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Mobile Banking: A Technological Innovation: A Strategic Application in Financial Services and the Performance of Commercial Banks in Kenya

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Abstract:
There is perception that innovations drive long-term economic growth, productivity and improvement of performance in financial institutions however limited information is available to vouch this perception. The study which focused on Commercial Banks in Kenya was guided by these two objectives. To establish the influence of mobile banking; agency banking and intelligent ATMS on the performance of commercial banks in Kenya. The study was anchored on Dynamic Capabilities, Disruptive Innovation and Financial Intermediation Theories. Mixed research design was used in collecting and analyzing. The study targeted 10,717 management cadre in the entire banking sector out of whom a sample of 386 was chosen using Yamane formula. Primary data was collected mainly using questionnaires administered using drop and pick technique. Primary data was collected using interview guide from KII and questionnaires for quantitative information. Secondary data was collected using document analysis guide as way of giving relevance to the primary data analyzed. Analysis of data was facilitated using computer supported software SPSS 21 and presented using descriptive and inferential statistics as well as thematic prose from KII. Th descriptive statistics include frequency, percentages, weighted averages, mean and standard deviation were used. Correlation analysis and multiple regression analysis were used to infer the relationship between variables. The findings showed a positive correlation between technological innovation in financial services and the performance of commercial banks in Kenya. The findings showed that the tested technological innovations under study accounted for 66.4% of performance of commercial banks leaving 33.6% of performance to be explained by other factors not under study. The ANOVA results showed that Mobile banking, Agency banking and Intelligent ATMs as technological innovations in financial services together have a significant and positive combined effect on performance of commercial banks in Kenya

Keywords: *Strategies, technological innovation, performance, bank, Kenya*

1. Introduction and Background Information

According to (Cheruiyot, 2010; Quinn, 2010), innovation is the creation, development and implementation of a new product, process or service, with the aim of improving efficiency, effectiveness or competitive advantage. Technological Innovation has spurred financial innovations that have modified many financial products, services, production processes and organizational structures (Frame, Wall and White, 2018). The driving perception is that innovation reduces operation cost and saves time. Commercial banks play a critical role in the growth of a country which accounts for the need for their efficiency and effectiveness.

Globally it can be demonstrated that technological applications have been applied by banks to cut out their operational niches. Oke *et al*. (2011) conducted a study on US banks and found that innovative financial institutions have used technology as a strategy to give direction which realizes advantage in a changing environment through its configuration of competences and resources with the aim of fulfilling stakeholders‟ expectations. In Japan, Kubbr (2007) observed that financial institutions have encouraged innovation in order gain competitive advantage in all aspects of their operations. In South Africa financial institutions have been able to create competencies and in order to sustain them the banks have invested in online marketing, mobile banking, and paperless banking and customized customer service. As a result of the rapidly changing technology and improved financial performance commercial banks have employed skilled and knowledgeable workers who are innovative to and able to deliver change (Khalil, 2012).

The Kenyan government Vision 2030 of 2008 was articulated as a guide to developmental strategies for achieving its three pillars of; Economic, Social and Political sustainable growth. Each of these components aims at creating wide economic impact by unlocking human capital potential to spur economic growth, create employment and reduce poverty, (GOK, 2008). Sustainability begs on attainment of global standards of competitiveness which promote growth-based efficiency and effectiveness locally and internationally Kenya has purposively proposed to promote entrepreneurship development as a strategy of job and wealth creation drawing reference from newly Industrialized South East Asia which promoted entrepreneurial strategies to attain industrialization.

The World Bank in its 2013 status report noted the inherent potential for Kenya's banking sector to flourish while pointing out the increased need for government to address financial inclusivity since it projected that most jobs would be created in the informal sector where access to finance was increasingly becoming a challenge. Technological applications and financial innovation are creating and popularizing new financial channels, technologies, institutions and markets which cannot be taken for granted, (Franz &Omollo, 2014). Technology has resulted in innovative financial products such as mobile banking, agency banking, plastic money, digital banking to mention but a few. These innovations have not only enhanced service quality offering by commercial banks but have been pivotal in introducing new income streams for the banks as well. The legislative arm of financial inclusivity and access to finance which the government tried regulate through the Banking Amendment Act of 2016 significantly altered the country's financial regulatory environment and forced players in the financial services industry to realign their strategies and conform to the new regulations while at the same time remaining viable businesses.

In response to this, most commercial banks seem to have adopted the strategy of 'replacing the brick with the click' and invested in technology to roll out their services while at the same time reducing their physical presence in branch network and staff headcount. Instead of the anticipated results, the law seems to have had a reverse effect as noted by CBK (2018). There was further exclusion from finance for low-income customers without collateral and instead there was increased uptake of credit for high-net-worth individuals and organizations further marginalizing the very target group that the government intended to benefit from the said legislation. The law has since been repealed. The KBA (2018) reported that adoption of alternative banking channels by lenders in Kenya in the past five years was bringing to an end face to face interaction with financial services providers. The average customer is now likely to bank daily without ever setting foot inside a banking hall, utilizing instead new channels such as agents, mobile money and online banking.

Banking services are homogeneous and to ensure banks survival within the industry, they need to adopt a strategy that will give them competitive advantage over their rivals. Noteworthy is the fact that industry trends point to the fact that late entrants in the banking industry are now among the ones with the highest number of customers as evidenced by CBA and Mshwari, (Central Bank of Kenya, 2015).In 2018, The World Bank identified financial inclusion as a key enabler to reduce extreme poverty and boost shared prosperity noting that increased inclusion particularly by established commercial banks would stimulate far reaching strides towards the attainment of Sustainable Development Goals. Specific for local relevance, Vision 2030 seeks to create a stable macro environment that allows for growth and creation of wider economic opportunities across the country's citizenry and this is only possible if majority of citizens actively accessed financial services from commercial banks. Therefore, the objective of this study was to determine the influence of mobile banking on the performance of commercial banks in Kenya.

1.1. Statement of the Problem

Past studies (Monyoncho, 2015; Muiruri&Ngari 2014; Batiz-Lazo and Woldesenbet, 2006 and OECD, 2017) affirm that technological changes and innovation drive long-term economic growth, productivity and improvement in performance of banks yet it is not clear if it also promotes access to finance and financial services in commercial banks. The reality is that banking services are homogeneous and to ensure banks survival within the industry, they need to adopt a strategy that will give them competitive advantage over their rivals. Noteworthy is the fact that industry trends point to the fact that late entrants in the banking industry are now among the ones with the highest number of customers as evidenced by CBA and Mshwari, (Central Bank of Kenya, 2015). World Bank Group considers financial inclusion a key enabler to reduce extreme poverty and boost shared prosperity through Universal Financial Access. Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance-delivered in a responsible and sustainable (World Bank, 2017). In 2018, The study focused on strategic influence of mobile banking and agency banking technologies on clients' inclusivity and overall performance of commercial banks. This was motivated by the fact that banks are pivotal pillars in any economic framework and if their intermediation role is efficiently operationalized then more persons should be able to access structured credit and contribute to the growth aspirations of the country that actively promote entrepreneurship.

1.2. Study Objectives

The specific objectives of the study were

- To determine the influence of Mobile banking on the performance of Commercial Banks in Kenya.
- Assess the influence of Agency banking on the performance of Commercial Banks in Kenya.

2. Literature Review

2.1. Theoretical Review

The study was anchored on the following two theories: Dynamic Capabilities Theory, Disruptive Innovation Teece (2001) propounded dynamic theory as a modification of resource-based theory. It emerged as both an extension to and a reaction against the inability of the capabilities to address rapidly changing environments (Choi & Moon, 2015). They suggested that DC may be considered as a source of competitive advantage. Dynamic capabilities are responsible for enabling organizations to integrate, marshal and reconfigure their resources and capabilities to adapt to rapidly changing environments. Dynamic capabilities (DC) theory appeared as an alternative approach to solve some of the weaknesses of RBV theory Song &Triche, (2015). Here, strategic resources provide an organization with a golden opportunity to develop competitive advantages over its rivals. Dynamic capability therefore stresses the importance of management in adjusting,

incorporating, reconfiguring the firm's inside and outside assets while cognizant of its practical abilities to adapt to the changing market environments.

The dynamic capability theory has extended RBV to the realm of evolving capabilities (Okoth, 2013). Dynamic capabilities aim to provide a consistent framework for the understanding of competitive advantage driven by sustainable good firm performance. This theory is relevant for the study since its main industry of interest banking, is essentially an industry of intermediation. It provides a systematically structured view and specifies that successful players cannot restrict the variables they consider to perform well and have to continuously seek which other variables come to play jointly with others for the best results and within their current and future business strategies (McMillan, 2002).

Disruptive Innovation Theory of Christensen (1997)propounds that the industry leaders are displaced from the industry and the new entrants take over the market. Bauman, (2013) who is a proponent of disruptive theory, digital technology is enabling new disruptive business models for making payments and matching savers with borrowers. He contends that traditional intermediaries face potentially significant loss of market share to firms that sit outside or on the margins of the current financial regulatory system steadily as evidenced by the declining proportion of the money supply held in banknotes and coins. This is evidenced in the rapid increase in use of debit and credit cards over the last 30 years. McMahon & Zhu (2014) argued that technology combined with new business models is a disruption that is removing traditional intermediaries from financial transactions.

2.2. Conceptual Review

M-Pesa emerged in Kenyan banking industry as a disruptive innovation from the telecommunication firms offering mobile money transfer notably M-Pesa from Safaricom. MShwari a product of Safaricom and CBA bank, stands out as the biggest disruptive innovation along with Mpesa in Kenya in the last decade. Statistics from SafaricomLtd, indicate that Mshwari was officially launched on 27 November 2012 and drew 70,000 subscribers on day one of its operational launch. In one month, it had attracted 1 billion Kenyan shillings in deposits-a level which took traditional banks in Kenya many months or even years to reach. M-Pesa by 2013 had recruited 10.2 million customers and the number has steadily grown to over 20 million presently. To be able to deal with this challenge banks have engaged in innovation (CBK, 2015). This theory is suitable for this study because it explains the type of innovations banks adopt as disruption from the traditional banking services.

2.3. MobileBanking and Performance of Commercial Banks

Rose (1999) describes mobile banking as a service provided by financial institutions in cooperation with mobile phone operators. It allows customers with busy lives to conveniently do their banking using their phones anytime. It is also about getting banking services to the unbanked, those who do not have bank access or bank accounts, and those who are at the bottom of the economic pyramid, often living in remote areas. They receive the benefits of banking services such as being able to save and borrow in a cost-efficient and secure way. Mobile banking is most often performed via SMS or the Mobile Internet but can also use special programs downloaded to the mobile device (Hicks and Niehans, 1998). Mobile banking is one innovation which has progressively rendered itself in pervasive ways of cutting across numerous sectors of economy and industry. Zimmerman (2010) noted that mobile banking in the developing world was an object of scepticism among financial insiders. While proponents argued that cell phones could revolutionize personal finance in poorer countries, regulators warned of money laundering and most bankers worried that low customer balances wouldn't be worth transaction costs.

Mobile money empowers men and women by giving them the confidence and an independent place to store and control funds that is private and inaccessible to other members of the family. Kings (2011) noted that the value proposition for use of mobile money focuses on several benefits which include; increased operating efficiencies, less paperwork, better transparency and accountability via the electronic records and more independence and self-sufficiency for users. Mobile banking serves to give the customers a new easier, convenient and quick approach to banking which most commercial banks are competing on to attract the largest customer base and in turn be able to increase profits.

Ching, Sim, Kam& Tan (2011) carried out a desk review of the factors affecting Malaysian mobile banking adoption with the aim of examining the relationships between constructs of perceived usefulness, perceived ease of use, social norms, perceived risks, perceived innovativeness, and perceived relative advantages towards behavioural intention in adopting mobile banking in Malaysia. The finding was that perceived usefulness, perceived ease of use, relative advantages, perceived risks and personal innovativeness all had a significant relationship to adoption of mobile banking services in Malaysia. The contextual realities of the Malaysian and Kenyan financial services industries are also different and as such the findings of the present study may vary from those of Ching et al (2011).

Al-Jabri, (2012) investigated a set of technical attributes of mobile in Saudi Arabia. The study used diffusion of innovation as a base-line theory to investigate factors that may influence mobile banking adoption and use. The study found that banks, in Saudi Arabia needed to offer mobile banking services that were compatible with various current user requirements, past experiences, lifestyle and beliefs in order to fulfil customer expectations. The study noted the need for banks to understand customer behaviour and design reliable mobile banking systems that would meet their needs and provide useful and quality services.

In her study: "Increasing Access to Financial services", McGregor (2013) focused on Mobile banking: by analyzing how technology helps unbanked and under banked populations decrease financial risk and gain entry to more secure financial services. The study found that consumers increasingly turn to mobile phones to meet personal financial needs when banking services are not generally available. The study further found three significant roles played by mobile banking which included providing financial services in locations without banks, raising important regulatory and

competition policy issues in financial services and lastly, splitting and separating financial services into its components which provide important conceptual insights into the nature of financial services as a whole by serving to demystify the sector.

In Kenya, Wambari (2009) studied mobile banking seeking to establish the importance of mobile banking in the day to day running of micro and small businesses (MSEs) with aim of understanding the opportunities and challenges involved in using mobile banking as a business tool. The study found that the adoption and use of mobile phones is a product of a social process, embedded in social practices such as SMEs Practices which leads to some economic benefits. Further it found that Mobile banking affected performance of organization behaviour and decision making of the entire Kenya economy. Kigen (2010) studied the impact of mobile banking on transaction costs of microfinance institutions and found that mobile bankinghad reduced transaction costs considerably though the full impact of the same was not directly felt by banks becauseof the then small customer base. The study projected great gains in terms of operational cost saving for financial institutions that would embrace this technology.

Using a descriptive survey, Waiganjo (2018) studied the effect of mobile banking investment on the financial profitability of Tier 1 commercial banks in Kenya. Her finding was that the monthly value moved through mobile banking and the number of users of mobile banking influenced financial profitability of the banks to a significant extent and that there was a positive correlation between perceived increased customer base, mitigating fraud and cybercrime, investing in security systems, and risk management practices; and financial profitability of the banks. The study recommended that policy makers needed to consider mobile banking in their formulation of policies because of the technological developments and the expected switch from physical branch networks to technologically supported banking channels. It further recommended more research done on challenges associated with adoption of mobile banking in commercial banks in Kenya.

2.3.1. Agency banking and Performance of Commercial Banks

Agency banking was first developed in Brazil in 1999 and has slowly gained popularity in developing countries. In Kenya, it was instituted in May 2010 after the publication of prudential guidelines by the Central Bank of Kenya. Agalla (2014) noted that agency banking is increasingly impacting on the financial performance of banks especially in Kenya and South Africa where penetration in projected to grow tremendously. Vutsengwa& Ngugi (2013) noted that banking agents were increasingly utilized as important distribution channels for financial institutions. The scope of services they offer may include facilities to conduct bank and stock market transactions, account transfers, balance inquiries, bill payments, and stop-payment requests. Banking agents are usually equipped with a combination of point of sale (POS) card reader, mobile phone, barcode scanner to scan bills for bill payment transactions, Personal Identification Number (PIN) pads, and sometimes Personal computers (PCs) that connect with the bank 's server using personal dial up or other data connection. Clients that transact at the agent use a magnetic stripe bank card or their mobile phone to access their bank account (Wanyoike, 2014).

Among the benefits of agency banking in Kenya was the increasing growth in retail deposits amongst banks that had embraced it as noted by the CBK (2015). Banking agencies help financial institutions to divert existing customers from crowded branches by providing a "complementary" often more convenient channel. Other financial institutions especially in developing markets use agents to reach an "additional" client segment or geography. Reaching poor clients in rural areas is often prohibitively expensive for financial institutions since transaction numbers and volumes do not cover the cost of a branch. In such environments, banking agents that piggy back on existing retail infrastructure – and lower set up and running cost- can play a vital role in offering many low-income people their first-time access to range of financial services as noted by Simboley (2017).Jaldesa, Muturi& Sumba (2015) noted that agency banking has enabled bank customer to access the banking services within the comfort of their neighbourhood since taking the bank to the community had not only widened and deepened the financial market but further enhanced customer loyalty to respective banks.

Chipeta&Muthinja (2018) carried out an impact assessment of financial innovations and bank performance in Kenya using a document analysis and found that 90% of agency banking transactions was controlled by three commercial banks and that 30% of total revenues of these banks was directly attributable to agency banking. The study however found the great dominance of mobile banking over agency banking in Kenya a fact the study attributed to the fact that agency banking had been in operation actively for only 3 years over the 10-year study period. The implication being that the impact of agency banking was likely to be felt more in the future, considering the fact that the impact of financial innovation on firm performance is time lagged. In addition, the study noted that agency banking has been adopted by only 15 out of 42 commercial banks, thus the innovation was yet to be felt more widely. The study noted that while agency banking significantly contributed to the firm performance, the true impact of technological innovation was derived by firms that combine several technologies to deploy their services.

3. Research Methodology

This study was anchored on Social Constructivism paradigm. Alexander Wendt (1999), a key proponent of constructivism paradigm views structures of human association as products and proceeds of shared ideas rather than material forces, and that the identities and interests of purposive actors are dynamically constructed by these shared ideas rather than given by nature. Constructivists argue that life phenomena construct reality and that reality is dynamic as to present multiple realities of the same situation depending on the social lenses worn. According to Creswell (2013), constructivism is an interpretive framework for individuals' quest to understand their world and develop their own particular meanings that correspond to their experience.

It used mixed research design which characteristically focuses on research problems that require an examination of real-life contextual understandings, multi-level perspectives and cultural influences. The study used qualitative approaches to get insider picture from veterans in the industry; it collected quantitative information in survey approach from practitioners and document analysis to be able to triangulate the findings for authenticity. Thus, it was the one that was best suited for this particular study.

3.1. Area of Study and Target Population

The study was conducted in Nairobi County. Nairobi County hosts the country's capital city and has an estimated population of 4 million residents spread over an estimated area of 696km2. The county has 17 parliamentary constituencies namely; Westlands, Dagoreti North, Dagoretti South, Langata, Kibra, Roysambu, Kasarani, Ruaraka, Embakasi South, Embakasi North, Embakasi East, Embakasi West, Makadara, Kamkunji, Starehe and Mathare (Republic of Kenya, 2014). The county was chosen because Nairobi hosts the capital City of Kenya and has the concentration of all the Commercial banks headquarters. Nairobi is also home to all the Head Offices of the strategic and boundary partners to the commercial. Moreover, all their main branches are domiciled here which informs the presumption that the objectives of the study will be met from this locality. The target population was 10717(CBK report, 2019) out of whom 386 selected using Yamane formula.

3.2. Instrumentation and Data Collection

Primary data was collected using structured questionnaires to collect quantitative data while an interview guide was used to collect qualitative data. The structured questionnaire was in Likert scale format. It was in a scale ranging of 1-5, where each respondent was required to rate each and every statement given. Kothari (2012) acknowledges interviews and questionnaires as good methods of collecting primary data. He observes that questionnaires are low cost, free of bias, and gives the respondents' adequate time and thus the results can be more dependable and reliable. Quantitative data was collected using interview guide with KII. Document analysis was used to collect secondary data from relevant documents of banks operations, operations report, and regulatory documents including CBK reports. Reliability and validity of the instruments were ascertained using Cranach's Alpha

Data collection procedures complied with ethical observance. Questionnaires were administered through drop and pick and was mainly through self-administration. Letters of Introduction and data collection authority letter from the University and National Commission for Science, Technology and Innovation (NACOSTI) license and permit were attached to the questionnaires. This helped in improving the response rate. The researcher further engaged the targeted key informants and secured interviews mostly through calls especially given the COVID pandemic that made physical contact a challenge.

3.3. Data Analysis

Data was analyzed with the aid of SPSS 21 using both descriptive and inferential statistics. The descriptive section used frequency counts, percentages, means, standard deviations and weighted averages to provide the summary statistics and inferential statistics.

4. Findings

4.1. Mobile Banking and Performance of Commercial Banks

The research sought to establish the influence of Mobile banking as a technological innovation on the performance of commercial banks in Kenya. Respondents were requested to rate on a five-point Likert scale, their level of agreement with the various statements which were indicators of the influence of Mobile banking on the performance of commercial banks. The range was between 'strongly disagree (1)'to 'strongly agree' (5). The results are presented on Table 1 below.

	N	Minimum	Maximum	Mean	Std. Deviation
The mobile banking platform has increased the bank's operational efficiency	228	1.00	5.00	4.0921	1.04326
The bank easily modifies products/ services on this platform.	229	1.00	5.00	3.9956	1.02383
The bank's main competitors are heavily invested on this platform.	229	1.00	5.00	3.8341	1.04229
Mobile banking has increased the bank's product and service offering.	229	1.00	5.00	3.8122	.98436
Mobile banking platform has increased the bank's product life cycles.	228	1.00	5.00	3.7500	.94040
Customer feedback is easily captured on this platform.	229	1.00	5.00	3.5764	1.16588
Mobile banking platform hosts most of the bank's products and services.	228	1.00	5.00	3.5395	1.12372
Mobile banking has low maintenance cost thus contributing positively to profitability	229	1.00	5.00	3.5328	1.06170
Customer transaction volumes have increased on this platform in the last year.	229	1.00	5.00	3.4498	1.17852

Table 1: Mobile Banking Descriptive Statistic

The majority of the respondents were in agreement with statement that mobile banking platform has increased the bank's operational efficiency with means score of 4.0921. The low standard deviation of 0.94040 which explains that the variations among the respondent was low. The respondents were further in agreement that Mobile banking platform has increased the bank's product life cycles with mean score of 3.75, Customer feedback is easily captured on this platform with mean score of 3.5764, Mobile banking platform hosts most of the banks products and services with mean score of 3.5395, Mobile banking has low maintenance cost thus contributing positively to profitability with mean score of 3.5328, Customer transaction volumes have increased on this platform in the last year with mean score of 3.4498, Continued investment in mobile banking is mainly motivated by its profit making potential with mean score of 3.4367, Continued investment in mobile banking is mainly driven by customer feedback with score of 3.4061and Income from mobile banking has a high margin hence contributing positively to profitability with mean score of 3.3624.The high standing deviations of 0.17852 indicate that there was high variations among the respondents. This could be attributable to the fact that not all the banks have active mobile banking platforms and further due to the fact that there was a pandemic generally affected retail transactions where the mobile platform is an active contributor of income.

4.2. Agency Banking and Performance of Commercial Banks

The study sought to establish the influence of Agency banking on the performance of commercial banks in Kenya. Respondents were requested to rate on a five-point Likert scale, their level of agreement with the various statements which were indicators of the influence of Agency banking on the performance of commercial banks. The range was between 'strongly disagree (1)'to 'strongly agree' (5). The results are presented on table 4.8 below.

	N	Minimum	Maximum	Mean	Std. Deviation
Agency banking has increased the bank's product and service offering.	229	1.00	5.00	4.0218	.97083
The bank can easily modify products/ services on this platform	229	1.00	5.00	3.9127	1.12829
Agency banking has increased the bank's operational efficiency.	228	1.00	5.00	3.7763	.99689
Agency banking has increased the bank's product lifecycles.	229	1.00	5.00	3.6725	.98772
Customer transaction volumes have increased on this platform in the last year.	229	1.00	5.00	3.5633	1.10884
The bank's main competitors are heavily invested on this platform.	229	1.00	5.00	3.4148	1.11132
Customer feedback is easily captured on this platform	229	1.00	5.00	3.3930	1.10149
Agency banking has low maintenance costs thus contributing positively to profitability	229	1.00	5.00	3.3755	1.02106
Continued investment in agency banking is mainly driven by customer feedback	229	1.00	5.00	3.3537	1.07677
Income from agency banking has high margin thus contributing positively to profitability.	229	1.00	5.00	3.3362	1.05778
Agency banking hosts most of the bank's products and services	229	1.00	5.00	3.2795	1.12802
Continued investment in agency banking is mainly motivated by its profit-making potential.	229	1.00	5.00	3.1834	1.04776

Table 2: Agency Banking Descriptive Statistic

The respondents were in agreement with statement that Agency banking has increased the bank's product and service offering with mean score of 4.02218.the low standard deviations of 0.97083 indicates that the variations among the respondents was low. The respondents further agreed that the bank can easily modify products/ services on this platform with mean score of 3.9127, Agency banking has increased the bank's operational efficiency with mean score of 3.7763, Agency banking has increased the bank's product lifecycles with mean score of 3.6725, Customer transaction volumes have increased on this platform in the last year with mean score of 3.5633, The bank's main competitors are heavily invested on this platform with mean score of 3.3930, Agency banking has low maintenance costs thus contributing positively to profitability with mean score of 3.7755, Continued investment in agency banking is mainly driven by customer feedback with mean score of 3.3537.

4.3. Information Gathered From KII.

The study targeted a total 88 key informants selected purposively for their roles and perceived access to in-depth knowledge and information that would add value to the study. The study reached 37 key informants. They comprised mainly C-Suite Executives from across the commercial banks, management executives at the Kenya Bankers Association and strategic managers from the Central Bank all of whom were engaged as key informants. Based on their responses to the questions on the interview guide, the study inferred the following:

In response to which alternate channels their respective institutions offered and the motivation for the same;

The study learned that financial services industry has seen remarkable changes that have seen banks challenged by the new service providers who can harness the latest technologies faster and offer alternative business models. Other new operators have entered the marketplace and developed global businesses on the strength of digital enablement and particularly mobile commerce. These new financial players are enabling financial access with global footprints over and above any single commercial banks. Their competitive advantages are based on speed, convenience, versatility and cost efficiency. This then has seen banks respond with a roll out of alternate banking services mainly premised on digital channels and the internet of things with the main channels being Mobile, Agent network and Self-Service physical portals mainly intelligent ATMS. Majority of the respondents believed that the future of the banking industry lay in alternate channels. About 10% of the respondents however saw the traditional Brick and Mortar banking model remaining and even gaining traction as the economy grows drawing reference from established retail banking models that have leveraged on alternate channels to increase service penetration but retain physical presence for growth.

5. Summary of Findings Conclusions and Recommendations

5.1. Influence of Mobile Banking on the Performance of Commercial Banks in Kenya

The 1st objective was to determine the influence of Mobile banking as a technological innovation on performance of commercial banks. The findings affirmed that mobile banking had significant influence on the performance of commercial banks in Kenya. Majority of respondents concurred Mobile banking as a technological innovation held the greatest potential for increasing customer penetration, product / service delivery as well as general operational efficiency. This was found to be most convenient especially during the lockdown in the country as a result of COVID when physical contact was minimized. For banks this was the most innovative way to minimize service disruption in spite of the pandemic that had ground most interactive industries almost to a halt. It is noteworthy that on announcement of their year 2020 results, most banks while noting reduced business, still posted fairly decent results especially given the economic climate that was in that financial year. A large part of the ability to wither the economic storm was the identification of mobile banking as a key alternative channel of financial service delivery. CBK in its bid to ensure minimal service disruption even lobbied banks to make all mobile banking transactions to and from Mpesa free a move that not only gave reprieve to clients but encouraged use of this alternate channel to minimize the need for cash and in person transactions. With the study results showing statistical significance, the study rejected the null hypothesis and accepted the alternate which stated that Mobile banking has a significant influence on the performance of commercial banks in Kenya.

5.2. Influence of Agency Banking on the Performance of Commercial Banks in Kenya

The second objective of the study was to determine the influence of Agency banking as a technological innovation on the performance of commercial banks in Kenya. The study found that agency banking had increased the product/service lifecycles for commercial banks. It further revealed that banks could easily modify products/ services on agency banking platform. The study further found that while there were obvious advantages for commercial banks to invest in agency banking, the innovation had a relatively lower significance comparative to both mobile banking and Intelligent ATMs this attributable to the fact that there seems to be a glut of agents in the market. Secondary data from CBK backed this view with the data showing a notable stagnation in the number of registered commercial banking agents. This could be explained by the fact that agents tend to be multi-banked such that one agent ends up running several bank agencies all from one premise. This fact is further propelled by the fact that Mpesa agents though primarily Safaricom agents have ended up filling the space of banking agents since many customers already gained acceptance of this service then it becomes easier to accept the same agent as a bank agent. With the study results showing statistical significance, the study rejected the null hypothesis and accepted the alternate that affirmed that Agency banking influences the performance of commercial banks in Kenya.

5.3. Recommendations

Commercial banks should invest more in modelling technological innovations for enhancing inclusion and access since many more current and potential clients can be reached on the platforms financial channelled through technology. Since the study found that commercial banks seemed to have retained resilience of operations than many corporate entities even during the disruptions of the pandemic their energies are best spent on forging strategic and innovative alliances that would reduce their cost of doing business and retain their margins.

Since Commercial banks all offer the same services to clientele, they should be should ensure new products introduction, reduction of costs, improved innovation process and conformance to regulations are used to influence performance of commercial banks to directly satisfy customer needs.

5.4. Suggestions for Further Study

Future study should look at the vulnerability to the banks as a result of strategic technological innovations which could culture fraudulent transactions as the of product innovation is not in question.

The second area of future studies could explore similar approaches as the current study but focus more on strategic innovations targeting rural based clientele.

Finally, the study also recommends a study to define strategic factors which motivate technological innovations in the financial institutions in Kenya.

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