



Central Bank of Kenya

Banking Sector Innovation Survey 2020



CENTRAL BANK OF KENYA BANKING SECTOR INNOVATION SURVEY 2020

1.0 Background

1.1 Introduction

- One of the key pillars of the Kenya Banking Sector Charter issued in 2019 by the Central Bank of Kenya (CBK) was a keen focus on customer centricity¹.
- The Kenyan banking sector is renowned for its uptake of technology to meet customer expectations for “*anytime anywhere*” financial services, and to drive efficiency gains.
- As part of aligning to the Charter, the sector has witnessed the diversification of products tailor-made to meet the ever-changing customer needs while improving the competitive edge of the institutions.
- While institutions have been successful in leveraging technology to achieve their objectives, primarily as a cost reduction strategy, there is a change in focus towards an alternative strategic coin, where technology is no longer perceived as a cost saver but as a revenue generator.
- Furthermore, with the onset of the coronavirus pandemic (COVID-19) in 2020 and the resultant disruptions to the lives and livelihoods of individuals in the economy, and the impact to businesses, including banks, it is evident that innovation will be a critical point in adapting to the new “business as usual”.
- As informed by the backdrop above, the Innovation Survey 2020 is aimed at collecting present and forward-looking information on Fintech developments in the Kenyan banking sector as at December 31, 2020.
- This survey serves as a follow-up to the 2018 and 2019 surveys that assessed the adoption of Fintech within the industry and the industry’s attitude towards the threats and opportunities that financial innovations present².
- The information collected will enable the CBK to continue to better understand the impact of Fintech on current operating models, including the emergence of new business models and the evolving and emerging risks. The information will also provide CBK with an informed basis for evidence-based public policy decisions on Fintech going forward.
- As aforementioned, with the emergence and spread of the COVID-19 pandemic within the past year, this survey provides a quintessential opportunity to recognize and understand the role that Fintech has played in enabling the provision and/or access to financial services.

1.2 Survey Methodology

- The survey collected data on the state of innovation as at December 31, 2020 from 39 commercial banks and 14 microfinance Banks (MFBs). Questions in the 2020 survey were classified into 6 sections:
 - Section A – Institution Innovation Activities.
 - Section B – Context for Innovation.
 - Section C – Coronavirus Pandemic (COVID-19) and Innovation.
 - Section D – Public Support for Innovation.
 - Section E – Afro-Asia Fintech Festival Assessment.
 - Section F – Impact and Challenges.

¹<https://www.centralbank.go.ke/wp-content/uploads/2020/03/Kenya-Banking-Sector-Charter-2019.pdf>

²https://www.centralbank.go.ke/uploads/banking_sector_reports/930400219_CBK%20Banking%20Sector%20Innovation%20Survey%20Report%202019.pdf

1.3 Summary of Findings

- 79 percent of the banks and 72 percent of MFBs introduced a new Fintech product between January 1, 2020 and December 31, 2020.
- Relatively all institutions noted a positive impact of the Kenya Banking Sector Charter (KBSC) on their business strategy focus on innovation. The Charter, which focuses on customer centricity among other key pillars, has prompted institutions to innovate products that consider the customer first.
- Application Programming Interfaces (APIs), Big Data and Data Analytics, and Cloud Computing continue to be the major innovations whose developments are considered important by financial institutions.
- Cyber-risk (Data Privacy and Data Security Risk) turns out to be the key risk area for institutions in their innovation endeavor with 35 percent, followed by Strategic Risk with 33 percent. Operational Risk comes in third at 20 percent.
- The COVID-19 pandemic saw banks accelerate their digital strategies. 56 percent of the institutions identified the drive for uptake and utilization of digital channels especially mobile and internet banking as a key strategy in the COVID-19 era.
- Digital financing innovations were critical in responding to the COVID-19 pandemic. Financial Technology (Fintech) enabled business continuity and rapid scaling up of support to vulnerable groups. 58 percent of the banks innovated a product specialized to curb the effects of COVID-19 compared to 33 percent of the MFBs.
- 56 percent of banks experienced COVID-19 impact on their pre-existing innovations compared to 43 percent of the MFBs.
- 54 percent of the institutions whose pre-existing innovation was impacted by COVID-19 identified accelerated uptake of their innovative products by customers as the key impact especially increased transactions through digital channels.
- Key effects of COVID-19 as highlighted by most institutions were:
 - Re-prioritization of ongoing innovation projects with more focus placed on business resilience during the COVID-19 pandemic.
 - Reduced uptake and utilization of card products.
 - Delayed implementation of some on-going projects especially due to difficulty in coordinating vendors.
 - Renewed and increased focus on uptime and availability of digital channels.
- Fiscal incentives remained the most preferred form of public support at 64 percent, a similar ranking to the 2019 survey.
- The Top 5 public policy priority areas identified by the financial institutions included
 - Data protection and data asymmetry.
 - Consumer education especially on financial literacy.
 - Cyber Security.
 - Fast-tracking approval process for innovation activities.
 - Policy guidelines on digital lending.

- The top 3 Sustainable Development Goals (SDGs) with the most potential for innovation-related activities tied to digitalization of finance were:
 - **SDG 1:** End poverty in all its form everywhere (92 percent).
 - **SDG 8:** Decent Work and Economic Growth (74 percent).
 - **SDG 9:** Industry, Innovation and Infrastructure (51 percent).
- 49 percent of banks attended the virtual Afro-Asia Fintech Festival (AAFF) 2020 while only 7 percent of MFBs attended.
- The top 3 challenges faced by institutions regarding product innovation include:
 - Increased risk associated with Cyber Security.
 - Inadequate resources.
 - Fast paced changes in demographic and client behaviours.

1.4 Changes from Innovation Survey 2019

- In the 2019 Innovation Survey that covered the period January 1, 2019 – December 31, 2019, 14 percent of the respondents considered themselves as “distributed banks”, 15 percent as “new banks” and 71 percent as “better banks”. In the 2020 Innovation Survey, 15 percent of the

financial institutions categorized themselves as a “distributed bank” while 13 percent as “new banks” and 72 percent as “better banks”.³

- The 2019 Innovation Survey results indicated that payments-related services and credit, deposit and capital raising services had an equal number of products at 46 percent each. In the 2020 survey, it was evident that there was a higher inclination for payment services products for banks at 59 percent.
- For MFBs, credit, deposit and capital raising services had the highest number of products with 53 percent while payments-related services had 20 percent in the 2020 survey.
- 2020 unlike 2019, was dominated by the COVID-19 pandemic which required banks and MFBs to respond accordingly. 56 percent of the banks innovated a product specialized to curb the effects of COVID-19 compared to 29 percent of the MFBs.
- 79 percent of the banks and 72 percent of MFBs introduced a new Fintech product between January 1, 2020 and December 31, 2020. This was a slight decline on the part of MFBs as compared to the 2019 Innovation Survey whereby 86 percent of the institutions introduced a new product.

³**Better Bank** – An institution seeks to become a ‘better bank’ by leveraging on enabling financial technologies (Fintech) to digitize and modernize its operations and business practices. Its market knowledge and Fintech investment will significantly improve its banking services and products offering.

New Bank – An institution seeks to become a ‘new bank’ by creating a ‘built for digital’ banking platform. The institution shall apply advanced Fintech to provide banking services, minimize operational costs, improve customer experience, and market their products through social media.

Distributed Bank – An institution seeks to become a ‘distributed bank’ through collaboration and partnership with Fintech start-ups.

The institution seeks to compete for the ownership of the customer relationship by providing niche banking services. Such joint ventures will allow consumers to use multiple financial service providers, through a ‘plug and play’ digital interface.

Relegated Bank – An institution seeks to become a ‘relegated bank’ by allowing Fintech start-ups and third-parties to provide and manage direct customer relationships through ‘frontend’ digital platforms. The institution will be relegated to offering commoditized banking functions such as deposit-taking, lending and risk management, to the digital platforms that own and manage the customer relationships.

(Source: <https://www.bis.org/bcbs/publ/d431.pdf>).

2.0 Survey Findings

2.1 Institutions Innovation Activities

2.1.1 Institution's Business Strategy Towards Financial innovation

- From a business strategy perspective, 72 percent of the institutions consider themselves as a “better bank”, 15 percent as a “distributed bank” and 13 percent as a “new bank”.
- From a bank perspective, 64 percent of the banks consider themselves as a “better bank”, 21 percent as a “distributed bank” and 15 percent as a “new bank”.
- From an MFB perspective, 93 percent of the MFBs consider themselves as a “better bank” and 7 percent as a “new bank”.
- In the 2019 Innovation Survey that covered the period January 1, 2019 – December 31, 2019, 14 percent of the respondents considered themselves as “distributed banks”. However, in the 2020 Innovation Survey, 15 percent of the financial institutions categorized themselves as a “distributed bank”.
- Therefore, the evidence suggests that most of the institutions are leveraging on market knowledge and Fintech investment in

order to improve their banking services and products offering.

- “New banks” apply advanced Fintech to provide banking services, minimize operational costs, improve customer experience, and market their products through social media. “Distributed banks”, on the other hand, leverage collaborations and partnerships with Fintech start-ups. The tables below present the institutions’ business strategy towards financial innovation.
- 70 percent of the respondents indicated that they have a dedicated function that spearheads innovation activities.

Figure 1: Institutions’ Business Strategy on Financial Innovation

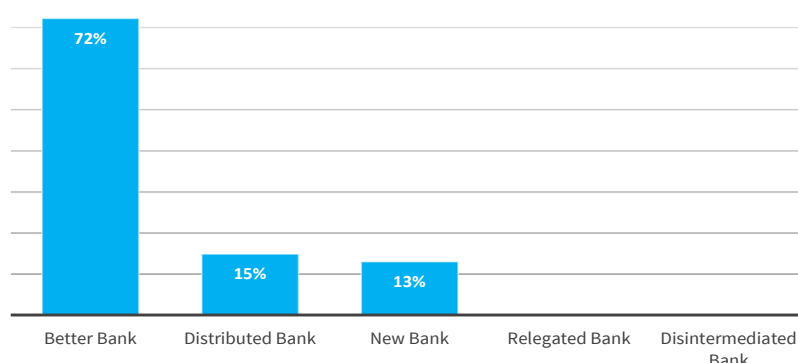


Figure 2: Business Strategy Comparison between 2019 and 2020 Innovation Surveys

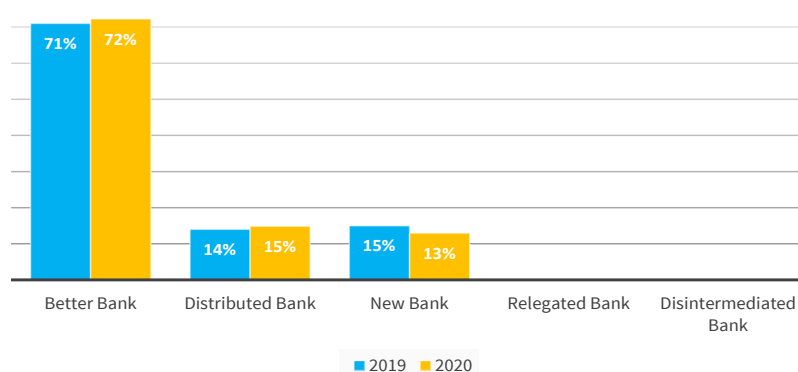
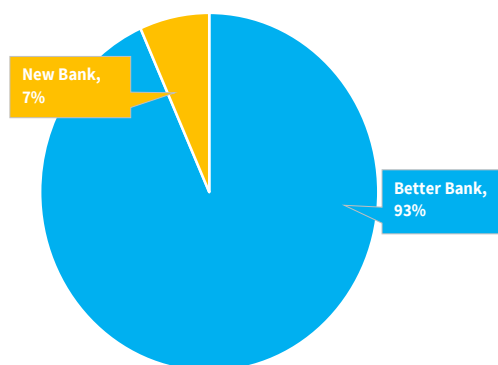


Figure 3: MFBs' Business Strategy on Financial Innovation



- Alternative strategic plans, capital constraints and the lack of capacity in terms of technology and staff numbers have been listed as the main reasons for not investing in a dedicated innovation function.
- The decision-making process by institutions is guided by the respective institution's strategic objectives and regular market analyses. Most institutions first establish the motivation for the innovation, i.e., the competitive advantage, regulatory requirements, customer needs, market trends and/or technological changes. The innovative product is then reviewed to ensure alignment with organizational strategy and goal. A feasibility study is then conducted to establish viability or a business case for the innovation.
- Relatively all institutions noted a positive impact of the Kenya Banking Sector Charter (KBSC) on their business strategy focus on innovation. The charter, which focuses on customer centricity among other key pillars, has prompted institutions to innovate products that consider the customer first. Consequently, this has necessitated partnerships with Fintech whose

products expand the reach to the unbanked, increase efficiency and transparency, and facilitate the offering of affordable services to consumers.

2.1.2 Product Innovation

- 79 percent of the banks and 72 percent of MFBs introduced a new Fintech product between January 1, 2020 and December 31, 2020. There is a slight decline on the part of MFBs as compared to the 2019 Innovation Survey whereby 86 percent of the institutions introduced a new product.

Figure 4: Introduction of Fintech Products by Banks

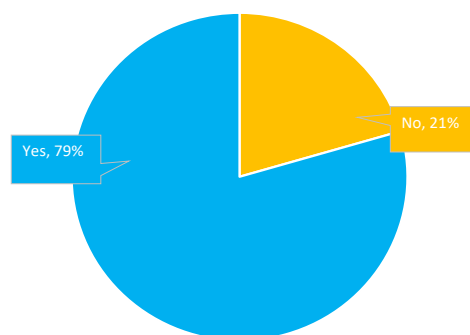
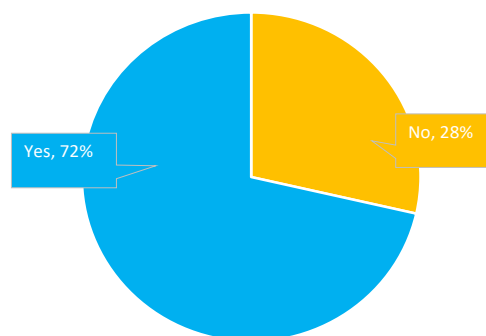


Figure 5: Introduction of Fintech Products by MFBs



- In this survey, the functional scope of product classification was grouped into 5 areas :
 - Credit, deposit and capital raising services;
 - Payments;
 - Clearing and settlement services;
 - Investment management and custodial services;
 - Incidental business activities; and
 - Market support services.
- For commercial banks, payments-related services had the highest number of products with 59 percent while credit, deposit and capital raising services had 46 percent.
- For MFBs, credit, deposit and capital raising services had the highest number of products with 53 percent while payments-related services had 20 percent.
- In the previous Innovation Survey of 2019, Payments-related services and credit, deposit and capital raising services had an equal number of products at 46 percent each.
- **Figure 6** below highlights the percentage of institutions that have developed products within the aforementioned areas.

Figure 6: Classification of Fintech Products Introduced by MFBs

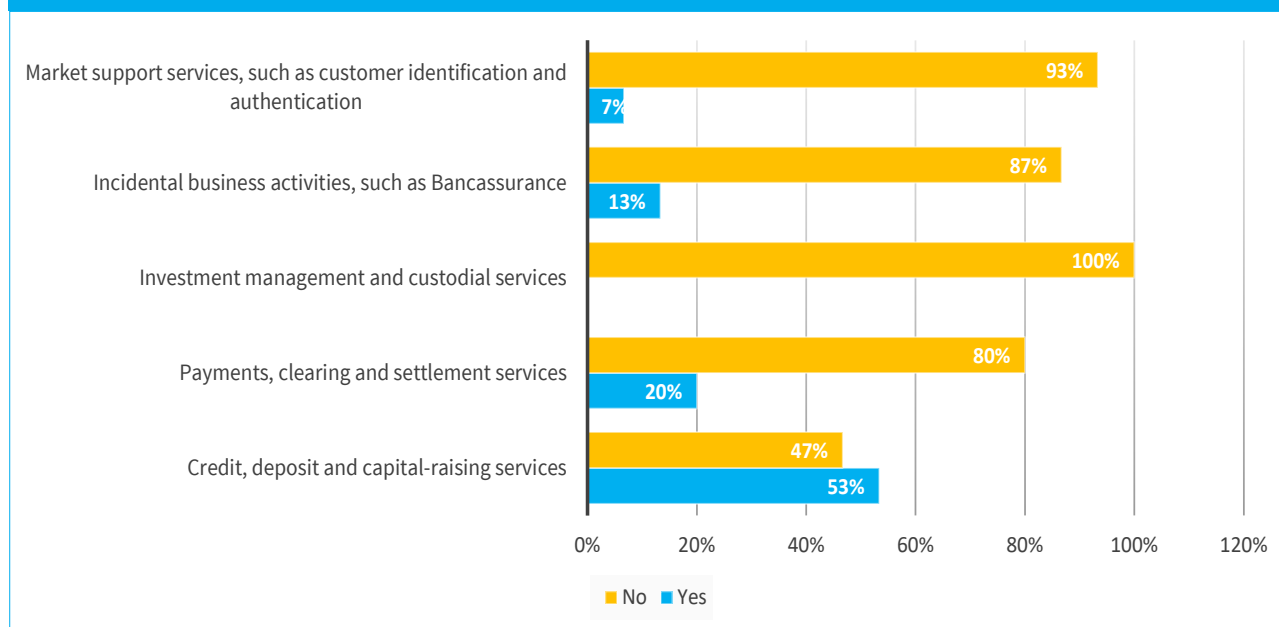
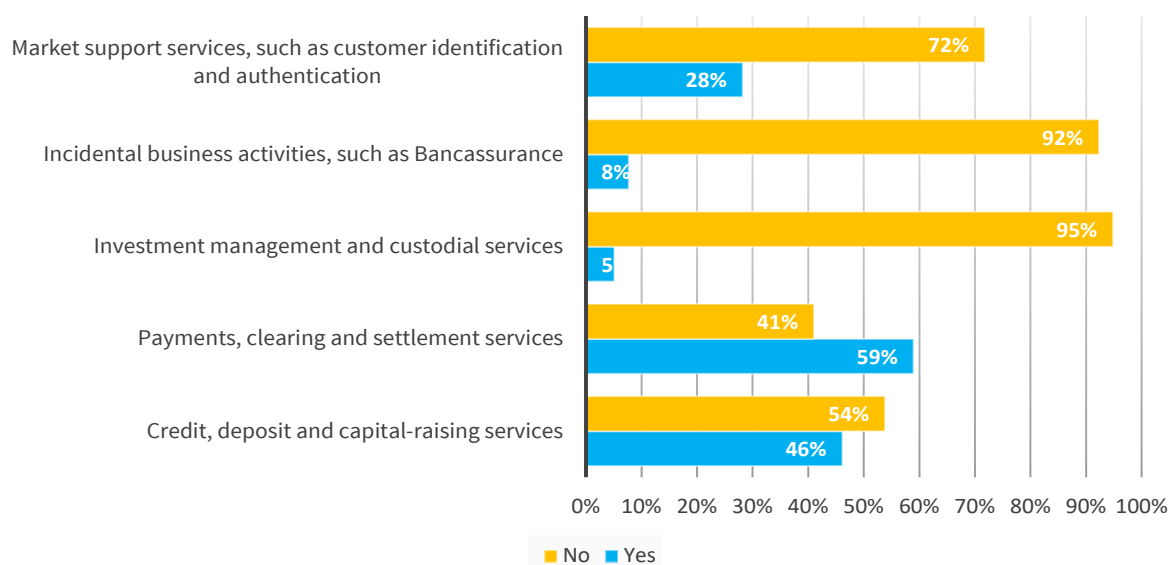
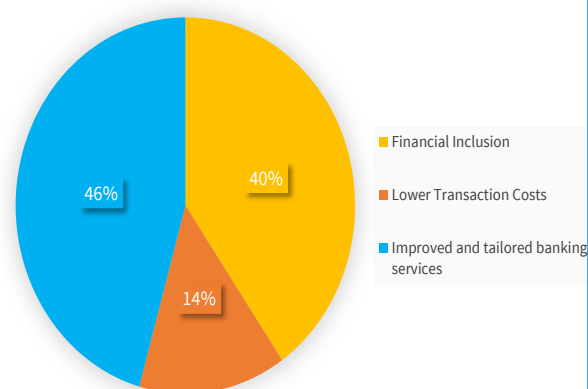


Figure 7: Classification of Fintech Products Introduced by Banks



- 46 percent of the institutions considered financial inclusion to be the key driver when evaluating the benefits of product innovations to the respective consumers.
- Conversely, 40 percent focused on improving and tailoring their banking services, while 14 percent sought product innovations that could lower transaction costs for consumers.
- Key opportunities that were highlighted by the respondents included :

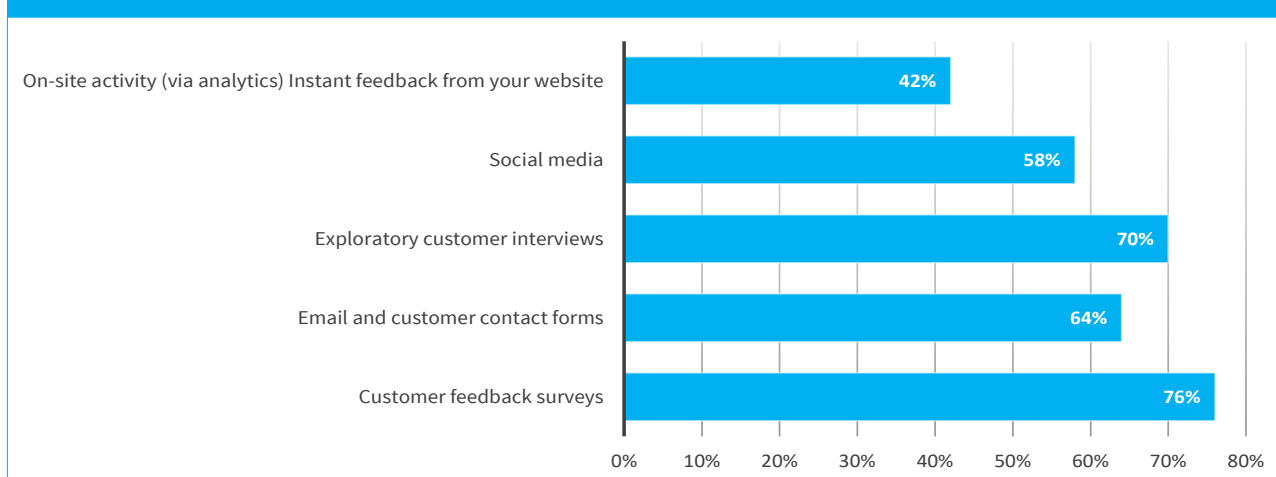
Figure 8: Institutions Evaluation of Product Innovations Benefits to Consumers



- End to end automation of processes to enable better/faster customer service delivery and reduce costs.
- Digitization of products and services to improve service delivery and financial inclusion (scale) and enable customer self-service.
- Customer lifecycle management to improve service delivery at different levels of needs for varying segments.

- **Figure 9** illustrates that all respondents use digital mechanisms to collect, assimilate and respond to customer feedback.
- Multiple channels are used concurrently by institutions to collect relevant customer needs and feedback, as well as offer prompt responses and guidance to solving customer complaints concerning innovative products.

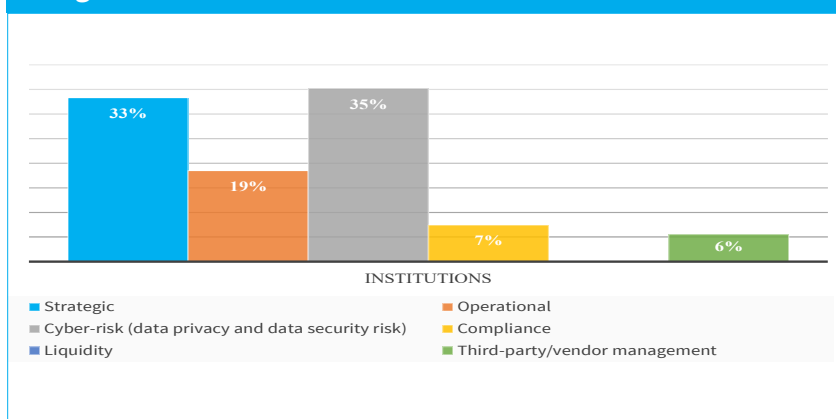
Figure 9: Institutions' Means of Gathering and Addressing Customer Needs and Feedback



2.1.4 Innovation Related Risks

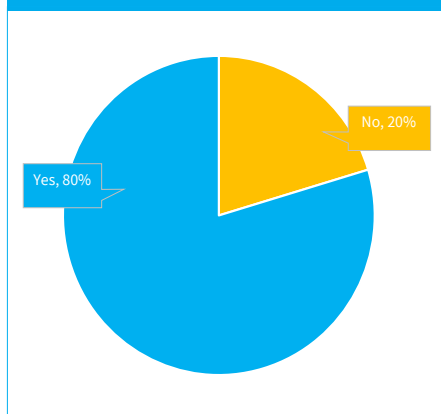
- Cyber-risk (Data Privacy and Data Security Risk) turns out to be the key risk area for institutions in their innovation endeavor with 35 percent, followed by Strategic Risk with 33 percent. Operational Risk comes in third at 19 percent.

Figure 10: Innovation Related Risks



- As indicated in **Figure 11** below, 80 percent of the respondents expressed that they dealt with negative externalities caused by their products to their consumers. As part of their endeavour to provide a good customer experience, 80 percent cited the existence of clear customer feedback mechanisms, including prompt resolution of customer complaints and consideration of their suggestions.
- The remaining 20 percent of the respondents cited new products or early stages of their product implementation (not yet gone live) as reasons for having not encountered any product-related complaints by their customers.

Figure 11: Institutions' Response to Negative Externalities to their Customers

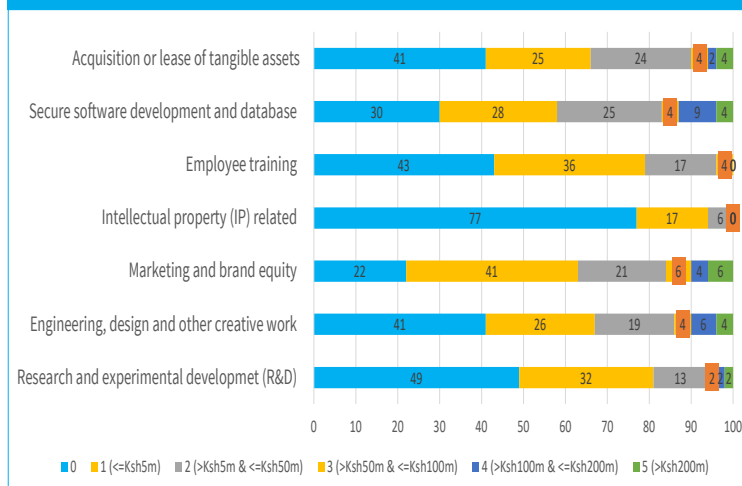


2.2 Context for Innovation

2.2.1 Innovation and Management Expenditure

- Innovation activities require a substantial amount of funds to carry out various activities.
- From the financial institutions that responded to the survey, 4 percent indicated that they have spent more than Ksh.200 million on secure software development and database related activities.
- It is critical for institutions to carry out continuous trainings throughout the product development and innovation process. However, majority of the financial institutions indicated that they spent less than Ksh.5 million on employee training in 2020.
- Substantive efforts are required to be channeled towards research and development when it comes to product innovation. However, 81 percent of financial institutions indicated that they have spent less than Ksh.5 million in this area, with 49 percent not incurring any cost towards this at all.
- 77 percent of the institutions did not channel funds towards activities related to Intellectual Property (IP).

Figure 12: Level of Importance in Developments in the Sector



2.2.2 Factors with Biggest Impact On Institution's Ability and Willingness to Innovate Ahead

- Before undertaking innovation activities, financial institutions need to consider both internal and external factors that may affect their efforts. 82 percent of banks and 86 percent of MFBs indicated that changing customer behavior had the highest likelihood of impacting their ability and willingness to innovate going forward.
- A substantial number of MFBs (71 percent)

also indicated that change of competitive environment had a high likelihood of driving their willingness to innovate.

- Growing data and privacy risks had the lowest likelihood of impacting innovation ability and willingness for both banks and MFBs.
- **Figures 13** and **14** below depict the proportion of factors that influence institutions' ability to innovate and willingness to do so.

Figure 13: Factors Impacting the Ability and Willingness of Banks to Innovate

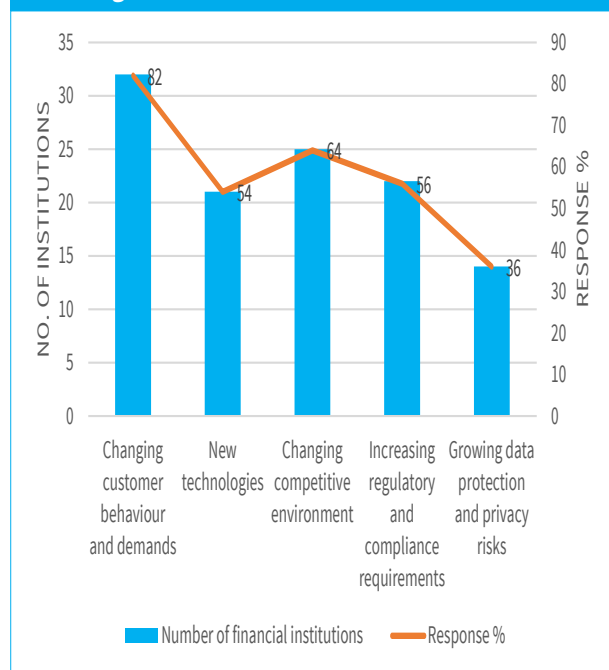
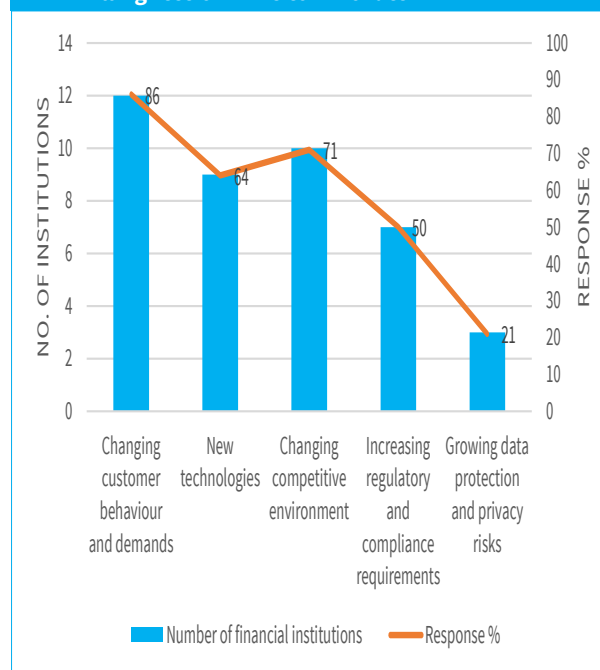


Figure 14: Factors Impacting the Ability and Willingness of MFBs to Innovate



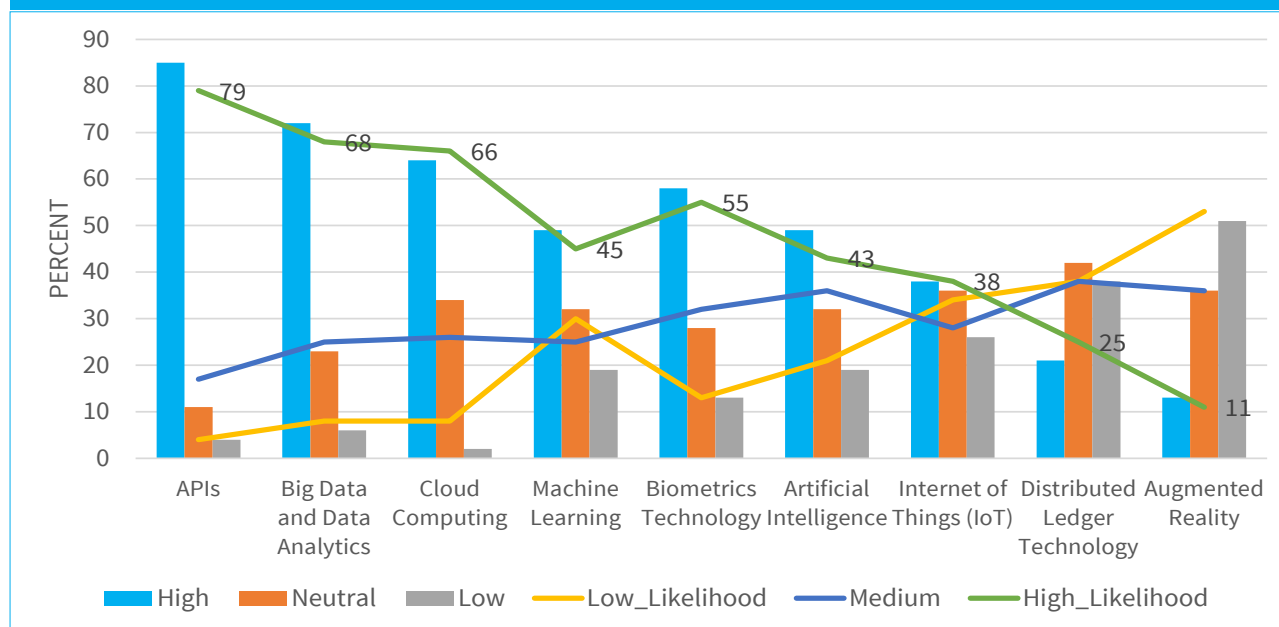
2.2.3 Importance of Developments and Likelihood of Institutions Undertaking Innovation Activities

- Technology has proven itself as an essential element in the financial sector. Institutions use technology to support their business processes, reduce costs, diversify income streams and improve customer experience. 2020 presented itself as a unique year where institutions needed to rethink their strategies and consider the importance of developments in technology in their operations.
- Application Programming Interfaces (APIs), Big Data and Data Analytics, and Cloud-Computing continue to be the major innovations whose

developments are considered important by financial institutions.

- Financial institutions indicated a high likelihood of ramping up their innovation efforts towards developments in APIs in the next four years.
- Only one institution identified a technological development other than those provided, e-commerce as a service, with a medium likelihood of importance and a medium likelihood of undertaking activities towards its development.
- Figure 15** below depicts the trends in importance and likelihood of undertaking innovation activities in the sector.

Figure 15: Importance of Developments Against Likelihood of Undertaking Activities



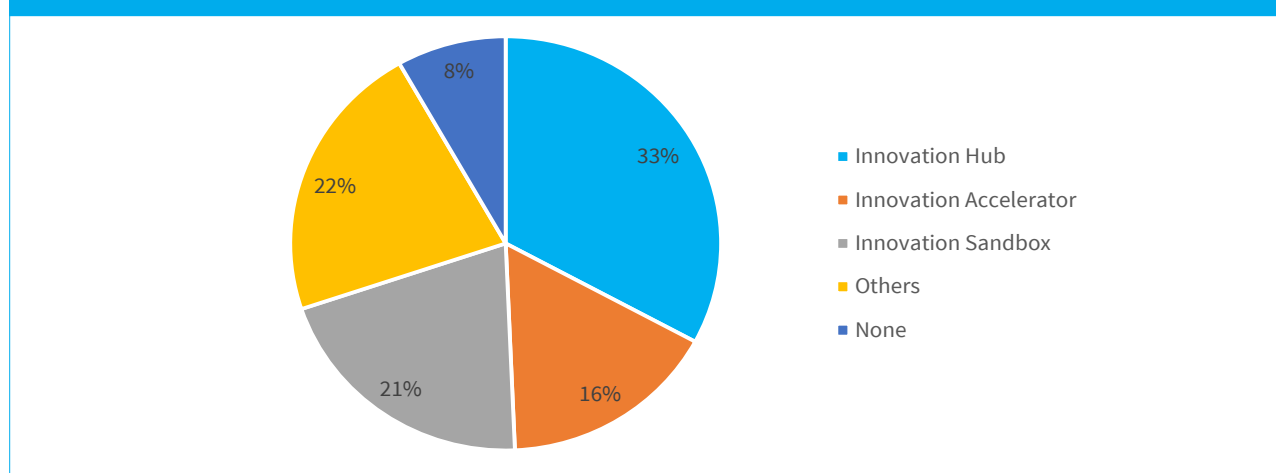
2.2.4 Initiatives That Have Been Put in Place to Facilitate Innovation Activities

- Based on the 2020 Innovation Survey, 33 percent of financial institutions surveyed indicated that they had set up innovation hubs to promote innovation activities.
- 22 percent of the institutions reported having implemented alternative methods to facilitate innovation activities. These include creating

a product development committee, availing infrastructure for Fintech and acquiring support from service providers, among others.

- 8 percent of those who responded to the survey indicated that they have not taken up any initiatives to facilitate innovation.
- The distribution of initiatives adopted by financial institutions is depicted in the graph below.

Figure 16: Initiatives to Facilitate Innovation Activities



2.3 The Coronavirus Pandemic (COVID-19) and Innovation

2.3.1 COVID-19 Impact on Institutions' Operating Business Model

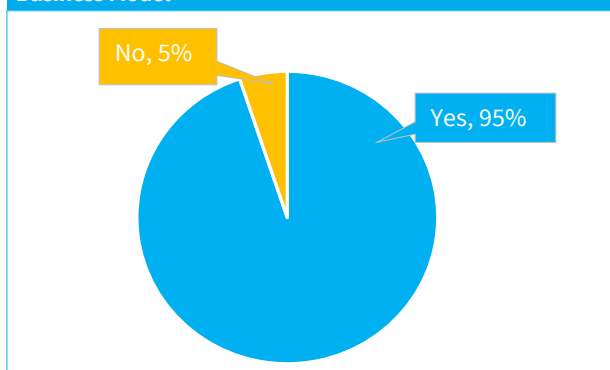
- The COVID-19 pandemic dramatically accelerated digitalization, achieving what was thought would take decades in weeks. Financial institutions enhanced the use of digital channels during the pandemic, to minimize the health risk of customers and support stay-at-home protocols.
- To reduce the risk of COVID-19 transmission through physical currency, CBK in consultation with financial institutions introduced emergency

measures to encourage use of mobile money in March 2020 (detailed information on the measures introduced by CBK is captured in Annex II). The measures accelerated the number of transactions conducted outside bank branches from 90 percent before the COVID-19 pandemic to over 94 percent since the onset of the pandemic.

- Based on the 2020 Innovation Survey, the operating business model of 95 percent of the banks was impacted by the COVID-19 pandemic compared to 93 percent of the MFBs.

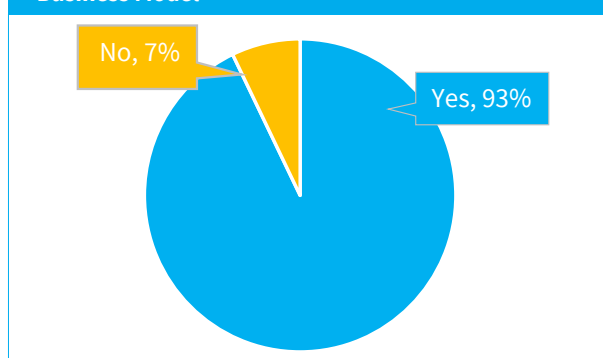
- Only 6 percent of all financial institutions did not experience the impact of the COVID-19 pandemic on their operating business model.

Figure 17: Impact of COVID-19 on Banks' Operating Business Model



- COVID-19 pandemic saw banks accelerate their digital strategies. 56 percent of the institutions identified the drive for uptake and utilization of digital channels especially mobile and internet banking as a key strategy in the COVID-19 era.
- 33 percent of the institutions noted that alternative working arrangements and remote access had to be put in place for business continuity.
- Other impacts highlighted by the institutions were reduced lending, loan restructuring, loan provisioning, use of digital channels for loan disbursement and collections.
- All the institutions whose operating business model was not impacted by the COVID-19 pandemic highlighted that one of the reasons for this resilience was their pre-existing capacity for remote connectivity enabling their staff to work from home immediately the measures restricting movement were put in place to curb the COVID-19 pandemic.

Figure 18: Impact of COVID-19 on MFBs' Operating Business Model



2.3.2 COVID-19 Impact on Pre-existing Innovations

- 56 percent of banks experienced COVID-19 impact on their pre-existing innovations compared to 43 percent of the MFBs.
- 67 percent of the institutions whose operating business model was not impacted by COVID-19 did not experience the impact on their pre-existing innovation.
- The only MFB whose operating business model was not impacted by COVID-19 also reported COVID-19 as not impacting on its pre-existing innovations.

Figure 19: Impact of COVID-19 on Banks' Pre-Existing Innovation

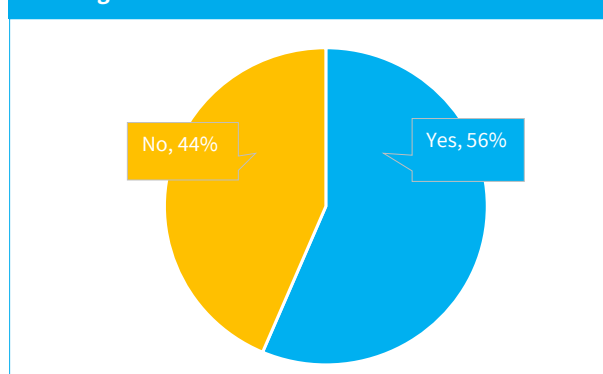
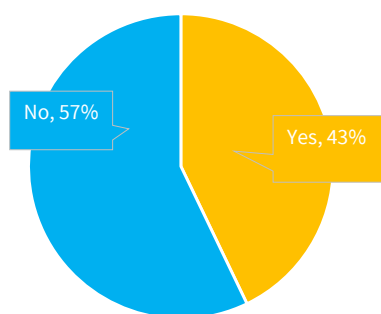


Figure 20: Impact of COVID-19 on MFBs' Pre-Existing Innovation



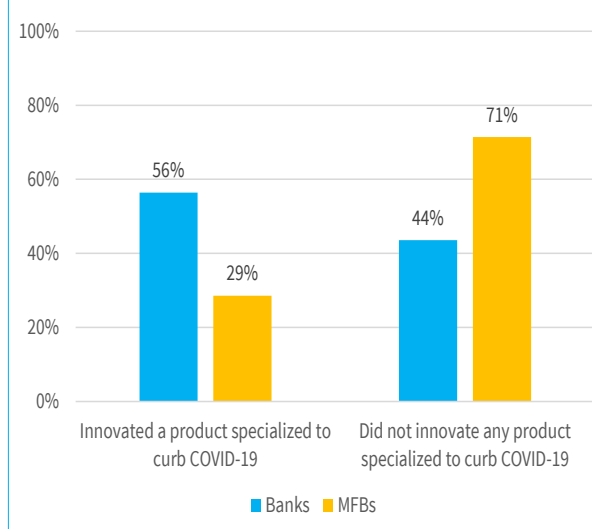
- 54 percent of the institutions whose pre-existing innovation was impacted by COVID-19 identified accelerated uptake of their innovative products by customers as the key impact especially increased transactions through digital channels.
- Other effects highlighted by most institutions were:
 - Re-prioritization of ongoing innovation projects with more focus placed on business resilience during the COVID-19 pandemic.
 - Reduced uptake and utilization of card products.
 - Delayed implementation of some on-going projects especially due to difficulty in coordinating vendors.
 - Renewed and increased focus on uptime and availability of digital channels.

2.3.3 Products Aimed at Curbing the Effects of COVID-19

- Digital finance innovations were critical in responding to the COVID-19 pandemic. Financial Technology (Fintech) enabled business continuity and rapid scaling up of support to vulnerable groups.

- 56 percent of the banks innovated a product specialized to curb the effects of COVID-19 compared to 29 percent of the MFBs.
- 71 percent of MFBs did not innovate any product aimed at curbing the effects of COVID-19 compared to only 44 percent of the banks.

Figure 21: Innovative Products Aimed at Curbing the Effect of COVID-19



- 50 percent of the institutions cited improvements on the mobile and internet banking channels to ensure improved access, easier interaction and seamless and secure transaction processing for the customer. This involved additional features on the channels and enhancing the security of the platforms.
- Other targeted effects of COVID-19 highlighted by the institutions were on:
 - Enabling customer interactions in the era of limited physical interaction.
 - Support e-commerce and other retailers reach and serve their customers digitally.

- 48 percent of the institutions cited COVID-19 as slowing down efforts towards innovation during the period of January 1, 2020 and December 31, 2020. These were mainly attributed to :
 - Alternative working arrangements reducing the number of dedicated resources.
 - Difficulty in coordination of vendors and logistics.
 - Focus on existing products limiting resources for innovation.
 - Reduced investment due to uncertainties.
- 36 percent of institutions noted that COVID-19 accelerated the efforts towards innovation during the period of January 1, 2020 and December 31, 2020 with only 10 percent of institutions not experiencing the impact on innovation efforts.
- 6 percent of the institutions reported a 50-50 effect of COVID-19 on innovation efforts. This was mainly attributed to prioritization of some innovation projects during the COVID-19 period to sustain businesses.
- The banking sector will continue to experience accelerated digitalization driven by the effects of the COVID-19 pandemic.

2.4 Public Support for Innovation

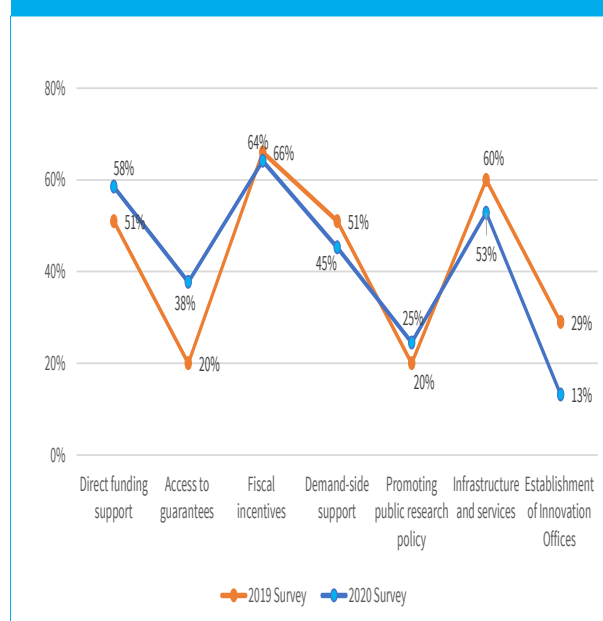
2.4.1 Efficacy of Forms of Public Support

- The top three forms of public support based on the 2020 survey's findings include: fiscal incentives (64 percent), direct funding support (58 percent each) and provision of infrastructure and services (53 percent).
- Fiscal incentives remained the most preferred form of public support, a similar ranking to the 2019 survey.
- Only 13 percent of the institutions identified

establishment of Innovation Offices to act as the central point of contact and channel for requests and information related to innovation, as a preferred form of public support. This was a decrease from 29 percent in the 2019 survey.

- Other forms of public support cited were:
 - Creation of a regulatory framework for open banking to enable Fintechs connect with banks.
 - Timely review and approval of innovative products by the regulator.
- **Figure 22** below represents the institutions' views on forms of public support that are considered most effective in promoting innovation activities within the institutions and the industry at large.

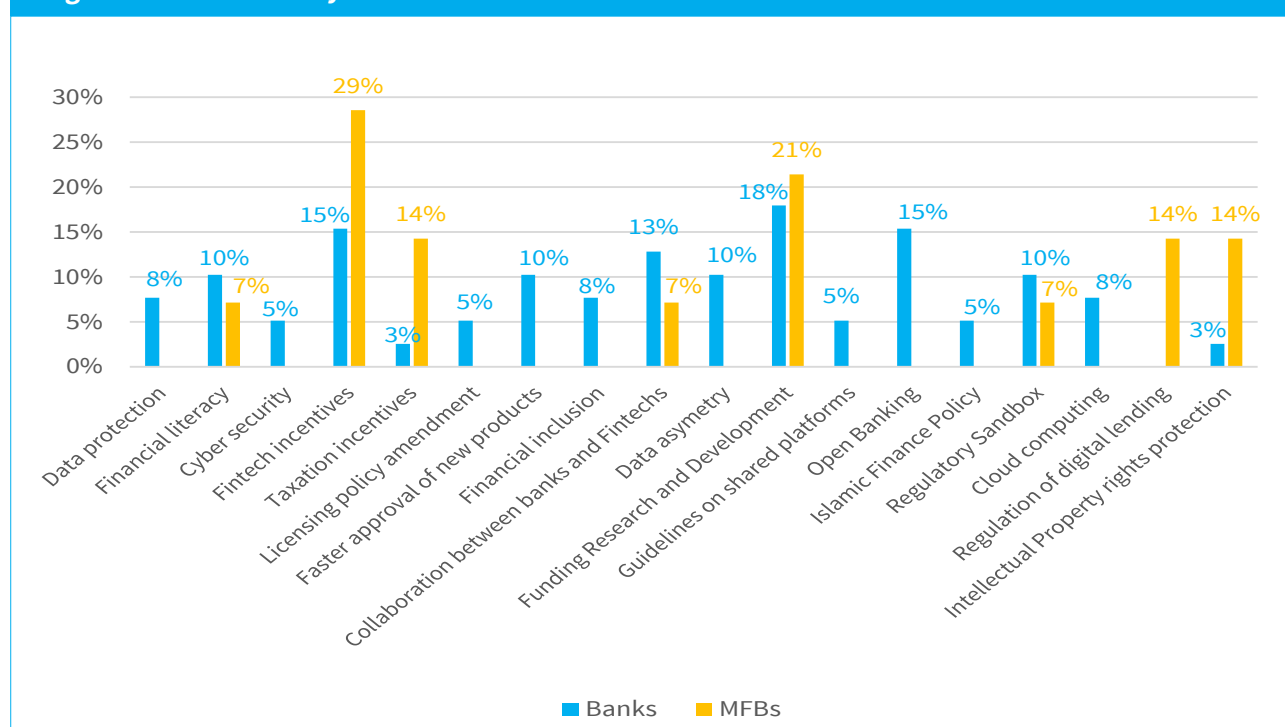
Figure 22: Efficacy of Public Support and Efficacy Considerations



2.4.2 Public Policy Areas

- 29 percent of MFBs and 15 percent of banks listed Fintech incentives as one of the public policies that regulatory agencies need to focus on.
 - 21 percent of MFBs and 18 percent of banks named funding for research and development as a key public policy that they would want regulatory agencies to focus on.
 - 15 percent of banks also identified Open Banking
- as a key public policy that they would want regulatory agencies to focus on.
 - The key bottlenecks identified by the institutions include:
 - Lack of clarity on regulatory requirements on cloud computing.
 - Lack of clarity on regulatory requirements on distributed ledger technology.
 - Lack of defined turnaround time for approval for new products.

Figure 23: Public Policy Areas



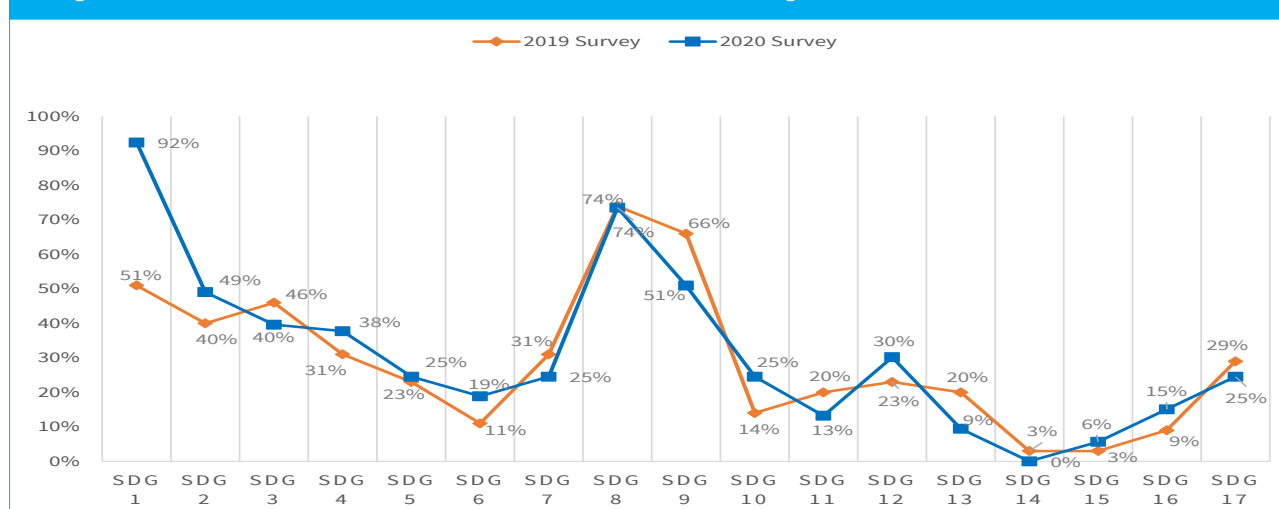
2.4.3 SDGs: Potential for Innovation-Related Activities Tied to Digitalization of Finance

- The top 3 Sustainable Development Goals (SDGs) with the most potential for innovation-related activities tied to digitalization of finance were **SDG 1**: End poverty in all its form everywhere (92 percent), **SDG 8**: Decent Work and Economic Growth (74 percent) and **SDG**

9: Industry, Innovation and Infrastructure (51 percent).

- The top 3 SDGs in the 2020 survey were similar to the top 3 SDGs in the 2019 survey where the ranking in 2019 survey was SDG 8: Decent Work and Economic Growth (74 percent), SDG 9: Industry, Innovation and Infrastructure (66 percent) and SDG 1: End poverty in all its form everywhere (51 percent).

Figure 24: SDGs: Potential for Innovation-Related Activities Tied to Digitalization of Finance



2.5 Afro-Asia Fintech Festival Assessment

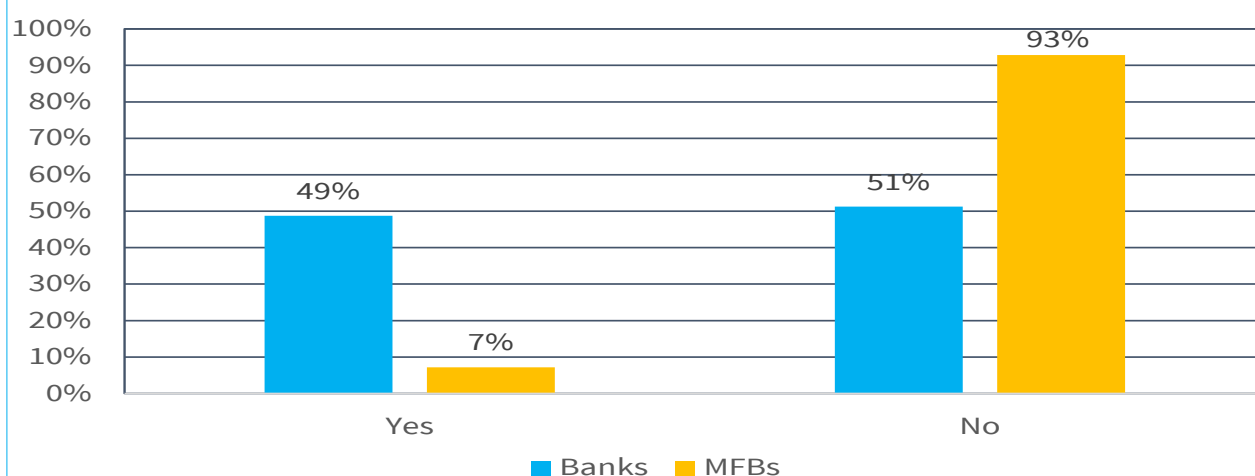
2.5.1 Afro-Asia Fintech Festival 2020 Assessment

- 49 percent of banks attended the Afro-Asia Fintech Festival (AAFF) 2020 while only 7 percent of MFBs attended.
- Of the 51 percent of banks and 93 percent of MFBs that did not participate, majority indicated that they were not privy to the event details while some stated that they had resource limitations.
- Key value adds as highlighted by the attendees include :

- Exposure to digital innovation ideas.
- Appreciation of 4th Industrial Revolution (4IR) technologies like Distributed Ledger Technology (DLT), Artificial Intelligence (AI), Machine Learning (ML), 5G and Cloud computing.
- Understanding Central Bank of Kenya's commitment to stability and deepening of financial services in the digital world.
- Benchmarking with other industry players on innovation and digitization.
- Brand visibility.
- Understanding ways of building resilience against pandemic shocks and future preparedness.

- Creating networking opportunities for participants.
- Providing coaching and support to start-ups who participated.
- Institutions recommended that the next AAFF incorporate the following topics :
 - Use of Artificial Intelligence and Machine Learning in Customer on-boarding.
 - Adoption of Big Data and advanced analytics in customer data management to allow increased product customization.
 - Use of Application Programming Interfaces

Figure 25: AAFF 2020 Attendance by Institutions



- (APIs) and cloud computing to enable improved partnerships /collaborations.
- Use of Artificial Intelligence in credit lifecycle management.
- The role of sandboxes in bank and Fintech regulation.
- Evolving role of payment systems for merchants.
- Open banking.
- Regtech.
- Additionally, improvement areas as suggested by the institutions include:
 - Create a digital knowledge hub, where information from the Festival is accessible to industry players.
 - Involvement of local banks proactively.
 - Inclusion of speakers from leading Fintech companies around the world to bring a global perspective.
 - Use actual case studies of solutions leveraging on the distributed ledger infrastructure.
 - Identification of Innovation incubators and programs that would be used to accelerate and foster innovation.
 - Exposure visits to key companies for a demo on the technology presented during the Festival.
 - More local Fintechs to be supported to showcase their products.

2.6 Impact and Challenges

2.6.1 Success Rate of Innovation Products Developed in 2020

- CBK issued the Kenya Banking Sector Charter in 2019. The Charter represents a commitment from institutions in the banking sector to entrench a responsible and disciplined banking sector cognizant of, and responsive to, the unique socioeconomic realities of the Kenyan populace.
- One of the key pillars of the Kenya Banking Sector Charter issued in 2019 by the Central Bank of Kenya (CBK) was a keen focus on customer centricity.
- Majority of institutions had a product success rating of more than 5, with the rating of 1 being least successful and 10 being most successful.
- Products implemented by 77 percent of institutions attained their objectives while 23 percent did not, as depicted in the chart below.

Figure 26: Success Rating of Products Developed in 2020

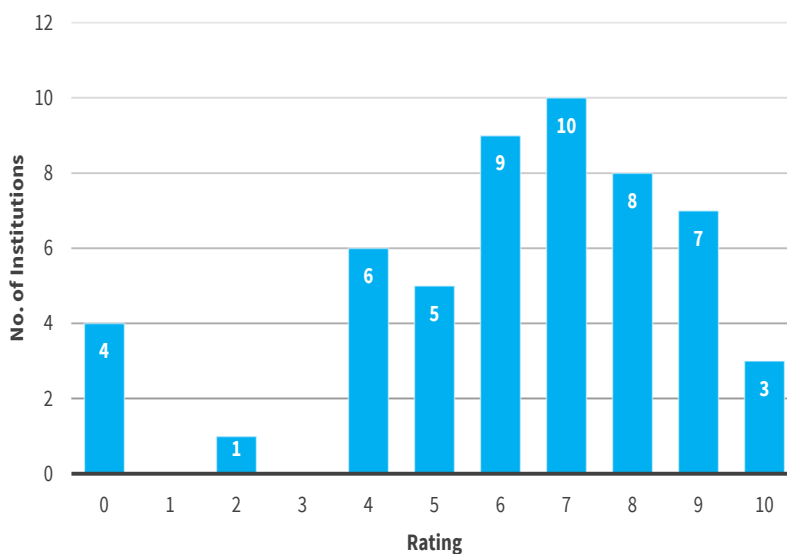
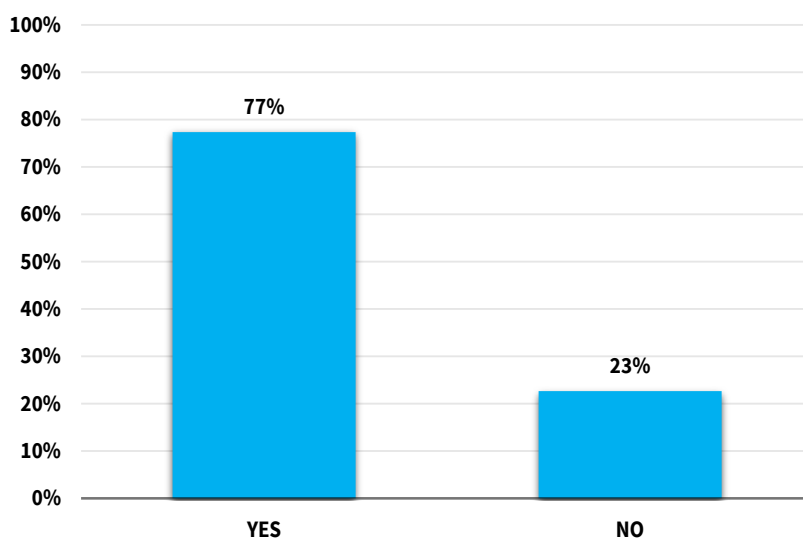


Figure 27: 2020 Product Success



2.6.2 Product Innovation Challenges

- Challenges faced by institutions regarding product innovation include:
 - Increased risk associated with Cyber Security.
 - Limited financial resources to invest in product research leading to innovation.
 - Fast paced changes in demographic and client behaviours.
 - Third-party risk, given the high dependence on technology solution providers for innovation.
 - Acquiring key staff with the right skills to foster innovation.

Conclusion

- Technological progress, changes in customer behaviour, competition, regulations and the current COVID-19 pandemic have required financial institutions to step up, partner with agile Fintech players, and create new, innovative products. 2020 was a year like no other, dominated by the COVID-19 pandemic which prompted institutions especially those in the financial sector to redefine their strategies. A silver lining of the COVID-19 pandemic was

accelerated digitalization. This resulted in the increased uptake of Fintech as an enabler of provision and access to financial services.

- Kenya continues to place its mark as a technology innovation hub in Sub-Saharan Africa. CBK has been at the forefront in fostering financial innovation, financial inclusion and customer protection besides the overall key mandate of promoting financial sector stability. Moving forward, the trend towards greater digitalization of financial services and utilization of innovative technologies in the financial sector is set to continue. This heralds the need for collaborations in building an inclusive ecosystem given the increasingly agile nature of Fintech. Importantly, the innovation survey report will provide an informed basis for evidence-based public policy decisions on Fintech going forward.

Annex 1

Glossary of Terms

Application Programming Interface (API) – describes a system architecture that enables interactions between different software applications via a specified set of protocols. This allows software applications to communicate with each other to exchange data directly or to access another software application's functionality, through automated access.

Artificial intelligence (AI) – describes the activity and outcome of developing computer systems that mimic human thought processes, reasoning and behaviour.

Augmented reality (AR) – refers to the real-time digital overlay of information over physical elements. A user's real environment is the predominant element, with extra information intended to augment the actual environment, rather than fully replacing it.

Big Data – refers to datasets that are too large or complex to be handled by conventional data architectures, including processing tools and techniques. The key characteristics of Big Data are volume (size of the dataset), variety (data from multiple domains), velocity (rate of data flow) and variability (changes to data characteristics). These characteristics are colloquially known as the 'Vs' of Big Data.

Biometrics technology – refers to a technology that allows a person to be identified and authenticated based on a set of recognizable and verifiable physical and behavioural characteristics, which are unique and specific to them.

Cloud computing – refers to a computing system that supports business and delivery models that enable on-demand access to a shared pool of resources such as applications, servers, storage and network security. Cloud computing is typically delivered in three forms, namely, Software as a Service ("SaaS"), Platform as a Service ("PaaS") and Infrastructure as a Service ("IaaS").

Distributed ledger technology (DLT) – is a technology configuration that allows records to be updated and tracked in a 'distributed' manner, as opposed to a 'centralized' configuration. The key elements of DLT are a distributed ledger, a network of participants, a consensus mechanism and cryptography.

Internet of Things (IoT) – describes communication architecture that allows devices or sensors to connect, communicate or transmit information with or between each other via the internet, thereby enabling the recognition of events and changes so as to react autonomously in an appropriate manner.

Machine learning (ML) – describes computer systems that adapt and learn from experience through data classification, pattern identification and regression.

Digital-only banking – describes a banking system where banking facilities are provided exclusively through digital platforms.

Annex 2

List of Respondents

a) Banks

1. Absa Bank Kenya Plc.
2. Access Bank (Kenya) Plc.
3. African Banking Corporation Ltd.
4. Bank of Africa Kenya Ltd.
5. Bank of Baroda (K) Ltd.
6. Bank of India.
7. Citibank N.A Kenya.
8. Consolidated Bank of Kenya Ltd.
9. Co-operative Bank of Kenya Ltd.
10. Credit Bank Ltd.
11. Development Bank of Kenya Ltd.
12. Diamond Trust Bank (K) Ltd.
13. DIB Bank Kenya Ltd.
14. Ecobank Kenya Ltd.
15. Equity Bank Kenya Ltd.
16. Family Bank Ltd.
17. First Community Bank Ltd.
18. Guaranty Trust Bank (Kenya) Ltd.
19. Guardian Bank Ltd.
20. Gulf African Bank Ltd.
21. Habib Bank A.G Zurich.
22. HFC Ltd.
23. I & M Bank Ltd.
24. Kingdom Bank Ltd.
25. KCB Bank Kenya Ltd.
26. Mayfair CIB Bank Ltd.
27. Middle East Bank (K) Ltd.
28. M Oriental Bank Ltd.
29. National Bank of Kenya Ltd.
30. NCBA Bank Kenya Plc.
31. Paramount Bank Ltd.
32. Prime Bank Ltd.
33. SBM Bank Kenya Ltd.
34. Sidian Bank Ltd.
35. Spire Bank Ltd.
36. Stanbic Bank Kenya Ltd.
37. Standard Chartered Bank (K) Ltd.
38. UBA Kenya Bank Ltd.
39. Victoria Commercial Bank Ltd.

b) Microfinance Banks

1. Caritas Microfinance Bank Ltd.
2. Century Microfinance Bank Ltd.
3. Choice Microfinance Bank Ltd.
4. Daraja Microfinance Bank Ltd.
5. Faulu Microfinance Bank Ltd.
6. Kenya Women Microfinance Bank Plc.
7. Rafiki Microfinance Bank Ltd.
8. Key Microfinance Bank Plc.
9. SMEP Microfinance Bank Ltd.
10. Sumac Microfinance Bank Ltd.
11. U&I Microfinance Bank Ltd.
12. Uwezo Microfinance Bank Ltd.
13. Maisha Microfinance Bank Ltd.
14. Muungano Microfinance Bank Plc.



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