator-market engagements
  - Coordinate the communication and dissemination of relevant industry information
  - Provide support and advisory services to the industry

5. CAPACITY BUILDING

- SEC should invest in capacity building for its employees charged with regulation.
  - Consider bilateral & multilateral agreements and relationships with regulators in advanced FinTech jurisdictions for training and capacity building
  - Regular training programs
  - Consider organizing international conferences where global and local players share ideas and innovation
- SEC should look to publish a report on FinTech in the Nigerian Capital Market, on an annual basis
- SEC can become a pivotal part of the programme of the Africa FinTech Festival. It can also consider a regional conference for countries in West Africa.

6. ENGAGEMENT WITH FINTECHS

- SEC and other regulators should cooperate more with FinTechs through regular forums and engagement sessions.
- Create an Innovation Hub within SEC

7 OTHER RECOMMENDATIONS

Strategic Considerations for Setting up FinTech Developmental and Regulatory Frameworks in the Nigerian Capital Market (NCM)

7.1 DEVELOPMENTAL CONSIDERATIONS

Unlike in the Nigerian financial service sector where some FinTech use cases with right market fit for impact and returns have been identified, the development/deployments of FinTech in the NCM has been very conservative. This conservative disposition of FinTech adoption to the NCM is not unconnected with the conservative nature of the NCM regulators to certain use cases like crowdfunding.

Notwithstanding the foregoing, engagements with FinTechs and venture capitalists indicate that some use cases have been identified in the NCM value chain, for instance, FinTech proof of concepts are being conducted for pre-trade and post-trade stages of the NCM value chain for information service provision, risk transfer and execution purposes.

The foregoing business and potential use cases for FinTech in the NCM have led to the need to develop a framework to stimulate the development of FinTech and participation in the NCM.

The strategic considerations for FinTech development/participation in Nigerian Capital Market are underscored by the need to:

i. create awareness and educate the NCM stakeholders about attracting and sustaining existing and new technologies in the NCM ecosystem;
ii. creating a business model and technology test phase with different FinTech-types in the NCM, as one size does not fit all; and
iii. ensuring feedback mechanism for smooth transition to the regulatory phase.

These considerations are addressed in full in the succeeding paragraphs.

1. *FinTech Awareness & Education for NCM*

By its very nature, FinTech, when developed in the NCM, will allow Capital Market products reach more people or consumers. Whilst this places a heavier market protection burden on SEC and other regulators, it places a much heavier burden of FinTech literacy on all participants of the NCM ecosystem.

Given as the adoption of FinTech products and services within the NCM ecosystem is crucial to the development of FinTech use in the NCM, FinTech literacy is required to enable participants within the NCM ecosystem understand the use cases and applicability of FinTech products to the CM functions and activities.

In the same breath, FinTech development necessarily reduces third party activities and intermediation within the NCM ecosystem. In this wise, a high level of FinTech literacy and competence is required of CM regulators to enable them to put in place appropriate reporting and disclosure measures in furtherance of the regulators' duty to protect market integrity and engender growth.

From the foregoing, FinTech literacy is crucial to FinTech development in the NCM, its lack will breed unfounded fears and concerns which are inimical to the development and adoption of FinTech products and services in the NCM ecosystem.

2. ***Competition: Attracting/Retaining Nigerian-based FinTechs***

Globally, FinTech innovation is engaging in and being applied with profitable business models across the CM value chain. For example, in investment/wealth management, FinTech solutions are being deployed for full-service brokerage alternatives, robo-advisors, investment platforms, personal finance applications. In crowdfunding, FinTech services are being used for rewards, donation and equity-based crowdfunding. Also, FinTech now enables investor-trader matching, knowledge exchange, order/placement and risk monitor in commodities trading.

Whilst the foregoing FinTech activities will, no doubt, disrupt the NCM as we know it, jurisdictions like Singapore and United Kingdom, where different classes of FinTechs and FinTech products and services have been engendered are recording enviable CM growth. FinTech development in the NCM must therefore necessarily consider attracting and retaining Nigeria-based FinTechs with wide application of FinTech products and services for FinTech competition and by extension NCM growth.

Apart from the benefit to the economy as a whole, which includes FinTech capacity building, the benefits of attracting and retaining Nigeria-based FinTechs to the NCM are endless; it allows for more NCM-FinTech collaboration and FinTechs' capital raising activities will further deepen the NCM.

Rather sadly, the engagement reveals that some of the few Nigeria-based FinTechs are contemplating offshore registration in FinTech friendly jurisdictions to enable them approach the Nigerian markets with products and services and business models tested and designed for Nigerian market.

Encouraging/attracting Nigeria-based FinTechs with the attendant wide variety of FinTech products and services therefore requires deliberate and targeted government policies, regulations and guidelines in that regard.

3. Business model/technology test regime: One Size Does Not Fit All

Whilst traditional participants in the NCM ecosystem may be broadly categorized for developmental purposes, a developmental framework for FinTech ecosystem should have special consideration to the use, proof of concept and category of FinTech solution as a uniform framework could inhibit innovation and by extension, the growth of FinTech.

For example, a framework for the development of reward-based crowdfunding may not work for an equity-based crowdfunding. A uniform or broad-based framework may prove unfair, unwholesome and stifle FinTech development, strategic considerations are therefore necessary to outline the peculiarities, use, type and specific participation of FinTechs in the CM ecosystem, as one size does not fit all. As such a developmental framework, to be functional must include a business model/technology test regime for the different uses and types of FinTech solutions.

4. Feedback Mechanism

From the foregoing, a feedback mechanism should, of a necessity, be designed into the developmental framework for the NCM, these feedbacks should then form the basis for FinTech policies in the NCM and directions which will, in turn, inform the laws, regulations and guidelines to be made in respect thereof.

7.2 REGULATORY CONSIDERATIONS

With the progress made in the financial service sector, FinTech solutions are now being developed for use within the capital market value chain for access to information, investing, trading, clearing, settlement, execution and custody[13].

Despite the trend, concerns about investment fraud, proper description of crypto-currencies, systemic risks, lack of disclosure for regulatory oversight purposes, as well money laundering, amongst others, have severally been raised.

To address these concerns, advanced FinTech jurisdictions like the United Kingdom, US and Singapore are focusing regulation on FinTech structure, development, price and competitiveness. For example, the US Congress, in January 2019 introduced Virtual Currency Consumer Protection Act of 2019 aimed at tackling the issue of price manipulation and the U.S. Virtual Currency Market and Regulatory Competitiveness Act of 2019. The US congress is also seeking to propose a new regulatory structure for cryptocurrency exchanges, which would include consumer protections, federal licensure, and market supervision.

[13] World Federation of Exchanges and McKinsey; FinTech decoded: Capturing the opportunity in capital markets infrastructure, March 2018

Taking a cue from the foregoing, NCM FinTech regulation should have due consideration to the FinTech ecosystem and to the peculiar nature of FinTech vis-à-vis the NCM value chain.

In light of the foregoing, specific strategic considerations for the FinTech regulatory framework in the NCM are as outlined below:

1. ***Collaboration: NCM Ecosystem & FinTech Solution in the NCM Value chain***

   The participation of FinTech innovators in the NCM will largely be determined by the desire of current participants to adopt new technology, business models and innovation for improved and more robust CM value chain[14].

   As such, NCM FinTech regulatory framework must focus on engendering productive collaboration and knowledge between FinTechs and current market participants. The added benefits of collaboration between FinTechs and current NCM participants are that it attracts/sustain Nigeria-based FinTechs to the NCM; and gives SEC an indirect oversight on FinTechs and their activities pending the advent of full NCM FinTech regulation.

   The case for collaboration is underscored by the proven fact that the successful and notable FinTechs in the CM ride on the support of the CM ecosystem[15]. Nonetheless, without a well-defined CM ecosystem and a functional value-chain, a FinTech-NCM collaboration may drag or even yield no result, as FinTechs require clarity to develop solutions, conduct proof of concept and experiment products and services.

   In this wise, roles/responsibilities vis-à-vis the regulatory and disclosure requirements of information service providers, investment banks, custodians, exchanges, asset managers, hedge funds, rating agencies and clearing-houses have to be clearly defined since such CM players are more likely to locate suitable and capable FinTechs for possible collaboration within the NCM value chain.

   It is must be noted that, while FinTechs may be playing supportive role to current NCM participants at the initial stages, once FinTechs have better clarity about the workings of NCM ecosystem, the converse will be the case for the reason that FinTechs can walk in spaces where traditional NCM participants fear to walk.

2. ***Regulatory flexibility for different types and FinTech Use Cases & Phases***

   Use cases could be found for FinTech, especially DLT across the NCM value chain, from capital raising to regulatory reporting. Nonetheless, this applicability of FinTech across the NCM value chain does not imply that an umbrella or uniform regulation could be made for all FinTech uses across the NCM ecosystem.

[14] Capital Markets: Innovation and the FinTech landscape, Ernst & Young, 2016
[15] Boston Consulting Group: FinTech in Capital Markets: A Land of Opportunity, November 2016

As borne out from FinTech regulatory approach in retail financial services, the nimbleness and flexibility of FinTechs require that NCM FinTechs should be flexible to address varying/emerging regulatory perimeter issues without inhibiting innovation or occasioning FinTech flight from the NCM[16].

With the foregoing in mind, the NCM could borrow a leaf from regulatory measures taken in other jurisdictions. The UK and Singapore operate FinTech sandboxes with regulations relaxed but not designed to allow FinTechs evade legal and regulatory requirements. A flexible regulatory framework with focus of FinTech use cases and technology development phases will not only promote FinTech adoption in the NCM and advance the regulators' objective of a robust market, it will also ensure FinTech-CM collaboration for data gathering, technology test regime and impact assessment.

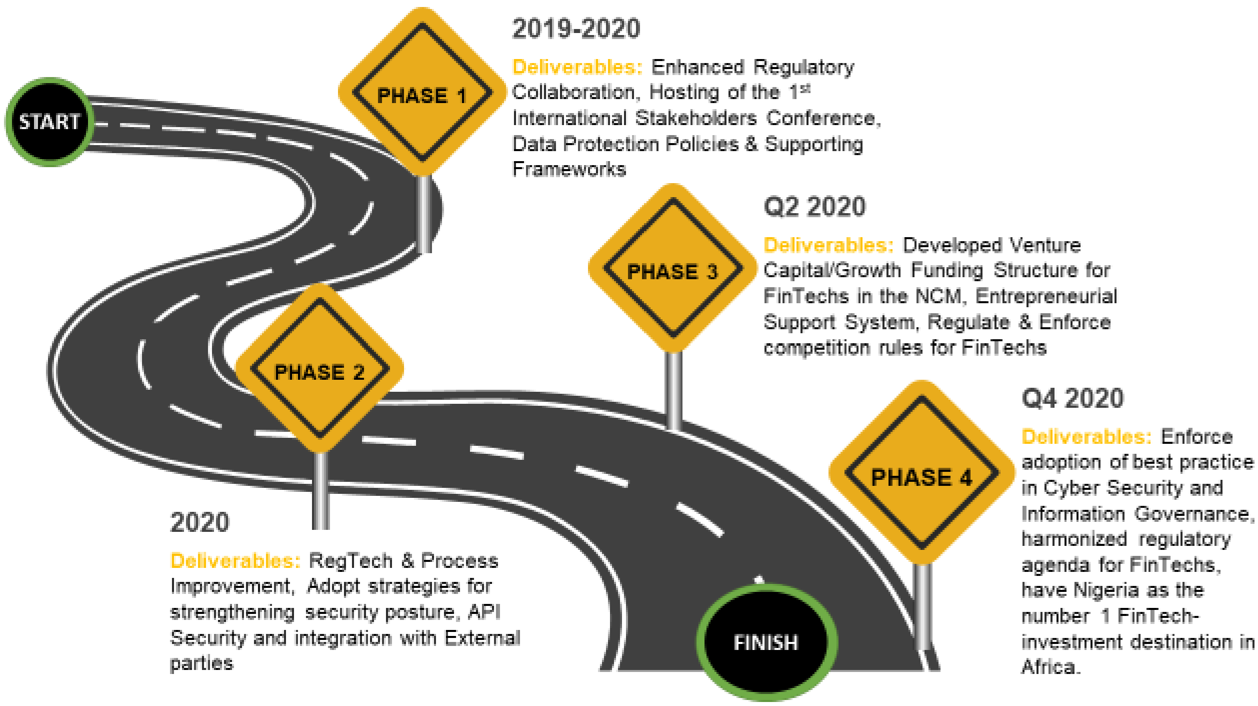
3. ***Need to attract/encourage Nigeria-based FinTechs***

FinTech development and innovations are projected to play a key, and probably one of the most visible roles in driving Singapore's future economy. FinTechs are complementing industrial development in Singapore and FinTechs are expected drive Singapore's next industrial wave depending on Singapore's ability to create value in and from homegrown private enterprises.

It is therefore important that the NCM regulatory framework greatly factor in modalities for encouraging Nigeria-based FinTechs to develop a robust capital market, with FinTech capacity building and general economic advancement.

[16] Financial Stability Board: Financial Stability Implications from FinTech: Supervisory and Regulatory Issues that Merit Authorities' Attention, June 2017

8 TIMELINE FOR IMPLEMENTATION OF RECOMMENDATIONS



#	RECOMMENDATIONS	TIMELINE (DUE DATE)
1.	**Driving a harmonized regulatory agenda**	**Q2, 2020**
a)	Work with other regulators to create a centralized committee of all impacted regulators charged with the responsibility to formulate and ratify policies and regulations for FinTechs	Q4, 2019
b)	Work with other regulatory agencies to create clear and specific licensing regimes for different FinTech businesses in Nigeria	Q4, 2019
c)	Leverage on existing NIBBS sandbox to create a national sandbox	Q1, 2020
d)	Work with other government agencies to provide incentives to startups	Q4, 2019
e)	Digital first regulations: Continuously review and update its regulations to support innovation. – Conduct a first review	Q1, 2020

2.	**Crypto-currencies, Virtual Financial Assets and ICOs**	**Q1, 2020**
a)	Decide on its preferred classification of crypto-currencies (either as Commodities, Securities or Currency)	Q4, 2019
b)	Develop a framework for the regulation of Virtual Financial Assets (VFAs) and VFA Exchanges	Q1, 2020
c)	Develop a framework for the regulation of equity-based crowdfunding	Q1, 2020
d)	Issue guidelines and standards for White Papers and ICOs	Q1, 2020
e)	AML and KYC Procedures: Develop a framework for KYC and due diligence for crypto-currencies, Virtual Financial Assets, tokens and ICOs	Q1, 2020
f)	Define clear taxonomies of tokens based on their nature, characteristics and economic realities as their determining factors	Q1, 2020
3.	**Accelerating investments in FinTechs**	**Q1, 2020**
a)	Establish a clear FinTech vision and agenda	Q1, 2019
b)	Consider creating "Speed Funds" where HNIs in Nigeria can invest in FinTechs through the capital markets	Q1, 2020
c)	Shorten the timeline for registration to encourage investment and participation in the capital markets	Q1, 2020
d)	Ensure that listing requirements are FinTech-friendly and capital raising processes are simplified for FinTechs	Q2, 2020
4.	**Directory Services**	**Q2, 2020**
a)	Create a RegTech platform to manage registration, licensing and approval of FinTechs	Q2, 2020
b)	Organize hackathons to develop software solutions for: – automation of SEC's regulatory processes – implementation of the Nigerian Investment Resource Service (NIRS) Architecture	Q1, 2020
c)	Create a FinTech Office within SEC to: – Manage investor relationships – Engage and provide regulatory clarification to new entrants – Facilitate regulator-innovator-market engagements – Coordinate the communication and dissemination of relevant industry information – Provide support and advisory services to the industry	Q2, 2020
5.	**Capacity building**	**Q1, 2020**
a)	Invest in capacity building for employees of SEC – Regular training programs – Consider bilateral & multilateral agreements and relationships with regulators in advanced FinTech jurisdictions for training and capacity building	Continuous Continuous Q1, 2020
b)	Organize an International Stakeholders' Conference where global and local players share ideas and innovation	Q2, 2020

c)	Publish Annual Report on FinTech in the Nigerian Capital Market	Q3, 2020
6.	**Engagement with FinTechs**	**Bi-annually / Quarterly**
a)	Cooperate more with FinTechs through regular forums and engagement sessions	Bi-annually / Quarterly
b)	Create an Innovation Hub within the SEC	Q3, 2020
7.	**Regulatory Considerations**	**2019/2020**
a)	Collaboration: NCM Ecosystem & FinTech Solution in the NCM Value chain	2019/2020
b)	Regulatory flexibility for different types and FinTech Use Cases & Phases	2019/2020

9 APPENDICES

APPENDIX A

Committee Membership

The Committee consists of the following members:

S/N	NAME	ORGANIZATION	
1.	Ade Bajomo	Fintech Association of Nigeria	Chairman
2.	Boye Ademola	KPMG	Member
3.	Titi Odunfa	Sankore	Member
4.	Bola Ajomale	ASEN	Member
5.	Akin Akeredolu-Ale	ASHON	Member
6.	Reginald Karawusa	SEC	Member
7.	Femi Awoyemi	Proshare	Member
8.	Favour Femi-Oyewole	Access Bank	Member
9.	Tope Omojokun	FMAN	Member
10.	Ephraim Ajijola	Olaniwun Ajayi LP	Member
11.	Ajakaiye Waiyeola	CBN	Member
12.	Olumide Jerome	CSCS	Member
13.	Davidson Oturu	AELEX LA& P	Member
14.	Obiorah Anyichie	Global Trybe	Member
15.	Uwa Agbonile	InfoWARE	Member
16.	Seun Folorunsho	FinTech Association of Nigeria	Member
17.	Chimezie Chuta	Blockchain Nigeria	Member
18.	Segun Adeniyi	Africa FinTech Foundry	Member
19.	Doris Anite	Vericore Technologies	Member
20.	Tunde Ladipo	INTERSTELLAR	Member
21.	Yinka Edu	Udo Udoma & Belo-Osagie	Member
22.	Diran Famakinwa	St. Nicholas Hospital	Member
23.	Bright Eregha	Pan-Atlantic University	Member
24.	Felix Imafidon	Redwoods Capital	Member
25.	Dayo Ademola	EFInA	Member
26.	Kollere H.S.	NDIC	Member
27.	Ugochukwu Obi	Perchstone and Graeys	Member
28.	Ebelechukwu Enedah	Punuka Attorneys and Solicitors	Member
29.	Soibim Bell-Gam	SEC	Secretariat
30.	Temiloluwa Oluokun	SEC	Secretariat

Special appreciation goes to the FinTech Association of Nigeria (FinTechNGR), Africa FinTech Foundry (AFF) and under listed persons, whose invaluable contribution made this work possible:

1.	Dotun Adediran	KPMG
2.	Olaoluwa Rasheed	Sankore
3.	Timothy Yusuf	Access Bank
4.	Kele-Nzeh Princess M.	Access Bank
5.	Anita Odiete	Access Bank
6.	Emeka Ezeogu	SEC

Methodology

The Committee held its inaugural meeting on November 28, 2018 and extensively deliberated on the terms of reference and methodology for delivering on its mandate.

Five Sub-Committees/Working Groups were subsequently constituted to report on the following areas:

- **Deepening Market Penetration** *(Consumer Awareness, Products & Services, Ease & Cost of Transaction)*
- **Consumer Protection, Security and Data Privacy** *(building Trust, quick Remedial Actions, etc.; Intellectual Property)*
- **Addressing FinTech Challenges** *(Access to capital, talent, infrastructure, resourcing, partnership, etc.; strengthening FinTech for sustainability and survival)*
- **FinTech friendly regulation/policies and compliance**
- **New Products and Services**

The Committee wishes to express its profound appreciation to the Securities and Exchange Commission, and promises its availability in the process of implementing the recommendations contained herein this report, as well as in future and related assignments.

10 GLOSSARY OF TERMS

AML	Anti-Money Laundry
BVN	Bank Verification Number
CBN	Central Bank of Nigeria
CSCS	Central Securities Clearing System
CSRC	China Securities Regulation
FCA	Financial Conduct Authority
FinTech	Financial Technology
GDPR	General Data Protection Regulation
HKTDC	Hong Kong Trade Development Council
HNI	High Net-worth Individuals
ICO	Initial Coin Offering
ITA	Innovative Technology Arrangements
ITAS	Innovative Technological Arrangement and Services Act
KYC	Know Your Customer
MDIA	Malta Digital Innovation Authority
NAICOM	National Insurance Commission
NBFI	Non-Banking Financial Institution
NCM	Nigerian Capital market
NDIC	Nigeria Deposit Insurance Corporation
NIBSS	Nigeria Inter-Bank Settlement System
OECD	Organization for Economic Co-operation and Development
PBOC	Peoples Bank of China
PSD2	Payments Service Directive
PSSP	Payment Solutions Service Providers
PTSP	Payment Terminal Service Providers
RegTech	Regulatory Technology
SEC	Securities and Exchange Commission
STO	Security Token Offering
UK	United Kingdom
USA	United States of America
USSD	Unstructured Supplementary Service Data
VC	Venture Capital
VFA	Virtual Financial Assets
VFAA	Virtual Financial Assets Act

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