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EFFECT OF FINANCIAL INNOVATION ON FINANCIAL PERFORMANCE IN COMMERCIAL BANKS IN KENYA

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ABSTRACT

Despite the undeniable importance of financial innovation in explaining banking performance, the impact of innovation on performance, is still misunderstood for two main reasons, first, there is inadequate understanding about the drivers of innovation and secondly innovations' impact on bank's performance remains lowly untested. Kenyan commercial banks have continued to deploy huge investments in technology-based innovations and training of manpower to handle the new technologies. The main objective of this study was to establish the effect of financial innovations on financial performance of commercial banks in Kenya. The specific objectives were: To determine the effect of financial process innovation on the financial performance of commercial banks in Kenya; To evaluate the effect of financial market innovation on the financial performance of commercial banks in Kenya; To assess the effect of financial product innovation on the financial performance of commercial banks in Kenya; To ascertain the effect of financial institution innovation on the financial performance of commercial banks in Kenya.A descriptive survey design was used while a questionnaire was used to gather primary data. Secondary data was used to validate the communicative and pragmatic validity of primary data. The target study units for this research were 126 randomly selected staff of commercial banks. Descriptive statistics, Pearson correlation and multiple regression analysis methods will be applied. Statistical analysis will be done with the aid of Statistical Package of Social Sciences (SPSS v.23) software. On financial process innovation the study results showed that asset securitization improves profitability and assets quality for commercial banks in Mombasa County. That commercial banks in Mombasa County have innovated risk mitigating instruments to reduce assets risk exposure and this increase returns on investment from better assets. On financial institution innovation, the study findings revealed that agency banking improves banking efficiency by increasing customers deposits while keeping operational cost at a minimum low. Similarly, internet banking and mobile banking helped commercial banks to leverage on operational efficiency with a great customer experience. On financial product innovation, the study findings established that innovations around banking products such as mortgages and mobile banking helps in deepening relationships with existing customers as well as the new one for use of other bank products such as loans applications thus increasing revenues and profits. On financial market innovations the study results revealed that commercial banks that blended their products with those of capital markets were more likely to have an increased profitability and returns on investment because they would be holding as deposits monies used to buy shares and other instruments. Concluded that financial process innovation, financial institution innovation and

financial markets innovations have no effect on financial performance of commercial banks in Mombasa County. Recommended that commercial banks shall innovate processes that will reduce operating costs; that commercial banks shall innovate processes that are user friendly and that commercial banks shall innovate and blend products that can give clients wider uses such as insurance and capital markets.

1.0 BACKGROUND OF THE STUDY

Innovations in Information Communication and Technology (ICT) have revolutionized the financial sector resulting in novel delivery channels for financial products and services such as Automated Teller Machines (ATMs), mobile phone banking, online banking, and Agency banking (Batiz-Lazo & Woldesenbet, 2018). These developments leveraged on ICT are termed as electronic banking (e-banking) which is a sub-component of electronic commerce (E-commerce). E-banking has been very instrumental in improving the quality of service and financial performance of banks. Branchless banking, the use of alternative delivery channels such as mobile phone banking and agent banking, is becoming increasingly popular among commercial banks in Kenya and in other developing countries. It is believed to reach the low-income and rural individuals as well as making these individuals better off. The bank innovations that will be studied includes mobile phone banking, Automated Teller Machine (ATM) banking, online banking and agency banking.

The International financial landscape is changing rapidly; economies and financial systems are undergoing traumatic years. Globalization and technology have changed with continuing speed, financial arenas are becoming more open with new products and services being invented and regulators everywhere are scrambling to assess the changes and master the turbulence (Cainelli, *et al.*, 2019). According to Coetzee (2013), financial performance is explained as the degree to which financial objectives are being or has been accomplished. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

The profitability of commercial banks depends heavily on the net of income generating activities and the related activities expense. Due to the problem of profitability and stiff competition in the industry, commercial banks have changed their behavior of income sources, by increasingly diversifying into non-intermediation income generating activities as opposed to the traditional inter-mediation income generating activities. For a commercial bank to remain competitive there is need to develop and adopt new products and technology. Such products include adoption of Islamic products, use of technology i.e. internet banking and mobile phone banking (DeYoung, Lang, & Noelle, 2018).

Goddard, Liu, Molyneux and Wilson (2018) studied the impact of internet banking on bank profitability in Turkey. The researchers estimated the effect of online banking activities on the three common determinants of bank performance, namely the return on assets, return on equity and return on the financial intermediation margin. They found out that besides investment in e-banking being a gradual process, internet banking variable had a positive effect on the performance of the banking system in Turkey in terms of returns to equity only with a lag of two years.

Duffie and Rahi (2020)while comparing the performance of different online banking models over the period 2015-2019 in Finland, Spain, Italy and the UK, found out that internet banks were performing better in terms of average returns to assets (or equity), and did not seem to run higher operational costs for the little income they generate. They further contend that online banking as a process innovation is largely driven by factors external to the banking industry which include percentage of households with access to internet at home, a higher broadband penetration rate, and higher outlay on research and development.

Hassan, Schiedel and Song (2019) analyzed the performance of multi-channel commercial banks viz à viz traditional banks in Italy. They concluded that the adoption of internet influence positively bank performance, measured in terms of ROA and ROE. On the other hand, Hernando and Nieto (2016) examined the impact of setting up a transactional website on bank financial performance in the Spanish banking market. The authors conclude that the adoption of the internet as a delivery channel gradually reduces overhead expenses. This cost reduction boosts the performance of banks about one year and a half after the adoption in terms of ROA, and after three years in terms of ROE.

In line with DeYoung *et al*., (2018) this study proves that the internet had been used more as a complement than as a substitute for physical branches, suggesting the dominance of a multi-channel banking model. DeYoung *et al*., (2018) analyzed systematically the financial performance of pure-play Internet banks in U.S. The study found relatively lower profits at the Internet-only institutions than the branching banks, caused in part by high labour costs, low fee-based revenues and difficulty in generating deposit funding. However, consistent with the standard Internet banking model, the results indicated that Internet-only banks tended to grow faster than traditional branching banks. Internet-only banks have access to deeper scale economies than branching banks and because of this; they are likely to become more financially competitive over time as they grow larger. Delgado *et al*., (2017 and 2017) found similar results for Internet-only banks in the EU. Nevertheless, the magnitude of technology-based scale economies found in these studies was substantially larger than that estimated by DeYoung studies.

In a study on the banking sectors of 11 Latin American countries, Yildirm and Philippatos (2018) stipulate that rivalry between banks pushes the banks to engage in a differentiation processes of the products they supply and can stimulate financial innovation. Yildirm and Philippatos (2018)find that a high degree of foreign investment in banks' capital is associated with a high level of competitiveness. This improves the quality and differentiation of their products and stimulates financial innovation by introducing more modern skills, management techniques and technologies. Size also makes it easier to diversify business risk by starting up a variety of innovative projects (Corrocher, 2019). Anbalagan (2019)finds that some types of financial innovations are driven by improvements in computer and telecommunication technology and argues that for most people the creation of the Automated Teller Machines was greater financial innovation than asset backed securitization.

Mabrouk and Mamoghli (2019) found that return on assets is positively and significantly associated with the first mover and imitation of product innovations in the Tunisian banking industry. In Ghana over time, technology has increased in importance in Ghanaian banks and has transformed the way banks would serve their clients more conveniently and, in the process, increase profits and competitiveness while the most revolutionary electronic innovation in Ghana

and the world over has been the ATM (Jushua, 2018). In Nigeria, internet banking has resulted to improved e-Commerce and e-Payment services with overall reduction in the amount of currency in circulation (Chiemeke, Evwiekpaefe, & Chete, 2019).

In Mauritius, Padachi, Rojid and Seetanah (2019) observe that the two main banks; Mauritius Commercial Bank and the State Bank of Mauritius improved their financial performance on implementation of new technology. Closer home, Gardachew (2017) document that Ethiopian banks have not been able to achieve efficiency as a result of slow adaptation of technological innovations. In Uganda, adoption of electronic and mobile banking has increased access to banking services (Portous, 2018). In Kenya, effective use of Information Technology [IT] has led to better utilization of personnel and organizations assets, increased revenues and increased access to financial services by the general population (Mwania & Muganda, 2017). Kurgat (2018), concurs that in only four years (2007-2011) of the existence of mobile phone money transfer services in Kenya; four mobile phone operators are in place with 15.4 million customers and over 39,449 agents. Total transactions in 2010 averaged Ksh.2.45 billion a day and Ksh.76 billion a month resulting to lower transaction costs and increased access to financial services. This depicts a very productive market for electronic money transfers (Kurgat, 2018).

In Kenya, Kithuka (2018) sought to establish the factors influencing growth of agency banking in Kenya. The study sampled 100 Equity Bank agencies doing bank focused, bank led, and non-bank led transactions in Kwale County. The study established that convenience of the money transfer technology plus its accessibility, cost, support and security influence the use of agency banking. Waithanji (2018) sought to establish effect of agent banking as a financial deepening initiative in Kenya. The findings revealed lack of connection between agent banking and financial deepening. The researcher noted that the relationship could not be conclusively determined due to the low number of banks that have implemented it and impact may become clearer once all banks adopt agency banking.

Kirimi (2018) studied the extent of implementation of agency banking among commercial banks in Kenya. The study established that there is difficulty in enforcing appropriate oversight by the agent and customer interaction was inconsistent with the overall banking regulatory framework. The findings revealed a need for regular training of agents on changes in operational processes and policies in order to eradicate occurrence of error and mistakes that obstruct penetration of agency banking in Kenya thus enhancing banks' financial performance.

2.0 STATEMENT OF THE PROBLEM

Despite the undeniable importance of financial innovation in explaining banking performance, the impact of innovation on performance, is still misunderstood for two main reasons, first, there is inadequate understanding about the drivers of innovation and secondly innovations' impact on bank's performance remains lowly untested (Mabrouk & Mamoghli, 2019). A study by DeYoung, *et al.*,(2018) adopt an approach to the innovation performance relationship which does not consider the antecedents to innovation inside and outside the banking organization, all of which could influence this relationship.

Previous studies like Pooja and Singh (2019), Fransceca and Claeys (2019), and Mwania and Muganda (2017) have produced mixed results regarding the impact of financial innovations on bank performance. Pooja and Singh (2019) and Fransceca and Claeys (2019)in their studies concluded that financial innovations had least impact on bank performance, while Mwania and

Muganda (2017) concluded that financial innovation had significant contribution to bank performance. It is at the center of such mixed conclusions that created and necessitated the need to carry out a study from a Kenyan context to establish the effect of bank innovations on commercial banks' performance.

Kenyan commercial banks have continued to deploy huge investments in technology-based innovations and training of manpower to handle the new technologies. Data from Central Bank of Kenya (2018) indicate that, the number of automated teller machines grew from 166 in 2001 to 2009 in 2010, debit cards increased from 160,000 in 2001 to over 6 million cards by the end of 2010 while mobile banking transactions increased from 48,000 per annum in 2007 to over 250,000 transactions per annum in 2010. Performance of commercial banks in Kenya also grew impressively between years 2001 to 2010 where profit before tax grew from KES 2.7 billion in 2001 to KES 74 billion in 2010. During the same period, total income grew from KES 61billion to KES 178 billion while total assets grew from KES 425 billion to KES 1.7 trillion (CBK, 2017). The relationship between the growing investment in technology-based bank innovations and bank financial performance in Kenya needs to be studied. There is need to establish whether innovations have contributed to the financial performance of commercial banks in Kenya.

Lerner and Tufano (2017) in their study on consequences of financial innovations contend that existing empirical evidence and conceptual frameworks can tell more about financial innovation, but there are substantial unanswered questions in the areas of social welfare impact of financial innovations, impact of innovations on financial institutions and a lot of financial innovations research is mainly on case studies. Rafael and Francisco (2017) studied the impact of various regional banking sector developments and innovations during 1986- 2001 in Spain. The study found out that product and service delivery innovations contribute positively to regional Gross Domestic Product (GDP), investment and gross savings growth. These sentiments are shared by Hendrickson and Nichols (2017), while studying the performance of small banks in the United State with regards to interstate branching and found out that banks perform better when they adopt innovations across their several branches. Based on these studies and the varying gaps in literature, there is need to conduct similar studies in Africa and more so in Kenya where bank innovations have been on the rise in the past decade.

3.0 OBJECTIVES OF THE STUDY

1. To determine the effect of financial process innovation on the financial performance of commercial banks in Kenya.
2. To ascertain the effect of financial institution innovation on the financial performance of commercial banks in Kenya.
3. To assess the effect of financial product innovation on the financial performance of commercial banks in Kenya.
4. To evaluate the effect of financial market innovation on the financial performance of commercial banks in Kenya.

4.0 RESEARCH HYPOTHESES

1. $\mathbf{H_{o1}}$: Financial process innovation has no significant effect on the financial performance of commercial banks in Kenya.
2. $\mathbf{H_{o2}}$: Financial institution innovation has no significant effect on the financial performance of commercial banks in Kenya.

3. $\mathbf{H_{o3}}$: Financial product innovation has no significant effect on the financial performance of commercial banks in Kenya.
4. $\mathbf{H_{o4}}$: Financial market innovation has no significant effect on the financial performance of commercial banks in Kenya.

5.0 THEORETICAL FRAMEWORK

5.1 Schumpeter Theory of Innovation

Schumpeter (2013) argued that entrepreneurs, who could be independent inventors or R&D engineers in large corporations, created the opportunity for new profits with their innovations. In turn, groups of imitators attracted by super-profits would start a wave of investment that would erode the profit margin for the innovation. However, before the economy could equilibrate a new innovation or set of innovations, conceptualized by Schumpeter as Kondratiev cycles, would emerge to begin the business cycle over again.

Schumpeter (2013) emphasized the role of entrepreneurship and the seeking out of opportunities for novel value generating activities which would expand and transform the circular flow of income, but it did so with reference to a distinction between invention or discovery on the one hand and innovation, commercialization and entrepreneurship on the other. This separation of invention and innovation marked out the typical nineteenth century institutional model of innovation, in which independent inventors typically fed discoveries as potential inputs to entrepreneurial firms.

The author further saw innovations as perpetual gales of creative destruction that were essential forces driving growth rates in a capitalist system. Schumpeter's thinking evolved over his lifetime to the extent that some scholars have differentiated his early thinking where innovation was largely dependent on exceptional individuals/entrepreneurs willing to take on exceptional hazards as an act of will. His later thinking recognized the role of large corporations in organizing and supporting innovation. This resulted in his emphasis on the role of oligopolies in innovation and which later was falsely viewed as the main contribution of his work (Freeman, 2004).

Schumpeter drew a clear distinction between the entrepreneurs whose innovations create the conditions for profitable new enterprises and the bankers who create credit to finance the construction of the new ventures (Schumpeter, 2013). He emphasized heavily that the special role of credit-creation by bankers was 'the monetary complement of innovations' (Schumpeter, 2013). As independent agents who have no proprietary interest in the new enterprises they finance, bankers are the capitalists who bear all the risks (none is borne by the entrepreneurs). That requires having the special ability to judge the potential for success in financing entrepreneurial activities. Schumpeter emphasized that it is just as important to deny credit to those lacking that potential as it is to supply credit to those having it (Schumpeter, 2013).

5.2 Innovation Diffusion Theory

According to Dillon and Morris (2006); Rogers (2003), the factors which influence the diffusion of an innovation include; relative advantage (the extent to which a technology offers improvements over currently available tools), compatibility (its consistency with social practices and norms among its users), complexity (its ease of use or learning), trialability (the opportunity to try an innovation before committing to use it), and observability (the extent to which the

technology's outputs and its gains are clear to see). These elements are not mutually exclusive thus unable to predict either the extent or the rate of innovation diffusion.

Moore and Benbasat (2001) built on the work of Roger (2003), amongst others Tornatsky and Klein (2002) and Brancheau and Wetherbe (2000) and expanded the array of innovation characteristics to seven. Three of the seven innovation characteristics are directly borrowed from Rogers: relative advantage, compatibility, and trialability.

Specifically, the theory begins to describe the innovation-decision process within organizations, but not to the level of addressing whether and how the characteristics of an innovation interact to affect its adoption within organizations, or whether organizational type, size, or industry affect adoption. In addition, while there is an innovation-decision process described for individuals and within organizations, there is no description of how the variables interact when innovations are diffused across organizations (Lundblad & Jennifer, 2003).

5.3 Task Technology Fit (TTF) Theory

This theory contends that it is more likely to have a positive impact on individual performance and be used if the capabilities of Information Communication and Technology (ICT) match the tasks that the user must perform (Goodhue & Thompson, 2016). Goodhue and Thompson (2016) mention the factors that measure task-technology fit as; quality, locatability, authorization, and compatibility, eases of use/training, production timeliness, systems reliability and relationship with users. The model is useful in the analysis of various context of a diverse range of information systems including electronic commerce systems and combined with or used as an extension of other models related to information systems outcomes.

According to the theory of task-technology fit, the success of an information system should be related to the fit between task and technology, whereby success has been related to individual performance Goodhue and Thompson (2016)and to group performance (Zigurs & Buckland, 2018). For group support systems, a specific theory of task-technology fit was developed Zigurs and Buckland (2018) and later tested by Zigurs, Buckland, Connolly, & Wilson (2018)and detailed the requirements of group support systems to fit group tasks. For mobile information systems, task-technology fit has been shown to be generally relevant, but more specific questions regarding the applicability of task-technology fit to mobile information systems remain unanswered (Gebauer and Shaw, 2017).

5.4 Technology Acceptance Model

Theories and models used in studies related to the innovations, acceptance and use of new technology are many. For instance, focusing on the technological issues (Davis 2009) advances the Technology Acceptance Model (TAM). This model relates the individuals' behavioural intentions and his/her ICT use. It is suggested that, the actual behaviour of a person is determined by his behavioural intention to use, which is in turn influenced by user's attitude toward and perceived usefulness of the technology. However attitude and perceived usefulness are both determined by ease of use. Adopting the TAM model requires the understanding of end-users requirements regarding usefulness and user friendliness (Pedersen, Leif, Methlie & Thorbjornsen, 2002). From this model, usefulness and user friendliness affect users' attitudes towards any service. Davis (2013), thus suggests that it is important to value user requirements based on perceived usefulness and the user friendliness of the technology rather than other objective measure. Critiques of this model are directed to its inclination to the

technological/technical aspects of the technology in question ignoring other factors such as social aspect of the users. In practice, constraints such as limited ability, time, environmental or organizational limits and unconscious habits will limit the freedom to act.

Wang, Wang, Lin and Tang (2018) were interested to identify the factors that determine acceptance of internet banking by the users. According to the Technology Acceptance Model (TAM), perceived ease of use and perceived usefulness constructs are believed to be fundamental in determining the acceptance and use of various Information Technology (IT). These beliefs may not fully explain the user's behaviour toward newly emerging IT, such as internet banking. Using the TAM as a theoretical framework, Wang *et al*., (2018) introduces "perceived credibility" as a new factor that reflects the user's security and privacy concerns in the acceptance of internet banking. Wang *et al.*, (2018) examines the effect of computer self-efficacy on the intention to use internet banking. The results strongly support the extended TAM in predicting the intention of users to adopt internet banking. It also demonstrates the significant effect of computer self-efficacy on behavioural intention through perceived ease of use, perceived usefulness, and perceived credibility (Wang *et al*., 2018).

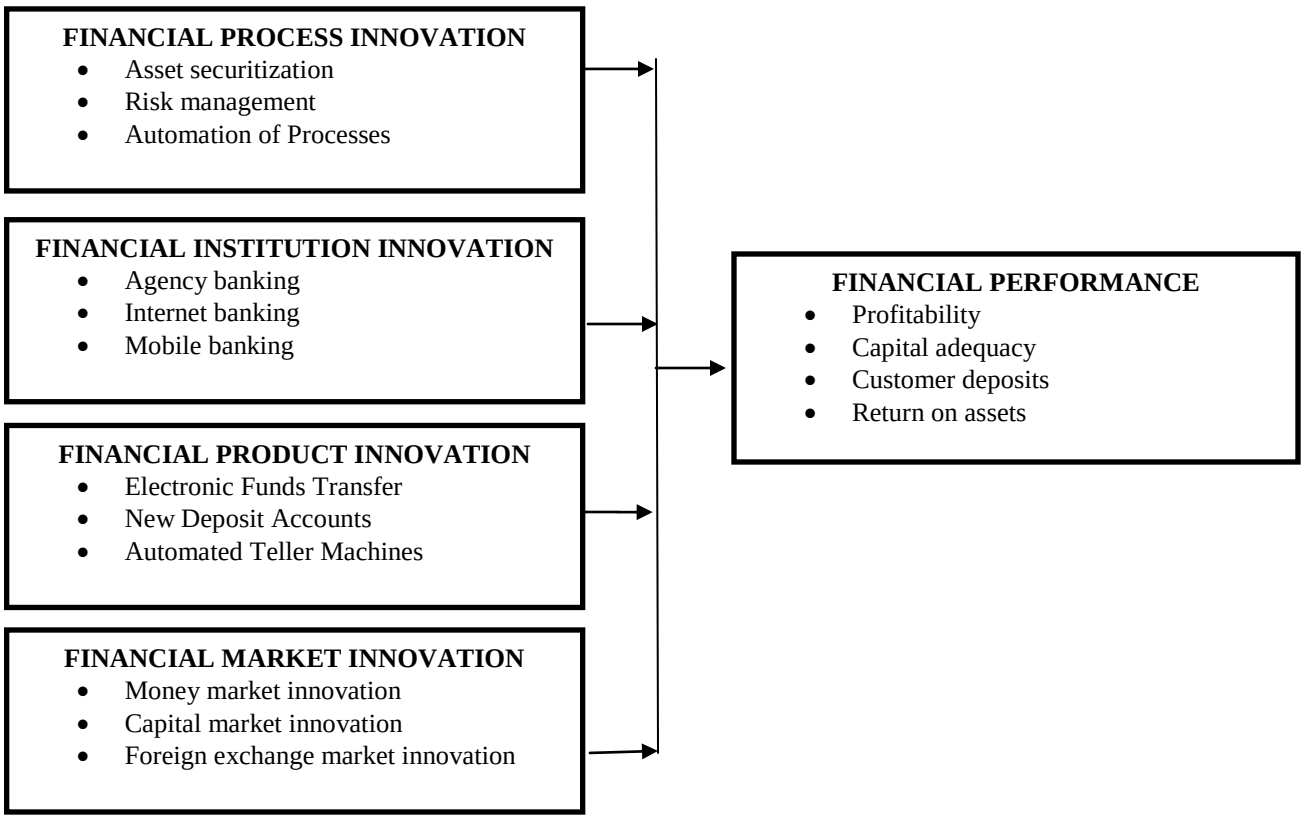

Figure 1 Conceptual Framework

7.1 Review of Variables

7.1.1 Financial Process Innovation

According to Cumming, (2018), process innovation embraces quality function deployment and business process reengineering. It is a type of innovation, which is not easy, but its purpose is now well understood. An efficient supplier who keeps working on productivity gains can expect, over time, to develop products that offer the same performance at a lower cost. Such cost reductions may, or may not, be passed on to customers in the form of lower prices (Constable & McCormick, 2017). Process innovation is important in both the supply of the core product as well as in the support part of any offer. Both components of an offer require quality standards to be met and maintained. In the case of services, which by their very nature rely on personal interactions to achieve results, the management of process innovation is a particularly challenging activity (Agbloo, 2017).

The past 25 years have witnessed important changes in banks production processes. The use of electronic transmission of bank-to-bank retail payments, which had modest beginnings in the 1970s, has exploded owing to greater retail acceptance, online banking and check conversion. In terms of intermediation, there has been a steady movement toward a reliance on statistical models. For example, credit scoring has been increasingly used to substitute for manual underwriting and has been extended even into relationship-oriented products like small business loans. Similar credit risk measurement models are also used when creating structured financial products through "securitization". Statistical modeling has also become central in the overall risk management processes at banks through portfolio stress testing and value-at-risk models – each of which is geared primarily to evaluating portfolio value in the face of significant changes in financial asset returns. Real Time Gross Settlement (RTGS) system is a funds transfer mechanism where transfer of money takes place from one bank to another on a ―real time‖ and Gross basis. Real time means the transactions are processed as they are received. Gross settlement means the transactions are settled on one to one basis without batching with any other transaction. RTGS system is primarily for large value transactions. As soon as transactions are remitted by the paying bank they are credited in the receiving bank (Ahmad, Raza, Amjad, & Akram, 2018).

Asset Securitization: Asset securitization refers to the process by which non traded assets are transformed into securitization is widely used by large originators of retail credit – specifically mortgages, credit cards and automobile loans. As of year-end 2007, federally sponsored mortgage pools and privately arranged ABS issues (including private-label mortgage-backed securities) totaled almost $9.0 trillion in U.S. credit market debt outstanding.

By contrast, as of year-end 1990, these figures were $1.3 trillion, respectively. One recent innovation in the structured finance/securitization area is the introduction of collateralized debt obligations (CDOs). According to Longstaff and Rajan (2006) these instruments, which were first introduced in the mid-1990s, are now in excess of $1.5 trillion.

Risk Management: Advances in information technology (both hardware and software) and financial theory spurred a revolution in bank risk management over the past two decades. Two popular approaches to measuring and managing financial risks are stress-testing and value-at-risk (VaR). In either case, the idea is to identify the level of capital required for the bank to remain solvent in the face of unlikely adverse environments.

7.1.2 Financial Institution Innovation

Banking services using mobile phones (M-banking) have been available in developing as well as developed countries for several years, but it is not until recently those new modalities of applying M-banking started diffusing rapidly to previously unbanked people. The main driver for the rapid development is the new M-banking services that are less expensive and have a geographical footprint defined by the reach of mobile networks in contrast to services offered by traditional retail bank branches, which are out of reach for many people in rural areas from both an economic and geographical perspective (Corrocher, 2019). The main benefits to rural users are affordable, fast and secure transactions. M-banking access amongst previously unbanked groups is believed to have a direct, positive effect on users, since it has brought about a transition from informal to formal transactions and hence alleviated poverty and caused economic development (Corrocher, 2019).

Mallick (2016) the idea of Internet banking is to give customers access to their bank accounts via a web site and to enable them to enact certain transactions on their account, given compliance with stringent security checks. Wang *et al*., (2018) argues that in the 1990s Internet banking technology was less-utilized as companies used it only to market their products and services. Thornton and White (2018), who studied customer orientations and usage of financial distribution channels in the Australian financial industry, established that recently majority of financial institutions, faced with competitive strain after the introduction of deregulation in 1983, have rechecked their policies to take full use of Internet technology. Tan and Teo (2018) noted that the challenge to expand and maintain banking market share has led to many banks investing more in enhanced use of the Internet. The coming up of Internet banking had made many banks recheck their IT policies in competitive markets.

In developing countries, the lack of electronic banking infrastructure block impacts of the expected cost-effectiveness and profitability. In some developing countries, It is not available strong effects on the profitability of electronic banking activities because of inadequate information technology infrastructure of the branch and ATM network are limited. The case is also real for online banking activities. Internet infrastructure based on relatively old technology blocks the achievement of expected performance of banks in developing countries (Gunday *et al.,* 2018).

Organization innovations or institutional innovations are those that affect the financial sector as a whole. They relate to changes in business structures, establishment of new types of financial intermediaries and changes in the legal and supervisory framework. There are several examples of these innovations and they include; Credit Reference Bureaus which collect manage and disseminate customer information to lenders within a provided regulatory framework. Banks getting into stock brokerage services – Commercial banks are moving to acquire stock brokerage and investment banks to get involved in the stock market activity. Examples include NIC Bank, Equity Bank and Co-operative Bank offering insurance services on behalf of insurance companies, Islamic Banking – Banking that is guided by Islamic Sharia Law. The Islamic banks include Gulf African Bank, Barclays Bank of Kenya, and First Community Bank.

7.1.3 Financial Product Innovation

Different terminologies have been used to categorize and describe product development. Crawford (2017), for example, embraces two distinct activities: old product development, which involves updating and improving existing products, and new product development, which

involves a greater degree of innovational challenge. Meyer (2016) similarly categorised product development into primary and secondary innovations. Primary innovations were broadly concerned with the development of new markets and relate to instances where there is a high degree of technical originality and a commensurate change in consumer behaviour. Secondary innovations, on the other hand, are basically business or company focused and typically involve improvements to an existing market (Gaynor, 2017).

According to Storey and Easingwood, (2018), product innovation provides the most obvious means for generating revenues. Process innovation, on the other hand, provides the means for safeguarding and improving quality and also for saving costs. Improved and radically changed products are regarded as particularly important for long-term business growth (Hart, 2017). The power of product innovation in helping companies retain and grow competitive position is indisputable. Products have to be updated and completely renewed for retaining strong market presence.

Mortgage loans are one suite of products that have experienced a great deal of change. In 1980, long-term fully amortizing fixed-rate mortgages were the norm and this product was offered primarily by thrift institutions (Pasha, 2019). Moreover, these loans required substantial down payments and a good credit history and the accumulated equity was relatively illiquid.

These characteristics have markedly evolved. The first big change occurred in the early 1980s with the widespread introduction of various types of adjustable-rate mortgages (ARMs), which had previously been banned by federal regulators. In USA, Tax Reform Act of 1986, which ended federal income tax deductions for non-mortgage consumer debt, spurred substantial growth in home equity lending. One mortgage innovation more directly tied to technological change is sub-prime lending, which was originally predicated on the use of statistics for better risk measurement and risk-based pricing to compensate for these higher risks. However, the sub-prime mortgage crisis has uncovered significant shortcomings in the underlying statistical models (Rakesh, 2018). Other examples of product innovations are; Airtel and Safaricom mobile phone money transfer services M-pesa and Zap to tap the potential for small scale transactions at reasonable costs. Equity Bank partnering with Safaricom to introduce the M-kesho service, Products tailored to suit specific status groups such as Excel, Priority, Premier and Executive Banking services Bank accounts tailored for specific age groups such as Barclay's Bank's Junior eagle account for children, premier and premier life banking for the affluent.

7.1.4 Financial Market Innovation

Market innovation is concerned with improving the mix of target markets and how chosen markets are best served. Its purpose is to identify better (new) potential markets; and better (new) ways to serve target markets. Market segmentation, which involves dividing a total potential market into smaller more manageable parts, is critically important if the aim is to develop the profitability of a business to the full. Incomplete market segmentation will result in a less than optimal mix of target markets, meaning that revenues, which might have been earned, are misread (Kimberly and Evanisko, 2018). It is the prime responsibility of marketing specialists to provide such insights.

Sometimes this responsibility is seen to cover solely the identification of present and likely future geographical market opportunities. Geography is, however, only one simple way for segmenting markets. A very wide range of possible criteria exists for segmenting, stretching from objective

criteria based on demographic data through to subjective criteria based on life style interpretations of consumer and business buying behaviour (Anderson, 2016). In recent years, "benefit segmentation" has become more widely used (Hooley et al., 2008).

7.1.5 Financial Performance

Performance measurement and reporting is now widespread across the private sector as well as public sector of many industrialized and industrializing countries (Williams, 2015). The common tool that is used for this process, key performance indicators (KPIs), has been argued to provide intelligence in the form of useful information about a public and private agency's performance (Williams, 2018). Scholars like Modell (2018), Moynihan (2015), Vakkuri and Meklin (2016) have maintained that the implementation of performance measurement systems possess important symbolic value.

KPIs are viewed as a good management device and a socially constructed tool that makes sense (DeKool, 2004). The fact that KPIs tend to be quantitative has helped to promote their image of objectiveness and rationality. The image of KPIs is further enhanced by their widespread application across the many sectors of many countries. The importance of performance measurement is noted by Ingraham (2005) that it is important to expect that citizen's see and understand the results of organizational programs.

Cicea and Hincu (2019) state that commercial banks represent the core of the credit for any national economy. In turn, the credit is the engine that put in motion the financial flows that determine growth and economic development of a nation. As a result, any efficiency in the activities of commercial banks has special implications on the entire economy. The management of every commercial bank must establish a system for assessing investment performance which suits its circumstances and needs and this evaluation must be done at consecutive intervals to ensure the achievement of the Bank's investment objectives and to know the general direction of the behavior of investment activity in the past and therefore predict the future.

Profitability offers clues about the ability of the bank to undertake risks and to expand its activity. The main indicators used in the appreciation of the bank profitability are: Return on equity, ROE (Net income / Average Equity), Return on Asset, ROA (Net income /Total assets) and the indicator of financial leverage or (Equity / Total Assets) (Dardac & Barbu, 2005). The indicators are submitted to observation along a period of time in order to detect the tendencies of profitability. The analysis of the modification of the various indicators in time shows the changes of the policies and strategies of banks and/or of its business environment (Greuning & Bratanovic, 2018).

A commonly used measure of bank performance is the level of bank profits (Ceylan, Emre & Asl, 2018). Bank profitability can be measured by the return on a bank's assets (ROA), a ratio of a bank's profits to its total assets. The income statements of commercial banks report profits before and after taxes. Another good measure on bank performance is the ratio of pre-tax profits to equity (ROE) rather than total assets since banks with higher equity ratio should also have a higher return on assets (Ceylan, Emre and Asl, 2018).

8.1 RESEARCH METHODOLOGY

8.1.2 Research Design

Sekaran and Bougie (2018) describes the purpose of this section as to set out a description of, and justification for, the chosen methodology and research methods. Polit and Beck (2018) describe a research design as the overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process. Cooper and Schinder (2018) describe a research design as the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. Kothari and Gang (2014)states that research design facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible, yielding maximal information with minimal expenditure of effort, time and money.

This study used descriptive survey research design. Creswell (2019) describes a descriptive survey research design as a systematic research method for collecting data from a representative sample of individuals using instruments composed of closed-ended and/or open-ended questions, observations, and interviews. It is one of the most widely used non-experimental research designs across disciplines to collect large amounts of survey data from a representative sample of individuals sampled from the targeted population. Kothari and Gang (2014) describe a descriptive survey design as a design that seeks to portray accurately the characteristics of a particular individual, situation or a group. According to Polit and Beck (2018) in a descriptive study, researchers observe, count, delineate, and classify. They further describe descriptive research studies as studies that have, as their main objective, the accurate portrayal of the characteristics of persons, situations, or groups, and/or the frequency with which certain phenomena occur.

8.1.3 Target Population

Creswell (2019) defines a population as any finite or infinite collection of individual elements. According to Zikmund, *et al*., (2018)a population refers to all items in any field of inquiry and is also known as the 'universe'. Polit and Beck (2018) refer to population as the aggregate or totality of those conforming to a set of specifications. The target population for this study will be at two levels. The first target population will be institutional level where the study will target 42licensed commercial banks in Kenya, specifically Mombasa County (Appendix V). The second level of target population will be senior management employees of the 42 commercial banks in operation in Kenya, specifically Mombasa County as at 30thJune, 2017. The main reason for choosing senior management employees will be because they are responsible for performance of their respective banks and have higher level of appreciation on how innovations influence financial performance. They are also responsible for managing performance of their units through the departmental budgets and action plans.

According to the Central Bank of Kenya annual supervison report of half year 2017, as at 30thJune, 2017 there were 7021 management employees in the banking sector in Kenya of which approximately 20% were in the senior management cadre. According to CBK (2017), the total number of commercial banks comprise of forty-two commercial banks (appendix V) by June, 2017. Central Bank of Kenya is the major licensing institution of commercial banks and mortgage finance institutions in Kenya and hence will be used as an authoritative source for banking sector information.

8.1.4 Sample size and Sampling Technique

Kothari and Gang (2014) describes a sample in a survey research context as a subset of elements drawn from a larger population. Kothari and Gang (2014)also describe a sample as a collection of units chosen from the universe to represent it. Gerstman (2018) states that, a sample is needed because a study that is insufficiently precise lacks the power to reject a false null hypothesis and is a waste of time and money. A study that collects too much data is also wasteful. Therefore, before collecting data, it is essential to determine the sample size requirements of a study.

A stratified random sampling technique will be employed to select the respondents who will be stratified based on the various employment levels in the organization. Kothari and Gang (2014) noted that stratified sampling was used when a population from which a sample was drawn did not constitute a homogeneous group. This will be the case with the categorization of Commercial Banks into different tiers. The method also involves dividing the population into a series of relevant strata which implies that the sample was likely to be more representatives (Saunder, Lewis, & Thornhill, 2018).

Thus, the sample size for the study was calculated using Slovin's formulae as follows:

n = N / (1 + Ne^2)

Where: n = Number of samples
N = Total population
e = Error tolerance, 0.05
n = 126 / (1 + 126(0.05^2))
= 95

The respective cluster sample size was obtained using proportional allocation method, i.e.

$$ni = \frac{n}{N} * Ni$$

Where: n=sample size
ni = sample size for each cluster (i=1, 2,……..)
N = total population
Ni = total population per strata.
Thus, the sample size for the study comprised of 95 respondents and table 3.1 illustrates the proportional allocation per cluster.

Table 1 Target population and Sample size

Bank Category	Target pop procedures	Target Population	Sample size procedures	Sample size
Tier I	6*3	18	18/126*95	14
Tier II	15*3	45	45/126*95	34
Tier III	21*3	63	63/126*95	47
TOTAL		**126**		**95**

8.2 Data processing and analysis

Ordinarily, the amount of data collected in a study is rather extensive and research questions and hypotheses cannot be answered by a simple perusal of numeric information and therefore data need to be processed and analyzed in an orderly and coherent fashion. Quantitative information is usually analyzed through statistical procedures. Statistical analyses cover a broad range of techniques, from simple procedures that we all use regularly like computing an average to complex and sophisticated methods. Although some methods are computationally formidable, the underlying logic of statistical tests is relatively easy to grasp, and computers have eliminated the need to get bogged down with detailed mathematical operations (Polit and Beck, 2018).

Besides using frequencies and descriptive analysis, the study will use multiple linear regression analysis to test the statistical significance of the various independent variables on the dependent variables. Faraway (2017) states that, multiple linear regressions are used in situations where the number of independent variables is more than one. According to International Business Machines (IBM) (2010), the assumptions of linear regression must be met by the data to be analyzed, these assumptions state that the coefficients must be linear in nature, the response errors should follow a normal distribution and the errors should have a common distribution. Jackson (2019) states that multiple regression analysis involves combining several predictor variables in a single regression equation. With multiple regression analysis, we can assess the effects of multiple predictor variables (rather than a single predictor variable) on the dependent measure.

The data obtained from the questionnaires was edited and then coded for the purposes of data analysis. It was further summarized using descriptive statistics which usually include measure of central tendency, such as the mean. Statistical Package for Social Sciences (SPSS v24) was used for analysis. Analysis of Variance and multiple linear regression analysis will be computed to determine the statistical relationship between the independent variable and the dependent variables.The regression model was as follows:

$$\mathbf{Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

Where:
Y = Financial performance
α = Constant Term
β_1, β_2, β_3 and β_4 = Coefficients of the independent variables
X_1= Financial process innovation
X_2= Financial institution innovation
X_3= Financial product innovation
X_4= Financial market innovation
ε = Error term

9.0 RESULTS

9.1 Descriptive Analysis

9.1.1 Financial Process Innovation

Table 2 Financial Process Innovation

Descriptive Statistics

	N	Mean	Std. Deviation
Asset securitization improves profitability	71	3.13	1.530
Asset securitization increases capital adequacy	71	3.56	1.537
Risk management strategies safeguards entities assets	71	3.54	1.307
Risk management increases return on investments	71	3.80	1.499
RTGs increase customer deposits	71	3.13	1.424
Valid N (listwise)	71		

The first goal of the study was to examine the effect of financial process innovation on financial performance of commercial banks in Mombasa county. The statement that asset securitization improves profitability had a mean score of 3.13 and a standard deviation of 1.530. The statement that asset securitization increases capital adequacy had a mean score of 3.56 and a standard deviation of 1.537. The statement that risk management strategies safeguards entities assets had a mean score of 3.54 and a standard deviation of 1.307. The statement that risk management increases return on investments had a mean score of 3.80 and a standard deviation of 1.499. The statement that RTGS increases customers deposits had a mean score of 3.13 and a standard deviation of 1.424.These results are in agreement with (Luka, 2018) that digital bank deposit and loan growth have a causal relationship to traditional bank performance ratios. Deposit growth has a negative impact on traditional bank performance ratios and loan growth shows both positive and negative impact on different ratios. This research demonstrates some of the challenges that traditional banks are facing in the age of innovation. As deposit and loan growth are perceived as proxies to customer growth, focus areas identified for traditional banks to safeguard profit and market share are customer attraction and preservation.

9.1.2 Financial Institution Innovation

Table 3 Financial Institution Innovation

Descriptive Statistics

	N	Mean	Std. Deviation
Agency banking improves efficiency	71	3.70	1.525
Agency banking increases customer deposits	71	3.49	1.585
Internet banking increases customer satisfaction	71	3.49	1.433
Internet banking lowers operation costs	71	3.62	1.598
Internet banking increases returns on investment	71	3.66	1.539
Mobile banking improves service delivery	71	3.32	1.481
Credit reference bureau enhances efficiency	71	3.56	1.818
Valid N (list wise)	71		

The second goal of the study was to examine the effect of financial institution innovation on financial performance of commercial banks in Mombasa county. The statement that agency banking improves efficiency had a mean score of 3.70 and a standard deviation of 1.525. The

statement that agency banking increases customer deposits had a mean score of 3.49 and a standard deviation of 1.585. The statement that internet banking increases customer satisfaction had a mean score of 3.49 and a standard deviation of 1.433. The statement that internet banking lowers operations costs had a mean score of 3.62 and a standard deviation of 1.598. The statement that internet banking increases returns on investment had a mean score of 3.66 and a standard deviation of 1.539. The statement that mobile banking improves service delivery had a mean score of 3.32 and a standard deviation of 1.481. The statement that credit reference bureau enhances efficiency had a mean score of 3.56 and a standard deviation of 1.818. These results agree with Ngumi, Gakure, Njuguna and Waititu (2018) study that concluded that bank innovations influence financial performance of commercial banks in Kenya positively. It is therefore recommended to the management of commercial banks and the Government continue to explore and implement sustainable business linkages and collaborations with mobile phone service providers as well as the internet service providers as a way of accelerating the penetration of innovations and eventually creating desired impacts in the economy. Banks should leverage on mobiles phones in order to grow their business and customer base.

9.1.3 Financial Product Innovation

Table 4 Financial Product Innovation

Descriptive Statistics

	N	Mean	Std. Deviation
Mortgage innovations improve customer deposits	71	3.04	1.507
Mortgage innovations improves profitability	71	4.01	1.498
New deposit accountsimprove efficiency	71	3.14	1.701
ATMs incomes increases profitability	71	3.52	1.548
Banking clubs improves customer deposits	71	3.25	1.654
Banking clubs enhances efficiency	71	3.58	1.583
Valid N (listwise)	71		

The third goal of the study was to examine the effect of financial product innovation on financial performance of commercial banks in Mombasa County. The statement that mortgage innovations improves customer deposits had a mean score of 3.04 and a standard deviation of 1.507. The statement that mortgage innovations improves profitability had a mean score of 4.01 and a standard deviation of 1.498. The statement that new deposits accounts improves efficiency had a mean score of 3.14 and a standard deviation of 3.52 and a standard deviation of 1.701. The statement that incomes generated from ATMs increases profitability had a mean score of 3.25 and a standard deviation of 1.548. The statement that banking clubs improves customer deposits had a mean score of 3.25 and a standard deviation of 1.654. The statement that banking clubs enhances efficiency had a mean score of 3.58 and a standard deviation of 1.583. These results disagree with Antonnet and Aduda, (2018) in their study on effects of product innovation on financial performance of commercial banks in Kenya. The study results revealed a negative relationship between formal product innovation and the financial performance of commercial banks in Kenya. The study also yielded conclusive information in product innovation that all commercial banks have innovated and implemented products of each type even though there was a negative or no effect at all on their financial performance and a certain amount of time might be

necessary in order to observe the reflection of positive effects of innovative products on financial performance.

9.1.4 Financial Market Innovation

Table 5 Financial Market Innovation
Descriptive Statistics

	N	Mean	Std. Deviation
Money market innovations improves profitability	71	3.58	1.349
Capital market innovations improves return on investment	71	4.10	1.446
Foreign exchange market innovations enhance capital adequacy	71	4.25	1.143
Valid N (listwise)	71		

The fourth goal of the study was to examine the effect of financial market innovation on financial performance of commercial banks in Mombasa county. The statement that money market innovations improve profitability had a mean score of 3.58 and a standard deviation of 1.349. The statement in agreement that capital market innovations improves returns on investment had a mean score of 4.10 and a standard deviation of 1.446. The statement that foreign exchange market innovations enhance capital adequacy had a mean score of 4.25 and a standard deviation of 1.143. This result are in agreement with Azimova and Mollaahmetoglu, (2017) that it had been long debated by policy makers that one of the important implications of financial deregulation is an increase in openness which it turn lead to higher financial access and innovation. The fast increase in financial innovation and access not only broaden the banks' operations but also mobilize savings which lead to more efficient resource allocation.

9.1.5 Financial Performance

Table 6 Financial Performance
Descriptive Statistics

	N	Mean	Std. Deviation
Financial innovations reduce costs of operations	71	3.79	1.706
Financial innovations increase profitability	71	3.54	1.620
Financial innovations have improved competitiveness	71	3.77	1.495
Financial innovations have increased the market share of the MFI	71	3.82	1.447
Financial innovations fasten any financial transaction	71	3.94	1.145
Financial innovations have lower financial risk	71	3.75	1.519
Financial innovations have improved service delivery	71	4.23	1.532
Financial innovations have improved the level of customer satisfaction	71	3.42	1.555
Valid N (listwise)	71		

The statement that financial innovations reduce costs of operations had a mean score of 3.79 and a standard deviation of 1.706. The statement that financial innovations increase profitability had a mean score of 3.54 and a standard deviation of 1.620. The statement that financial innovations have improved competitiveness had a mean score of 3.77 and a standard deviation of 1.495. The statement that financial innovations have increased the market share of commercial banks had a mean score of 3.82 and a standard deviation of 1.447. The statement that financial innovations fasten any financial transaction had a mean score of 3.94 and a standard deviation of 1.145. The statement that financial innovations have lower financial risk had a mean score of 3.75 and a standard deviation of 1.519. The statement that financial innovations have improved service delivery had a mean score of 4.23 and a standard deviation of 1.532. The statement that financial innovations have improved the level of customer satisfaction had a mean score of 3.42 and a standard deviation of 1.555.

9.2 Inferential Statistics

9.2.1 Coefficient of Correlation

Pearson Bivariate correlation coefficient was used to compute the correlation between the dependent variable (Financial Performance) and the independent variables (Financial Process Innovation, Financial Institution Innovation, Financial Product Innovation and Financial Market Innovation). According to Sekaran, (2015), this relationship is assumed to be linear and the correlation coefficient ranges from -1.0 (perfect negative correlation) to +1.0 (perfect positive relationship). The correlation coefficient was calculated to determine the strength of the relationship between dependent and independent variables (Kothari & Gang, 2014).

In trying to show the relationship between the study variables and their findings, the study used the Karl Pearson's coefficient of correlation (r). This is as shown in Table 7 above. According to the findings, it was clear that there was a positive correlation between the independent variables, Financial Process Innovation, Financial Institution Innovation, Financial Product Innovation and Financial Market Innovation and the dependent variable financial performance.

The analysis indicates the coefficient of correlation, equal to 0.412, -0.020, 0.663 and -0.383for Financial Process Innovation, Financial Institution Innovation, Financial Product Innovation and Financial Market Innovation, respectively. This indicates positive relationship between the independent variable namely Financial Process Innovation and Financial Product Innovation and negative relationship between financial institutions innovation and Financial Market Innovation and the dependent variable financial performance.

Table 7 Pearson Correlation

Correlations

	Financial Performance	Financial Process Innovation	Financial Institution Innovation	Financial Product Innovation	Financial Market Innovation
Financial Performance	1				
	71				
Financial Process Innovation	.412**	1			
	.000				
	71	71			
Financial Institution Innovation	-.020	.372**	1		
	.009	.001			
	71	71	71		
Financial Product Innovation	.662**	.455**	.197	1	
	.000	.000	.100		
	71	71	71	71	
Financial Market Innovation	-.383**	-.516**	-.464**	-.537**	1
	.001	.000	.000	.000	
	71	71	71	71	71

**. Correlation is significant at the 0.01 level (2-tailed).

9.2.2 Coefficient of Determination (R^2)

To assess the research model, a confirmatory factors analysis was conducted. The four factors were then subjected to linear regression analysis in order to measure the success of the model and predict causal relationship between independent variables (Financial Process Innovation, Financial Institution Innovation, Financial Product Innovation and Financial Market Innovation), and the dependent variable (Financial Performance).

Table 8 Coefficient of Determination (R^2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.706[a]	.499	.469	2.30063

a. Predictors: (Constant), Financial Market Innovation, Financial Institution Innovation, Financial Process Innovation, Financial Product Innovation

The model explains 49.9% of the variance (Adjusted R Square = 0.469) on Financial Performance. Clearly, there are factors other than the four proposed in this model which can be used to predict financial sustainability. However, this is still a good model as Bryman and Bell, (2018) pointed out that as much as lower value R square 0.10-0.20 is acceptable in social science research. This means that 49.9% of the relationship is explained by the identified four factors namely Financial Process Innovation, Financial Institution Innovation, Financial Product Innovation and Financial Market Innovation. The rest 50.1% is explained by other factors in the financial performance not studied in this research. In summary the four factors studied namely, Financial Process Innovation, Financial Institution Innovation, Financial Product Innovation and

Financial Market Innovation or determine 49.9% of the relationship while the rest 50.1% is explained or determined by other factors.

9.3 Regression Results

9.3.1 Analysis of Variance (ANOVA)

The study used ANOVA to establish the significance of the regression model. In testing the significance level, the statistical significance was considered significant if the p-value was less or equal to 0.05. The significance of the regression model was as per Table 9 below with P-value of 0.00 which is less than 0.05. This indicates that the regression model is statistically significant in predicting factors of financial performance. Basing the confidence level at 95% the analysis indicates high reliability of the results obtained. The overall Anova results indicates that the model was significant at F = 16.442, p = 0.000

Table 9 ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	348.104	4	87.026	16.442	.000[b]
	Residual	349.333	66	5.293		
	Total	697.437	70			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Financial Market Innovation, Financial Institution Innovation, Financial Process Innovation, Financial Product Innovation

9.3.2 Coefficients

The researcher conducted a multiple regression analysis as shown in Table 10 so as to determine the relationship between financial performance of commercial banks in Mombasa County and the four variables investigated in this study.

The regression equation below established that taking all factors into account (Financial Performance of commercial banks in Mombasa County) constant at zero financial performance of commercial banks in Mombasa County will be 20.792. The findings presented also showed that taking all other independent variables at zero, a unit increase in financial process innovation would lead to a 0.131 increase in the scores of financial performance of commercial banks in Mombasa County; a unit increase in financial institution innovation would lead to a negative -0.141decrease in the scores of financial performance of commercial banks in Mombasa County; a unit increase in financial product innovation would lead to a 0.643 increase the scores of financial performance of commercial banks in Mombasa County and a unit increase in financial market innovation would lead to a negative -0.204decrease in the scores of financial performance of commercial banks in Mombasa County (Fama, 2017)

Table 10 Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	20.792	5.605		3.709	.000
	Financial Process Innovation	.131	.071	.198	1.849	.069
	Financial Institution Innovation	-.143	.058	-.247	-2.451	.017
	Financial Product Innovation	.643	.120	.573	5.341	.000
	Financial Market Innovation	-.204	.276	-.088	-.740	.462

a. Dependent Variable: Financial Performance

The regression equation was:

$Y = 20.792 + 0.131X_1 + (0.143)\ X_2 + 0.643X_3 + (0.204)X_4$

Where;

Y = the dependent variable (Financial Performance)

X_1 = Financial Process Innovation

X_2 = Financial Institution Innovation

X_3 = Financial Product Innovation

X_4 = Financial Market Innovation

This therefore implies that two variables have a positive relationship (Financial Process Innovation and Financial Product Innovation) with financial performance of commercial banks in Mombasa County. From the table we can see that the predictor variables of financial process innovation, financial institution innovation, financial product innovation and financial market innovation got variable their p-values are less than the common alpha level of 0.05. .069, 0.017. 0.000 and 0.462

10 CONCLUSION AND RECOMMENDATIONS

10.1 Conclusion

From the study findings the following are the results:

10.1.1 Financial Process Innovation

Based on the regression coefficient results t value of 1.849 and p value of 0.069, the study findings accepted the null hypothesis that financial process innovation has no significant effect on financial performance of commercial banks in Mombasa County. Therefore, it is concluded that financial process innovation has no effect on financial performance of commercial banks in Mombasa County.

10.1.2 Financial Institution Innovation

From the regression coefficient results t value of -2.451 and p values of 0.017, the study findings accepted the null hypothesis that financial institution innovation has no significant effect on financial performance of commercial banks in Mombasa County. The conclusion therefore is that, financial institution innovation has no effect on financial performance of commercial banks in Mombasa County.

10.1.3 Financial Product Innovation

Regression coefficient results t value 5.341 and p value of 0.000, the study findings rejected the null hypothesis that financial product innovation has no significant effect on financial performance of commercial banks in Mombasa County. The conclusion therefore is that financial product innovation has an effect on financial performance of commercial banks in Mombasa County.

10.1.4 Financial Market Innovation

The regression coefficient results t value of -0.740 and p value of 0.462, the study findings accepted the null hypothesis that financial markets innovations has no significant effect on financial performance of commercial banks in Mombasa County. The conclusion therefore is that financial market innovation has no effect on financial performance of commercial banks in Mombasa County.

10.2 Recommendation

The study recommended as follows:

1. That commercial banks shall innovate processes that will reduce operating costs.
2. That commercial banks shall innovate processes that are user friendly
3. That commercial banks shall innovate and blend products that can give clients wider uses such as insurance and capital markets

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