STRATEGIC INNOVATION AND COMPETITIVENESS OF COMMERCIAL BANKS IN KENYA

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DEDICATION

This thesis is dedicated to the memory of my late father, Ken Kadima, who always believed in my ability to be successful in the academic arena. “In absentia, your confidence in me has made this course possible”.

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ABSTRACT

The dynamics of change in the business environments catalysed by globalization, changing consumer preferences and whirlwind development of technology have exerted immense pressure on commercial banks to develop strategies for sustainability. Strategic innovation has thus become the vital tool for survival and development. This study examined the influence of strategic innovation on the competitiveness of Commercial Banks in Kenya. The study was guided by the following research objectives: To identify the influence of product innovation on competitiveness of commercial banks in Kenya, to investigate the influence of marketing innovation on competitiveness of commercial banks in Kenya, to establish the influence of service innovation on competitiveness of commercial Banks in Kenya, to examine the influence of managerial innovation on competitiveness of commercial Banks in Kenya and to determine the moderating influence of environmental factors on the relationship between strategic innovation and competitiveness of commercial banks in Kenya. The study was guided by Creative Destruction theory and supported by RBV, Dynamic Capability and Contingency theories. The study utilized a positivist research philosophy. Descriptive and correlational research designs were used. The target population consisted of 175 directors and general managers of tier one commercial banks based in head office and in the following departments: R&D, Marketing and Communication, Customer Service, Credit and Payments. Banks were classified into tiers through stratified sampling. Managers were classified into directors and general manager levels. Simple random sampling was then employed to select 122 respondents. Primary data was collected using closed and open-ended questionnaires. A pilot study was conducted in Equity bank. To ensure content validity, the research questionnaire was subjected to thorough examination by two university supervisors and two experts from bank sector. The study adopted Principal Component Analysis approach to test for the construct validity. Descriptive and inferential analysis was utilized. Descriptive analysis included the use of frequencies, percentages, mean and standard deviation while inferential statistics employed correlation and regression analyses. Correlation was done using Pearson's product moment while regression was conducted using simple linear regression, multiple regression and hierarchical regression models. Data collected from open ended questionnaire was analyzed using content analysis. Results were presented in form of tables, graphs and pie charts. The study found out that product innovation, market innovation, service innovation and managerial innovation influenced competitiveness of commercial banks in Kenya. The study similarly concluded that product innovation had the most significant influence on commercial banks competitiveness followed by market innovation. The study equally revealed that environmental factors moderated the relation between strategic innovation and competitiveness of commercial banks in Kenya. The findings may help various policy makers with vital recommendations to enhance adoption and implementation of strategic innovation activities in the banking sector in Kenya. The results of this study also add into the pool of knowledge in the field of strategic management through appreciation of the role of strategic innovation on attainment of competitiveness in firms. The study thus recommends that commercial banks apply practices associated with product innovation, market innovation, service innovation and managerial innovation to improve competitiveness.

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ABBREVIATIONS AND ACRONYMS

ABSA:	Amalgamated Banks of South Africa
AI:	Artificial Intelligence
ATMs:	Automated Teller Machines
CAGR:	Compound Annual Growth Rate
CBK:	Central Bank of Kenya
CSAT:	Customer satisfaction
DC:	Dynamic capability
DTB:	Diamond Trust Bank
EFT:	Electronic Funds Transfer
GM:	General Manager
ICT:	Information and Communication Technology
IT:	Information Technology
KBA:	Kenya Bankers Association
KCB:	Kenya Commercial Bank
MFIs:	Micro Finance Institutions
MI:	Managerial Innovation
NFPMs:	Non-Financial performance measures

OECD:	Organization for Economic Cooperation and Development
PoS:	Point of Sale
RBV:	Resource Based View
R&D:	Research & Development
ROA:	Return on Assets
ROE:	Return on Equity
RTGS:	Real Time Gross and Settlement
SERVD:	Service Delivery
SI:	Service Innovation
SMEs:	Small and Medium Enterprises
SMS:	Short Messages
SPSS:	Statistical Package for Social Sciences

OPERATIONAL DEFINITION OF TERMS

Business Policies: In this study business policies describe the set-out guidelines that govern operations of employees in commercial banks in Kenya.

Competitiveness: Competitiveness is a firm's ability to remain relevant and be sustainable in conditions of fierce rivalry. Competitiveness was the study's dependent variable and it was measured by efficiency, market share and customer responsiveness.

Customer responsiveness: This study advances customer responsiveness as a bank's ability to respond to client's needs in a timely manner by providing specifically tailored products/services that match market dynamics.

Environmental Factors: These are elements in the internal and external surrounding that affect daily operations of firms and as such influence their competitiveness. The study investigated the moderating influence of organization structure, organization culture and competitive intensity on the relationship between strategic innovation and competitiveness.

Strategic innovation: Targeted selection and implementation of growth strategies through provision of new products, new services, defined markets, improved business models and new management practices that strengthen firm competitiveness. The constructs of strategic innovation were product innovation, marketing innovation, service innovations and managerial innovation.

Managerial Innovation: The study conceptualized managerial innovation as the implementation of improved management practices and techniques with capacity to affect competitiveness of commercial banks in Kenya. Business policies and networking relationships aid in understanding this concept.

Market Innovation: This refers to the use of new techniques or approaches to tap into new markets and deepen relations with existing markets. Ecosystem banking and Segmentation banking were measures of market innovation.

Product Innovation: In this study, product innovation involves the development of new products or enhancement of features of the existing products. Product innovation was measured by internet banking and mobile banking.

Service Innovation: Service innovation here refers to application of new or better ideas that improve efficiency and effectiveness in the service delivery process (Baradarani & Kilic,2018).

Tier 1 banks: These are large banks with a big customer base, large asset and deposit size and are not likely to collapse financially.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Global competition brought by continuous technological disruptions, shifts in customer demands, geopolitical instability and changing market requirements has made the business environment highly dynamic and unpredictable (Kamasak, 2017). So as to be competitive, companies need to be aware of and be able to respond quickly and appropriately to the needs of their customers. Competitiveness is a concept that expresses a firm's ability to be sustainable in the conditions of fierce rivalry, by proving products and services that meet high quality standards at competitive prices, both nationally and internationally, in relation to the possibilities and performance of other companies within their sector (Nuryakin, 2018). Competitiveness specifically addresses what the organization has in stock that will propel it to achieve advantage over rivals (Emad, Yoshifumi & Idris,2017; Global Banking Annual Review 2021).

Borrowing from Schumpeter (1942), Palmer and Kaplan (2017), propose strategic innovation as the most important differentiation tool for competitiveness in the market. Palmer and Kaplan (2017) define strategic innovation as the creation of growth strategies, new product/service categories or business models that change the game and generate significant new value for consumers and the corporation. They continue to advance that Strategic Innovation provokes a firm to look above its instituted business frontiers and mental representation and to engage

in a liberal, creative tour of the realm of probabilities with the purpose of improving a company's competitiveness. Adopted from Schumpeter's (1942) Palmer and Kaplan (2017) propose the following strategic innovation gateways, product innovation, process innovation, market innovation, service innovation and organizational innovation.

Product innovation is the introduction of updated goods and services (Nuryakin,2018). Market innovation on the other hand can be described as new approaches that banks can adopt to enter new markets and exploit existing markets (Cheng & Chen, 2017; Palmer and Kaplan, 2017). Baradarani and Kilic (2018) define service innovation as the development of new ideas that improve both efficiency and effectiveness in the service delivery process while managerial innovation refers to implementation of new management practices, processes, structures or techniques intended to further organizational goals (Ziraba & Okolo,2018). Empirical evidence exist both globally and locally to suggest that investments in strategic innovations help businesses achieve competencies that play an important role in cost reduction, value addition, customer service, agility and speed, boosts productivity (Abdallah, Phan & Matsui,2016; Okoe, Boateng, Narteh & Boakye, 2018).

The literature on strategic innovation has been largely focused on high income economies, like Europe, North America and Asia (Xiang, 2015). America continues to lead at the technological frontier hosting 16 of the world's top 20 research universities whose strategic innovations cut across sectors including the health sector, manufacturing sector, service sector, education sector among others aimed at boosting resilience of firms and the American workers. The U.S. economy also has the highest concentration of knowledge intensive and technology-intensive

industries (n Deutch, 2018). Abdallah, Phan & Matsui (2016), revealed that the innovations targeting technology improvement positively and significantly affected overall operational performance, quality performance and flexibility of manufacturing firms in Japan, Austria, Finland, Germany, Italy, Korea and USA.

There is evidence of strategic innovation in Europe even though the continent has been overtaken by the USA (Li, 2017). Simao, Carvalho and Madeira (2023) confirm that the use of strategic managerial processes influenced performance of knowledge intensive business service firms in Portugal. Russian banks have equally embraced strategic innovations by using digitization technology to build competitiveness (Lizovskaya, Salikhova & Khalina,2020). In Australia, Sharon and Thierry (2020) confirmed that the use of demographic data provided clients with tailor made services which improved customer loyalty and competitiveness in their firms (Asiedu,2016).

Activities relating to strategic innovation are visible in different sectors in the Asian continent. For instance, the Chinese government strategic innovations can be seen in their industrial plan called “Made in China 2025” which aims at upgrading China’s industrial system with a strategic aim of being competitive globally. China is regularly reviewing their policies relating to innovation to tap into African markets (Xiang, 2015). Strategic innovations have been observed in manufacturing sector, in the areas of digitalization and in human capital specifically in networking and intelligence (Li, 2017). Strategic innovation has equally been applied in the education sector in Malaysia and found to positively influence student performance in the universities (Cheng, Cham & Lee,2019). Moreover, Mohd and Radwan

(2015) indicate that implementation of strategic management practices influenced the performance of Commercial Banks in Jordan. Nuryakin (2018) similarly, confirmed that strategic innovation influenced the competitiveness of Batik SMEs in Indonesia.

Even though Africa lags behind Europe, USA and Asia on this issue, the continent is currently experiencing widespread strategic innovation in telecommunication sectors, specifically in mobile technology (Afriyie, Du & Ibn Musah, 2019). Strategic innovation activities are visible across the continent in different countries. In Nigeria, Salisu and Bakar (2019) found strategic innovation capability crucial in the SME upgrading. Besides, South African enterprises have a fairly high strategic innovation rate and that the degree of novelty is also relatively high with a total of 65.4% of enterprises engaged in strategic innovation activities (Harts, Booyens and Sinyolo,2020). In South Africa, Strategic innovations were more common in mining, manufacturing and in service sectors (Booyens & Hart,2019).

Strategic innovations have also been witnessed in process upgrading, product upgrading and functional upgrading of edible oil supplying firms in Tanzania (Kombe, Mpemba, Yabu, Kazi, Machemba, Kibesse, Mwita, Mgangaluma, Mashini, Chaula, Ndunguru, Lugobi and Mziya, 2017). Further, one of the best success stories in mobile technology is that of Safaricom, the leading mobile services provider in Kenya (Ngugi, Elliot & Blankson,2020). Chief among Safaricom's innovation strategy is M-Pesa, which is dominating the Kenyan mobile telecommunication market. M-Pesa represents an intriguing innovation to promote financial inclusion at base of the pyramid while maintaining a commercial opportunity that provides 18% of Safaricom’s revenue (Reuters 2012). Both academic literature and the popular press

offer scant attention to the downside of strategic innovation (Gianluca & Elisa, 2021). A few articles however have found negative or non-significant effects of strategic innovation on competitiveness of firms. For instance Tidd and Bessant (2020) suggest that activities associated with R&D expenditures and product and idea failure are likely to result in increased costs.

Aysel and Fatma (2017) found that service innovation did not influence competitiveness in hotel industry. Additionally, Rocha (2015) confirmed that R&D policies on innovation carried out by the Brazilian government did not influence the performance of 243 Brazilian companies. These mixed findings may be the result of the counteracting effects of short-term losses versus long-term profits; however, additional research is needed (Haneda & Ito, 2018). Banking is one of the sectors that technological progress is widespread and monitored closely. The global practice of banks is to stimulate economic growth of nations by increasing operating revenues, deposits and credit facilities (Sarji, 2017). Across the world however, banking institutions continue to face stiff competition due to changing market dynamics, consumers' socioeconomic conditions and constant technological developments (Kamasak,2017) Additionally, the global banking industry is having difficulties due to high inflation, surging interest rates and market volatility wrought by the return of geopolitical instability coupled with lingering long-term disruptive effects from the COVID-19 pandemic (McKinsey Global Banking Annual Review, 2021).

The report further records that even though revenue and margins rose on the back of higher interest rates, margin increases only delivered returns above the cost of equity for just 35

percent of banks globally while half the world's banks in 2022 continue to have a return on equity that is below the cost of equity, with banks performance ranked last in a comparison of the market valuations of different industry sectors. Banks therefore need strategic innovation to improve their short-term resilience and longer-term opportunities hence their competitiveness (Osano & Koine, 2016). Locally, the Kenya Bankers Association (KBA) report of 2021 indicates that the cost-to-income ratio, measure of bank's efficiency, substantially edged upwards to 74.1 percent in 2020 from 60.2 percent in 2019. This business environment has pushed some banks into mergers/acquisitions in a bid to achieve economies of scale and others edged out (CBK, 2016; CBK, 2022). The sector continues to face a weakening economy, surging inflation, weakening shilling against the US dollar and rising gross non-performing loans (CBK, 2022).

Amidst the increasing sophistication of customer expectations, the dynamism in the regulatory environment, and the uncertainty in the business environment, the overarching challenge to the industry is the need to build successful innovative strategies that will enhance competitiveness (The Lab, 2017). Strategic innovation in the banking industry may involve the development of new products/services, invention of new marketing approaches and new management techniques (Palmer & Kaplan,2017). In Nigeria, Funsho, Joseph, Samuel and Adeola (2021) found that Strategic marketing influenced the performance of banks. Besides, Ngango (2015) established that E-product innovations increased profitability, reduced cost of operations and increased efficiency of banking institutions in Rwanda. Additionally, Byukusenge and Muiruri (2021) found that strategic innovation positively influenced the performance of I &M Bank in

Rwanda. Further, M'kuma (2015) established that strategic technological innovations helped private commercial banks in Kenya attain strategic positioning and competitiveness.

1.1.1 Banking industry in Kenya

Kenya's banking industry is made up of the Central Bank of Kenya (CBK), commercial banks, microfinance institutions, and foreign exchange bureaus. The sector is governed by the Kenyan Constitution Act no. 488 regarding banking and the Central Bank Act no. 491 (CBK,2022). The Kenyan banking industry consisted of 38 commercial banks, one mortgage finance company, fourteen microfinance banks, nine representative offices of foreign banks, 68 foreign exchange bureaus, seventeen money remittance providers, and three credit reference bureaus as of 30 June 2022 (CBK,2022). CBK classifies banks into three using a weighted index of total net assets, capital and reserves, customer deposits, loan amounts and deposit accounts.

Tier 1 banks are considered secure because they have a weighted index of five percent or higher and control nearly fifty percent of the bank market share, tier 2 banks have an index between one and five percent and tier 3 banks have a weighted average below zero percent (CBK, 2022). There are currently nine (9) commercial banks of tier 1 in Kenya, including Equity Bank, Kenya Commercial Bank, Cooperative Bank, NCBA, Standard Chartered Bank (K) Ltd, ABSA bank, Stanbic Bank, Diamond Trust Bank and I & M. The challenging business environment has pushed some banks into mergers/acquisitions in a bid to achieve economies of scale and others edged out. Some renown banks which closed shop include Dubai Bank & Imperial Bank in the year 2015 and Chase Bank in 2016. Additionally, NIC merged with

Commercial Bank of Africa while KCB acquired NBK (CBK,2018). On 30th of January 2023, through a press release, CBK announced the acquisition of certain Assets and Liabilities of Spire bank by Equity bank Kenya Ltd following years of loss making (CBK,2022).

CBK annual report of 2022 indicates that the industry's Asset Quality deteriorated with gross nonperforming loans (NPLs) increasing from 14.0 percent in June 2021 to 14.7 percent in June 2022 much weaker than the regional average. A deteriorating loan book means a slash in revenues due to provisioning (CBK,2022). Non-banking sector companies particularly firms in manufacturing and allied enterprises, telecommunication, insurance and energy and petroleum sectors have on the other hand consistently been more profitable than their banking sector counterparts (CBK,2022). Additionally, even though most Kenyan banks have exponentially embraced the use of information and communication technologies in their service provision including Mobile Banking, ATMs, Internet Banking, payment systems among others, the report revealed that the banking sector has also been heavily affected by the development of digital lenders and changes in consumer behavior which are threats to their competitiveness (CBK,2022).

1.2 Statement of the Research Problem

Banks constantly aim to grow their market shares, profits, efficiency, and asset bases, to outperform their rivals (Ejike,2018). However, banks operate in a volatile business environment full of uncertainty (Sarji, 2017; McKinsey Global Banking Annual Review, 2021). In order to be competitive, the sector needs to take on the dynamism in the environment

through strategic innovation (Osano & Koine,2016). Even though banks have embraced strategic innovation activities, the banking industry was ranked last in performance in comparison to the market valuations of different industry sectors (McKinsey Global Banking Annual Review, 2021). Numerous studies concerning strategic innovation in commercial banks have focused on single types of innovation while the effect of composite innovations has not been tested (Roy, Robert & Giuliani, 2018). Besides, studies on product innovation and competitiveness of commercial banks have paid more attention to pricing (Guerra & Camargo,2016).

Additionally, past research on market innovation is focused on developed economies, where market maturity and average income per capita are high (Peng, Qin and Tang, 2021). There's a gap for developing economies like Kenya. Also, recent studies reveal new forms of market innovation namely ecosystem and segmentation banking (Asiedu, 2016; Kohtamäki, Parida, Oghazi, Gebauer & Baines,2019). Moreover, with the present knowledge-based economy, bank services should target the users with client interface platforms (Feng & Sivakumar,2016). In addition, much of the strategic innovation literature as means for gaining competitiveness has viewed strategic innovation as the process of using new technology to develop new products/services (Masa'deh, Shannak, Maqableh & Tarhini,2017) There is a gap for non-technological innovations (Roy, Guilani & Robert, 2018).

Moreover, several studies exploring the relationship between strategic innovation and competitiveness of commercial banks have focused on the direct effect of strategic innovation on competitiveness (Nuryakin,2018; Byukusenge & Muiruri,2021). Over and above that, even

though commercial banks are actively engaged in evaluating competitiveness, the focus has been on financial indicators (Mashovic,2018, Ahmad & Zabri, 2016). These are gaps that this study sought to fill as it examined the influence of product innovation, market innovation, service innovation and managerial innovation on the competitiveness of commercial banks in Kenya.

1.3 Objective

1.3.1 General Objective

The purpose of this study was to examine the influence of strategic innovation on competitiveness of Commercial Banks in Kenya.

1.3.2. Specific Objectives

This study was guided by the following research objectives:

i) To assess the influence of product innovation on competitiveness of Commercial Banks in Kenya

ii) To establish the influence of market innovation on competitiveness of Commercial Banks in Kenya.

iii) To examine the influence of service innovation on competitiveness of Commercial Banks in Kenya.

iv) To investigate the influence of managerial innovation on competitiveness of

Commercial Banks in Kenya.

v) To determine the moderating influence of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya.

1.4 Research Hypothesis

The following research hypotheses was used to guide the study:

$H_0$1: Product innovation has no significant influence on competitiveness of Commercial Banks in Kenya

$H_0$2: Market innovation has no significant influence on competitiveness of Commercial Banks in Kenya

$H_0$3: Service innovation has no significant influence on competitiveness of Commercial Banks in Kenya.

$H_0$4: Managerial innovation has no significant influence on competitiveness of Commercial Banks in Kenya.

$H_0$5: Environmental factors has no significant influence on the relationship between innovation and competitiveness of Commercial Banks in Kenya.

1.5 Significance of the Study

To begin with, this study is significant as it relates with part b of SDG No 8 which propagates the need for economic growth. It is also significant to the nation as it relates with the country's 2030 vision for financial services, which is to create a vibrant and globally competitive financial sector in Kenya that will create jobs and promote high levels of savings that will finance Kenya's overall investment need. This vision could be achieved if banks adopt strategic innovation that enhance competitiveness. Second, this study may provide Central Bank of Kenya, the agency responsible for regulating commercial banks with vital recommendations to enhance adoption of strategic innovation activities in the banking sector in Kenya.

The banks in Kenya can thus adopt the findings of this study to enhance their competitiveness. This may include recommendation on new and emerging innovations, and their effect on banks' competitiveness. Additionally, the government can rely on the outcome of this study to assist in developing proposals that can be incorporated into the strategic management policy documents to improve effectiveness of public organizations operations. Further, the findings of this study also add into the pool of knowledge in the field of strategic management through appreciation of the role of strategic innovation on attainment of competitiveness of firms in both private and public organizations. Finally, the outcomes of this study provide insight about the influence of environmental factors on strategic innovation and business competitiveness to stakeholders i.e. government, policy makers, banks, customers. Customers are the ultimate beneficiaries of strategic innovation activities in terms of enhanced convenience.

1.6 Scope of the Study

The study sought to examine the influence of strategic innovation on competitiveness of commercial banks in Kenya. Borrowing from Palmer and Kaplan (2017), the research conceptualized strategic innovation as consisting of four dimensions; Product innovation, as a type of innovation which delivers improved goods, market innovation as the use of new marketing methods deepening relations with existing markets and in tapping into new markets, service innovation as a kind that introduces significantly improved services and managerial innovation (MI) as one that involves the implementation of better management ideas and practices in the running of commercial banks in Kenya. The independent variables (product innovation, market innovation, service innovation and managerial innovation) had two indicators each: Internet banking & Mobile banking, Ecosystem banking & Segmentation banking, Service automation & VPA technology, Business Policies and Networking respectively. The dependent variable of the study was competitiveness which was measured by efficiency, market-share and customer responsiveness of the selected banks. Further, the study set to identify the influence of the moderating variable (environmental factors) on the association between the independent and the dependent variables. The study targeted 175 directors and general managers and was conducted between June and July 2022.

1.7 Limitations of the Study

The researcher met some challenges while conducting this study, for instance majority of the measurements utilized to assess the strategic innovation were non numerical in nature.

However, perceptual measurements have been utilized in the past and have produced reliable results. This study focused on tier 1 commercial banks in Kenya and it may be challenging to extrapolate the findings to other financial institutions. The researcher faced challenges from the respondents who were not willing to disclose information may be due to lack of trust and assumed lack of confidentiality. This was however countered by the assurance through an introductory letter from the university that the information they provided was confidential and that it was to be used for research purpose only.

Unavailability of respondents was another challenge as the respondents were executives mostly in meetings and this forced the researcher/research assistants to re-schedule meetings to accommodate the respondents. Even when they availed themselves, most of the respondents had limited time to respond to the questionnaire due to their busy schedule. The researcher /research assistants thus used drop and pick method which was supplemented by reminders through short messages and calls. Despite of these limitations, the quality of study was not interfered with due to its scientific design and rigorous literature review.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical framework, reviewed subtopics of literature on product innovations, market innovation, service innovation, managerial innovation, environmental factors, competitiveness, empirical literature review, research gaps, summary of literature review and conceptual framework.

2.2 Theoretical Framework

Grant and Osanloo (2014) suggest that a theoretical framework is a conceptual model that establishes a sense of structure that guides research. It provides a study with a theory-driven approach and how it applies to researchers' study. The study was guided by the creative destruction theory and supported by RBV, dynamic capabilities and contingency theories.

2.2.1 Creative Destruction Theory

The study was guided by creative destruction theory first coined by Austrian economist Joseph Schumpeter. According to Schumpeter, creative destruction referred to innovations in the manufacturing process that increased productivity. Schumpeter (1942) described innovations as the process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. These

innovations include new goods, new methods, new markets, new sources of supply and new industry organizations and that they guide the flow of resources toward fulfilment of consumer needs. Schumpeter (1942) continues to advance that as opportunities arise, and when an innovating firm takes action that generates profits, competitors will respond (Schumpeter, 1942). The response results to an inability of the innovators (first movers) to sustain profits (competitiveness) due to imitation from the competitors (Mulatu, 2016). The benefit of the new creation is destroyed as market leaders lose their advantage, and profit margins decline. Imitation surges, and overall market expansion slows, moving the business cycle to equilibrium till another innovation overwhelms the status quo (Schumpeter, 1942). The thriving firm, then, must continuously be innovating to sustain competitiveness, and to avoid the perennial gale of creative destruction.

Schumpeter's contribution to creative destruction economics has been anchored on the notion of building the human innovative and entrepreneurial intellectual capacity, requiring novel ways of doing things in tandem with emerging innovations to sustain competitiveness (Kao, Pai, Lin, & Zhong,2015; Lestari & Ardianti,2019; Liao, Liu & Fu,2019).Creative destruction theory handles economics as an organic and dynamic process different to the static mathematical models as explained by traditional Cambridge-tradition economics. Entrepreneurs and workers embracing novel technologies will inevitably create disequilibrium and record new profit opportunities while those clinging on outdated technology will be left stranded. The classic economic theory's ideas of perfect competition and efficient markets understate the role of the entrepreneur in market development and

accumulation of profits (Najda-Janoszka, 2016). Schumpeter suggests that the entrepreneur is any decision maker who innovates. Innovation is the engine of the Schumpeterian process of creative destruction where innovative companies and entrepreneurs constantly drive allocative efficiency and productivity growth (Yasar, 2021).

This theory however has been criticised over its disequilibrium idea of innovation and the role of the entrepreneur. According to Kirzner (1997), innovation induces an equilibrating change to the status quo and not a disequilibrating status quo as argued by Schumpeter. Additionally, Schumpeter's theory emphasized the innovative functions of the entrepreneur over the risk-taking function of the entrepreneur which cannot be ignored (Kirzner,1997). Despite the criticisms, Schumpeter's view is supported by many researchers such as Eisenhardt and Martin 2000; Teece et al. 1997; Smith et al. 2002) who suggest that markets are dynamic and that the pursuit of innovation is vital to firm survival. Creative destruction theory is relevant in this study as innovation occasions a situation where existing means of production are almost forced to become outdated due to continuous advancement in Research and Development (R&D) championed by ingenious entrepreneurs. Fostering innovation and entrepreneurship in the present age of transformative technologies is thus the strategy of taking lead position in the marketplace (Ardolino et al.,2018; Bhatnagar & Kumar,2017; Tuan, Nhan, Giang and Ngoc,2016).

Most banks are no longer relying on the ancient traditional banking medium where transactions used to happen in the brick-and-mortar space but today because of technological advancements, transactions have gone online (Central Bank of Kenya,2018). For instance,

ATMs, mobile banking and internet banking have enabled customers to transact for 24 hours resulting in increase in the number of transactions being handled per day and increase in income from the transaction costs. Additionally, ATMs, mobile banking, internet banking, loan services automation have enhanced the efficiency of banks through improved service delivery to customers, and reduced administrative costs (Central Bank of Kenya, 2018). Several writings have underscored the role of creative destruction for sustained competition (Cozzi, Pataracchia, Pfeiffer & Ratto, 2017; Jackson ,2020; Kopp, 2019; Langroodi, 2017). Mohammad (2018) further suggests that innovation ventures that integrate IT intensify competitiveness and immense outlays in market innovation grow market share. Besides, innovation in ICT, offers strategic benefits to banks through improvements in market capability (through discovery of untapped markets), resource allocation capability, learning capability and strategic planning capability (Gathu, 2017).

2.2.2 The Resource Based View (RBV)

The Resource-based View of the firm is a contemporary theory that provides awareness on both strategic and organizational issues (Kamasak, 2017).The RBV proponents including Barney (1991); Day (1994); Prahalad and Hamel (1990) as cited in Madhani (2019) argue that a firm is a unique collection of resources and capabilities which possess various characteristics. According to the proponents, firms in possession of a resource, or mix of resources that are rare among competitors, are said to have a comparative advantage. This comparative advantage enables firms to produce marketing offerings that are either perceived as having superior value or can be produced at lower costs. Therefore, a comparative advantage

in resources can lead to a competitive advantage in market position. In RBV, planners choose the best strategies from a complex network of inter-related assets and capabilities, that maximumly exploit a company's internal resources and capabilities respective to external opportunities.

The RBV theory argues that executives need to use VRIN criteria in assessing the firms' resources: According to the theory, a Valuable resource is one that gives the firm value either by outshining its competitors or by minimizing the company's shortcomings. Therefore, the expected profits should be higher than the costs relating to its investment (Kamasak, 2017). A Rare resource is that which offers a unique strategy (Shah, 2022) while in-imitable resources are those not easily picked up by competitors. Once a company is in possession of these resources, it can then control them to derive competitive profit. Concurring with the proponents of RBV, Kamasak (2017) puts forward that the capacity of a company to produce higher-level achievements emanates from a core capability acquired from multiple resources, ranging from strategic assets, skills, competencies owned by a firm to judicious control of material and intellectual resources.

Kamasak (2017) cites examples of fundamental firm capability including intellectual-based resources like capability to innovate, marketing capabilities and different production capabilities. Additionally, an organization's competitiveness can be an account of variations in experiential assets like service experience, branding and human capital (Swoboda & Olejnik,2016). RBV supporters perceive resources as being transitory in nature and as such follow a lifecycle of ballooning, renewal and then regression (Maritan & Peteraf, 2011).

Therefore, firms should continuously renew their resources to build sustainable profits (Symaniec-Micka, 2014). The theory is applicable for the current study as it explains how bank resources/capabilities like product innovation capability, market innovation capability, service innovation capability and managerial innovation capability orchestrate competitive variations for commercial banks in Kenya.

The resource-based theory advances that firms adopting innovation capability as a strategic asset or resource, in response to environmental dynamism will aid them to thrive and achieve higher level performance. The theory suggests a relation between strategic innovation and competitiveness through organization's resources. The bank with the best and most appropriate stock of the resources relevant for its business will thus be competitive. Besides, RBV recommends that a firm should focus on its capabilities and invest in them to earn economic advantages. As such, bank executives should make appropriate decisions on funding based on assets that are beneficial to the company. Additionally, as RBV proposes competitiveness through VRIN criteria, commercial banks which adopt the criteria in identification of their resources will safeguard them from possible replication from their rivals.

The RBV perspective has been found relevant in explaining variations in organizational success (Gure & Karugu, 2018; Salisu & Bakar,2019). RBV has been criticised because its assumption that a firm can be profitable in a highly competitive market as long as it can exploit advantageous resources does not always hold true. This is because it ignores external factors concerning the industry that affect firm success (Bruijl & Gerard, 2018). This study however posits that unique resources owned by banks can be configured and utilized in a way that

enhances bank competitiveness. It is worth noting that organizational structure and organizational culture will play a pivotal role in the way resources are configured and deployed if the bank is to attain and sustain competitiveness.

2.2.3 Dynamic Capabilities Theory

The dynamic capability theory DC is an extension of RBV that is concerned with how firms can sustain and enhance their competitive advantage, notably when facing changing environments. Teece, Pisano and Shuen (1997) as cited in Teece (2020) define dynamic capability as the ability of the firm to combine, develop and reconfigure external and internal expertise in order to respond to speedily changing environment. The first aspect is a company's ability to adapt to its changing environment by continually updating its core skills. Adapting, integrating, and redesigning internal and external organizational skills, resources, and practical competencies to become competitive is the focus of the second dimension, capabilities (Teece, 2020).

Teece (2020) and Efrat, Hughes, Nemkova, Souchon, and Sy-Changco (2018, among others) outline D.C as a framework for adapting a company's resources to new levels of competence in the face of environmental change. According to Fitz-Koch and Nordqvist (2017), a company's dynamic capabilities are the procedures it employs to utilize its assets in order to integrate, reorganize, acquire, and relinquish them in response to, or even in anticipation of, a shift in the market. According to the dynamic capabilities (DCs) approach, businesses must renew or adjust their resource mix by integrating and reconfiguring their resources and

capabilities (Monteiro, Soares, & Rua, 2017; Najda-Janoszka, 2016). In response to environmental shifts, DC tries to explain why some companies thrive while others fail (Tang & Gudergan, 2018).

Where other models such as RBV by (Wernerfelt, 1984) as cited by Riviere, Suder, and Bass (2018) or the competitive forces approach (Porter, 1980) as cited by Adefulu, Ashikia, Makinde, and Alao (2020) fail to adequately explain a firm's source of competitiveness. This theory's supporters argue that the true source of sustainable competitive advantages is a firm's ability to quickly respond to the dynamic changes in the market by nurturing new capabilities and reconfiguring its resource base. Different studies have uncovered distinct varieties of dynamic talents. Helfat and Martin (2015) categorize a company's dynamic capability into three distinct categories: (sensing), which occurs when a company identifies an opportunity; (seizing), which involves amassing assets to manage the opportunity and extract value from it; and (transforming), which involves continuous restocking. Bouncken, Lehmann, and Fellnhofer (2016), advocate for innovation capability, while Chari and David (2012) emphasize client relationship capability.

Helfat and Martin (2015) cite managerial ability, Ozer and Zhang (2015) highlight geographical /network ties while Xu, Guo, Zhang and Dang (2018) name dynamic marketing capabilities. Organizations with more sway over asset redeployment, as confirmed by Helfat and Martin (2015), tend to be more successful at developing new competencies. Additionally, social relationships, such as cordial association with suppliers, are beneficial to businesses because through them, companies can receive transfers of technical knowhow, penetrate

restrictive markets, and enjoy favors like ease of access to licenses, all of which boost the company's performance (Teece, 2018; Ozer and Zhang, 2015). Ambrosini and Altintas (2019) argue that the most crucial dynamic capacities in evaluating and reconfiguring an organization's asset base are firm processes and management capability. Similarly, Tang and Gudergan (2018) argue that strategic human resource coordination can boost a company's performance.

Dynamic managerial capabilities in particular address the importance of managers' role in refreshing, developing, or creating the firm's resource base (Chen, Kerr, Tsang & Sung, 2015). Helfat and Martin (2015) argue that it is the management of dynamic capabilities that is likely to allow the organization to gain superior performance-related benefits. Managerial rigidities limit the creation of dynamic capabilities (Danneels, Verona & Provera, 2017) and therefore the firm's performance. Firms defer in configuration of resources following diverse corporate philosophies (Ambrosini–Altintas, 2019) but the use of dynamic capabilities perspective by executives can identify and utilize the skills available in their organization to outmatch their rivals (Teece,2018). This theory is relevant since innovation has disrupted the traditional business models of banks (mortar and brick).

Banks are thus required to reconfigure their core resources/capabilities to adapt to the dynamic environment where banking is not limited to the building that houses the bank. This is possible through dynamic capability which allows firms to find and utilize new resources that can be a source of competitive advantage, resource reallocation and convergence and building responsive power.Although the lack of a quantifiable model in the DC theory has been

criticized as making it difficult to explore how dynamic capabilities can be used in actionable managerial decision-making (Pavlou & El Sawy, 2011), this study makes the assumption that a bank can achieve competitiveness if its managers quickly sense and seize opportunities in their surrounding while transforming their capabilities to match the volatile business environment (Kamasak, 2017). In addition, a company's capability to control knowledge is one of the key factors in achieving sustainable competitive advantage. Researchers have found dynamic capacities capable of influencing competitive advantage (Chen, Kerr, Tsang and Sung,2015; Janssen, Castaldi and Alexiev,2016 and Kamasak,2017).

2.2.4 The contingency theory

The contingency theory often called the Situational Approach was developed by (Fred Fiedler in 1964. Contingency theory assumes a no size fits all approach. The theory suggests that no one configuration of organizational structure can be put equally to unrelated types of organizations as contingencies arise from various environmental factors (Thumbi & Ragui, 2019). Contingency theory builds upon accepted elements of System Theory. It recognized that an organization is an open system made up of interrelated sub-units. It adds, however, that the behavior of individual sub-units is contingent upon internal and external environmental contingencies. Fiedler's theory of leadership is based on leadership style and situational favorableness. According to the theory, leadership style is fixed and therefore can be measured using the Least-Preferred Co-Worker (LPC) Scale, a scale developed by Fiedler while situational favorableness or situational control describes the leader's ability to control the group situation.

More specifically, the degree to which the leader can influence the behavior of group members in order to face the current situation. The theory therefore suggests that organizations can only be effective as a result of fitting features of the organization (structure) to different happenings such as environment, organizational size and strategy. Palmer, Wright and Powers (2015) have expounded the proposition of fit in three separate ways, that is, selection, interaction and systems approaches. Otley (2016) advances that for firms to achieve sustainable competitive advantage, managers must obtain a favorable fit that links business, strategy and structure. He further states that the choice of strategy should align to the structure and motivate employees to attain the set-out objectives. This theory is relevant to the study as institutions face distinct problems as well as environments as such no single specific structure fits into each type of storyline (Salerno, Vasconcelos Gomes, Da Silva, Bagno & Freitas,2015). Contingency theory is however limited in the sense that it doesn't help one if their leadership style doesn't match the environment and you can't alter the situation.

The study nevertheless suggests that once an institution deliberates on the kind of strategy to follow, it must examine its structure and marshal it to the brand-new strategy taking cognizance of the internal and external environments which may influence strategy execution. The contingency theory anchors the variable on organizational structure and organizational culture. For organizations, the best structure is the one that is contingent upon the external environment in which they exist. There is a powerful correlation between environment and performance (Eze, Bello & Adekola, 2017). A dynamic organization working in a turbulent environment is one that is more flexible, has greater adaptive capacity and is innovation oriented (Janssen,

Castaldi & Alexiev, 2016). Firms tend to adjust themselves to increasing complexities of environment by modifying their processes, structures, routines and rules in order to survive (Parida & Örtqvist, 2015; Schneider, Wickert & Marti,2017). It is inferred that organizations performs much better in a situation when organizational priorities coincide with market environment (Otley, 2016).

2.3. Concept of strategic Innovation

Palmer and Kaplan (2017) cite Schumpeter (1942) to argue that strategic innovation involves the creation of game-changing growth strategies, new product/service categories, and new business models that generate substantial new value for consumers and the corporation.

2.3.1. Product Innovation

Product innovation is the introduction of the most up-to-date products with regard to their performance and market position (Obeidat, 2016). Su and Tang (2016) defined product innovation as product that is novel or novel to some degree. OECD (2005) defines product innovation as the introduction of a new or substantially improved good or service in relation to its characteristics or intended functionality. Companies with a competitive advantage over their rivals based on products for example, in terms of innovation, quality of the product, new product packaging, new product design have been demonstrated to achieve better performance (Batiz-Lazo & Woldesenbet, 2019; Dong, Yu & Zhang, 2016). Nuryakin (2018) similarly suggests that product innovation is positively correlated to companies' efficiencies. Product innovation is one of the key tools for developing strategies for entering new markets, entering

the current profit-enhancing market and giving firms a competitive edge (Biemans, Griffin, & Moenaert,2016).

Through product innovation, organizations come up with new products for the changing needs of clients in the marketplace (Gast,2018). According to Onafadeji and Alarape (2021) there exists a strong positive relationship between product innovation and a firm's competitiveness. As such, it is important for organizations to continuously seek to develop products that enhance their value, and competitiveness. Product innovation can be achieved through adoption of new technologies (Filho & Moori, 2017) or the use of better material components that have a transformative influence on the features and attributes of the existing products (Acquah & Mensah, 2015; Nataya,2018). In banking, product innovation entails bringing onboard well thought out services which offer superior functionality and convenience purposed at boosting clients encounter hence their degree of fulfilment (Kong & Masud,2019). Internet banking and mobile banking are examples of electronic product innovations currently found in the banking sector (Chong, Bian & Zhang, 2016).

Boateng et al. (2016) define Internet banking as using the net to exploit new opportunities by transforming products, markets and business processes. Internet banking is an important innovation that involves the conduct of conventional banking activities on the Internet, that is, the global network of computer which offers financial services that can be accessed through the Internet's World Wide Web. Internet banking became a focus starting from 2005 (Jiménez & Aguiar-Díaz, 2019). Andreeva and Sviridov (2017) suggest that banks can use the Internet to convey information about financial products to the public, offer 24-hour telephone support

to clients, manage customer finances, and such activities as paying bills on-line, applying for credit cards, and finding the nearest ATM hence serve customers more efficiently.

Masocha and Matiza (2017) argue that Mobile banking (m-banking) which involves the use of mobile phone for settlement of financial transactions is a tool for competitiveness. Secluk (2016) points out that mobile banking has transformed the sector in several ways such that clients can perform their tasks on a laptop, desktop, or smartphone in no time anywhere. This innovation provides clients with services like SMS Banking which offer instant notification about transactions and help to monitor accounts with around the clock for both debits and credits. As a result, it helps in increasing brand loyalty, which is an essential aspect of the sustainability of the banking sector (Ryu and Lee,2018).

2.3.2 Market Innovation

As markets continue to innovate, only players who can keep up with the variations in the market structure can endure competition (Daneels & Kleinsmith,2016). Purchase and Volery (2020), define market innovation as an additional dimension of modernization that is thought of as the efforts and resources concentrated to new sales methods in business. According to Scott (2020), market innovation activities are related to market research and identification of new market opportunities. It seeks to address the consumers' needs by re-conceiving the prevailing trade model in a manner that generates new usefulness for clients, sabotage rivals and induce brand new affluence for all stakeholders (Neirotti & Pesce,2019). Menon and Varadarajan (2017) argue that market innovations are demonstrated by discerning and responding to

opportunities and threats in the market in a superior manner than rivals. According to Coocia (2016), market innovation involves both designing and technology enhancement to present new products and services geared towards a specific market.

Market innovation offers competitive gains by offering modifications within the marketing components comprising price, product, distribution and promotion (Yeh, Chen & Chen, 2019). By use of marketing innovations organizations can greatly appreciate their customers' requirements and fulfill them (Ungerman, Dedkova & Gurinova,2018). Zuñiga-Collazos and Castillo-Palacio (2016), highlight the significance of innovative marketing strategies in fulfilling the needs of tourists in Colombia. Digitisation, a key driver for marketing innovation, enables new communication methods, branding strategies and new designs (Rahman, 2020; Dragisa & Dragan, 2016). Banks can use marketing innovations to achieve growth and competitiveness as this strategy shows a major role in improving sales volumes, efficiency and job creation within companies (Ahmad, 2015; Chabowski, Kekec, Morgan, Hult, Walkowiak & Runnalls, 2018).

Mu (2015) also suggests that a well-designed promotion is a centre of achieving the success of the business and the retention of customers. Zhang, Watson and Palmatier (2018) propose that firm strategies should be informed through the lens of the marketing ecosystem that considers the interrelated and dynamic megatrends. Santy et *al.,* (2021) suggest that by leveraging advances in data and technology, Kenyan banks can make sense of the marketplace by extracting insights from massive amounts of diverse consumer data with modern-day analytics to accurately predict consumers' changing preferences and formulate appropriate strategies to

engage with them; and thus, become more market-adaptable and competitive in the present and the future (Coccia,2016).

Zhang and Chang (2020) propose that to deliver sustainably compelling value to customers, firms should adopt an ecosystem mindset and cooperate with various stakeholders. They define ecosystem as an interconnected system of coevolving actors and forces that affect firms' abilities to sense-make the market and seize opportunities that contains five macro factors: marketplace factors, technological factors, socioeconomic factors, geopolitical factors and natural environmental factors. Jiménez and Aguiar-Díaz (2019) argue that these different entities in the ecosystem have different banking needs but as banks take a holistic approach to providing liquidity, managing risk, and facilitating transactions, the ecosystem becomes more resilient and financially efficient and is positioned for growth.

In the banking industry, ecosystems can deliver customer-acquisition costs savings of as much as 10 to 20 percent (Golovkova, Eklöf, Malova & Podkorytova, 2019). Lütjen, Schultz, Tietze and Urmetzer (2019) advance that ecosystem enable companies to obtain massive amounts of highly accurate information ranging from logistics data to behavioral data that can be used to assess customer preferences and financial strength, significant in cross selling products and services to unserved customers. Additionally, Wedel and Kannan (2016) opine that ecosystem enhance customer relationships and retention as they transform how companies engage with customers. Consumers change with the changing environment as such ecosystem banking enables banks to create diverse product offerings that meet specific customer needs and offer frictionless experiences that reduce customer loss and churn. Market segmentation is also

central in market innovation as different customer groups imply the need for different marketing mixes (Na, Kang & Jeong,2019).

The concept of segmentation recognizes that consumers differ not only in the price they will pay, but also in a wide range of benefits they expect from the product (or service), and its method of delivery (Na, Kang & Jeong,2019). Cheptiram, Nzioki and Njeje (2016) suggest that market segmentation influences a company's performance as it is important in shaping, and perhaps changing, a company's product portfolio. Asiedu (2016) argued that overly, segmentation provides great customer experience by satisfying the specific customer needs yielding competitive benefits like loyalty. In the Kenyan banking sector, segmentation is mostly limited to categories of corporate or retail consumers where corporate customers are distinguished by their high account turnovers. Asiedu, (2016) further advances that demographic segmentation such as income, age, profession, or wealth are very important for personal retail banking and credit card segments.

2.3.3 Service Innovation

Cheng, Cham and Lee (2019) define service innovation as the creation of brand-new services and pragmatic plans to better both efficiency and effectiveness in the process of delivering service. According to Singh, Akbani, Dhir (2020), service innovation is the creation of worth for consumers, human resources, owners, allies, and society through novel and improved service products, service processes, and service business model. Service innovation can also be explained as variations in the conditions of services and as a revamping of the players and

resources involved, building gains using latest structures among players and resources (Witell, Snyder, Gustafsson, Fombelle & Kristensson,2015).

Myhren, Witell, Gustafsson and Gebauer (2018) suggest that service innovation can be distinguished on the basis of variations in what is presented or in the matter of creation and conveyance of the offerings. Service innovation yields superior quality which gratifies clients needs (Cabral and Marques, 2020). Mutuku and Wambua (2019) reveal the significance of service innovation in boosting customer fulfilment in the hospitality field. According to Yeh *et al.* (2019) service innovation builds long-term relationships by offering superior products and service hence competitive advantage. Rajapathirana and Hui (2018) propose a correlation between service innovation and economic growth.

Banks operate in a dynamic space as such are required to respond appropriately to clients need by embracing innovative approaches in order to survive competition (Du., Huang, Yeung & Jian, 2016). Exploring service innovation in banking means superior institutional image, better customer fulfilment and customer loyalty hence retention due to the attachment customers have with the bank (Tang,2016). Kong and Masud (2019) suggest that because products and service offerings in banks almost look the same, it is so hard to contend on core products/service offerings. The superior course of action thus is to consider methods of developing distinctive quick fixes that are non-identical with what the rivals offer. Service innovation is intrinsically different from a product, as it usually lacks the tangible nature of product innovations (Edvardsson, Frow, Jaakkola, Keiningham, Koskela-Huotari, Mele & Tombs, 2018).

Kusumadewi and Karyono (2019) argue that service innovation is a key competitive strategy because even if a company offers a good product but lacks in good service delivery, customers can quickly shift to the competitors who render superior services. Services may be highly tailored according to the client/customer needs and include many different stakeholders (Feng & Sivakumar,2016). Den Hertog (2000) as cited in Durst, Mention and Poutanen (2015) has presented the four-dimensional model of service innovation, which captures the idea of service innovation in a knowledge-based economy. The model consists of; Service concept, which is a new service in the market, Client interface, which touches on latest procedures which connect consumers to service production, Service delivery system, which entails current schemes by which real services are conveyed to the users and technology, which has to ensure that the services can be offered systematically. This study highlights the client interface dimension of the Den Hertog model by focusing on automation and the use of virtual personal assistant technology which is fundamental for service innovation.

Lizovskaya et al (2019) suggest that the development of novel and innovative idea such as service automation is vital in preserving a firm's continuity. For SI some of the services that have been automated by banks include cash deposits and withdrawals using ATMs, loan applications among others. Additionally, an effective and efficient service procedure could lower the fees experienced in after-sales service, thus result in increased customer satisfaction (Ahmad, 2015). Banking institutions have started to resort to transform the customer experience by enabling frictionless, 24/7 customer interactions while saving on costs. Some of

the latest strategic innovations used by banks that offer proficiency in the service delivery include the use of Virtual Personal Assistants (VPA).

These strategic innovations target to decrease unit costs of production while giving customers improved experiences (Cheng & Chen, 2017; Benaim,2018; Binz & Truffer, 2017). A case in point is the use of chatbots or virtual personal assistants that allow conducting an online chat conversation via text or text-to-speech, as a cost-effective alternative to direct contact with a live human agent. This user interface can be accessed from the user device (smartphone or specific device) to perform actions, control objects, answer question and even make recommendations on its own (Ardolino et al., 2018). They further suggest that VPAs are meant to interact with an end user in a natural way, to answer questions, follow a conversation and accomplish different tasks.

2.3.4 Managerial Innovation

Managerial Innovation (MI) also called organizational innovation or administrative innovation refers to the way a firm puts up its structure and processes that are significantly different from the current practices within the firm to derive economic and financial gains (Roy,2016).MI is the introduction of up-to-date organizational techniques, in the place of work or in the extrinsic associations for the organization (OECD, 2015). Su, Cheng and Wang (2018) describe MI as an intelligent method to facilitate a corporation's development and increase its managerial strength by utilising new approaches to exploit important resources. According to Roy et al. (2017), MI is an evolution of traditional management; an organizational model that facilitates

and encourages self-reliance, at the core of which are trust, responsibility, pleasure, collaboration, agility and creativity.

MI propagates changes in management techniques, use of new ideas for the recruitment of people, the allocation of resources and the structuring of tasks, authority and rewards, creation of a unique skill set (Anning-Dorson,2018; Syafarudin,2016). MI is a source of improved efficiency and productivity, both in improving management understanding of employee needs, in optimizing management decision-making, in measuring and improving financial analysis and performance (Hasanudin, Yuliansyah, Said, Susilowati & Christin,2019; Ikon, Onwuchekwa & Nwoye,2018). Tabe-Khoshnood and Nematizadeh (2017) propose that MI involves rules, strategies, procedures, policies, norms, and organizational processes. The subjects of MI could be any driving factor that affects the MI pathway across the entire organisation.

These subjects need to be clearly understood in order to follow and apply them and must be adaptable and compatible with the organisational routines and the institutional context. Arundel, Bloch and Ferguson (2019) categorise all subjects under the term transformative policies that lead to substantial results or innovation. Nzewi, Osisioma, Mgbemena and Onwuzuligbo (2016) opine that traditional policy boundaries of a firm need to be refined through creative engagement to generate modified or new policies that add value and match the required innovative vision of management. However, these policies and practices are subjects embedded within organisational norms and strategies that shape the overall

organisational system; for example, operational tactics and procedures are considered as subsystems of a firm that the management interacts with in the overall strategy (Presley,2016). Since any conflict could affect the organisation, intervention practices in policies and management procedures could reflect vital complexity (Lin, Su & Higgins, 2016).

Ziraba and Okolo (2019) advance that a firm can attain superior business production when it has a well-defined, disciplined process that has common written policies and procedures. Policies forge compliance with regulations, give guidance for decision-making, and streamline internal processes. According to Russell and Millar (2014), policy is a broad guideline for decision making that links strategy formulation with implementation. Osborne and Hammoud (2017) propose that consistency in practices helps employees know what they're responsible for, what's expected of them, and what they can expect from their supervisors and co-workers freeing them up to do their jobs with confidence and excellence.

Matthysen and Harris (2018) advance the need for banks to review organizational policies and procedures regularly considering new regulations, standards, technology, and structural changes, significant in resource allocation in an organization. Chen et al. (2015) reveal the need of recognizing the client-firm associations and mention that consumer conduct was shaped by the conducive atmosphere instituted by the firm. On the other hand, developing managerial practices ensures improved organizational management that create a competitive advantage; for example, networking/collaborations with external stakeholders (Das and

Joshi,2015; Rodríguez, Nieto & Santamaría,2018). Duhamel, Carbone and Moatti (2016), argue that relational capability expands firm's performance.

Through relational capability organizations can effectively develop collaboration, networking, and relationship with strategic partners to access and source resources and information the business cannot afford to provide independently thus enhanced competitive advantage locally and globally (Divisekera & Nguyen, 2018; Chester Goduscheit & Faullant, 2018; Nieves & Diaz-Meneses, 2018; Diffley, McCole & Carvajal-Trujillo, 2018). Networking relationships like linking client's accounts with telecommunication operators like Safaricom and Airtel and the use of services developed through partnership with telecommunication operators like M-pesa and pesa link could be employed to achieve competitiveness (Mugo & Macharia, 2020). This study highlighted the significance of companies' business policies and networking relationships in enhancing banks' competitiveness.

2.4 Environmental Factors

Even though business researchers are interested in building models to understand and decode the relationships among various variables related to organizational competitiveness, it's worth noting that these relationships are not straightforward (Jaakkola,2015). Kim (2018) points out that an enterprise' surroundings shape its performance. The empirical results of World Bank (2017) support the relationship between business environments and various aspects of firm performance. In business research, the variables that have been found to influence organizational performance include; market turbulence, technological turbulence, competitive

intensity, strategy type, strategic orientation, firm age, firm size, industry type, entrepreneurial mindset, organizational culture, organizational structure and environmental dynamism (Mirzam,2017;Mulaudzi,2021).This study investigated the moderating influence of environmental factors on the relationship between strategic innovation and competitiveness of commercial banks in Kenya.

An organization's business environment are surroundings which have a head on or second-hand effect on its business functioning (Kim,2018). This environment is distinguished by aggressive volatility, leading to uncertainty thus making decisions for the entity complex (Musyoka,2016). Conventionally, the environment could be broadly categorized into two (internal and external environment). The internal environment refers to all the factors which are specific to a particular organization and influence the operations and performance of the organization (McKinsey,2021). Ngibe (2020) suggests that the internal business environment consists of factors within the company which impact the success and approach of operations of the business. Rowley and Oh (2020) similarly advance that a firm's internal environment is composed of the elements within the organization such as the employees, management and corporate culture.

On the contrary, the external environment is concerned with all the factors outside the company which have the potential to impact on the company's performance (Kowo, Olalekan & Alhaji,2018). Even though both internal and external factors affect firm competitiveness, the internal environment determines the extent to which a bank exploits the opportunities and threats presented by the external environment (Siddiqua et al., 2017). Research on single

environmental factors like competition, the regulatory environment or customer demand does not provide enough strategic knowledge for the formulation and execution of strategies (Jaakkola, 2015). The knowledge given by this solo results damper our appreciation of the interconnection effect that several environmental situations may possess on a specific strategic choice (Arokodare,2021; Chong, Bian & Zhang,2016). Rastogi and Trivedi (2016) therefore suggest that the complicated business environment would require managers to handle multiple environmental unpredictability simultaneously.

This study thus recognises the moderating effect of unrelated environmental factors on strategic innovation activities meant to enhance competitive advantage. The environmental factors that the study explored are organizational structure, organizational culture which represent the internal environment and competition intensity which is an element of external environment (Rayees & Sandeep,2018; Doh & Kim, 2014). Therefore, to thrive, banks must adapt, exploit and fit with the forces in their environment by consciously incorporating these interdependent factors into decision-making (Kowo, Olalekan & Popoola,2018). Bank executives need to identify elements in their surrounding that may interest stakeholders and develop strategies that will help their companies navigate ways to cope with or try to dominate or appeal to those elements (Kim,2018).

2.4.1 Organizational structure

Vi and Bedi (2016) argue that a firm's structure shapes its level of functionality and formality. Organizational structure measures organicity, that is the degree to which organization is

structured in organic versus mechanistic manner (Rayees & Sandeep, 2018). Organizational structure refers to the framework of internal interconnectedness of organization, power and reporting, formal communication lines, responsibility and decision-making. Mintzberg's (1979) as cited by Mathur and Nair (2015) propose that organization structure comprises of formalization, centralization, specialization and integration. Formalization is the degree to which rules and procedures are standardized and applied in decision-making. These developed rules and processes may boost efficiency and lower administrative costs. Organizations with highly formalized processes are considered mechanistic while those whose processes are less formal are organic (Maingi, Awino, K'Obonyo & Pokhariyal,2019).

Mintzberg's (1979) as cited by Neubert, Hunter and Tolentino (2016), suggests that centralization happens when power over decision making is strictly done by the top managers and while lower and middle level managers lack in the same. Nafei (2016) argue that centralizing functions may block avenues for institutional learning. Additionally, Neubert et al., (2016) suggest that specialization occurs when tasks are divided in a company. Specialization broadens knowledge base and triggers intellectual scope in the decision-making process. Organizations with more specialists could adopt more innovations (Maingi et al.,2019). This is because experts have the knowledge and skills necessary to identify, initiate, and successfully implement novel approaches. Integrating a company's processes across departments and departments' specialized groups is what is referred to as integration. To achieve this, we employ bridges, committees across departments and cross-purpose groups.

Through integration, organizations become more open minded and versatile as they adopt superior means of communication vital to build organizational capabilities within complex firms (Eze et al., 2017). Manar (2014) suggests that firm structures can hinder or accelerate performance based on how effective supervisory relations and workflow affect productivity. The several aspects of organizational structure can promote or inhibit productive organizational performance yielding accuracy in performance predictions or digression between predictions and real end results (Su, Chen & Wang,2018). An innovative organisational structure refers to those elements of the organisation that influence the innovativeness of an organisation, hence goes above the elementary configurations of the organization (Mathur & Nair,2015).

Some banks possess a rigid structure while others have a versatile organization structure. (CBK,2022). Banks with versatile organizational structures share cross-functional knowledge and resources, have better disagreements resolution and are more likely to be competitive due to effective supervisory relations and workflow that enhance productivity (Kamasak,2017). Some studies which have used organizational structure as moderator include Vij and Bedi (2016), while investigating the relationship between innovativeness and business performance and Neubert et al., (2016) which explored the influence of servant leadership on creativity. Given the significant differences in the parameter of the organizational structure from firm to firm, the decision to adopt or not to adopt innovative strategies is a conscious choice that results from organizational structure. This study suggests that under different structural conditions, organizational structure plays a significant role in regulating the competitiveness of banks.

2.4.2 Organizational culture

Organizational culture is generally seen as a set of key values, assumptions, understandings and norms shared by members of an organization and taught to new members (Rayees & Sandeep,2018). Shilpi and Saraf (2018) consider organizational culture as the key concepts associated with creativeness, openness, accepting new ideas insightfully new ideas, taking risks and entrepreneurial mentality. Ali, Omar, and Bakar (2016) define organizational culture as the values, beliefs, and norms reflected in the actual practices and conduct of the organization's members. It is common to define an organization's culture in terms of its practices (Anning-Dorson, 2016). The unique social and psychological environment of any given organization is the result of its members' shared, tacit, or overtly stated values, beliefs and actions (Gorze-Mitka, 2015). Kontoghiorghes (2016) asserts that employees and work groups with a strong commitment to their organization have high morale and are extremely contented with their jobs.

One of the factors that can influence organizational commitment-job satisfaction relationship is organizational culture (Baradarani & Kilic,2018). For better productivity, goals and objectives must be clear to every employee of the company (Hartnell, Kinicki, Lambert, Fugate & Doyle,2016). According to Riyanto (2019), the practices of management is to identify knowledge distribution, creativity, innovation and talent development in which organizational culture plays a very vital role in achieving this. Additionally, organizational culture can play a role in simplifying the information processing and reducing the transaction cost, which directly lead to better performance. A culture that is friendly to information sharing and transferring,

reduces the cost of processing information (Kontoghiorghes,2016). Besides, with the increase in available information, the uncertainty or asymmetry can be decreased, which also helps to improve performance (Shilpi & Saraf, 2018).

Bersin et al. (2017) suggest that with the shared norms and trust, the behaviors in the organization will be easily predicted and monitored, which reduces the supervision cost. Organizational culture can also maintain the stability and solidarity of the organization, which can reduce the cost for recruitment and coordination (Baradarani & Kilic,2018). Organizational culture is the most general obstacle in terms of innovation and firm success (Anning-Dorson, 2016). Furthermore, organizational culture can also give indirect impacts on organizational performance by directly influencing other business activities or organizational factors. For banks, organizational culture can boost competitiveness if banks environment promotes learning, has open teams for discussion that encourage high performance and team spirit. This builds confidence and empowers employees which is key for a committed workforce thus boosting competitiveness. Shilpi and Saraf (2018) confirmed the moderating influence of organizational culture on the relation between affective commitment and job satisfaction in Indian public sector enterprises.

2.4.3 Competitive Intensity

Competitive intensity is the degree to which the environment is seen as hostile because of competition or actions taken by a company that affect the survival of other firms (Zhang, Wang, & Song, 2019). The features of competitive environments are price wars and low-profit

margins because consumers make purchase decisions using price (Nwachukwu, Vu & Moses, 2019). As a result, businesses operating in highly competitive settings place a greater premium on resource optimization. The level of competition between commercial banks is the focus of this analysis. Zhang et al. (2019) found empirical evidence that competitive intensity impacted the links between sustainable capabilities and long-term organizational success.

Anning-Dorson and Nyamekye (2020) suggest that in cut-throat competition, only maximum fulfillment can result to consumer loyalty and discourage customer attrition. Anning-Dorson and Nyamekye (2020) examined the interacting mechanisms of competitive intensity in dissimilar environments. Even though not much is known about the moderating effect of competitive intensity on the correlation between strategic innovation and competitiveness (Zhang et al.,2019), there is evidence that competitive intensity boosts innovation performance (Nwachukwu et al.,2019). Perhaps, intense competition will thrust banks to participate in strategic innovation activities to stand the fierce rivalry. Studies which suggest the use of competitive intensity as a moderator include; Nwachukwu et al., (2019) and Zhang et al., (2019).

2.5 Concept of Competitiveness

Competitiveness is a complex concept that expresses a firm's ability to survive in the conditions of competition, by proving products and services that meet high quality standards at competitive prices, both nationally and internationally, in relation to the possibilities and performance of other companies within their sector (Murphy,2016). It specifically addresses

what the organization has in stock that will achieve advantage in the competitive market (Emad et al., 2017). The role of factors internal to the firms such as firm' strategy, structures, competencies, capabilities to innovate and other tangible and intangible resources for their competitive success are emphasized (Kamasak,2017).

Competitiveness can only be maintained through continuous innovation when a firm utilizes its internal resources and takes advantage of external opportunities to generate superior value for clients and unrivalled revenues for itself (Anning-Dorson,2018). On another hand, competitiveness is seen as a performance construct which shows a phenomenon of organizational progress. In such cases, constructs like organizational performance, operational efficiency, financial performance, financial sustainability, organization creativity and innovation, have also been used in describing competitiveness.

Based on the theory of competitive advantage, competitiveness comprises of two key aspects, particularly low-cost advantage and differentiation advantage as the primary elements in attaining high ranking performance (Porter, 1985). Organizations gain competitiveness by creating latest/improved methods to engage in an industry and to preserve their place in the market, this is viewed as a move towards innovation (Pedraza,2014). Teece (2020) points out that innovations are necessitated by current and progressed technologies, changes in buyer preferences, evolution in industry segments and variations in government regulations. Innovation capabilities enable a firm to deal with the bargaining power of consumers and suppliers, mitigate risks associated with substitute products and services, and position itself in the industry (Laiyan, 2019).

According to Secluk (2016) financial performance with indicators such as return on sales, return on assets, profitability and turnover can be used to measure firm competitiveness. A competitive firm therefore has a higher profit rate than the average rate of the related industry. Some organizations, regardless of profit, possess upper performance as a result of possessing unequivocable characteristics such as skill and capital, that induce organizational competitiveness over contending firms. Non-financial performance indicators like market share, productivity and Efficiency, customer satisfaction, customer retention, customer responsiveness have also been used to indicate competitiveness (Ahmad & Zabri,2016). This study presented competitiveness as a performance construct in the banking sector by way of strategic innovation, measured using non-financial measures i.e efficiency, market share and customer responsiveness.

2.5.1 Efficiency

Efficiency is a concept used as a high-level planning in an organisation to ensure a proper balance between cost and output (Nazari-Shirkouhi & Keramati, 2017). Aggelopoulos and Georgopoulos (2017) opine that efficiency is concerned with identification of process waste that drains resources and impacts negatively on the bottom-line of the organisation. Azad, Munisamy, Masum, Saona and Wanke (2017) suggest that cost reduction happens for organisations that have reduced wastages. This can be achieved either by ensuring the same production level with smaller resources or increasing production level with less proportionate increase in cost, thus reducing average production cost. Production in this sense can be service

or tangible goods. Efficiency also focuses on efficient utilisation of all resources including man, materials, machines and finances.

Appropriate use and mix of these resources in production of goods and services can result in high productivity and cost reduction (Aggelopoulos and Georgopoulos,2017). Previous research has shown that innovation strategy by a firm has the capability of creating competitive advantages to a business as investments in innovations help businesses achieve competencies that play an important in value addition, customer service, agility and speed (The Lab,2017). Furthermore, both technological and non-technological innovation are fundamental performance as they positively influence the ability of managers to plan and make decisions (Abdallah, Phan & Matsui, 2016). Through process innovation, incremental improvements that are essential for enhancing efficiency in organization operations are developed (Aaker, 2016). Through innovation, firms produce qualified and standardized products or services with economies of scale that achieving efficiency. Inefficient processes need to be reengineered so as to make them more efficient from the business point of view, even if it means to use new technology (Copley, 2018).

2.5.2 Market Share

Adefulu, Ashikia, Makinde and Alao (2020) found that strategic innovation will improve and increase the features and characteristic of the product offered. The marketability of the product will deliberately be high when there is a new look and design. Investments in technological innovation like ICT can assist in the creation of cost advantages by minimizing the costs of

internal business processes, customers and that of suppliers thereby growing a firm's market share (Byukusenge, Shukla & Irechukwu,2018). They further suggest that by innovating best-practice organizational processes, with careful monitoring on purchasing expenditures, application of computer and communications technology in a cost-effective way, trimming of overhead cost, and efficient operations, a firm can achieve larger market share.

2.5.3 Customer responsiveness

Any company that aims at being competitive must be responsive to customer needs and create value for the customer (Recker, Holten, Hummel & Rosenkranz,2017). Ahmad (2015) describe customer responsiveness as where market intelligence is gathered and utilized to add value to the service or meet customer needs. According to Recker et al., (2017), customer responsiveness refers to capability and flexibility of a company to quickly respond to customer demands within an appropriate time, as well as maintain competitive advantage. Also, customer responsiveness is defined as an organization's ability to respond in a timely manner to customers' needs and wants as well as responsiveness to changing market requirements (Kumar & Singh, 2017). Changes in customers' operating systems due to forces shaping competition including information are among the reasons why there is a need to work more closely with them (Harraf, Wanasika, Tate, Talbott,2015).

The present-day customer expects greater responsiveness due to the ever-changing competitive environment (Harraf et al., 2015). Through customer responsiveness, organizations create, improve and introduce new products whose competency includes high quality, delivery speed

and effective production (Recker, Holten, Hummel & Rosenkranz, 2017). Kumar and Singh (2017) suggest that information availability and customer responsiveness are positively related leading to improved firm performance. Customer responsiveness should include value added activities such as customized services (Cheng & Chen, 2017). Value added activities (both tangible and intangible) are those that consumers are ready to pay money for (Chester Goduscheit, & Faullant, 2018).

2.6 Empirical Literature Review

This section has reviewed empirical literature on the correlation between product innovation and competitiveness of firms, marketing innovation and competitiveness of firms, service innovation and competitiveness of firms and managerial innovation and the competitiveness of firms globally, regionally and locally.

2.6.1 Product Innovations and Competitiveness of Firms

Tajeddini (2016) undertook a study on financial orientation, product innovation and firm performance in the Japanese SMEs. The findings revealed that product innovation was significantly related to performance of SMEs. The study also found out that the impact of financial orientation and product innovation on performance of the SMEs was contingent upon the level of environmental dynamism with the relationship stronger in highly dynamic than in more stable environments. The present study differs from the previous one as it was undertaken in a developing economy. In Indonesia, Nuryakin (2018) explored the role of product

innovation on competitive advantage of Batik SMEs. The results indicated that product innovation significantly affected competitive advantage of Batik SMEs.

The study utilized purposive sampling for data collection even though it does not permit random selection of respondents. The current study is different from the previous as it used probability sampling techniques which involve random selection. Random sampling techniques reduce the chances of sampling bias which may affect a research population thus improves objectivity (Saunders et al.2016). Additionally, unlike the earlier study which was conducted on SMEs, the current study was undertaken on commercial banks in tier 1 category. Tier 1 commercial banks are considered large because of their large capital base as such have access to more resources that can be invested in strategic innovation (Lambert &Velardo,2020).

Onafadeji and Adeniran (2021) investigated the Link between Product Innovation and Sales of Shoes and Garment Enterprises in Nigeria using some selected shoes and garment enterprises. The findings revealed a strong positive relationship between product innovation and sales growth. The former study differs from the current as it was a case design. Case designs are hard to generalise. The present study however involved all commercial banks in tier 1 in Kenya, as such the findings can be generalized on a wider population. In an different study in Uganda, Moses and Osunsan (2018) examined the effect of product innovation and prices on competitive advantage of beer products in Kabale. Findings revealed that product innovation had strong positive significant influence on competitive advantage among beer products and producers in Kabale. The indicators of product

innovation for the earlier study was pricing which is overly researched. The current study is dissimilar from the previous one as it explored the use of mobile and internet banking as predictors of competitiveness.

Besides, Owiti (2019) examined the correlation between product innovation and competitive advantage of Safaricom PLC and found a strong positive significant correlation between product innovation and competitive advantage. The immediate study is different as it targeted employees while the former targeted customers. Management employees by virtue of the offices they hold understand the nature and statuses of strategic innovation activities in their various organisations, as such provide better respondents. Additionally, unlike Owiti (2019) who focused on telecommunication sector, the present moment study majored on tier 1 commercial banks.

Contrary to the above reviewed literature indicating a significant and positive relation between product innovation and competitiveness, other studies found contradicting results. For instance, Issau, Acquah, Gnankob, and Hamidu (2021) revealed a non-significant positive correlation between product innovation and the success of SMEs in Ghana. While Issau et..al., (2020) focused on SMEs, the immediate study involved banks in tier 1 which are considered as large banks. Major strategic innovations occur in the large banks due to their large capital base which is considered adequate to support strategic innovation activities as compared to SMEs.

2.6.2 Market Innovation and Competitiveness of Firms

Lizovskaya, Salikhova and Khalina (2020) examined the influence of marketing innovations on competitiveness of Russian banks. The results showed that market innovations positively and significantly influenced competitiveness of Russian banks. Apart from ecosystem banking which was the focus of the earlier study, the current study explored segmentation banking as an additional form of marketing innovation. Segmentation banking involves the use of demographic data in providing specifically tailored services for different clients (Na, Kang & Jeong,2019). In addition, Sharon and Thierry (2020) explored the relation between market innovation and competitive advantage in Australian firms and found a positive significant association between the two variables under investigation. The former study was biased on digitization as a measure of market innovation while the current had a bias on segmentation. Asiedu (2016) confirmed that segmentation empowers firms to meet client specific needs hence builds customer loyalty.

Another study that indicated a strong positive significant influence of market innovation on performance was one undertaken by Kassimu et al., (2020). They investigated the link between market innovation and performance of SMEs in Ghana. Unlike the previous study, the immediate utilizes descriptive and correlational designs which analyse behaviour and relationships among variables better than cross-sectional design used in the earlier study. Besides, Byukusenge et al. (2018) investigated the Influence of market innovation on performance and established that market innovation had a strong positive significant influence on competitiveness of Brewing Companies in Rwanda. The indicators for the former inquiry

were product quality, product specification and product packaging while the indicators for market innovation in the current study were ecosystem and segmentation banking.

Further, Kiveu, Namusonge and Muathe (2019) examined the link between market innovation and competitiveness of manufacturing SMEs in Nairobi. The findings revealed that market innovations positively predicted competitiveness of manufacturing SMEs. The present study differs from the former as it utilized non-financial indicators to evaluate competitiveness. Non-financial performance measurements are better indicators of performance in the long term ((Mashovic,2018; Ahmad & Zabri, 2016). Whereas the above studies indicated a positive and significant relationship between market innovation and competitiveness, some studies revealed a negative significant relationship between the two variables. For instance, Medrano, Cornejo-Canamares and Olarte-Pascual (2020) found a statistically significant negative relationship between marketing innovation and performance of manufacturing and service companies in Spanish firms.

2.6.3 Service Innovation and Competitiveness of Firms

Cheng *et al.,* (2019) examined how service innovation might help Malaysian universities maintain their competitive edge over time. The research aimed to survey 400 undergraduates from both public and private institutions in the Greater Kuala Lumpur region. Students' perceptions of the institution's credibility and loyalty were found to improve when SI was implemented. Unlike the field of education where technological disruptions are few, banking is a hotbed of innovation, which is what this study focuses on. Also, Kong and Masud (2019) investigated the link between service innovation (SI) service delivery (SERVD), customer

satisfaction (CSAT) and loyalty in the banking sector. The findings revealed a positive relationship between SERVD, CSAT and bank customer loyalty. The present study differs as it explored automation and the use of virtual personal assistant technology as forms of service innovation while the earlier one used indicators of service delivery and customer satisfaction.

In another study, Kyei and Bayoh (2017) confirmed that service innovation influenced customer retention in the Ghanaian telecommunication industry as it improved service delivery. The present study utilized probability sampling techniques as opposed to convenience sampling that was utilized by the former study. Probability sampling involves random selection of respondents as such reduces the chances of sampling bias which can affect a research population. Additionally, the current study was undertaken on tier 1commercial banks and it would interest to compare findings between the two sectors on the influence of strategic innovation on competitiveness of firms. Further, Sedeyoka (2015) examined how service innovation affected the profitability of a rapidly expanding internet business in Dar es Salaam, Tanzania. The results showed that the business profits were affected by the introduction of new services. The study had limitations in that phone interviews could have created biased/subjective results. The current study however used questionnaires (a more objective instrument) to circumvent the problems associated with the subjective nature of information gleaned through phone interviews.

Lastly, Kairanya and Bett (2018) sought to establish the determinants of competitive advantage of postal corporation of Kenya. Quality service, a precursor of service innovation was found to significantly influence the performance of Postal Corporation Kenya. As opposed to the

earlier study which was a case study on postal corporation of Kenya, the present study focused on commercial banks in tier one category in Kenya. The results of the current study can therefore be generalized with ease when compared to the results of the earlier study. Despite the above studies indicating significant positive influence of service innovation on firm competitiveness, Aysel and Fatma (2017) found that internet banking and ATM usage as measures of service innovation did not have a significant impact on performance. The current study differs from the former as it utilized primary data for analysis as opposed to Aysel and Fatma (2017) who used secondary data analysis. Primary data is more accurate and reliable because it comes from a direct source (Saunders, Lewis & Thornhill, 2016).

2.6.4 Managerial Innovation and Competitiveness of Firms

Simao, Carvalho and Madeira (2023) undertook a study on the influence of managerial innovation on performance of knowledge intensive firms in Portugal with a mediating role of technology and service innovation. The study found a positive significant relationship between the two variables. The current study differs from the earlier study as it focused on a service sector. In other writings, Mohd and Radwan (2015) explored the influence of managerial innovation on performance of Commercial Banks in Jordan. The study conceptualized managerial innovation as consisting of management practices, management processes and organizational structures. The study found that managerial innovation had a positive significant influence on firm performance in Jordanian Commercial Banks. Unlike the former study, the current study examines business policies and collaborations as elements of managerial innovation. Additionally, the present study utilizes purely non-financial measurements to

evaluate performance as opposed to financial metrics which assess performance of firms in the short term.

In Nigeria, Salisu and Bakar (2019) examined the determinants of Sustainable Competitive Advantage in Small and Medium Enterprises and the results indicate that management innovation improved sustainable competitive advantage of the SMEs. The immediate research was undertaken on the banking sector to find out if similar results would be obtained considering tier 1 commercial banks have large capital and resources to support strategic innovation. In a similar study, Mindra, Nsereko and Sejjaaka (2015), investigated the impact of managerial innovation on business performance in SMEs in Uganda and found that the owners of the successful businesses exhibited powerful characteristics of social capital, personal values, resourcefulness, resilience, and strategic flexibility which are vital factors of managerial ability. The immediate study utilized questionnaires which are better tools for data collection when compared to interviews. Interview schedules are associated with interview bias likely to weaken validity of data (Creswell & Clark, 2017).

Moreover, Arasa and Dzinekou (2018) explored the correlation between management ability and performance of private universities in Kenya and found a positive significant relation between the variables. The current study differs with the earlier as descriptive and correlational study designs were employed. These research designs analyse cause and effect relationship better than cross sectional design that was utilized in the former study. In other writings however, the findings of Rocha (2015) disagree with the above literature on the influence of managerial innovation on performance of firms. In a study which involved 53 projects carried

out with the Research Support Program for innovation in Companies grant from 2009 to 2013, results indicate that the development of public policies which is a subject of MI did not affect performance of Brazilian firms. Dissimilar with the earlier study undertaken on a public sector, the present-day study focused on commercial banks categorized as private sector. The outcome therefore present findings for the influence of managerial innovation in the private sector as compared to that of the public sector.

2.6.5 Moderating effect of environmental factors on the relationship between strategic innovation and competitiveness

Mirza (2017) examined the moderating impact of environmental factors on relationship between strategic innovation and performance of tourism firms in Pakistan. The moderating variables of this study were technological turbulence, market turbulence and competitive intensity which are elements of the external environment. The results showed that all the moderating effects on hypothesized relations were statistically significant. The current study however investigated the moderating influence of both internal and external environmental factors on the relationship between strategic innovation and competitiveness of commercial banks in Kenya. In Nigeria, Arokodare (2021) investigated the moderating impact of environmental volatility on the strategic agility and performance of oil and gas marketing firms in Lagos State.

Findings revealed that environmental turbulence positively and significantly moderated the relationship between strategic agility and performance. Unlike the previous research that

utilized cross-sectional design, the current one used descriptive and correlational designs which analyse behaviour and relationships among variables better than cross-sectional design. In addition, the present study was undertaken on a service sector. In another study, Struweg, Krüger and Nawagab (2019) determined the moderating influence of business environment on the relationship between strategic innovation and growth of informal businesses in Uganda. The results showed that there was a significant positive directional relationship between the internal environment and the growth of informal businesses. Contrary to the positive findings on relationship between internal environment and performance the study also found a negative significant relationship between the external environment and the growth of informal businesses. Differing with the earlier study whose target population comprised of sole proprietors/SMEs, the current one targeted employees.

In another study, Thumbi and Ragui (2019) investigated how external factors moderated the relation between performance and competitive edge of Kenyan banks. Environmental influences were discovered to significantly affect banks' competitive advantage in a positive way. The immediate study is dissimilar to the previous one as it was undertaken on purely tier 1 commercial banks in Kenya and not on all commercial banks in Kenya. The current study also drew respondents from various departments of the bank and not only from the marketing department as the former one. Contradicting the results that found a moderating influence of environmental factors on strategic innovation and firm competitiveness, Jestita (2018) revealed no moderating influence of environmental factors on the relationship between market orientation and school performance in the Philippines. In addition, a different study by Purity,

James and Stephen (2019) which examined the moderating role of external environment on the relationship between resource isolating mechanism and sustainable competitive advantage of Kenyan banks revealed that external environment had no moderating effect on the relationship between the variables.

From the literature reviewed, past studies on the moderating influence of environmental factors examined solo environmental elements. Research on solo environmental aspects do not provide enough strategic insight for the creation and implementation of strategies (Kwon, Ryu & Park,2018). The dynamic business environment requires firms to deal with multiple environmental uncertainties both in the internal and external environments concurrently (Anning-Dorson et al., 2018). Thus, a firm's choice of a strategy must be anchored on unrelated kinds of environmental uncertainties singularly and in combination to assess the viability (Kwon, Ryu & Park,2018). As such, this study explored the moderating influence of both internal and external environmental factors on the association between strategic innovation and competitiveness of commercial banks in Kenya.

2.7 Summary of Literature Review

From the literature reviewed, the focus of many writings on the role of strategic innovation in enhancing competitiveness is on manufacturing firms (Nuryakin,2018; Kassimu et al, 2020; Kiveu, Namusonge and Muathe,2019; Wanyoike,2013; Salisu and Bakar,2019); there is need to explore the same in the banking sector. Second, descriptive design as a stand-alone research design has overly been used by authors despite the pitfalls the design presents such as possible

biases that can influence the interpretation of data and inability to establish cause-and-effect relationships (Onafadeji & Adeniran ,2021; Emenike, Olutayo & Agaba,2018; Owiti,2019; Byukusenge, 2018; Kiveu etal.,2019; Cheng et al.,2019; Kong & Masud, 2019; Sedeyoka ,2015; Mohd & Radwan ;2015). This research incorporated correlational designs in addition to descriptive design, descriptive-correlational design analyses behaviour and relationships among variables better.

Third, several writings on the influence of strategic innovation on competitiveness have concentrated on SMEs/sole proprietor businesses (Nuryakin 2018; Kiveu et al., 2019; Salisu & Bakar, 2019; Mindra et al., 2015) most of which are small. Commercial banks particularly in tier 1 category are large in capital size and have access to more resources that can be invested in strategic innovation (Lambert & Velardo,2020). Fourth, a few studies that relate to strategic innovation and competitiveness of banks lacked moderating variables. Moderation analysis provides a way to test whether an intervention has similar effects across groups. Kim (2018) points out that relationships among various variables related to organizational competitiveness are not straightforward and that the surrounding of a business enterprise influences its success. The researcher thus employed a moderating variable (environmental factors). Specifically, organizational structure, organization culture and competitive intensity moderated the relation between strategic innovation and competitiveness of commercial banks in Kenya.

Maingi et al. (2019) found organizational structure to moderate Strategic Planning and Competitive Advantage. Ali et al. (2016) indicated that organizational culture moderated the association between account information system and organizational performance. Shilpi and

Saraf (2018) equally used organizational culture as moderator variable between affective commitment and job satisfaction. Lastly, Adnan, Abdullah and Ahmad (2016) found competitive intensity moderated Human Resource Management Practices and Organizational Performance. Also, minimal studies have examined the role of strategic innovation on enhancing competitiveness of tier 1 commercial banks yet major strategic innovations occur here, supported by their large capital bases (Peter et al., 2021).

Fifth, business emphasis on measuring competitiveness in general have been on financial performance indicators with little emphasis laid on the contributions of non-financial indicators that drive the financial indicators. Pure financial performance measures are limited as a single indicator as they mostly assess the firm in short term (Ahmad and Zabri,2016; Yuliansyah and Mohd,2015). To reduce the shortcomings of financial measurement, this thesis utilized non-financial indicators to evaluate competitiveness of commercial banks in Kenya. Olalekan (2019) argue that non-financial performance measures are better indicators for long-term performance measurement and business efficiency as they create internal processes that affect the long-term financial goal of the firm. This study sought to fill these gaps by empirically analyzing the multi-dimensional nature of strategic innovation and its influence on competitiveness incorporating a moderator in a developing country context by proposing the framework presented in Figure 2.1

Table 2.1: Research Gaps

Year/ Author	Title/Objective	Methodology	Findings	Gap
Tajeddini (2016)	Financial orientation, product innovation and firm performance-an empirical study in the Japanese SMEs	Descriptive design	Product innovation significantly affected performance of SMEs	The study was undertaken in Japan which is a developed country. Developed economies have access to more resource vital for strategic innovation. The present study was carried out in a developing economy.
Nuryakin (2018)	Competitive advantage & Product innovation: Key Success of Batik SMEs marketing Performance in Indonesia	Descriptive design	Product innovation significantly affected competitive advantage. Competitive advantage has significant effect on marketing performance.	The study utilized nonprobability technique (purposive) sampling for data collection. The present study used probability sampling. techniques which allow population equal chances to be selected hence better hence a better generalizability due to its objective choice of respondents.
Onafadeji & Adeniran (2021)	The Link between Product Innovation and Sales Growth: Case Study of Shoes and Garment Enterprises in Ibadan, Nigeria	Descriptive case design	Strong positive significant link between product innovation and sales growth of Shoes and Garment Enterprises	Case study. Findings from a case study are usually hard to generalise. The present study on the other hand involved all commercial banks in tier 1 in Kenya, as such findings can easily be generalized.

Emenike Olutayo & Agaba (2018)	Product Innovation, Price Level and Competitive Advantage: A Perception Assessment of Beer Products	Descriptive survey research design	Product innovation and prices have significant effect on competitive advantage among beer products and producers in Uganda	The study utilized purposive sampling which is a non-probability sampling technique to select respondents. This study used stratified sampling and simple random sampling which are probability sampling techniques. Probability sampling involves random selection as such reduces the chances of sampling bias which can affect a research population.
Owiti (2019)	The effects of technological innovation on Competitive advantage: a case of Safaricom plc customers in Nairobi County	Descriptive survey research design	Significant positive relationship between product innovation and competitive advantage	The study's target population was customers while the current study involved employees. Management employees by virtue of the offices they hold have a clearer view of the influence of innovation strategies employed by their respective organisations compared to customers.
Kassimu et al., (2020)	Innovation orientation and performance of small and medium-sized enterprises (SMES) in Ghana; evidence from manufacturing sector.	Cross-sectional design and quantitative approach	No significant influence of Product innovation on SMEs' performance.	Focus of study was on SMEs while the present study involved large commercial banks. Most SMEs are lacking in capital while most innovation types occur in the large banks as their huge capital base is able to support innovation.

Lizovskaya, Salikhova & Khalina (2020)	Marketing in Banking Sector and Digital Ecosystems	Descriptive research design	Market Innovations influenced competitiveness of the banking sector in Russia	Apart from ecosystem banking which was the focus in the previous study, the present one explored segmentation banking as an additional form of marketing innovation to ecosystem banking
Sharon & Thierry (2020)	Marketing innovation	Qualitative design	Market innovation positively influenced competitiveness	The current study utilized segmentation as an additional indicator to ecosystem banking
Kassimu et al., (2020)	Innovation orientation and performance of small and medium-sized enterprises manufacturing SMES) in Ghana	Cross-sectional design and quantitative approach	Market innovation significantly predicted SMEs' performance.	The current study utilizes a descriptive correlational design which analyses behaviour and relationships among variables better than cross-sectional design
Medrano et al (2020)	Impact of marketing innovation on environmental orientation	Cross-sectional design	Statistically Negative relationship between market innovation and SMEs' performance	Present study introduces a moderating variable as recent studies indicate the influence of environment on performance of firms
Byukusenge, Shukla and Irechukwu (2018)	Influence of Marketing Strategy Elements on Market Share Case Study: Brewing	Descriptive research	Marketing strategy such as product quality, product specification and product packaging increased market share	This study focused on quality, pricing and packaging as elements of market innovation, an area overly researched. The current study explored ecosystem and segmentation as emerging

	Companies in Rwanda			forms of market innovation.
Kiveu, Namusonge and Muathe (2019)	Effect of innovation on firm competitiveness: The case of manufacturing SMEs in Nairobi County, Kenya	Descripto-explanatory design	Market innovation had positive significant effect on competitiveness.	Financial indicators were used for evaluation of the study's dependent variable, while the present study utilized only non-financial measures in evaluation. Recent studies indicate that non-financial measurement are better indicators of performance in the long term
Medrano et al (2020)	Impact of marketing innovation on environmental orientation	Descriptive Research	Statistically Negative relationship between market innovation and SMEs' performance	Secondary data was used while the present utilized primary data. Primary data are firsthand and are more reliable and accurate than secondary data.
Cheng, Cham and Lee (2019)	Service innovation: building a sustainable competitive advantage in higher education'	Descriptive Research	SI had a significant effect on student satisfaction, which positively relates to perceived institutional image and loyalty.	Study was undertaken in Malaysia whose income is considered as upper middle better and higher, as such, able to support innovation activities than Kenya which is a third world country.
Kong and Masud (2019)	Service Innovation (SI) in the relationship between service delivery (SERVD),	Descriptive Research	SI directly influenced SERVD CSAT and customer loyalty.	The elements of service innovation that were examined were service delivery and customer satisfaction. This study explored automation and the use of virtual personal

	customer satisfaction (CSAT) and loyalty in the banking sector of Ghana.			assistant technology as forms of SI.
Sedeyoka (2015)	The effect of service quality on competitiveness of internet service cafe in Dar es Salaam – Tanzania.	Descriptive Research design	Service quality influenced competitiveness	Data collection was by use of phone interviews which is quite subjective. The present study utilized self-administered questionnaires an objective tool thus better tool for data collection.
Wanyoike (2013)	Service quality and competitiveness of manufacturing enterprises in Kenya.	Descriptive and explanatory research designs	Organizations with higher levels of service quality performed relatively better than those with low levels.	Study involved manufacturing firms while the researcher in this study investigated the banking sector
Aysel and Fatma (2017)	Analysis of the relationship between innovation and performance of Turkish banking system	Cross-sectional design	Results indicated that service innovation had no significant influence on performance	Study was undertaken in a developed economy while the current study was done in a developing economy. Developed economies have adequate resources that support innovation activities in comparison with developing economies.
Mohd and Radwan (2015)	The influence of managerial innovation on		The study found that managerial	The current study identified collaboration/networking

	firm performance in Jordanian commercial banks	Descriptive research design	innovation (management practices, management processes and organizational structures) had a positive influence on firm performance	as a new dimension of managerial innovation even as underscored by recent studies.
Simao, Carvalho & Madeira (2023)	The influence of management innovation on the organisational performance of KIBS: the mediating role of service innovation and technology	Descriptive statistics	This study found significant Influence of managerial innovation on competitiveness of knowledge intensive business firms	The present study uncovers direct influence of managerial innovation on competitiveness of banks as opposed to the previous which had technology and service innovation as mediating variables
Salisu and Bakar (2019)	Toward Enhancing Sustainable Competitive Advantage of Small and Medium Enterprises in Developing Economies of Africa: A Confirmatory Analysis	Quantitative survey design	Management innovation effectively and efficiently creates and improves sustainable competitive advantage of SMEs in Nigeria.	The present study delved on four specific innovation types capable of influencing competitiveness while the previous explored innovation in general as one of the six variables of the study able to influence competitiveness.
Mindra, Nsereko & Sejjaaka (2015)	Leadership Traits and Business Sustainability	Cross sectional design and	Leadership traits	Focus of study was on SMEs while the present study involved large commercial banks. Most

	in Ugandan SMEs: Qualitative Analysis	qualitative approach	influenced creation of sustainable businesses	SMEs are lacking in capital while most innovation types occur in the large banks as their huge capital base is able to support innovation.
Arasa & Dzinekou (2018)	Management ability and performance of private universities in Kenya.	Cross-sectional survey design	Positive influence of managerial ability on private universities' performance	Interview guides were used in gathering data while this research utilized self-administered questionnaires. Also, study was on sole proprietorships while the present is on banks
Rocha (2015)	Assessment of impact of innovation grants in Brazilian State	Cross sectional design	No Significant Influence of managerial Innovation on performance	The study was on public sector while the current was on private/commercial sector. Private sectors have been found to be more innovative to attain business competitiveness than the public sectors.
Mirza (2017)	Moderating impact of environmental factors on business innovation and performance	Descriptive and correlational	Significant Positive moderating effect of environmental factors on business innovation and performance in Pakistan	Only external factors of environment explored and their effect on performance. Current study examined the effect of both the internal and external environments.
Arokodare (2021)	Moderating effect of environmental turbulence on strategic agility	Cross-sectional	Positive and significant effect environmental turbulence on	The study investigated turbulence as the only environmental factor that moderated the relation between the variables. Also, respondents were

	and performance		relation between strategic agility and performance of oil and gas firms in Nigeria	marketing managers while the current study had respondents cutting across five functional departments
Thumbi & Ragui (2019)	Impact of environmental factors on competitiveness of banks in Kenya	Descriptive research design	Positive significant influence of environmental factors on performance of Kenyan banks	Respondents were marketing managers while the current study cut across various functional departments. This provided a broader sample which is better for generalization.
Jestita (2018)	Market Orientation and school performance	Descriptive correlation	No moderating effect of environmental factors on performance	The past study examined elements of the external environment while the present explored elements of both the internal and external environment

2.8 Conceptual Framework

A conceptual framework is systemic ideas, presumptions, forecasts, beliefs and theories that grounds and advise research (Ravitch & Riggan,2017). This study draws part of its conceptual framework on the IV & DV from Schumpeter (1942) and recently supported by Kaplan & Palmer (2017). It's based on conceptualizing the concept of business resilience through strategic innovation, postulating that strategic innovation initiatives translate to competitiveness of firms. Strategic innovation comprises of product innovation, market innovation, service innovation and managerial innovation. Strategic innovation thus has a significant, positive link with competitiveness of commercial banks in Kenya. The study further introduces environmental factors as a moderating variable between strategic innovation and competitiveness of commercial banks in Kenya. This is borrowed from Kim (2018) who points out that an enterprise' surroundings shape its performance. For the purpose of operationalizing environmental factors, the moderating influence of organizational structure, organizational culture and competitive intensity was investigated. The direction of the arrows shows the interrelationships between these variables. These interrelationships are well illustrated by Figure 2.1.

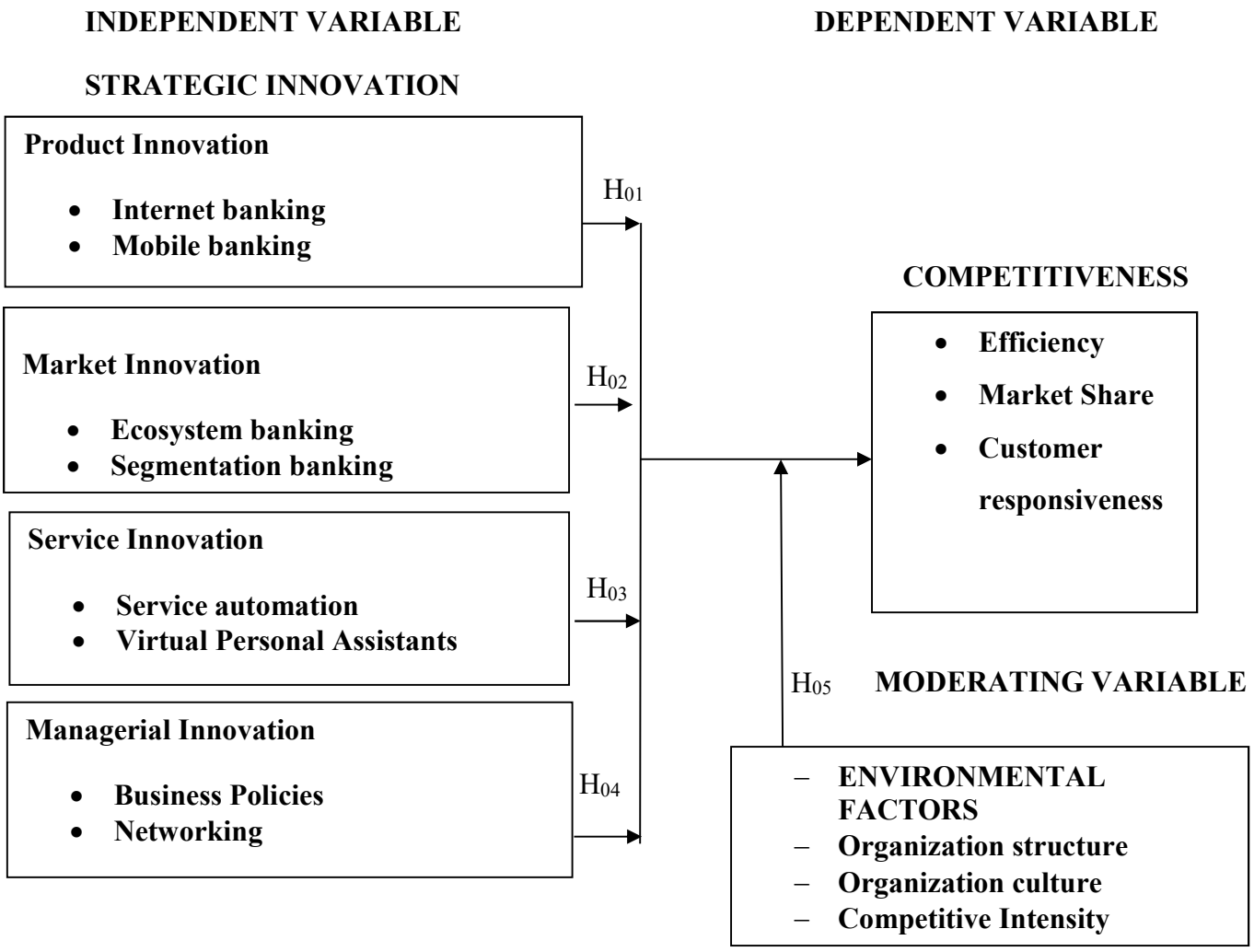


Figure 2.1: Conceptual Framework Showing Interaction of Key Variables

Source: Adapted from Schumpeter (1942) and modified by Palmer and Kaplan (2017)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section describes the design and methodology that was used in the study. It is divided into location of the study, research philosophy, research design, target population, sampling design and sampling procedure, data collection instruments, data collection procedure, reliability and validity of the instruments and data analysis procedures.

3.2 Location of the Study

Even though there are 38 commercial banks in Kenya currently (CBK,2022), the research was undertaken on tier 1 commercial banks' headquarters all of which are located in Nairobi. The nine tier one banks include Equity Bank, Kenya Commercial Bank, Cooperative Bank, NCBA, Standard Chartered Bank (K) Ltd, ABSA bank, Stanbic Bank, Diamond Trust Bank and I & M (CBK,2022). The choice of tier 1 commercial banks is because they are highly ranked by CBK based on their large capital and reserves, net assets, loans and deposits hence have adequate resources required for strategic innovation as compared to tier 2 and tier 3 which are considered small banks (CBK,2022). Lambert and Velardo (2020) note that larger banks are more likely to exercise strategic innovation, because of the economies of scale inherent in larger organizations. Tier 1 banks therefore are in possession of vital information about strategic innovation that was fundamental to the study. Peter, Munga and Nzili (2021)

investigated the correlation between process innovation strategies and performance of tier one commercial banks in Kenya. The findings revealed a positive and significant effect between the variables.

The study particularly noted that digitization of retail products, Electronic Funds Transfer, Cheque processing, Automation and distribution of ATMs reduced costs of operations leading to improved financial performance of banks. The study was limited as it focused on only process innovation, but the waves of innovation are wider and there is a widespread recognition that new ideas can turn any part of the value chain to enhanced competitiveness (Ejike,2018; Liao et al.,2019). This research however explored the influence of several other strategic innovations including product innovation, market innovation, service innovation and managerial innovation on competitiveness of commercial banks in Kenya. Peter et al (2021) continue to point out that writings with respect to strategic innovation and performance of commercial banks in Kenya particularly for tier one banks are meagre, a gap this study sought to fill.

3.3 Research Philosophy

Researchers' approaches are influenced by their worldviews which comprise their beliefs and philosophical assumptions about the nature of the world and how it can be understood. These ways of thinking about the world are known as research paradigms, and they inform the design and conduct of research projects. A research philosophy thus relates to belief on how phenomenon is gathered, analysed and used (Saunders, 2015). Research paradigms consist of three philosophical elements: ontology, epistemology and axiology (Gorman & MacIntosh,

2015). Ontology is defined as how reality is viewed. It is the study of being and describes how the researcher perceives reality and the nature of human engagement in the world. It is focused on the assumptions researchers make to accept something as true. Epistemology on the other hand deals with the study of knowledge and belief. It describes the ways knowledge about reality is acquired, understood and utilized. This paradigm highlights the relationship between the inquirer and the known –what is recognized as knowledge (Mauthner,2016).

Epistemology is divided into positivism, interpretivism, critical theory and pragmatism (Saunders, 2015). Lastly, the axiology paradigm refers to the researcher's understanding of values and their role in research. It examines values, deals with issues of right and wrong and measures the level of development and types of perceptual biases. Axiology explains the role and importance of the research process, considers the values researchers assign to their research, and guides their pursuit of knowledge. The study finds a positivist philosophy relevant as it is concerned with assumptions that are made about what constitutes acceptable, valid and legitimate knowledge, and how we can communicate knowledge to others (Donnell, Kramar & Dyball,2013). This philosophy assumes that social reality is unparalleled and unprejudiced and is not influenced by research as cited in Clavel-Arroitia and Fernández-Domínguez (2015).

The philosophy stresses the importance of empirical rigor to the pursuit of knowledge. Positivism employs a highly structured methodology to facilitate replication (Saunders, Lewis, and Thornhill, 2016). On the basis of this philosophy, variables, hypotheses, and operational

definitions were derived from established theory. They seek to find cause-and- effect linkages that can build into a better understanding of the phenomena. The positivist philosophy utilizes a deductive reasoning approach used in quantitative research which involves systematically collecting, analyzing, and interpreting data to draw inferences (Donnell, Kramar & Dyball,2013). The study hypothesised strategic innovation as having the ability to influence competitiveness of banks but the researcher dissociated from this assumption by carrying out independent investigations from the sample of the study population.

3.4 Research Design

Saunders et al., (2016) define a research design as a framework that guides how data for a study is gathered and scrutinised so as to demonstrate findings. The study adopted descriptive and correlational research designs. Descriptive research is interested in knowing about the feelings and preferences of people from a large population. Sekaran and Bougie (2011) argue that descriptive design helps one to understand the characteristics of a group in a given situation and assists in systematic thinking about aspects of a given situation. It may be qualitative or quantitative form of expression which are factual and supply practical information (John & Kahn, 2007). Descriptive research design employs applications of scientific method which critically analyse and examine the source materials, interpreting data, arrive at generalization and prediction (Neeru, 2012). Through descriptive design, the status and nature of innovation in tier one commercial banks in Kenya was ascertained. Correlational design was useful in establishing an association between the independent variables (Product innovation, market innovation, service innovation and managerial innovation) and dependent variable

(Competitiveness). Studies in strategic management have utilized these designs (Nwankwere,2017).

3.5 Target Population

According to Ledford and Gast (2018), population refers to the elements from which an investigator infers from. The study targeted all the tier 1 commercial banks with their headquarters in Nairobi. Equity bank which is among the tier one banks was excluded in the research as its population was used for pilot study. The study targeted the banking sector where majority of strategic innovation activities are taking place in a bid to explore the link between strategic innovation and competitiveness of firms. Also, the study targeted the banking sector as imitation of offerings is very high in the sector. Further, the study targeted 175 directors and general managers in the following departments: Research and Development, marketing and communication, customer service, credit and payment. The directors and general managers being in the middle level are responsible for executing organizational plans and act as intermediaries between the top-level and low-level management. The reason for concentrating on the above staff is due to the fact that by virtue of the offices they hold, they have a greater understanding of strategic innovation activities for their respective banks.

Table 3. 1: Population Distribution

Bank	Directors Level	GMs Level	Population
KCB	13	17	30
COOPERATIVE BANK	13	16	29
NCBA	8	12	20
STAN-CHART	9	11	20
ABSA	8	12	20
STANBIC	9	10	19
DTB	8	11	19
I & M	6	11	18
Total	**74**	**101**	**175**

Source: Human Resource (2022)

3.6 Sampling technique and Sample size

Conventionally, probability sampling and non-probability sampling procedures are known (Saunders et al.2016). Probability sampling involves random selection of elements of a population such that all cases have equal chances of being selected for a study while non-probability sampling is biased as the elements in a population have unequal chances of being selected. The study utilized stratified sampling which is a probability sampling technique where the population was divided into strata (Saunders, Lewis and Thornhill 2016). In this study the population was divided into two strata: directors level and general managers level.

Therefore, directors gave 74 respondents while general managers provided 101, totaling to 175 respondents.

Simple random sampling technique was further employed to ensure that each member of the sampled department had a known and equal chance of being selected (Zikmund, Babin, & Griffin,2013). Kumar (2019) defines a sample as a representative part of the target population from which an investigator vigilantly gathers data. For a large population, the portion of the population needed to get a representative sample is smaller, though for a greater accuracy and estimation a larger sample is needed (Bresler & Stake,2017). The study used Yamane (1967) formula to calculate sample size at 95% confidence level.

$$n = \frac{N}{1+N(e)^2}$$

Where n is the sample size,

N is the population size,

e is the level of precision.

When this formula was applied to the above population, 122 respondents were obtained.

$$\frac{175}{1+175(0.05)^2}$$

$$=122$$

3.7 Data Collection

3.7.1 Data Collection Instruments

Primary data was used. Primary data was gathered by use of self-administered questionnaires to find out the opinions of managers on the influence of strategic innovations on competitiveness of commercial banks in Kenya. The research instrument had closed ended and open-ended questions that sought particular answers on the variables in question. Closed-ended questions allowed precise and more extensive investigation from the respondents, while the open-ended questions helped collect supplementary statistics regarding the field in which the research was carried hence represent any further information that enhances the precision of the research (Mugenda and Mugenda,2013). Creswell & Clark (2017) describe several advantages to using self-administered questionnaires over structured interviews: They are quicker to administer, as they collect data over a wide region and from a big sample. They are time saving and upholds confidentiality, there is absence of interviewer effects and convenience for respondents since they are presented in paper form (Saunders, Lewis & Thornhill, 2016).

Besides, during face-to-face distribution of the questionnaire, researchers can guide and clarify to respondents, so that the questionnaire is not ambiguous. The distribution and collection process lasted one month. The questionnaire had a cover layout which helped the respondents to know the research title and purpose of the survey. The questionnaire consisted of a total 64 questions consisting of section 1,2,3 and section 4. Section 1 collected background information of the respondents, section 2 consisted of independent variables questions on strategic

innovation; divided into part A, B, C and D. Part A was on Product innovation, part B on Market innovation, part C on Service innovation and part D was on Managerial innovation.

Each independent variable was to derive whether those factors have significant relationship with bank competitiveness. Section 3 collected information on the moderating variable as to whether it moderates the levels of strategic innovation while section 4 had questions concerning the dependent variable. Every section had instructions to guide the respondents. Fixed-alternative question in which respondents are given specific, limited-alternative responses and asked to choose the one of the closest answers to their viewpoint was used for the closed ended questions. A Likert scale was chosen to apply in the questions. Respondents were to choose one of the range from strongly disagree, disagree, fairly agree, agree and strongly agree assigned a value ranging from 1-5. A score of 1-2 means disagreement whereas 4-5 indicates congruence or agreement. Each variable had 10 questions involved (eight closed ended and two open ended questions). Secondary data was obtained from annual reports of bank performance provided by CBK.

3.7.2 Data Collection Procedure

The researcher/research assistants administered questionnaires personally to the respondents through drop and pick later method. This aided the researcher/ research assistants to build rapport, clarify the purpose of the study and the meaning of items that may not have been clear as observed. The respondents of the selected banks were required to give feedback to the researcher/ research assistants within two weeks. The researcher obtained a research permit

from the National Council of Science and Technology (NACOSTI), a body that oversees research.

3.8 Reliability and Validity of Research Instruments

3.8.1 Reliability

According to Saunders et al. (2016), an instrument is reliable when it yields compatible outcomes after persistent tests over and above unrelated situations. There are various measures of reliability in research they include split-halves, test-retest reliability, alternative forms, and internal consistency (Bajpai & Bajpai,2014). Due the nature of the study, reliability for primary data was measured using internal consistency. Where it measured consistency within the instrument or how well a set of items measures a characteristic within the test or particular behavior (Sabana, 2014). The most popular method of testing for internal consistency in the social sciences is use of cronbach alpha (Kombo & Tromp, 2009). This method was used where a value of 0.70 or higher was considered sufficient. The formula used to determine Cronbach's coefficient alpha that was used is as below:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

Where N is the number of items, c-bar the average inter-item covariance and v-bar equals the average variance. Prior to actual data gathering, the instrument was pilot tested on twenty-nine (29) respondents from Equity bank based in the head office. The reason was to verify the

reliability of the research instrument and factor in all ideas and corrections which was used to improve the reliability of the instrument (Mugenda & Mugenda, 2013). The population of 29 respondents from Equity bank were all selected for pilot as the population was small. Equity bank was chosen for pilot as it was ranked the best bank in Tier 1 eight years running by Think Business Banking Awards 2022. Hair Jr, Sarstedt, Matthews & Ringle (2016) advance that 10% of target respondents chosen from the target population is sufficient to permit approval of a questionnaire. The respondents were given questionnaires to respond to and were retested after two weeks and the consistency between the two sets of the score was computed using Cronbach's alpha method. The respondents for the pilot were excluded from the main research. After the pilot, required amendments were done to the instrument and validity plus reliability tests carried on using SPSS version 25 to establish the internal consistency of the data collection instrument.

3.8.2 Validity

Validity tests were undertaken to demonstrate the level to which the questionnaire evaluated the constructs and variables they are designed to. Saunders et al. (2016) define validity as the capability of the instrument to estimate what was designed to measure in terms of precision and meaningfulness. Validity of data collection instruments to a greater extent permits generalizability of findings (Bryman & Bell, 2011). Content validity, construct validity, face validity and Convergent and Discriminant validity were tested.

3.8.2.1 Content Validity

Content validity in the development of any new instrument, provides evidence about the validity of an instrument by assessing degree to which the instrument measures intended purpose (Kothari, 2017). To confirm content validity, the research questionnaire was subjected to thorough examination through discussion with two university supervisors and two experts from bank sector to determine the level to which the outcome derived from data analysis will really describe the occurrence under study. They were asked to evaluate the statements in the questionnaire for relevance and whether they were meaningful and clear. All the four expert judges were asked to independently rate the items, and all the items in the questionnaire that were agreed and confirmed to have the relevant content were retained for the main study. Also, the researcher ensured that operationalized variables conformed to the theoretical perspective of constructs as borrowed in literature reviewed. Additionally, the study was founded on instruments constructed in other linked research interconnected with perspectives or beliefs emanating from vast studies (Zikmund, Babin & Griffin ,2013).

3.8.2.2 Construct Validity

Construct validity is defined as the extent to which instruments used for data collection in the field measures the actual hypothesis of the study (Frankel and Wallen,2006). The study adopted Factor analysis, in specific Principal Component Analysis approach to test for the construct validity for the study constructs (Product innovation, Market innovation, Service innovation, Managerial innovation, Environmental factors and Competitiveness). The

Principal Component Analyses involved included Kaiser-Meyer-Olkin (KMO) test approach, Bartlett's Test of Sphericity and Factor loadings analysis with Varimax rotation for construct items as proposed by (Dhakal,2017).

KMO was used to measure sampling adequacy; that is, to ascertain if the number of items used to measure a particular construct (variable) were adequate; it ranges between 0 and 1 with value of 1 indicating perfect results, and a minimum threshold of 0.7 established as the better results as cited by Shrestha (2021). Bartlett's Test of Sphericity was used to test if the study items for each construct were coming from a population with equal variance. Principal component analysis was used to identify and compute composite scores for the factors underlying the 5-point Likert scale that was used in the study questionnaire. Varimax rotation provided the best-defined factor structure for all the study variables.

3.8.2.3 Face validity

It is where an indicator seems to be a reasonable measure of its underlying construct “on its face”. It actually ascertains that the measure appears to be assessing the intended construct under investigation (Drost, 2011). Face validity was achieved by two university supervisors who reviewed the research instruments designed by the researcher.

3.8.2.4 Convergent and Discriminant validity

They are assessed together or jointly for a set of measure. Convergent validity refers to closeness of which the measure relates to the construct that it purported to measure or simply it converges with the construct. Discriminant validity refers to the degree to which a measure does not measure or discriminates the construct it is not supposed to measure (Heale &

Twycross,2015). To effectively obtain convergent validity comparison of observed values of one indicator of one construct with others indicators of the same construct was done. Discriminant validity is obtained by demonstrating that indicators of one construct are dissimilar. Bivariate correlation was used to analyze items using exploratory factor analysis for convergent and discriminant validity (Mohajan, 2017).

3.9 Data Analysis

Data was first coded to facilitate entry into the windows based Statistical Package for Social Science (SPSS version 24). The Data collected was inspected and cleaned for better and efficient analysis. Then the researcher did coding of the items in the data collection instrument which was entered into the Statistical Package for Social Sciences (SPSS) computer application. The study generated descriptive and inferential statistics. Descriptive statistics involved the use of mean, frequencies, standard deviation and percentages measures on statements regarding the variables of study while inferential statistics was analyzed using correlation and regression.

3.9.1 Correlation Analysis

Correlation tested the association between variables while regression analysis checked the functional relationship between the dependent variable and the independent variables. Pearson's Product Moment Correlation (r) was obtained to indicate the nature and power of the relationship. The amount of variation in the dependent variable brought by the independent

variables was measured using Coefficient of determination (R^2). Additionally, data collected from open ended questionnaire was analyzed using content analysis.

3.9.2 Regression Analysis

Simple linear regression models were used to estimate the relationship between the predictor and outcome variables. Once it is ascertained that the independent and dependent variable have a linear relationship, this algorithm is the best to use because it's less complex as compared to other algorithms. The models are as illustrated below:

Model 1: $Y= \beta_0+\beta_1X_1+\varepsilon$

Model 2: $Y= \beta_0+\beta_2X_2+\varepsilon$

Model 3: $Y= \beta_0+\beta_3X_3+\varepsilon$

Model 4: $Y= \beta_0+\beta_4X_4+\varepsilon$

Multiple linear regression equation was written as;

$Y = \beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+ \beta_4X_4 + e$

Where;

Y= Competitiveness

β_0= Constant

$\beta_1 \ldots\ldots \beta_4$= Regression Coefficients

X_1= Product innovation

X_2= Market innovation

X_3= Service innovation

X_4= Managerial innovation

ε =Error term- random variation due to other unmeasured factors

The researcher used hierarchical regression analysis to find out the moderating effect of environmental factors on the relationship between the study independent and dependent variables. The study tested the moderating effect as proposed by Baron and Kenny (1986) as cited in Namazi and Namazi (2016). According to Baron and Kenny (1986), there are three steps involved in testing the moderating effect. Step one involves testing the influence of strategic innovation on bank competitiveness. Step two entails testing the effect of strategic innovation and environmental factors (predictor variables) on bank competitiveness (criterion variable). Finally, in step three, product of standardized values for strategic innovation and environmental factors (interaction term) is introduced and tested for its significance on bank competitiveness. Moderating effect happens if the effect of interaction is significant in the third step.

The three steps involved in hierarchical regression analysis for moderating effect is written as:

Step One: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Step Two: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + M + \varepsilon$

Step Three: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + M + \beta_1 X_1 M + \beta_2 X_2 M + \beta_3 X_3 M + \beta_4 X_4 M + \varepsilon$

Where, β_0 represented Constant Term, $\beta_{1.....}\beta_4 = 1, 2, 3$ and 4 is the regression coefficients which measured the change induced on the study variables; X=Strategic Innovation; M=Environmental Factors; BX*M=Interaction term between Strategic Innovation and Environmental Factors; Y=Competitiveness and ε=Error/disturbance

The data was then presented in the form of tables, graphs and pie charts. Additionally, it was assumed that the analyzed data will be deduced from a population with a normal distribution curve.

3.9.3 Diagnostic tests

A study that violates multiple regression analyses assumptions may give biased relationship estimates. It may also result in over or under confidence of regression of the precision coefficients and confidence intervals which cannot be trustworthy (Williams, Grajales & Kurkiewicz, 2013). Thus, prior to the analysis, diagnostic tests, for example test for multicollinearity, normality and homoscedasticity were carried out to confirm their relevance before making inference.

3.9.3.1 Multicollinearity

Multicollinearity is indicative of two or more highly correlated independent variables under study (Williams et al., 2013). Such an occurrence can have destructive effects on regressions results. When multi-collinearity increases, it makes the regression coefficient to fluctuate which complicates the interpretation of the coefficient as an indicator of predicting variables (Cooper & Schindler 2011). Multicollinearity can be corrected by excluding one or more of the correlated independent variable from the regression model (Lind, Marchal &Wathen, 2008). To estimate the interrelations between predictor variables, VIF and Tolerance value was employed as it estimates variance of regression coefficient inflation. This factor measures how high the multicollinearity is in a least squares regression analysis. It gives the index showing the magnitude of the increase of a variance if a regression coefficient is increased because of collinearity. A variable whose tolerance value and VIF is above 1 and 10 respectively would merit further investigation.

3.9.3.2 Normality test

Statistical errors are common in literature; many parametric procedures in correlation, regression, analysis of variance, and t-test are based on assumption of Gaussian or normal distribution. If this assumption do not hold it will be impossible to draw a reliable conclusion. The Shapiro-Wilk test relies on correlation between data and corresponding normal scores. Shapiro-Wilk test gives better power after Lilliefors correction. Shapiro–Wilk test has potential to notice deviation from normalcy resulting from skewed data. It has statistic ranging from -

0.1 – +1.0 where data above 0.05 shows normalcy in data (Razali & Wah, 2011). Ghasemi and Zahedias (2012) posits that Kolmogorov-Smirnov test is a popular test for normality, It is considered to be highly sensitive to extreme values and the Lilliefors correction makes the test less conservative. It has low power thus should not be seriously be considered in testing normality especially when parameters regardless of the sample are estimated from the data. Kolmogorov-Smirnov should be used with caution due to its low power and recommends that normality be assessed visually.

3.9.3.3 Homoscedasticity

A test for homoscedasticity is a test for variance in residuals in a regression model. By doing homoscedasticity tests, researchers may make sure that no heteroscedasticity issues arise (Yang,Tu & Chen,2019). The normal probability – probability plot (P-P plot) of performance indicates a small deviation of the points from the straight line that cut across the plane.

3.10 Ethical Considerations

The main objective of ethics in research is to ensure that no participant in the study suffers harmful consequences from research activities that include data collection, analysis and reporting of the findings from the study (Saunders et al., 2016). The researcher therefore regarded confidentiality such no names appeared on the questionnaires and their answer were treated as strictly confidential to ensure no one could be identified based on the answers on the questionnaires. The researcher ensured informed consent of the respondents by not putting any participants under pressure to participate. The respondent and the researcher both signed a non-

disclosure agreement. The respondents were prepared and told the process to be followed while carrying out the study, how long the survey was to take, the intention of the research and the context of privacy/confidentiality. Additionally, the researcher obtained license from NACOSTI which regulates and assure quality in the science, technology, and innovation sector before proceeding for the study."

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents results of the analysis, findings and discussions based on the objective of the study which was to examine the influence of strategic innovation on competitiveness of Commercial Banks in Kenya. Specifically, the study investigated the influence of product innovation, market innovation, service innovation and managerial innovation on competitiveness of Commercial Banks in Kenya. This chapter presents the findings using descriptive analysis, Pears on correlation and regression analysis. Data was collected using semi-structured questionnaires and then it was coded and analyzed based on each independent variable using the SPSS version 24 and was discussed and presented using tables and models.

4.2 Response Rate

Out of the one hundred and twenty-two questionnaires that were issued to respondents, one hundred and fifteen were obtained constituting 94.3% response rate while seven questionnaires were not collected accounting for 5.7% of the total questionnaires issued. According to Mugenda and Mugenda (2013) a more than 50% response rate is adequate for analysis. Babbie (2004) also posits that a 60% return rate is good and a 70% return rate is extremely good. Questionnaires were issued by the drop and pick method and this partly provided the good

response rate obtained in this research and also due to the promise of anonymity that respondents did not need to reveal traceable identities.

Table 4. 1: Response Rate

	Count	Percentage
Administered	122	100
Returned	115	94.3
Not Returned	7	5.7

Source: Research Data (2022)

4.3 Reliability and Validity Tests

4.3.1 Reliability Tests

For reliability tests Cronbach alpha was applied for each variable which had a range 0.722 for product innovation to 0.875 for service innovation. All variables depicted that the value of Cronbach alpha are above the value of 0.7 after improving on the instrument for managerial innovation, thus the data collection instrument is reliable (Mugenda & Mugenda,2013). This represents a high level of reliability and on this the scales used in this study are justifiably reliable. The test items were thus retained and used in this study hence considered reliable as shown in the table 4.2 below.

Table 4. 2: Reliability Table

Variable	No of items	Cronbach alpha	No of Items Dropped
Product Innovation	8	0.722	0
Market Innovation	8	0.744	0
Service Innovation	8	0.875	0
Managerial Innovation	8	0.797	1
Environmental Factors	8	0.729	0
Competitiveness	8	0.756	0

Source: Research Data (2022)

4.3.2 Validity Tests

Exploratory Factor Analysis (EFA) was done on the independent and dependent variables for the purpose of discerning underlying dimensions of the variables using principal component analysis and orthogonal varimax rotation method with Kaiser Normalization. This was preceded by the Bartlets test of sphericity (significant at 0.05) and the Kaiser-Meyer-Oklin measure of sampling adequacy as shown in table 4.3 below. Exploratory Factor Analysis (EFA) for the strategic innovation items indicated that rotations converged in six iterations and five components with Eigen values of 8.106,3.365, 2.492,1.681,1.445 being extracted. These components accounted for 53.401 % of the variance. This was above the 50% threshold (Hair et al,2006) indicating that the model fits the data appropriately. Main component analysis was applied and the results for Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) are

shown in table 4.3 below. Kaiser-Meyer-Olkin (KMO) measures sampling adequacy which examine appropriateness for the use of factor analysis. A range of 0.5 – 1.0 in KMO indicates the use of factor analysis is appropriate (Tanasă, Horomnea & Ungureanu, 2012). The KMO value of 0.680 signified factor analysis was appropriate for this research.

Table 4. 3: KMO and Bartlett's Test For Competitiveness

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.680
Bartlett's Test of Sphericity	Approx. Chi-Square	235.180
	Df	28
	Sig.	.000

Source: Research Data (2022)

Table 4. 4: Communalities

	Initial	Extraction
My organization has enjoyed reduced labor costs due to digitization	1.000	.649
My company enjoys reduced production costs due to innovation	1.000	.509
Innovation has greatly improved turnaround time for rendering services to customers	1.000	.564
The organization customer base has continued to increase in the last 3 years	1.000	.670
My bank's branch network has grown for the past 3 years	1.000	.565
The use of artificial intelligence in gathering customer purchasing behavior has brought more clients to my organization	1.000	.508
New products are designed from customer suggestions	1.000	.659
My organization has a knowledgeable customer representative to take care of customer needs	1.000	.614

Extraction Method: Principal Component Analysis.

Source: Research Data (2022)

Considering Bartletts test of sphericity the chi- square value was 235.180 value of .000 which was significant at 0.05 level this showed that items used in the study, independent and dependent variables were correlated. Factor analysis was done to test the suitability of the test items where a variable had many observed constructs. In factor analysis communalities show the extent to which a test item correlates with all other test items. The varimax rotation method

developed by Kaiser in 1958 was used to discern the underlying dimensions of the independent and dependent variables and summarize the variables into a smaller number of factors for further quantitative analysis (Shrestha,2020). This means that each factor has a small number of large loadings but after varimax rotation each original variable is associated with one of the factors with large value hence variance of loadings is maximized as shown in the table 4.5.

Table 4. 5: Rotated component matrix

	Component	
	1	**2**
My organization has enjoyed reduced labor costs due to digitization	.791	-0.336
My company enjoys reduced production costs due to innovation	.672	-0.195
Innovation has greatly improved turnaround time for rendering services to customers	.254	.466
The organization customer base has continued to increase in the last 3 years	.372	.809
My bank's branch network has grown for the past 3 years	.419	.704
The use of artificial intelligence in gathering customer purchasing behavior has brought more clients to my organization	.227	.579
New products are designed from customer suggestions	.811	-0.451
My organization has a knowledgeable customer representative to take care of customer needs	.609	-0.187
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 3 iterations.		

Source: Research Data (2022)

For the purposes of this study, test items with factor loadings greater than 0.40 were deemed better. Thus, factor loadings for the eight construct factors ranged between 0.466% and 0.811%. These parameters were kept for further examination. According to Tabachnick and Fidell (2007), factors with factor loadings greater than 0.40 should be retained for further analysis, while those with factor loadings less than 0.40 should be eliminated. Therefore, no factor was removed as they were deemed credible. This method was also applied to all other variables, as demonstrated in the appendix.

4.4 Demographic Characteristics

This section describes the research population's background based on the collected and analyzed data. This section analyzes the demographic characteristics of the respondents, including their gender, age, level of education and length of service. The results are as follows.

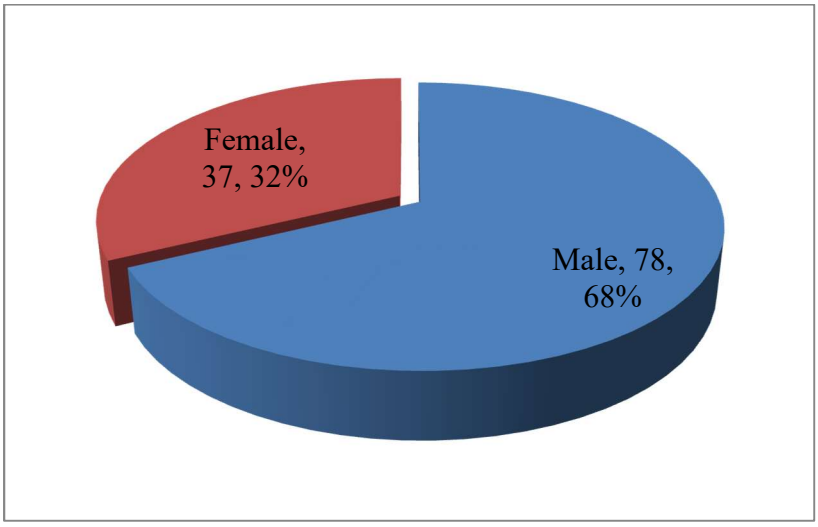


Figure 4. 1: Gender of the Respondents

Source: Research Data (2022)

The results in Figure 4.1 revealed that 78 (67.8%) of the respondents were male while the female were 37 (32.2%), implying that the majority of the respondents were male. It is evident that males were more as compared to female respondents although a third gender rule was attained as per the 2010 constitution of Kenya. Previous studies reveal that companies with the highest diversity in gender especially with more females have better corporate governance, good ethical behaviour thus compete better (Seierstad,2016).

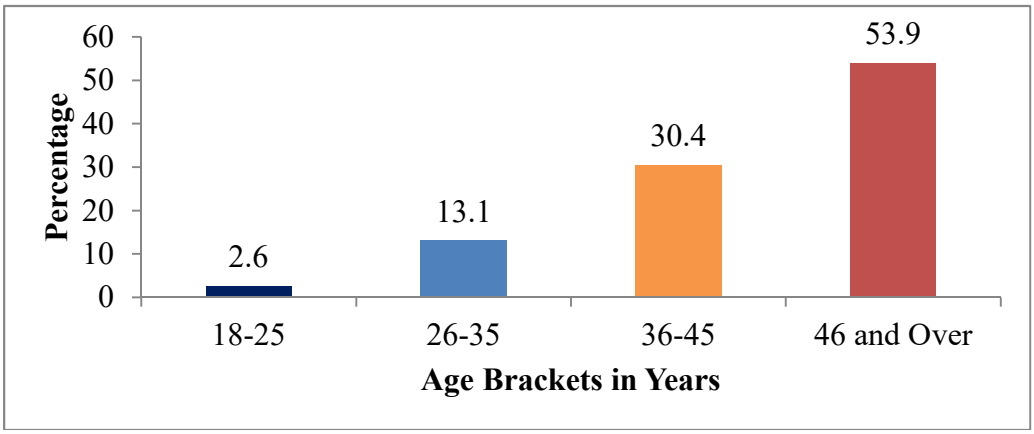


Figure 4. 2: Current Position

Source: Research Data (2022)

According to the research findings in Figure 4.2, 3 (2.6%) of the respondents aged between 18-25 years, whereas 15 (13.1%) were between 26-35 years.35 (30.4%) of the respondents were between 36-45 years while 62 (53.9%) of the respondents were 46 and over years. This shows that majority of the respondents were between 46 and over years. Majority of bank employees take close to 15 years to grow through ranks to levels of general managers and directorship assuming that they were employed immediately after their first college degree at

age 24. Those below this age bracket but holding these positions must be in possession of unique capabilities (Lin, Su & Higgins, 2016).

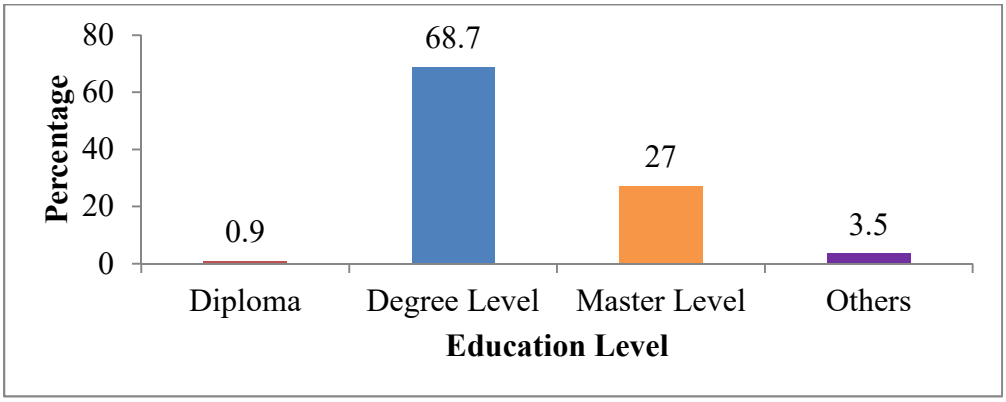


Figure 4. 3: Education Level

Source: Research Data (2022)

The results of the research in Figure 4.3 showed that 1 (0.9%) of the respondents were diploma holders, and a further 79 (68.7%) were degree holders. Moreover, 31 (27.0%) of the respondents were master holders while 4 (3.5%) had other holders. The results of the study showed that majority of the respondents were degree holders. This is because the job needs special capabilities such as communication and decision-making skills, problem solving skills (Laurencia & Riyanto,2013). More recent empirical studies confirm a positive relationship between education and firm performance. Employees with at least a college degree are assumed to have specialized knowledge/knowhow and perform better during more complicated tasks as they possess special capabilities such as communication and decision-making skills, problem solving skills as well as the capacity to adapt to a continuous learning environment (Riyanto,2019)

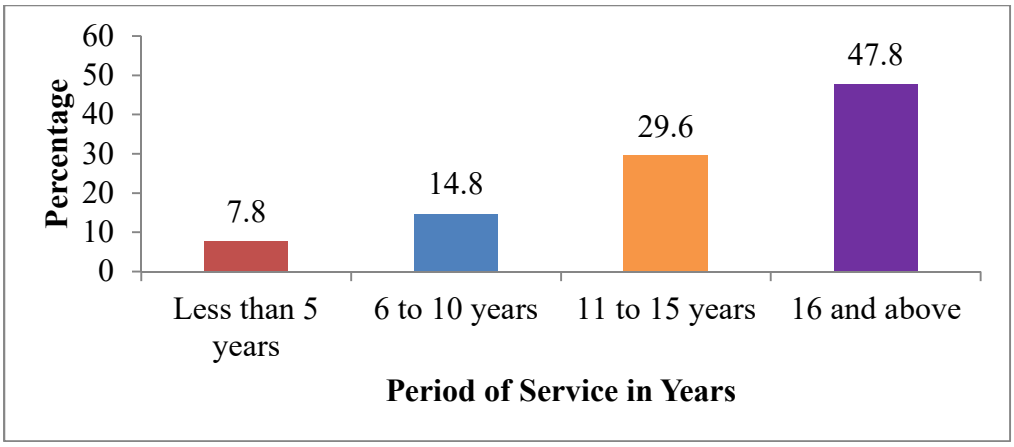


Figure 4. 4: Period of Service

Source: Research Data (2022)

According to Figure 4.4, 9 (7.8%) of the respondents had a working experience of less than 5 years and another 17 (14.8%) had a work experience of 6 to 10 years. Additionally, 34 (29.6%) of the respondents had worked for between 11 to 15 years while 55 (47.8%) of the respondents had a work experience of 16years and above. The study results imply that majority of the respondents had between 16 and above years period of service. It takes approximately 15 years for bank employees to grow through ranks to levels of general managers and directors. Employees who have below 10 years in period of service are likely to be in possession of unique capabilities or could be specialist in their fields (Lin, Su & Higgins, 2016). According to Marshall & Peake (2009), a longer period of service yields improvements in managerial skills which affect productivity positively. Consequently, skilled workers are not only considered more productive than their unskilled counterparts, but they also contribute to the efficiency of their colleagues which enhances competitiveness of firms.

4.5 Descriptive Statistics Results

The purpose of descriptive statistics is to define and describe the characteristics of a data set (Cooper and Schindler, 2013). The presentation of descriptive statistics is founded on the frequencies, percentages, means, and standard deviations of the variables under consideration. These were independent variables: product innovation, market innovation, service innovation, and managerial innovation; the dependent variable was competitiveness. On a scale ranging from 1 (strongly disagree) to 5 (strongly agree), respondents were asked to designate their level of agreement. Respondents were asked to designate their level of agreement on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The frequencies are enclosed in parenthesis, along with the standard deviation (SD).

4.5.1 Product innovation

Respondents were asked to indicate their level of agreement by ticking each one of the given statements as they apply to product innovation in their commercial banks: (1). Strongly Disagree (SD) (2) Disagree (D) (3) Fairly Agree (FA) (4) Agree (A) (5) Strongly Agree (SA). The results are as shown in Table 4.6.

Table 4. 6: Product innovation

No.	Product Innovation	Percentage& frequency 5	4	3	2	1	Mean	SD
1	The bank regularly carries out surveys on internet and mobile banking products consumed by its clients	32.2% (37)	54.8% (63)	10.4% (12)	2.6% (3)	0% (0)	4.2	0.7
2	Internet and mobile banking has improved service delivery for our clients	43.5% (50)	53% (61)	0.9% (1)	2.6% (3)	0% (0)	4.4	0.6
3	Clients are trained on how to use mobile and internet banking before they are on boarded on the platforms	24.3% (28)	60.9% (70)	13% (15)	1.7% (2)	0% (0)	4.1	0.7
4	Employees suggestions are sought for before new products are designed	22.6% (26)	53.9% (62)	14.8% (17)	7.8% (9)	0.9% (1)	3.9	0.9
5	Employees undergo training for the new or significantly improved products before they are launched	26.1% (30)	60.9% (70)	9.6% (11)	3.5% (4)	0% (0)	4.1	0.7
6	Mobile and internet banking have stable network	13.9% (16)	70.4% (81)	14.8% (17)	0.9% (1)	0% (0)	4.0	0.6
7	Mobile banking and internet product innovations were developed by my bank and other institutions/partners.	39.1% (45)	46.1% (53)	13.9% (16)	0% (0)	0.9% (1)	4.2	0.7
8	Clients' views are sought before new mobile and internet products are developed	20.9% (24)	58.3% (67)	13.9% (16)	5.2% (6)	1.7% (2)	3.9	0.8
	Aggregate Scores						**4.1**	**0.71**

Source: Research Data (2022)

According to the table 4.6, 32.2% (37) of the respondents strongly agreed and a further 54.8% (63) agreed that the bank regularly carries out surveys on internet and mobile banking products

consumed by its clients. Moreover, 10.4% (12) fairly agreed that the bank regularly carries out surveys on internet and mobile banking products consumed by its clients. Also, 2.6% (3) of the respondents disagreed and none strongly disagreed that the bank regularly carries out surveys on internet and mobile banking products consumed by its clients. This was further supported by a mean of 4.2 and insignificant standard deviation of 0.7. The results further revealed that, 43.5% (50) of the respondents strongly agreed that Internet and mobile banking has improved service delivery for our clients and a further 53% (61) agreed on the same assertion. Additionally, 0.9% (1) of the respondents fairly agreed, 2.6% (3) of the respondents disagree while none strongly disagreed that Internet and mobile banking has improved service delivery for our clients. This was supported with a mean of 4.4 and an insignificant standard deviation of 0.6.

Furthermore, the results showed that, 24.3% (28) of the respondents strongly agreed and a another 60.9% (70) agreed that clients are trained on how to use mobile and internet banking before they are on boarded on the platforms. Also, 13% (15) of the respondents fairly agreed that clients are trained on how to use mobile and internet banking before they are on boarded on the platforms. On the other hand, 1.7% (2) of the respondents disagreed while none strongly disagreed that clients are trained on how to use mobile and internet banking before they are on boarded on the platforms with a mean of 4.1 and an insignificant standard deviation of 0.7. According to the finding of the study, 22.6% (26) of the respondents strongly agreed that employees suggestions are sought for before new products are designed and 53.9% (62) agreed on the same statement. On the other hand, 14.8% (17) of the respondents fairly agreed that

employee's suggestions are sought for before new products are designed. Moreover, 7.8% (9) of the respondents disagreed and none strongly disagreed that employee suggestions are sought for before new products are designed with a mean of 3.9 and an insignificant standard deviation of 0.9.

In accordance to employees undergo training for the new or significantly improved products before they are launched, 26.1% (30) of the respondents strongly agreed and 60.9% (70) agreed. Also, 9.6% (11) of the respondents fairly agreed, 3.5% (4) disagreed while none strongly disagreed that employees undergo training for the new or significantly improved products before they are launched. This was supported with a mean of 4.1 and an insignificant standard deviation of 0.7. From the table 4.6, 13.9% (16) of the respondents strongly agreed Mobile and internet banking have stable network and another 70.4% (81) of the respondents agreed on the same. However, 14.8% (17) of the respondents fairly agreed, 0.9% (1) disagreed while none of the respondents strongly disagreed that mobile and internet banking have stable network. This was supported with a mean of 4.0 and a significant standard deviation of 0.6. Furthermore, the results revealed that 39.1% (45) of the respondents strongly agreed that Mobile banking and internet product innovations were developed by my bank and other institutions/partners and a further 46.1% (53) of the respondents agreed on the same assertion. On the other hand, 13.9% (16) of the respondents agreed that mobile banking and internet product innovations were developed by my bank and other institutions/partners, while none disagreed and 0.9% (1) of the respondents strongly disagreed on the same statement with a mean of 4.2 and a significant standard deviation of 0.7.

Lastly, in regard to clients' views are sought before new mobile and internet products are developed, 20.9% (24) of the respondents strongly agreed and 58.3% (67) agreed on the same assertion. Moreover, 13.9% (16) of the respondents fairly agreed. However, 5.2% (6) of the respondents disagreed while 1.7% (2) of the respondents strongly disagreed that Clients' views are sought before new mobile and internet products are developed. This was supported with a mean of 3.9 and an insignificant standard deviation of 0.8. The aggregate mean and standard deviation (M=4.1, SD=0.71) indicated that responses were concentrated around the mean and that respondents agreed to most of the statements in regard to product innovation of commercial banks in Kenya. The outcome shows that responses did not deviate far from the mean as it was characterized by small standard deviation. This implied that majority of respondents were of the same observation about the product innovation of commercial banks. The responses from the open-ended questions further indicated that there is proof of product innovation in different other forms which is instrumental for commercial banks to gain competitiveness in Kenya. This was evident by several strategies employed by banks like offering variety of financial services to their customers.

Financial services included saving accounts, loan facilities, cash and cheque deposits among others. The responses also indicated that banks sought employee suggestions in product development, Companies with superior products over their rivals in terms of innovation, quality, packaging and product design are more competitive (Batiz-Lazo & Woldesenbet, 2019)**.** These results confirm that product innovation influences competitiveness of banks. The findings agree with Nuryakin (2018) whose results indicated that product innovation

significantly influenced competitive advantage of Batik SMEs in Indonesia. Onafadeji and Adeniran (2021) similarly found a strong positive and significant link between product innovation and sales growth of Shoes and Garment Enterprises in Ibadan, Nigeria. Additionally, Agaba et al., (2018) revealed that product innovation had significant effect on competitive advantage among beer products and producers in Kabale, Uganda. However, Issau, Acquah, Gnankob and Hamidu (2021) found a non-significant relation between product innovation and competitiveness of SMEs' in manufacturing sector in Ghana.

4.5.2 Market Innovation

Respondents were asked to indicate their level of agreement by ticking each one of the given statements as they apply to their commercial bank market innovation: (1). Strongly Disagree (SD) (2) Disagree (D) (3) Fairly Agree (FA) (4) Agree (A) (5) Strongly Agree (SA). The results are as shown in Table 4.7.

Table 4. 7: Market innovation

No.	Market Innovation	Percentage& frequency 5	4	3	2	1	Mean	SD
1	My organization carries out market surveys before introducing a new product/service	47.8% (55)	40% (46)	10.4% (12)	1.7% (2)	0% (0)	4.3	0.7
2	My bank uses account cash flows to measure clients' financial strength	27.8% (32)	62.6% (72)	9.6% (11)	0% (0)	0% (0)	4.2	0.6
3	The bank regularly reviews its marketing strategies to match with the dynamic business environment.	43.5% (50)	47.8% (55)	6.1% (7)	2.6% (3)	0% (0)	4.3	0.7
4	The bank has various products for different customers	43.5% (50)	49.6% (57)	7% (8)	0% (0)	0% (0)	4.4	0.6
5	My bank runs promotion campaigns on various media platforms	46.1% (53)	46.1% (53)	7.8% (9)	0% (0)	0% (0)	4.4	0.6
6	My company utilizes artificial intelligence technology to target new customers	24.3% (28)	46.1% (53)	27.8% (32)	1.7% (2)	0% (0)	3.9	0.8
7	My organization offers banking products/services to non-clients using our clients as intermediaries.	31.3% (36)	48.7% (56)	13% (15)	5.2% (6)	1.7% (2)	4.0	0.9
8	Through intermediaries, my organization has been able to onboard new clients.	31.3% (36)	53.9% (62)	10.4% (12)	4.3% (5)	0% (0)	4.1	0.8
	Aggregate Scores						**4.2**	**0.71**

Source: Research Data (2022)

According to the Table 4.7, 47.8% (55) of the respondents strongly agreed and a further 40% (46) agreed that the organization carries out market surveys before introducing a new product/service. Moreover, 10.4% (12) fairly agreed that the organization carries out market surveys before introducing a new product/service. Also, 1.7% (2) of the respondents disagreed and a further 0% strongly disagreed that the organization carries out market surveys before introducing a new product/service. This was further supported by a mean of 4.3 and insignificant standard deviation of 0.7. The results further revealed that, 27.8% (32) of the respondents strongly agreed that the bank uses account cash flows to measure clients' financial strength and a further 62.6% (72) agreed on the same assertion. Additionally, 9.6% (11) of the respondents fairly agreed, 0% (0) of the respondents disagrees while 0% (0) strongly disagreed that the bank uses account cash flows to measure clients' financial strength. This was supported with a mean of 4.2 and an insignificant standard deviation of 0.6.

Furthermore, the results showed that, 43.5% (50) of the respondents strongly agreed and another 47.8 (55) agreed that the bank regularly reviews its marketing strategies to match with the dynamic business environment. Also, 6.1% (7) of the respondents fairly agreed that the bank regularly reviews its marketing strategies to match with the dynamic business environment. On the other hand, 2.6% (3) of the respondents disagreed while 0% (0) strongly disagreed that the bank regularly reviews its marketing strategies to match with the dynamic business environment with a mean of 4.3 and an insignificant standard deviation of 0.7. According to the finding of the study, 43.5% (50) of the respondents strongly agreed that the bank has various products for different customers and 49.6% (57) agreed on the same

statement. On the other hand, 7% (8) of the respondents fairly agreed that the bank has various products for different customers. Moreover, 0% (0) of the respondents disagreed and another 0% (0) strongly disagreed that the bank has various products for different customers with a mean of 4.4 and an insignificant standard deviation of 0.6.

In accordance to the bank runs promotion campaigns on various media platforms, 46.1% (53) of the respondents strongly agreed and 46.1% (53) agreed. Also, 7.8% (9) of the respondents fairly agreed, 0% (0) disagreed while 0% (0) strongly disagreed that the bank runs promotion campaigns on various media platforms. This was supported with a mean of 4.4 and an insignificant standard deviation of 0.6. From the Table 4.7, 24.3% (28) of the respondents strongly agreed the Company utilizes Artificial intelligence technology to target new customers and another 46.1% (53) of the respondents agreed on the same. However, 27.8% (32) of the respondents fairly agreed, 1.7% (2) disagreed while 0% (0) of the respondents strongly disagreed that the company utilizes Artificial intelligence technology to target new customers. This was supported with a mean of 3.9 and an insignificant standard deviation of 0.8.

Furthermore, the results revealed that 31.3% (36) of the respondents strongly agreed that the organization offers banking products/services to non-clients using our clients as intermediaries and a further 48.7% (56) of the respondents agreed on the same assertion. On the other hand, 13% (15) of the respondents agreed that the organization offers banking products/services to non-clients using our clients as intermediaries, while 5.2% (6) disagreed and 1.7% (2) of the respondents strongly disagreed on the same statement with a mean of 4.0 and an insignificant

standard deviation of 0.9.Lastly, in regard to Clients' views are sought before new mobile and internet products are developed, 31.3% (36) of the respondents strongly agreed and 53.9% (62) agreed on the same assertion. Moreover, 10.4% (12) of the respondents fairly agreed. However, 4.3% (5) of the respondents disagreed while 0% (0) of the respondents strongly disagreed that Clients' views are sought before new mobile and internet products are developed. This was supported with a mean of 4.1 and an insignificant standard deviation of 0.8.

The aggregate mean and standard deviation (M=4.2, SD=0.71) indicated that responses converged around the mean and that respondents agreed to most of the statements concerning market innovation of commercial banks in Kenya. From the standard deviation, results show that responses were not scattered far from the mean as it was characterized by insignificant standard deviation. This ordinarily means majority of respondents were of the same opinion in regard to market innovation of commercial banks. The overall assumption from the study is that there is an element of market innovation being practiced by commercial banks in Kenya to boost competitiveness. Some respondents noted that the use of intermediaries to target new clients would be beneficial if the bank engages the target clients instead of involving the intermediaries. From the respondents, the managers indicated that some of the target clients were opposed to the idea of a bank dealing with them through third parties (intermediaries). The managers however confirmed that the emerging issue would be resolved by mapping target clients from intermediary transactions to specific bank officials who would then contact the clients on behalf of the intermediaries, a process flow that will give the target clients desired dignity.

"This is consistent with Kassimu et al., (2020) who found that market innovation affected the competitiveness of SMES in Ghana. They suggested that market innovations should speak to consumer needs better, open new market or position a firm's product on the market with the intention of boosting firm's sales. Yeh et al. (2019) argued that market innovation activities are related to market research and identification of new market opportunities that seek to address the consumers' needs by re-conceiving the current industry framework in a manner that shapes brand new value for consumers, sabotage rivals, and generate creative wealth for all stakeholders. Market innovation offers competitive gains by offering enhancements in some of the marketing elements, which include product, price, promotion and distribution (Wang, 2015). Similarly, Byukusenge et al. (2018) indicated that product quality, product specification and product packaging were sub-elements of marketing strategy significant in increasing market share which eventually load firms with competitive benefits.

Also, promotion innovation strategy shows a major role in improving the efficiency and job creation within companies. Every successful business should take care of promotion activities as it is the only way to achieve the desired goal of the company (Wang,2015). Mu (2015) confirms that a well-designed promotion is a centre of achieving the success of the business and the retention of customers. Senguo and Kilango (2015) confirmed a great correlation between market innovation, consumer satisfaction and performance in Tanzanian firms. Results from the open-ended questionnaire indicated that banks are involved in market innovation through other strategies including by use of pricing strategies. Research on the types of marketing innovations and their effects is limited (Peng, Qin and Tang, 2021), no studies

have been found that adequately negate the positive effects of market innovation on organizational success.

4.5.3 Service innovation

Respondents were asked to indicate their level of agreement by ticking each one of the given statements as they apply to their commercial bank service innovation: (1). Strongly Disagree (SD) (2) Disagree (D) (3) Fairly Agree (FA) (4) Agree (A) (5) Strongly Agree (SA). The results are as shown in Table 4.8.

Table 4. 8: Service innovation

No.	Service Innovation	Percentage& frequency 5	4	3	2	1	Mean	SD
1	The bank has automated most of its processes	56.5% (65)	35.7% (41)	5.2% (6)	0.9% (1)	1.7% (2)	4.4	0.8
2	The automated services have stable network	27.8% (32)	53% (61)	15.7% (18)	1.7% (2)	1.7% (2)	4.0	0.8
3	Service automation has reduced queues in the banking hall	46.1% (53)	46.1% (53)	6.1% (7)	0% (0)	1.7% (2)	4.3	0.7
4	There are constant reviews of products and services automated by the bank	33.9% (39)	52.2% (60)	12.2% (14)	0% (0)	1.7% (2)	4.2	0.8
5	My organization utilizes virtual personal assistant (VPA) technology in delivering services	25.2% (29)	46.1% (53)	23.5% (27)	3.5% (4)	1.7% (2)	3.9	0.9
6	The VPA technology is available 24/7	20.9% (24)	35.7% (41)	34.8% (40)	5.2% (6)	3.5% (4)	3.7	1.0
7	My organization's virtual personal assistant can be accessed from any device	23.5% (27)	44.3% (51)	21.7% (25)	7.8% (9)	2.6% (3)	3.8	1.0
8	The bank's VPA can be accessed by both customers and non-customers	30.4% (35)	45.2% (52)	13.9% (16)	7% (8)	3.5% (4)	3.9	1.0
	Aggregate Scores						**4.03**	**0.88**

Source: Research Data (2022)

According to the Table 4.8, 56.5% (65) of the respondents strongly agreed and a further 35.7% (41) agreed that the bank has automated most of its processes. Moreover, 5.2% (6) fairly agreed that the bank has automated most of its processes. Also, 0.9% (1) of the respondents disagreed and a further 1.7% (2) % strongly disagreed that the bank has automated most of its processes. This was further supported by a mean of 4.4 and insignificant standard deviation of 0.8. The results further revealed that, 27.8% (32) of the respondents strongly agreed that the automated services have stable network and a further 53% (61) agreed on the same assertion. Additionally, 15.7 % (18) of the respondents fairly agreed, 1.7% (2) of the respondents disagrees while 1.7% (2) strongly disagreed that the automated services have stable network. This was supported with a mean of 4.0 and an insignificant standard deviation of 0.8. Furthermore, the results showed that, 46.1% (53) of the respondents strongly agreed and another 46.1 (53) agreed that Service automation has reduced queues in the banking hall. Also, 6.1% (7) of the respondents fairly agreed that Service automation has reduced queues in the banking hall.

On the other hand, 0% (0) of the respondents disagreed while 1.7% (2) strongly disagreed that Service automation has reduced queues in the banking hall with a mean of 4.3 and an insignificant standard deviation of 0.7. According to the finding of the study, 33.9% (39) of the respondents strongly agreed that there are constant reviews of products and services automated by the bank and 52.2% (60) agreed on the same statement. On the other hand, 12.2% (14) of the respondents fairly agreed that there are constant reviews of products and services automated by the bank. Moreover, 0% (0) of the respondents disagreed and another 1.7% (2)

strongly disagreed that there are constant reviews of products and services automated by the bank with a mean of 4.2 and an insignificant standard deviation of 0.8. In accordance to the organization utilizes virtual personal assistant (VPA) technology in delivering services, 25.2% (29) of the respondents strongly agreed and 46.1% (53) agreed. Also, 23.5% (27) of the respondents fairly agreed, 3.5% (4) disagreed while 1.7% (2) strongly disagreed that the organization utilizes virtual personal assistant (VPA) technology in delivering services.

This was supported with a mean of 3.9 and an insignificant standard deviation of 0.9. From the Table 4.8, 20.9% (24) of the respondents strongly agreed the VPA technology is available 24/7and another 35.7% (41) of the respondents agreed on the same. However, 34.8% (40) of the respondents fairly agreed, 5.2% (6) disagreed while 3.5% (4) of the respondents strongly disagreed that VPA technology is available 24/7. This was supported with a mean of 3.7 and a significant standard deviation of 1.0. Furthermore, the results revealed that 23.5% (27) of the respondents strongly agreed that the organization's virtual personal assistant can be accessed from any device and a further 44.3% (51) of the respondents agreed on the same assertion. On the other hand, 21.7% (25) of the respondents agreed that the organization's virtual personal assistant can be accessed from any device, while 7.8% (9) disagreed and 2.6% (3) of the respondents strongly disagreed on the same statement with a mean of 3.8 and a significant standard deviation of 1.0.

Lastly, in regard to bank's VPA can be accessed by both customers and non-customers, 30.4% (35) of the respondents strongly agreed and 45.2% (52) agreed on the same assertion. Moreover, 13.9% (16) of the respondents fairly agreed that bank's VPA can be accessed by

both customers and non-customers. However, 7% (8) of the respondents disagreed while 3.5% (4) of the respondents strongly disagreed that bank's VPA can be accessed by both customers and non-customers. This was supported with a mean of 3.9 and a significant standard deviation of 1.0. The aggregate mean and standard deviation (M=4.03, SD=0.88) indicated that responses were concentrated around the mean and that respondents agreed to most of the statements regarding service innovation of commercial banks in Kenya. Results show that responses did not deviate far from the mean as it was characterized by small standard deviation. This implied that majority of respondents were of the same observation about the service innovation of commercial banks.

The overall assumption from the study is that commercial banks in Kenya engage in service innovation to boost competitiveness. It was evident that commercial banks have embraced automation which is fundamental to respond to customer needs providing a solution to the customer and competitive advantage for the organization. For SI some of the services that have been automated by banks include cash deposits and withdrawal using ATMs, loan applications among others. The results further reveal that commercial banks have seized service innovation opportunities using self-service portals where clients can carry out bank transactions by themselves. Additionally, customers interact with personal assistants by way of chatbots and have the queries resolved without human intervention. Further, results from the open-ended questionnaire reveal that banks are involved in service innovation through other strategies including asking for customer feedback. The customer service departments were using customer satisfaction reports, net promoter scores among other reports to seek client feedback.

Some of the respondents though intimated that network downtime as a challenge to effective service innovation. The bank managers were however hopeful that their IT departments could resolve the issue and have clients enjoy uninterrupted online services. Cheng et al. (2019) agree with these findings as they found service innovation significant in creating a sustainable competitive advantage in higher education in Malaysia. These results are also supported by Kyei and Bayoh (2017) who argued that service innovation influenced customer retention in the Ghanaian telecommunication industry through improved service delivery. The findings however disagree with Aysel and Fatma, (2017) who found that only credit card usage had a significant positive impact on profitability while online and telephone banking had no significant on profitability. Mahmoud et al., (2018); Nwachukwu (2018) demand for more research on service innovation and firm performance, especially in Africa.

4.5.4 Managerial innovation

Respondents were asked to indicate their level of agreement by ticking each one of the given statements as they apply to their commercial bank managerial innovation: (1). Strongly Disagree (SD) (2) Disagree (D) (3) Fairly Agree (FA) (4) Agree (A) (5) Strongly Agree (SA). The results are as shown in Table 4.9.

Table 4. 9: Managerial Innovation

No.	Managerial Innovation	Percentage& frequency 5	4	3	2	1	Mean	SD
1	Employees' operations in my organization are guided by policies	72.2% (83)	18.3% (21)	7.8% (9)	1.7% (2)	0% (0)	4.6	0.7
2	The supervisors mentor staff they lead	40% (46)	48.7% (56)	7.8% (9)	3.5% (4)	0% (0)	4.3	0.7
3	My organization has room for exemption of policies through relevant authorities	35.7% (41)	47.8% (55)	10.4% (12)	4.3% (5)	1.7% (2)	4.1	0.9
4	Employees who do not follow the laid down policies are punished	40% (46)	50.4% (58)	7% (8)	1.7% (2)	0.9% (1)	4.3	0.7
5	My supervisor actively seeks relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting to better the bank	34.8% (40)	49.6% (57)	13.9% (16)	1.7% (2)	0% (0)	4.2	0.7
6	Networking with the telecommunication operators has improved service delivery to clients	39.1% (45)	50.4% (58)	8.7% (10)	1.7% (2)	0% (0)	4.3	0.7
7	There is seamless working between the bank and the partners in offering partnered services	40.9% (47)	47% (54)	11.3% (13)	0% (0)	0.9% (1)	4.3	0.7
8.	Customer complaints arising from collaborations are resolved quickly	39.1% (45)	48.7% (56)	9.6% (11)	1.7% (2)	0.9% (1)	4.2	0.8
	Aggregate scores						**4.29**	**0.74**

Source: Research Data (2022)

According to the Table 4.9, 72.2% (83) of the respondents strongly agreed and a further 18.3% (21) agreed that Employees' operations in my organization are guided by policies. Moreover, 7.8% (9) fairly agreed that Employees' operations in my organization are guided by policies. Also, 1.7% (2) of the respondents disagreed and a further 0% (0) % strongly disagreed that Employees' operations in my organization are guided by policies. This was further supported by a mean of 4.6 and insignificant standard deviation of 0.7. The results further revealed that, 40% (46) of the respondents strongly agreed that the supervisors mentor staff they lead and a further 48.7% (56) agreed on the same assertion. Additionally, 7.8 %(9) of the respondents fairly agreed, 3.5% (4) of the respondents disagrees while 0% (0) strongly disagreed that the supervisors mentor staff they lead. This was supported with a mean of 4.3 and an insignificant standard deviation of 0.7. Furthermore, the results showed that, 35.7% (41) of the respondents strongly agreed and another 47.8 (55) agreed that the organization has room for exemption of policies through relevant authorities.

Also, 10.4% (12) of the respondents fairly agreed that the organization has room for exemption of policies through relevant authorities. On the other hand, 4.3% (5) of the respondents disagreed while 1.7% (2) strongly disagreed that the organization has room for exemption of policies through relevant authorities with a mean of 4.1 and an insignificant standard deviation of 0.9. According to the finding of the study, 40% (46) of the respondents strongly agreed that Employees who do not follow the laid down policies are punished. On the other hand, 50.4% (58) of the respondents agreed and 7% (8) of the respondents fairly agreed that Employees who do not follow the laid down policies are punished. Moreover, 1.7% (2) of the respondents

disagreed and another 0.9% (1) strongly disagreed that Employees who do not follow the laid down policies are punished with a mean of 4.3 and an insignificant standard deviation of 0.7. In accordance to the supervisor actively seeks relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting to better the bank, 34.8% (40) of the respondents strongly agreed and 49.6% (57) agreed. Also, 13.9% (16) of the respondents fairly agreed, 1.7% (2) disagreed while 0% (0) strongly disagreed that the supervisor actively seeks relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting to better the bank. This was supported with a mean of 4.2 and an insignificant standard deviation of 0.7.

From the Table 4.9, 39.1% (45) of the respondents strongly agreed the Networking with the telecommunication operators has improved service delivery to clients and another 50.4% (58) of the respondents agreed on the same. However, 8.7% (10) of the respondents fairly agreed, 1.7% (2) disagreed while 0% (0) of the respondents strongly disagreed that Networking with the telecommunication operators has improved service delivery to clients. This was supported with a mean of 4.3 and an insignificant standard deviation of 0.7. Furthermore, the results revealed that 40.9% (47) of the respondents strongly agreed that there is seamless working between the bank and the partners in offering partnered services and a further 47% (54) of the respondents agreed on the same assertion. On the other hand, 11.3% (13) of the respondents agreed that there is seamless working between the bank and the partners in offering partnered services, while 0% (0) disagreed and 0.9% (1) of the respondents strongly disagreed on the same statement with a mean of 4.3 and an insignificant standard deviation of 0.7.Lastly, in

regard to Customer complaints arising from partnerships/collaborations are resolved quickly, 39.1% (45) of the respondents strongly agreed and 48.7% (56) agreed on the same assertion. Moreover, 9.6% (11) of the respondents fairly agreed that Customer complaints arising from partnerships/collaborations are resolved quickly.

However, 1.7% (2) of the respondents disagreed while 0.9% (1) of the respondents strongly disagreed that Customer complaints arising from partnerships/collaborations are resolved quickly. This was supported with a mean of 4.2 and an insignificant standard deviation of 0.8. From the study, managerial innovation is significant and positively corelated to competitiveness. The aggregate mean and standard deviation (M=4.29, SD=0.74) indicated that responses were concentrated around the mean and that respondents agreed to most of the statements in regard to managerial innovation of commercial banks. This ordinarily means majority of respondents were of the same observation. These findings corroborate the claims of Mohd & Radwan (2015) that indicated managerial innovation influenced performance of Jordanian Commercial Banks which found that management practices, management processes and organizational structures as elements of managerial innovation enhanced profitability, market share, returns on investment, customer satisfaction and quality of services.

Bayi, Koh, Oglethorpe and Ebrahimi (2016) assert that through relational capability organizations can effectively develop collaboration, networking, and relationship with strategic partners to access and source resources and information that the business cannot afford to provide independently thus enhance its competitive advantage locally and in the global market. The study results further reveal that bank supervisors encourage a conducive

work environment where all staff are expected to adhere to laid out policies unless exemption is obtained from the relevant authorities. This creates a cohesive team which can easily achieve targets through teamwork. However, some respondents while answering the open-ended questions confirmed that not all managers are exhibiting managerial innovation that would enhance competitiveness. Some employees in leadership positions were very rigid to adopt managerial innovation practices. They suggested continuous trainings for managers for change of mindset in regard to managerial innovation. The findings however disagree with Rocha (2015) who found that R&D policies on innovation carried out by the Brazilian government did not influence the performance of 243 Brazilian companies.

4.5.5 Environmental factors

Respondents were asked to indicate their level of agreement by ticking each one of the given statements as they apply to the environmental factors. The responses ranged from (1). Strongly Disagree (SD) (2) Disagree (D) (3) Fairly Agree (FA) (4) Agree (A) (5) Strongly Agree (SA). The results are as shown in Table 4.10

Table 4. 10: Environmental Factors

No.	Environmental Factors	Percentage & frequency 5	4	3	2	1	Mean	SD
1	Operations in my organization is strictly according to laid down standard, rules and procedures	53% (61)	41.7% (48)	5.2% (6)	0% (0)	0% (0)	4.5	0.6
2	Power and authority is centralized at the hands of top management	32.2% (37)	41.7% (48)	21.7% (25)	2.6% (3)	1.7% (2)	4.0	0.9
3	As an employee of this organization any decision I make must have my immediate manager's approval	47% (54)	40.9% (47)	9.6% (11)	2.6% (3)	0% (0)	4.3	0.8
4	My organizations has a policy which encourages creativity and innovation	40.9% (47)	45.2% (52)	12.2% (14)	1.7% (2)	0% (0)	4.3	0.7
5	My organization's leadership encourages teamwork	43.5% (50)	47% (54)	7.8% (9)	1.7% (2)	0% (0)	4.3	0.7
6	The organization takes consideration of employees' ideas regards to innovation activities	27% (31)	53% (61)	13.9% (16)	5.2% (6)	0.9% (1)	4.0	0.8
7	My organization carries out market research to know what their rivals offer	47% (54)	47% (54)	6.1% (7)	0% (0)	0% (0)	4.4	0.6
8	Products/services are designed based on the competitor matrix	41.7% (48)	52.2% (60)	4.3% (5)	1.7% (2)	0% (0)	4.3	0.6
	Aggregate Scores						**4.26**	**0.71**

Source: Research Data (2022)

According to the Table 4.10, 53% (61) of the respondents strongly agreed and a further 41.7% (48) agreed that Operations in my organization is strictly according to laid down standard, rules and procedures. Moreover, 5.2% (6) fairly agreed that Operations in my organization is strictly

according to laid down standard, rules and procedures. Also, 0% (0) of the respondents disagreed and a further 0% (0) % strongly disagreed that Operations in my organization is strictly according to laid down standard, rules and procedures. This was further supported by a mean of 4.5 and insignificant standard deviation of 0.6. The results further revealed that, 32.2% (37) of the respondents strongly agreed that Power and authority is centralized at the hands of top management and a further 41.7% (48) agreed on the same assertion. Additionally, 21.7 % (25) of the respondents fairly agreed, 2.6% (3) of the respondents disagrees while 1.7% (2) strongly disagreed that Power and authority is centralized at the hands of top management. This was supported with a mean of 4.0 and an insignificant standard deviation of 0.9.

Furthermore, the results showed that, 47% (54) of the respondents strongly agreed and another 40.9 (47) agreed that as an employee of this organization any decision I make must have my immediate manager's approval. Also, 9.6% (11) of the respondents fairly agreed that as an employee of this organization any decision I make must have my immediate manager's approval. On the other hand, 2.6% (3) of the respondents disagreed while 0% (0) strongly disagreed that as an employee of this organization any decision I make must have my immediate manager's approval with a mean of 4.3 and an insignificant standard deviation of 0.8. According to the finding of the study, 40.9% (47) of the respondents strongly agreed that the organizations has a policy which encourages creativity and innovation. On the other hand, 45.2% (52) of the respondents agreed that the organizations has a policy which encourages creativity and innovation. Moreover, 12.2% (14) of the respondents fairly agreed while 1.7% (2) disagreed that the organizations has a policy which encourages creativity and innovation

with a mean of 4.3 and an insignificant standard deviation of 0.7. In accordance to organization's leadership encourages teamwork, 43.5% (50) of the respondents strongly agreed and 47% (54) agreed. Also, 7.8% (9) of the respondents fairly agreed, 1.7% (2) disagreed while 0% (0) strongly disagreed that the organization's leadership encourages teamwork. This was supported with a mean of 4.3 and an insignificant standard deviation of 0.7.

The table shows that 27% (31) of the respondents strongly agreed the organization takes consideration of employees' ideas regards to innovation activities and another 53% (61) of the respondents agreed on the same. However, 13.9% (16) of the respondents fairly agreed, 5.2% (6) disagreed while 0.9 (1) of the respondents strongly disagreed that the organization takes consideration of employees' ideas regards to innovation activities. This was supported with a mean of 4.0 and an insignificant standard deviation of 0.8. Furthermore, the results revealed that 47% (54) of the respondents strongly agreed that organization carries out market research to know what their rivals offer and a further 47% (54) of the respondents agreed on the same assertion. On the other hand, 6.1% (7) of the respondents agreed that organization carries out market research to know what their rivals offer, while 0% (0) disagreed and 0% (0) of the respondents strongly disagreed on the same statement with a mean of 4.4 and an insignificant standard deviation of 0.6. Lastly, in regard to Products/services are designed based on the competitor matrix, 41.7% (48) of the respondents strongly agreed and 52.2% (60) agreed on the same assertion.

Moreover, 4.3% (5) of the respondents fairly agreed that Products/services are designed based on the competitor matrix. However, 1.7% (2) of the respondents disagreed while 0% (0) of the

respondents strongly disagreed that Products/services are designed based on the competitor matrix. This was supported with a mean of 4.3 and an insignificant standard deviation of 0.6. The aggregate mean and standard deviation (M=4.26, SD=0.71) indicated that responses regarding environmental factors concentrated around the mean and that respondents agreed to most of the statements. Results show that responses were not far from the mean as it was evident by insignificant standard deviation. This implies majority of respondents were of the same the same opinion in regard to the moderating role environmental factors on commercial banks. The research findings are supported by Mirza (2017) who examined the moderating influence of environmental factors on the relation between business innovation and business performance in Pakistan. The study found technological turbulence and competitive intensity positively and significantly moderated the relation between business innovation and business performance.

Moreover, Arokodare (2021) established that environmental turbulence was moderating variable between strategic agility and performance of oil and gas marketing companies in Nigeria. Additionally, Prasad and Junni (2016) found environmental dynamism as significant moderator between CEO transformational and transactional leadership and organizational innovation. The responses from open ended questions revealed that new technology was another significant environmental factor that affected commercial banks competitiveness. The managers believed banks embrace the most up to date technology to offer superior services. The results however contradict Jestita (2018) who found out that there was no moderating effect of environmental factors on the relationship between market orientation and school

performance in the Philippines. In other readings, Struweg, Kruger and Nuwagaba (2019) investigated the influence of business environment on growth of informal businesses in Uganda. Even though the study found that there was a significant positive directional relationship between the internal environment and the growth of informal businesses, a negative significant directional relationship between the external environment and the growth of informal businesses was revealed.

4.5.6 Competitiveness

Respondents were asked to indicate their level of agreement by ticking each one of the given statements as they apply to their commercial bank competitiveness. The responses ranged from (1). Strongly Disagree (SD) (2) Disagree (D) (3) Fairly Agree (FA) (4) Agree (A) (5) Strongly Agree (SA). The results are as shown in Table 4.11.

Table 4. 11: Competitiveness

No.	Competitiveness	5	4	3	2	1	Mean	STD
1	My organization has enjoyed reduced labor costs due to digitization	62.6% (72)	30.4% (35)	6.1% (7)	0.9% (1)	0% (0)	4.5	0.7
2	My company enjoys reduced production costs due to innovation	47% (54)	47% (54)	4.3% (5)	1.7% (2)	0% (0)	4.4	0.7
3	Innovation has greatly improved turnaround time for rendering services to customers	58.3% (67)	40.9% (47)	0.9% (1)	0% (0)	0% (0)	4.6	0.5
4	The organization customer base has continued to increase in the last 3 years	49.6% (57)	40% (46)	10.4% (12)	0% (0)	0% (0)	4.4	0.7
5	My bank's branch network has grown for the past 3 years	47% (54)	44.3% (51)	5.2% (6)	0.9% (1)	2.6% (3)	4.3	0.8
6	The use of artificial intelligence in gathering customer purchasing behavior has brought more clients to my organization	33% (38)	46.1% (53)	19.1% (22)	1.7% (2)	0% (0)	4.1	0.8
7	New products are designed from customer suggestions	41.7% (48)	37.4% (43)	18.3% (21)	2.6% (3)	0% (0)	4.2	0.8
	Aggregate Scores						**4.38**	**0.7**

Source: Research Data (2022)

According to the Table 4.11, 62.6% (72) of the respondents strongly agreed and a further 30.4% (35) agreed that the organization has enjoyed reduced labor costs due to digitization. Moreover, 6.1% (7) fairly agreed that the organization has enjoyed reduced labor costs due to digitization. Also, 0.9% (1) of the respondents disagreed and a further 0% (0) % strongly

disagreed that the organization has enjoyed reduced labor costs due to digitization. This was further supported by a mean of 4.38 and insignificant standard deviation of 0.7. The results further revealed that, 47% (54) of the respondents strongly agreed that the company enjoys reduced production costs due to strategic innovation and a further 47% (54) agreed on the same assertion. Additionally, 4.3 % (5) of the respondents fairly agreed, 1.7% (2) of the respondents disagrees while 0% (0) strongly disagreed that the company enjoys reduced production costs due to innovation. This was supported with a mean of 4.4 and an insignificant standard deviation of 0.7.

Furthermore, the results showed that, 58.3% (67) of the respondents strongly agreed and another 40.9 (47) agreed that strategic innovation has greatly improved turnaround time for rendering services to customers. Also, 0.9% (1) of the respondents fairly agreed that strategic innovation has greatly improved turnaround time for rendering services to customers. On the other hand, 0% (0) of the respondents disagreed while 0% (0) strongly disagreed that Innovation has greatly improved turnaround time for rendering services to customers with a mean of 4.6 and an insignificant standard deviation of 0.5. According to the finding of the study, 49.6% (57) of the respondents strongly agreed that the organization customer base has continued to increase in the last 3 years. On the other hand, 40% (46) of the respondents agreed that the organization customer base has continued to increase in the last 3 years while, 10.4% (12) of the respondents fairly agreed on the same assertion with a mean of 4.4 and an insignificant standard deviation of 0.7. In accordance to the bank's branch network has grown for the past 3 years, 47% (54) of the respondents strongly agreed and 44% (51) agreed.

Also, 5.2% (6) of the respondents fairly agreed, 0.9% (1) disagreed while 2.6% (3) strongly disagreed that the bank's branch network has grown for the past 3 years. This was supported with a mean of 4.3 and an insignificant standard deviation of 0.8. From the Table 4.11, 33% (53) of the respondents strongly agreed the use of artificial intelligence in gathering customer purchasing behavior has brought more clients to my organization and another 46.1% (53) of the respondents agreed on the same. However, 19.1% (22) of the respondents fairly agreed, 1.7% (2) disagreed while 0 (0) of the respondents strongly disagreed that the use of artificial intelligence in gathering customer purchasing behavior has brought more clients to my organization. This was supported with a mean of 4.1 and an insignificant standard deviation of 0.8. Furthermore, the results revealed that 41.7% (48) of the respondents strongly agreed that new products are designed from customer suggestions and a further 37.4% (43) of the respondents agreed on the same assertion.

On the other hand, 18.3% (21) of the respondents agreed that new products are designed from customer suggestions, while 2.6% (3) disagreed and 0% (0) of the respondents strongly disagreed on the same statement with a mean of 4.2 and an insignificant standard deviation of 0.8.Lastly, in regard to the organization has a knowledgeable customer representative to take care of customer needs, 55.7% (64) of the respondents strongly agreed and 39.1% (45) agreed on the same assertion. Moreover, 5.2% (6) of the respondents fairly agreed that the organization has a knowledgeable customer representative to take care of customer needs. However, 0% (0) of the respondents disagreed while 0% (0) of the respondents strongly disagreed that the organization has a knowledgeable customer representative to take care of

customer needs. This was supported with a mean of 4.5 and an insignificant standard deviation of 0.6. The aggregate mean and standard deviation (M=4.38, SD=0.7) indicated that responses were concentrated around the mean and that respondents agreed to most of the statements regarding competitiveness of commercial banks in Kenya. Results show that responses were not scattered far from the mean as it was characterized by insignificant standard deviation.

This ordinarily means majority of respondents agreed that their organizations were enjoying elements of competitiveness resulting from strategic innovation as shown by the following; reduced labor costs due to digitization, reduced production costs due to innovation, improved turnaround time for rendering services to customers, increased customer base in the last 3 years, growth in branch network for the past 3 years, more clients onboarded through AI, products designed from customer suggestions and presence of a knowledgeable customer representative meaning banks are responsive to customer needs. These findings concur with those of Funsho, Joseph, Samuel and Adeola (2021) who investigated the influence of Strategic marketing innovation on bank performance in Nigeria and findings confirmed a positive and significant relationship. Other studies which lend support to the findings include (Byukusenge & Muiruri,2021; Wallace and Kilika,2021). Strategic innovations that focus on improved efficiency, increased market share and customer responsiveness are therefore highly likely to boost competitiveness of banks.

4.6 Inferential Analysis

The effect of potential confounding factors on the dependent variable was examined through regression analysis. R, the coefficient of correlation, and R squared, the coefficient of determination, were calculated as part of this study. The Significance level (P-value), B coefficients, and F statistics were also of relevance. The hypothesis was examined through the application of the correlation r (Beta, β). The test criteria are designed so that the study rejects the null hypothesis if β is significant and fails to do so if β is insignificant based on the t-statistics (Carolyne, Robert, and Ayub, 2020).

4.6.1 Influence of Product innovation on competitiveness

The purpose of this research was to determine how new product introductions affect the competitiveness of Kenya's Commercial Banks. The Pearson correlation analysis test was employed to do this, and the outcomes are shown in Table 4.12.

Table 4. 12: Correlation Analysis Product innovation

		Product innovation	**Competitiveness**
Product innovation	Pearson Correlation	1	.705**
	Sig. (2-tailed)		.000
	N	115	115
Competitiveness	Pearson Correlation	.705**	1
	Sig. (2-tailed)	.000	
	N	115	115

**. Correlation is significant at the 0.05 level (2-tailed).

Source: Research Data (2022)

From the table 4.12, it can be seen that r = 0.705, P=0.000 which indicated that there was a strong positive relationship between product innovation and competitiveness of Commercial Banks in Kenya. This implies that increase in product innovation would result to increase in competitiveness of Commercial Banks in Kenya. These results are supported by Nuryakin ,2018; Agaba, et al. (2018) who revealed that product innovation had a positive and significant effect on competitive advantage of various firms. However, Innocent et al. (2020) found a non-significant relation between product innovation and competitiveness of SMEs' in manufacturing sector in Ghana.

4.6.2 Effect of Market innovation on Competitiveness

The study sought to establish the influence of market innovation on competitiveness of Commercial Banks in Kenya. To achieve this, Pearson correlation analysis test was used and the results are presented in Table 4.13.

Table 4. 13: Correlation Analysis Market innovation

		Market innovation	Competitiveness
Market innovation	Pearson Correlation	1	.651**
	Sig. (2-tailed)		.000
	N	115	115
Competitiveness	Pearson Correlation	.651**	1
	Sig. (2-tailed)	.000	
	N	115	115

**. Correlation is significant at the 0.05 level (2-tailed).

Source: Research Data (2022)

From the table 4.13, it can be seen that r = 0.651, P=0.000 which indicated that there was strong positive relationship between market innovation and competitiveness of Commercial Banks in Kenya. This implies that an increase in market innovation would result to increase in competitiveness of Commercial Banks in Kenya. These findings compare favorably to a study conducted by Byukusenge et al. (2018) who established that market innovation specifically influenced competitiveness of brewing companies in Rwanda by growing its market share. Moreover, Issau et al., (2021) found that market innovation influenced the performance of small and medium-sized enterprises (SMES) in Ghana. Mugo and Macharia (2021) however established that market innovation specifically advertising and promotions did not have a significant influence in the performance of banks in Kenya.

4.6.3 Effect of Service Innovation on Competitiveness

The study sought to establish the relationship between service innovation and competitiveness of Commercial Banks in Kenya. To achieve this, Pearson correlation analysis test was used and the results are presented in Table 4.14.

Table 4. 14: Correlation Analysis Service innovation

		Service innovation	Competitiveness
Service innovation	Pearson Correlation	1	.500**
	Sig. (2-tailed)		.000
	N	115	115
Competitiveness	Pearson Correlation	.500**	1
	Sig. (2-tailed)	.000	
	N	115	115

**. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Data (2022)

As shown table 4.14, it evident that r = 0.500, P=0.000 which suggested that there was positive moderate relation between service innovation and competitiveness of Commercial Banks in Kenya. This implies that increase in service innovation would result to increase in competitiveness of Commercial Banks in Kenya. This study was backed by Cheng et al. (2019) who found that service innovation had a significant effect on student satisfaction and positively influenced perceived institutional image and loyalty. Additionally, Mutuku & Wambua (2019) established that service innovation positively affected the hotel industry in Nairobi, Kenya.In

contradiction though, Aysel and Fatma (2017) found some forms of service innovation like online banking, telephone banking not to influence profitability of Turkish banks.

4.6.4 Influence of Managerial innovation on Competitiveness

The study sought to establish the relationship between managerial innovation and competitiveness of Commercial Banks in Kenya. To achieve this, Pearson correlation analysis test was used and the results are presented in Table 4.15 below.

Table 4. 15: Correlation Analysis Managerial innovation

		Managerial innovation	Competitiveness
Managerial innovation	Pearson Correlation	1	.557**
	Sig. (2-tailed)		.000
	N	115	115
Competitiveness	Pearson Correlation	.557**	1
	Sig. (2-tailed)	.000	
	N	115	115

**. Correlation is significant at the 0.05 level (2-tailed).

Source: Research Data (2022)

As shown in table 4.15, it evident that r = 0.557, P=0.000 which postulated that there was moderate positive relationship between managerial innovation and competitiveness of Commercial Banks in Kenya. This implies that managerial innovation would results to increase in competitiveness of Commercial Banks in Kenya. These findings concur with Mohd and Radwan (2015) who explored the influence of managerial innovation on competitiveness of

Jordanian Commercial Banks and found a strong statistically significant association between the two. In addition, Salisu and Bakar (2019) found that management innovation showed a strong positive and statistically significant link and a positive relationship. However, Rocha (2015) found that R&D policies on innovation carried out by the Brazilian government did not influence the performance of 243 Brazilian companies.

4.6.5 Influence of Environmental factors on competitiveness

The study sought to identify the influence of environmental factors on competitiveness of Commercial Banks in Kenya. To achieve this, Pearson correlation analysis test was used and the results are presented in Table 4.16

Table 4. 16: Correlation Analysis Environmental factors

		Environmental factors	**Competitiveness**
Environmental factors	Pearson Correlation	1	.635**
	Sig. (2-tailed)		.000
	N	115	115
Competitiveness	Pearson Correlation	.635**	1
	Sig. (2-tailed)	.000	
	N	115	115

**. Correlation is significant at the 0.05 level (2-tailed).

Source: Research Data (2022)

From the table 4.16, r = 0.635, P=0.000 which indicated that there was a strong positive relationship between environmental factors and competitiveness of Commercial Banks in Kenya. This implies that increase in environmental factors would result to increase in

competitiveness of Commercial Banks in Kenya. These results agree with Mirza (2017) who examined the moderating impact of environmental factors on relationship between business innovation and business performance. The moderating variables of the study, technological turbulence, market turbulence and competitive intensity were found to be positive and statistically significant. Arokodare (2021) confirmed that eenvironmental turbulence moderated the effect of strategic agility on performance of oil and gas marketing companies in Nigeria. However, Jestita (2018) found out that there was no moderating effect of environmental factors on the relationship between market orientation and school performance in the Philippines.

4.6.6 Overall Correlation Analysis

The level of linear relationship between the variables was examined using correlation analysis. A correlation coefficient value of +1 shows an absolutely positive association between the variables, whereas a value of -1 indicates an absolutely negative relationship. If the value of the correlation coefficient is zero, then there is no connection between the variables. A correlation coefficient between 0.0 and 0.19 is deemed to be very weak, between 0.20 and 0.39 is deemed to be weak, between 0.40 and 0.59 is deemed to be moderate, between 0.60 and 0.79 is deemed to be strong, and between 0.80 and 1.0 is deemed to be extremely powerful. Pearson moment correlation analysis was used in this research. The study used the correlation coefficient to check for any associations between the response variable (competitiveness) and the predicator variables (strategic innovation).

Table 4. 17: Multiple Correlation Matrix

		PI	MI	SI	MGI	EF
PI: Product Innovation	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	115				
MI: Market Innovation	Pearson Correlation	.677**	1			
	Sig. (2-tailed)	.000				
	N	115	115			
SI: Service Innovation	Pearson Correlation	.374**	.324**	1		
	Sig. (2-tailed)	.000	.000			
	N	115	115	115		
MI: Managerial Innovation	Pearson Correlation	.461**	.408**	.532**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	115	115	115	115	
EF: Environmental Factors	Pearson Correlation	.498**	.348**	.271**	.417**	1
	Sig. (2-tailed)	.000	.000	.003	.000	
	N	115	115	115	115	115
Competitiveness	Pearson Correlation	.705**	.651**	.500**	.557**	.635**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	115	115	115	115	115

**. Correlation is significant at the 0.05 level (2-tailed).

Source: Research Data (2022)

The correlation coefficient (r) results are presented as shown in Table 4.17. From the correlation Table 4.17, product innovation is strongly positively correlated to competitiveness of Commercial Banks in Kenya the coefficient is 0.705 (p value = 0.000) this is significant at 95% confidence level. Thus, increase in product innovation would make competitiveness of

Commercial Banks in Kenya also to increase. These results are similar to studies conducted by Agaba et al. (2018) who examined the influence of product innovation on competitive advantage among beer products and producers in Kabale, Uganda. The study found a strong positive correlation between product innovation and competitiveness of beer producers. Nuryakin (2018) who established a statistically significant correlation between that product innovation and competitive advantage of Batik SMEs in Indonesia. Also, market innovation is strongly positively correlated to competitiveness of Commercial Banks in Kenya the coefficient is 0.651 (p value = 0.000) this is significant at 95% confidence level.

Thus, increase in market innovation would make competitiveness of Commercial Banks in Kenya also to increase. These results are similar to studies conducted by Lee et al., (2015); Raja & Wei's, (2014); Senguo & Kilango (2015);Byukusenge et al. (2018). Additionally, the correlation coefficient for service innovation was 0.500, P=0.000, suggesting that there is positive moderate relationship between service innovation and competitiveness of Commercial Banks in Kenya. This implies that increase in service innovation would results to moderate increase in competitiveness of Commercial Banks in Kenya. The study results are in sync with Cheng, Cham and Lee (2019) who examined the influence of Service innovation in building a sustainable competitive advantage in higher education in Malaysia. Other studies which lend support to the findings of this study include (Bellingkrodt & Wallenburg, 2015; Mahmoud et al., 2018; Ta & Yang, 2018). Further, a correlation coefficient of 0.557 implied that there is moderate positive relationship between managerial innovation and competitiveness of Commercial Banks in Kenya. These findings are echoed by a study carried out by Mindra et

al (2015) that investigated the impact of managerial innovation on business performance in SMEs in Uganda. Further, positive correlation coefficients were discovered between managerial innovation and competitiveness by Roy, Guilani & Robert (2017). Lastly, there is strong positive relationship between environmental factors and competitiveness of Commercial Banks in Kenya as indicated by 0.635, p=0.000. This implies that improvement in environmental factors would result to increase in competitiveness. These results are in agreement with Mirza (2017) who examined the moderating impact of environmental factors on relationship between business innovation and business performance. Other studies which lend support to the findings of this study include (Jaakkola,2015; Liao et al., 2019).

4.7 Assumption of Linear Regression

The study undertook several diagnostics test to elaborate the suitability of the research model. The satisfaction of the regression analysis assumption led to unbiased estimates and hence the results were comparatively and fairly close to the truth. The diagnostic tests were used to measure the assumptions. It was necessary to run diagnostic tests to ensure that the data was consistent with the requirements of the classical linear regression model before proceeding with the actual regression analysis. According to the theory of Long and Ervin (2000), this guarantees that the generated estimates are objective and effective. When the assumptions of regression are violated, Pedhazur (1997) argued, the resulting findings are untrustworthy and prejudiced. The study's variables were subjected to tests for normality, linearity, heteroskedasticity, serial autocorrelation, and multicollinearity to make sure they met the assumptions.

4.7.1 Multi-collinearity Test

Multicollinearity also termed as collinearity shows if two or more variables used in a multiple regression model are highly correlated which means that one can be linearly predictable with a higher degree of accuracy compared to the others. The researcher used variance inflation factor (VIF) to test collinearity. This factor measures how high the multicollinearity is in a least squares regression analysis. It gives the index showing the magnitude of the increase of a variance if a regression coefficient is increased because of collinearity. A variable whose tolerance value and VIF is above 1 and 10 respectively would merit further investigation. From the table 4.18 tolerance ranged from to 0.494 to 0.694 which are all below 1 and therefore its reciprocal and the VIF was between 1.441 and 2.023, which are below the threshold value of 10 as required. From the VIF findings presented in Table 4.18, the independent variables did not show any signs of multi-collinearity because the VIF values were less than 10. This simply means that the variables were not highly correlated and therefore, multi-collinearity does not exist. The variables were thus suitable for multiple regression analysis (Shresta,2020).

Table 4. 18: Collinearity Statistics

Variable	Tolerance	VIF
Product Innovation	.494	2.023
Market Innovation	.529	1.891
Service Innovation	.694	1.441
Managerial Innovation	.629	1.590

Source: Research Data (2022)

4.7.2 Homoscedasticity Test of Competitiveness

The results of the homoscedasticity test are displayed in Figure 4.3 below. By doing homoscedasticity tests, researchers may make sure that no heteroscedasticity issues arise (Yang,Tu & Chen,2019). The residual variance in a regression model can be examined with a test for homoscedasticity. Homoscedasticity of data is represented by the probability versus probability plot (P-P Plot).

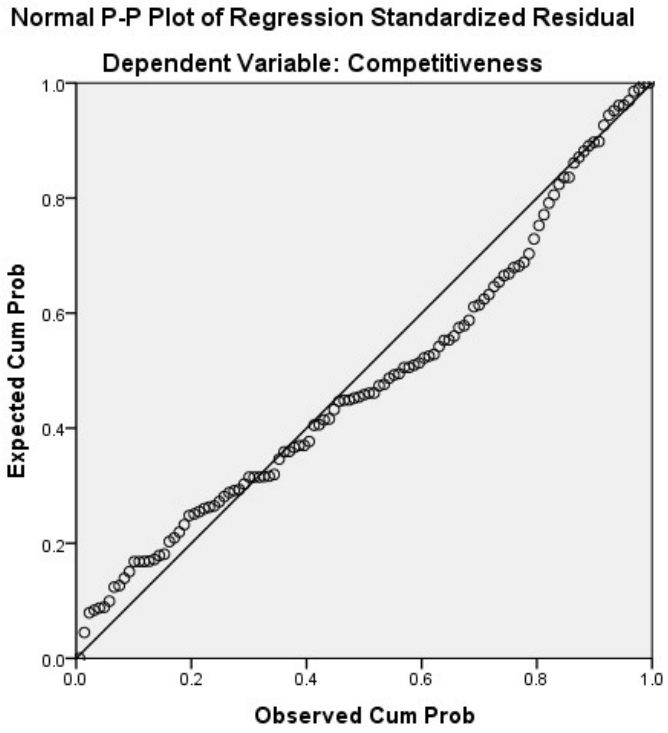


Figure 4. 5: Homoscedastic Test of Competitiveness

Source: Research Data (2022)

From figure 4.5 above the normal P-P plot of competitiveness shown, shows that there is small deviation of the points from the straight line that cuts across the plane. This means that the data used in this research is homoscedastic hence the model adopted multiple linear regression model as there is no problem of heteroscedasticity.

4.7.3 Normality Test

The study used both the graphical plots and any statistical tests to assess the actual degree of departure from normality as suggested by Hair, Black, Babin, Anderson & Tatham (2016).

Table 4. 19: Normality Test Using Shapiro-Wilk Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	**Df**	**Sig.**	**Statistic**	**Df**	**Sig.**
Product Innovation	.125	115	.000	.974	115	.026
Market Innovation	.097	115	.010	.974	115	.022
Service Innovation	.149	115	.000	.860	115	.000
Managerial Innovation	.113	115	.001	.898	115	.000
Environmental Factors	.141	115	.000	.874	115	.000
Competitiveness	.136	115	.000	.942	115	.000

a. Lilliefors Significance Correction

Source: Research Data 2022

The Shapiro-Wilk test relies on correlation between data and corresponding normal scores. Shapiro-Wilk test gives better power after Lilliefors correction Kolmogorov-Smirnov should be used with caution due to its low power and recommends that normality be assessed visually. First, the study ran the statistical tests of normality, which is the Shapiro – Wilk test. The data showed some instance of non-conformance to normality and thus graphical analysis of normality was used.

Since the significance level for both the Kolmogorov-Smirnov and Shapiro-Wilk tests was 0.05, all variables in the aforementioned table 4.19 rejected their null hypotheses that the data sets for the six variables were not regularly distributed. Hair et al. (2016) concur that parametric procedures can be utilized even when data is not typically distributed. Large samples (>= 30 or 40) should be fine if the normalcy assumption is broken. Large samples (30 or 40) have a normal sampling distribution, therefore we may utilize parametric algorithms to analyze the data. Williams et al. (2013) suggest that visual inspection of data be used to determine normalcy. From Figure 4.6 shown below, the deviation from normalcy in the Q-Q plot of Product innovation below the approximation to the line of fit was minimal. This allowed us to conduct a regression analysis because the data followed a nearly normal distribution.

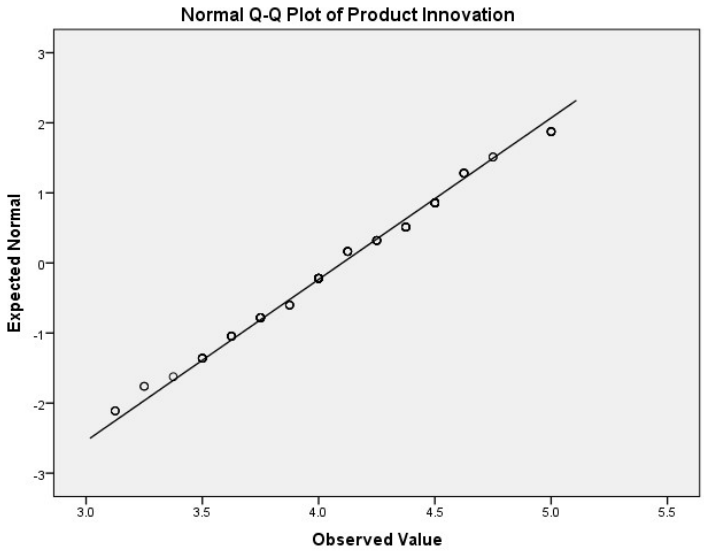


Figure 4. 6: Normal Q-Q plot of Product innovation
Source: Research Data (2022)

Based on the figure 4.7 below normal Q-Q plot of market innovation, the difference from normality wasn't as big as the difference between the line of fit and the closest approach to the line of fit. This allowed the researcher to apply a regression analysis because the data followed a nearly normal distribution. If the actual data distribution closely matches the straight diagonal line of the normal distribution, then the data variables originate from a normally distributed population, which is a key assumption for the interpretation of graphical analysis. According to the Q-Q plot of market innovation in Figure 4.7 below normal, the deviation from normality was not as great as the deviation from the approximate line of best fit. This allowed us to apply a regression analysis because the data followed a nearly normal distribution.

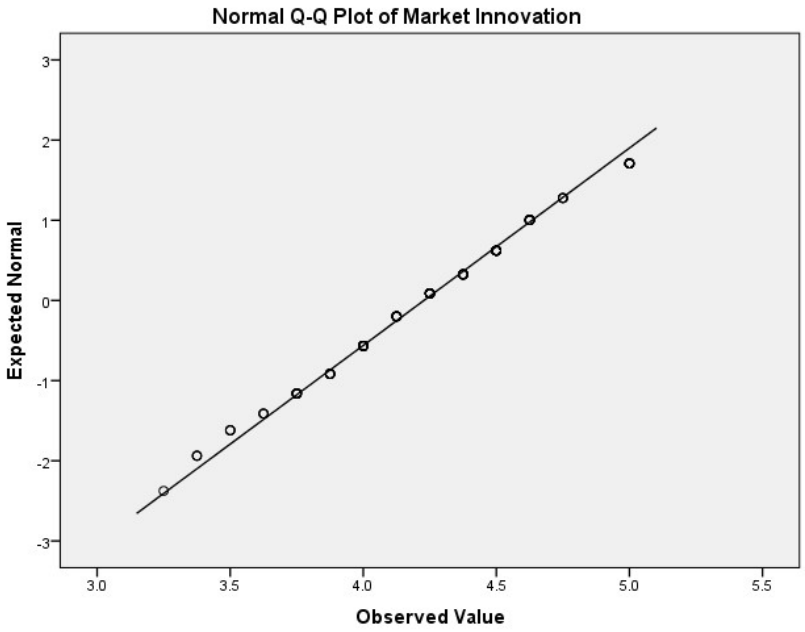


Figure 4. 7: Normal Q-Q plot of market innovation
Source: Research Data (2022)

From Figure 4.8 shown below normal Q-Q plot of service innovation, the departure from normality from the approximation of line of fit on the Q-Q plot was small. The data could be assumed to be near normal hence parametric procedures in correlation, regression, analysis of variance, and t-test can be applied on the data.

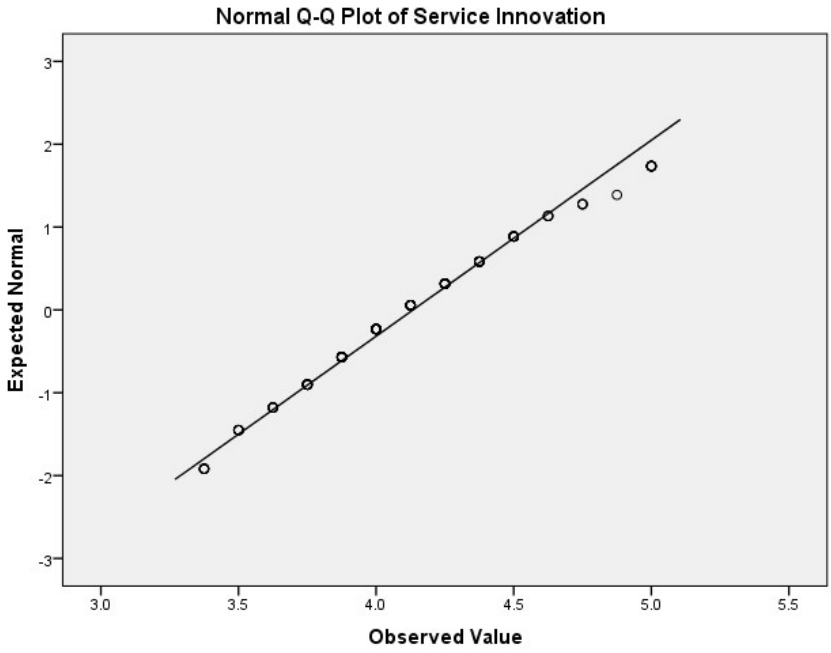


Figure 4. 8: Normal Q-Q plot of service innovation
Source: Research Data (2022)

From Figure 4.9 shown below normal Q-Q plot of managerial innovation, the departure from normality from the approximation of line of fit on the Q-Q plot was small. The data can be assumed to be near normal hence parametric procedures in correlation, regression, analysis of variance, and t-test can be applied on the data.

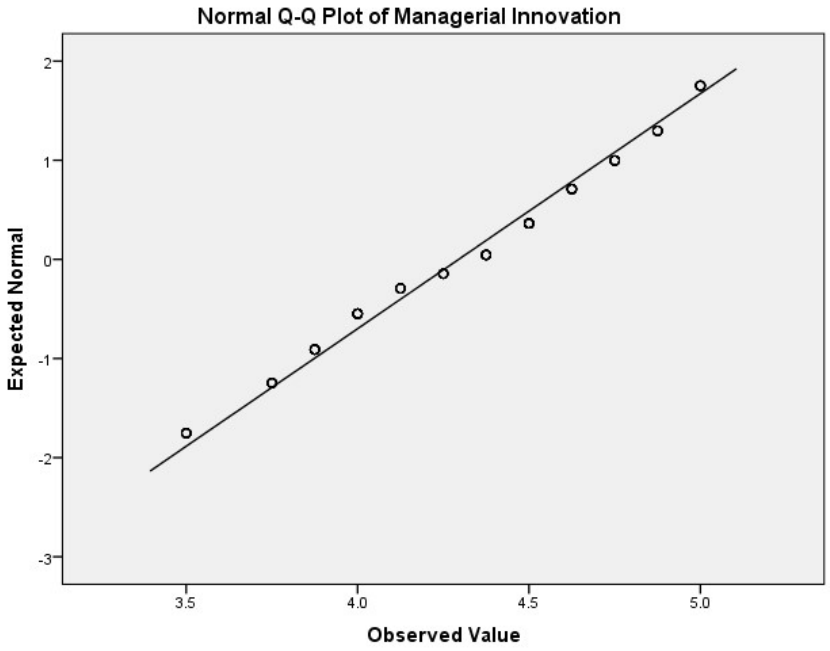


Figure 4. 9: Normal Q-Q plot of managerial innovation

Source: Research Data (2022)

From Figure 4.10 shown below Normal Q-Q plot of environmental factors, the departure from normality from the approximation of line of fit on the Q-Q plot is small. The data can be assumed to be near normal hence parametric procedures in correlation, regression, analysis of variance, and t-test can be applied on the data.

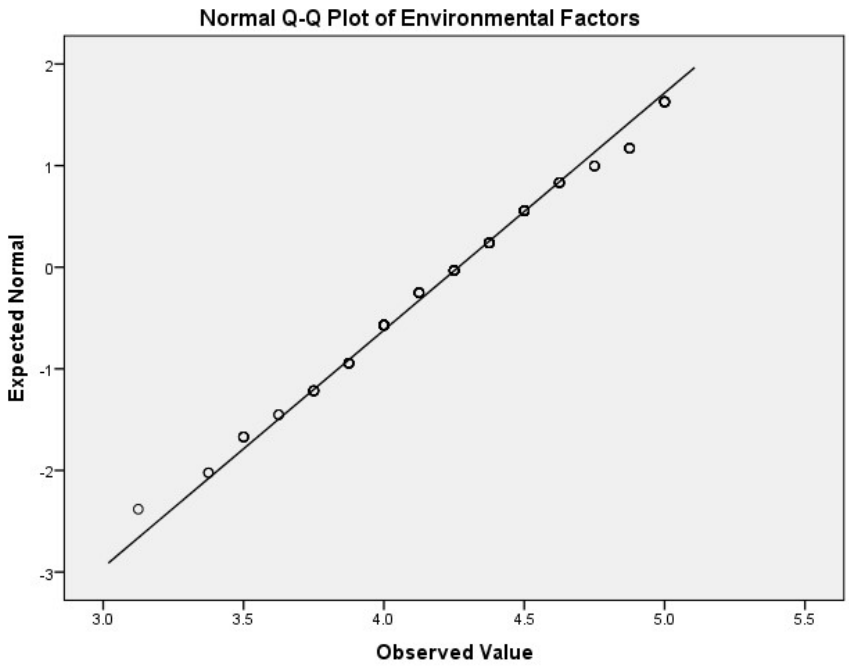


Figure 4. 10: Normal Q-Q plot of environmental factors

Source: Research Data (2022)

Figure 4.11 depicts a Normal Q-Q plot of competitiveness. The deviation from normality was not as great as the deviation from the line of best fit. Thus, the data had a close approximation to a normal distribution and could be utilized in a regression analysis.

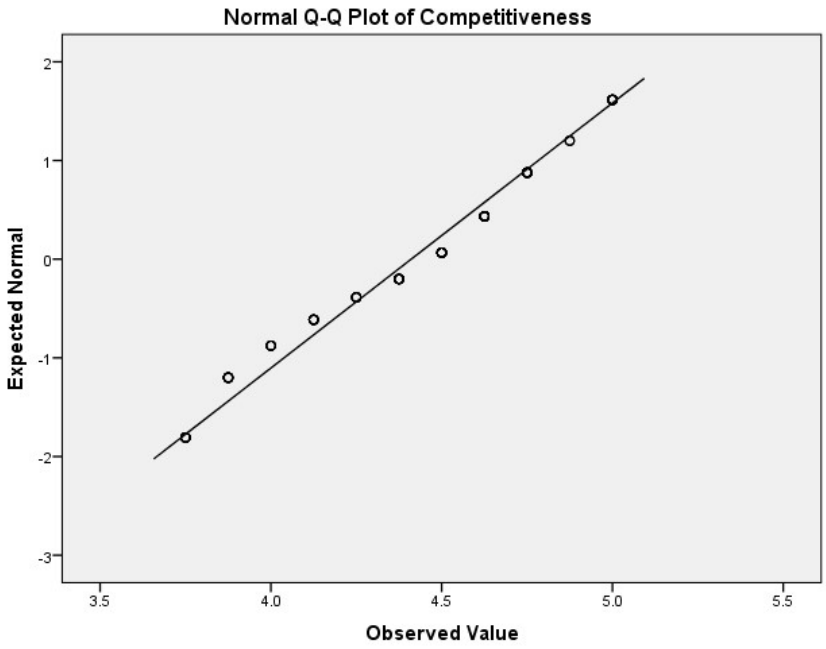


Figure 4. 11: Normal Q-Q plot of competitiveness
Source: Research Data (2022)

4.7.4 Linearity

The coefficient of correlation shows the power and direction of linear relations. When the growth of one variable causes a decrease in the other variable, then the relation is termed as being inversely proportional. In a directly proportional relation, when one variable increases the other follows suit (Field, 2009). Pearson's correlation coefficient and scatter plots by Hair et al., (2016) was utilized to determine if there was a linear relationship between strategic innovation and competitiveness. (Product innovation, Market innovation, Service innovation and Managerial innovation). The findings confirm the presence of a linear relation between the variables as shown below in Figure 4.12.

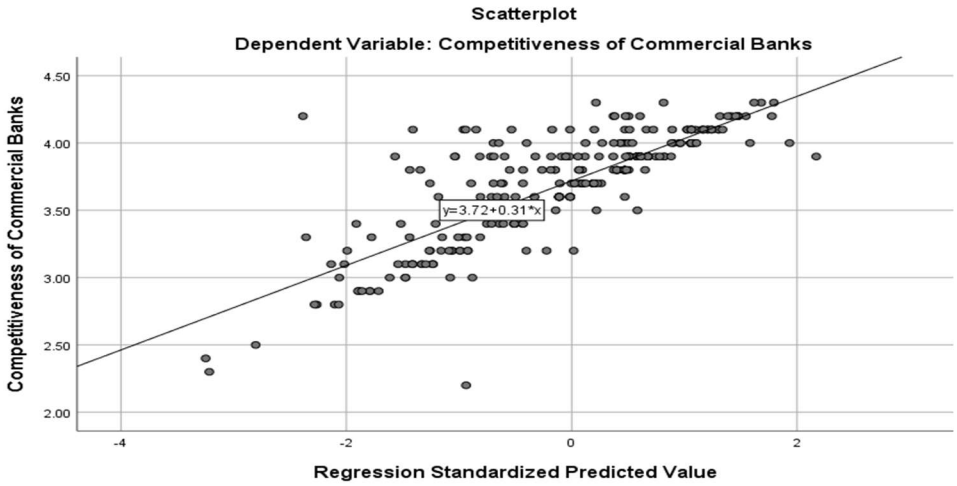


Figure 4. 12: Scatter Plot

Source: Research Data (2022)

4.8 Simple Linear Regression for each variable

Simple Linear regression was conducted to establish direct relationship of each variable on the competitiveness of Commercial Banks in Kenya.

4.8.1 Product innovation and Competitiveness

The first objective of the study was to identify the influence of product innovation on competitiveness of Commercial Banks in Kenya. The study presented inferential statistics which include simple linear regression analysis to achieve the objective and therefore, test the first null hypothesis that posits

> H_{01}: There is no significant influence of product innovation on competitiveness of Commercial Banks in Kenya.

Table 4. 20: Model Summary; Regression for Product innovation and Competitiveness

Model Summary[b]				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.705[a]	.498	.493	.301414

ANOVA[a]						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	10.171	1	10.171	111.951	.000[b]
	Residual	10.266	113	.091		
	Total	20.437	114			

Coefficients[a]						
		Unstandardized Coefficients		**Standardized Coefficients**		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	1.662	.258		6.438	.000
	Product Innovation	.664	.063	.705	10.581	.000

a. Dependent Variable: Competitiveness

Source: Research Data (2022)

From the table 4.20, the findings indicated that product innovation had a value of R squared = 0.498 which translated to 49.8%. This was the percentage variation in competitiveness as explained for by product innovation while 50.2% was caused by other factors not explained because the study addressed product innovation and competitiveness. ANOVA results showed that F value = *111.951* and P value was 0.000. Tests were done at 0.5 or 5% level of

significance. The results indicated that product innovation had a statistically positive and significant effect on explaining variation in competitiveness hence the model is feasible.

The value of regression coefficient B = 0.664 indicated that an increase in a unit of product innovation was associated with an increase in 0.664 units of competitiveness of Commercial Banks in Kenya. Therefore, the results led to the rejection of the first null hypothesis and concluded that, product innovation had a statistically positive significant effect on competitiveness of Commercial Banks in Kenya. Based on the regression coefficient results, simple linear regression model equation was written as

$Y = 1.662+0.664X_1$

Where Y is Competitiveness of commercial Banks

X1 is product innovation

From the results, it is evident that product innovation has positive effect on competitiveness of Commercial Banks in Kenya. These results are supported by Nuryakin (2018) and Agaba et al (2018) who revealed that product innovation had a positive and significant effect on competitive advantage. However, Kassimu et al., (2020) found a non-significant relation between product innovation and competitiveness of SMEs' in manufacturing sector in Ghana.

4.8.2 Market innovation and Competitiveness

The second objective of the study was to establish the influence of market innovation on competitiveness of Commercial Banks in Kenya. The study presented inferential statistics

which include simple linear regression analysis to achieve the objective and therefore, test the second null hypothesis that posits

H_{02}: There is no significant influence of market innovation on competitiveness of Commercial Banks in Kenya.

Table 4. 21: Model Summary; Regression for Market innovation and Competitiveness

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.651[a]	.424	.419	.322679

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.671	1	8.671	83.279	.000[b]
	Residual	11.766	113	.104		
	Total	20.437	114			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.682	.297		5.667	.000
	Market Innovation	.640	.070	.651	9.126	.000

a. Dependent Variable: Competitiveness

Source: Research Data (2022)

From the table 4.21, the findings indicated that market innovation had a value of R squared = 0.424 which translated to 42.4%. This was the percentage variation in competitiveness as explained for by market innovation while 57.6 % was caused by other factors not explained because the study addressed market innovation and competitiveness in commercial banks. From ANOVA table the results showed that F value = 83.279 and P value was 0.000 meaning

that the model was feasible. Tests were done at 0.5 or 5% level of significance. The results indicated that market innovation had a statistically significant effect on explaining variation in competitiveness. The value of regression coefficient B = 0.640 indicated that an increase in a unit of market innovation was associated with an increase in 0.640 units of competitiveness.

Therefore, the results led to the rejection of the first null hypothesis and concluded that, market innovation had a statistically positive significant effect on competitiveness of Commercial Banks in Kenya. Based on the regression coefficient results, simple linear regression model equation was written as

$Y = 1.682+0.640X_2$

Where Y is Competitiveness of commercial Banks

X_2 is Market innovation

From the results, it is evident that market innovation has positive influence on competitiveness of Commercial Banks in Kenya. This means that if market innovation increases by 1 unit competitiveness will increase by 0.640 in the same direction. These results concurred with Lizovskaya et al. (2020); Issau et al., (2021); Byukusenge et al. (2018).

4.8.3 Service innovation and Competitiveness

The third objective of the study was to establish the effect of service innovation on competitiveness of Commercial Banks in Kenya. The study presented inferential statistics

which include simple linear regression analysis to achieve the objective and therefore, test the third null hypothesis that posits

H_{03}: There is no significant influence of service innovation on competitiveness of Commercial Banks in Kenya.

Table 4. 22: Model Summary; Regression for Service innovation and Competitiveness

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.500[a]	.250	.243	.368342

ANOVA[a]						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	5.106	1	5.106	37.630	.000[b]
	Residual	15.331	113	.136		
	Total	20.437	114			

Coefficients[a]						
		Unstandardized Coefficients		**Standardized Coefficients**		
Model		**B**	**Std. Error**	**Beta**	**T**	**Sig.**
1	(Constant)	3.057	.218		14.026	.000
	Service Innovation	.329	.054	.500	6.134	.000
a. Dependent Variable: Competitiveness						

Source: Research Data (2022)

From the table 4.22, the findings indicated that service innovation had a value of R squared = 0.250 which translated to 25.0%. This was the percentage change in competitiveness as accounted for by service innovation, while 75.0% was caused by other factors not explained because the study focused on service innovation and competitiveness. ANOVA results showed that F value = 37.630 and P value was 0.000 meaning the model is feasible. Tests were done

at 0.5 or 5% level of significance. The results indicated that service innovation had a statistically significant effect in explaining change in competitiveness. The value of regression coefficient B = 0.329 indicated that an increase in a unit of service innovation was associated with an increase in 0.329 units of competitiveness of Commercial Banks in Kenya. Therefore, basing on this evidence, the study failed to accept the third null hypothesis and concluded that, service innovation had a statistically significant positive effect on competitiveness of Commercial Banks in Kenya. Based on the regression coefficient results, simple linear regression model equation was written as

$Y= 3.057+0.329X_3$

Where Y is Competitiveness of commercial Banks

X_3 is Service Innovation

From the results, it is evident that service innovation has positive effect on competitiveness of Commercial Banks in Kenya. This finding lends support to previous studies (Cheng et al., 2019; Kong & Masud, 2019; Kyei & Bayoh, 2017) Nevertheless, some studies have failed to provide for what this study established (Odhiambo,2015; Aysel & Fatma, 2017).

4.8.4 Managerial innovation and Competitiveness

The fourth objective of the study was to investigate the influence of managerial innovation on competitiveness of Commercial Banks in Kenya. The study presented inferential statistics which include simple linear regression analysis to achieve the objective and therefore, test the fourth null hypothesis that posits

H_{04}: There is no significant influence of managerial innovation on competitiveness of Commercial Banks in Kenya.

Table 4.23: Model Summary; Regression for Managerial innovation and Competitiveness

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.557[a]	.310	.304	.353213

ANOVA[a]					
Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1 Regression	6.339	1	6.339	50.811	.000[b]
Residual	14.098	113	.125		
Total	20.437	114			

Coefficients[a]					
	Unstandardized Coefficients		**Standardized Coefficients**		
Model	**B**	**Std. Error**	**Beta**	**T**	**Sig.**
1 (Constant)	2.477	.269		9.223	.000
Managerial Innovation	.448	.063	.557	7.128	.000
a. Dependent Variable: Competitiveness					

Source: Research Data (2022)

From the table 4.23, the findings indicated that managerial innovation had a value of R squared = 0.310 which translated to 31.0%. This was the percentage change in competitiveness as accounted for by managerial innovation, while 69.0% was caused by other factors not explained because the study focused on managerial innovation and competitiveness. ANOVA results showed that F value = 50.811 and P value was 0.000. Tests were done at 0.5 or 5% level of significance. The results indicated that managerial innovation had a statistically positive and significant effect in explaining change in competitiveness hence the model is feasible.

The study further sought to determine the regression coefficient between managerial innovation and Competitiveness. The value of regression coefficient B = 0.448 indicated that an increase in a unit of managerial innovation was associated with an increase in 0.448 units of competitiveness of Commercial Banks in Kenya. Therefore, basing on this evidence, the study failed to accept the fourth null hypothesis and concluded that, managerial innovation had a statistically significant effect on competitiveness of Commercial Banks in Kenya. Based on the regression coefficient results, simple linear regression model equation was written as

$Y = 2.477 + 0.448X_4$

Where Y is Competitiveness of commercial Banks

X_4 is managerial innovation

From the results, it is evident that managerial innovation has positive effect on competitiveness of Commercial Banks in Kenya. These findings are adequately supported by the results obtained from descriptive statistics. The results agree with (Mohd & Radwan,2015; Salisu & Bakar, 2019). However, some studies conducted on the effect of managerial innovation have recorded dissimilar results (Rocha,2016).

4.9 Multiple Regressions of Competitiveness

The general objective of this study was to examine the influence of strategic innovation on the competitiveness of Commercial Banks in Kenya. This was achieved by carrying out standard multiple regressions. The study was interested in knowing the effect of strategic innovation on competitiveness when all these constructs were entered as a block on the model. This aided in

coming up with the coefficients of the study model as well as R square of the study hence, test the null research hypotheses. The results are as shown in Table 4.24.

Table 4. 24: Model Summary Regression for Strategic innovation and Competitiveness

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.792[a]	.627	.614	.263079

ANOVA[a]						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	12.824	4	3.206	46.322	.000[b]
	Residual	7.613	110	.069		
	Total	20.437	114			

Coefficients[a]					
	Unstandardized Coefficients		**Standardized Coefficients**		
Model	**B**	**Std. Error**	**Beta**	**T**	**Sig.**
1 (Constant)	.746	.273		2.736	.007
Product Innovation	.354	.078	.376	4.543	.000
Market Innovation	.261	.079	.266	3.318	.001
Service Innovation	.116	.046	.176	2.524	.013
Managerial Innovation	.146	.059	.182	2.474	.015

a. Dependent Variable: Competitiveness

Source: Research Data (2022)

The first regression model then becomes;

$$Y = 0.746+0.354X_1+ 0.261\ X_2+ 0.116\ X_3+0.146X_4$$

The model summary findings established that the linear relationship between competitiveness and the four predictor variables; product innovation, market innovation, service innovation and managerial innovation is positive and linear. The coefficient of correlation was 0.792,

(r=0.792). The coefficient of determination (R^2) was 0.627, and this shows that 62.7% of the variations in the competitiveness can be explained by the four predictor variables in the study and the remaining 37.3% of the variations in competitiveness in Commercial banks in Kenya is explained by other factors not captured in the model. From the ANOVA results the F test gave a value of F (4, 114) =46.322, $p < .01$, which was large enough to support the goodness of fit of the model in explaining the variation in the dependent variable. It also means that strategic innovations are a useful predictor of competitiveness of Commercial Banks in Kenya. From the coefficients table product innovation, market innovation, service innovation and managerial innovation carried positive and significant predictive power ($P<0.05$). If strategic innovations are held at zero or are absent, competitiveness will be 0.746, $p<0.05$.

When service innovation, market innovation and managerial innovation are controlled, product innovation with a beta of 0.354, p=0.000 is at statistically significant level and is a good predictor of competitiveness implying that an increase in product innovation by a unit will result to significant ($P<0.05$) increase in competitiveness by 0.354 units. The study confirmed that product innovation had the most significant positive influence on competitiveness of commercial banks in Kenya. The results are in agreement with (Nuryakin ,2018; Onafadeji & Adeniran,2021) who similarly found a positive and significant link between product innovation and competitiveness of Batik SMEs in Indonensia and Garment Enterprises in Nigeria respectively. However, other studies have failed to indicate significant effect of product innovation (Innocent et al., 2020). When managerial innovation, product innovation and service innovation are controlled, market innovation with a beta of 0.261, P=0.001 is at

statistically significant level implying that an increase in market innovation by a unit will result to significant (P<0.05 increase in competitiveness by 0.261 units. These findings concur with Kiveu et al. (2019). Market innovation is still an underexplored field as such no study has been inadequately supported to present dissimilar results (Peng et al., 2021).

When managerial innovation, product innovation and market innovation are controlled, service innovation with a beta of 0.116, P=0.013 is at statistically significant level implying that an increase in service innovation by a unit will result to significant increase in competitiveness by 0.116 units (P<0.05). The results are in agreement with Cheng et al. (2019) who found Service innovation significant in building a sustainable competitive advantage in higher education in Malaysia. Chen et al., (2019) suggest that service innovation improve both efficiency and effectiveness in the service delivery process. These results are also supported by Kyei and Bayoh (2017) who found service innovation to be significant in customer retention in the Ghanaian telecommunication industry through improved service delivery. The findings however disagree with Aysel and Fatma (2017) who examined the influence of market innovation (online banking, telephone banking and credit cards) on profitableness of Turkish banking system. The results showed that only credit card usage had a significant positive impact on profitability while online and telephone banking had no significant influence on the profitability.

Lastly, when service innovation, product innovation and market innovation are controlled, managerial innovation with a beta of 0.146, P=0.015 is at statistically significant level implying that an increase in managerial innovation by a unit will result to significant (P<0.05) increase

in competitiveness by 0.146 units. The results are in agreement with Mohd and Radwan (2015) that indicated managerial innovation influenced performance of Jordanian Commercial Banks. The study found management practices, management processes and organizational structures as elements of managerial innovation enhanced profitability, market share, returns on investment, customer satisfaction and quality of services. These results are not supported by Rocha (2015) who found that R&D policies on innovation carried out by the Brazilian government did not influence the performance of 243 Brazilian companies.

4.10 Hierarchical Moderating Effect of Environmental factors on the Relationship between Strategic innovation Variables and Competitiveness

Environmental factors were used as moderating variable. This section presents the findings of the moderating influence of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya. The study evaluated the moderating effect using hierarchical regression analysis as proposed by Baron and Kenny (1986). The study noted that there are three steps involved in testing the moderating effect.

Step One involved testing the influence of independent variables in this strategic innovation on dependent variable.

Step Two entailed testing the effect of independent variables and moderating variable in this case environmental factors on dependent variable.

Finally step Three involved, testing the effect of, independent variable, moderating variable and the interactive term (product of independent and moderating variable) on dependent variable. Moderating effect happens if the effect of interaction is significant in step four.

The three steps involved in hierarchical regression analysis for moderating effect were written as:

Step One: $Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3+ \beta_4X_4 +\varepsilon$

Step Two: $Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3+ \beta_4X_4+ \beta_5M +\varepsilon$

Step Three: $Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3+ \beta_4X_4+ \beta_5M+ \beta_6X_1 M+ \beta_7X_2 M + \beta_8X_3 M + \beta_9X_4 M +\varepsilon$

Where,

β_0 represented Constant Term,

β_i; i = 1 to 9 is the regression coefficients which measured the change induced on the study variables.

X_1= Product innovation

X_2= Market innovation

X_3= Service innovation

X_4= Managerial innovation

M=Environmental factors;

βXM=Interaction term between Strategic Innovation and Environmental factors;

Y=Competitiveness and;

ε=Error/disturbance.

The relevant results are summarized in Table 4.25

Table 4. 25: Model Summary for Moderating Variable of Environmental factors

						Change Statistics			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.792[a]	.627	.614	.263079	.627	46.322	4	110	.000
2	.867[b]	.752	.740	.215778	.124	54.512	1	109	.000
3	.891[c]	.794	.777	.200102	.043	5.437	4	105	.001

a. Predictors: (Constant), Product Innovation, Market Innovation, Service Innovation, Managerial Innovation,

b. Predictors: (Constant), Product Innovation, Market Innovation, Service Innovation, Managerial Innovation, Environmental Factors

c. Predictors: (Constant), Product Innovation, Market Innovation, Service Innovation, Managerial Innovation, Environmental Factors, SI*EF, MI*EF, MGI*EF, PI*EF

Source: Research Data (2022)

From Table 4.25, in Model 1, all the independent variables were jointly found to have a positive and significant relationship with competitiveness of Commercial Banks in Kenya (p=0.000). The R^2 of 0.627 was obtained in this model. This means that these variables explain 62.7% of variance in the dependent variable. Further, Model 2, the findings also showed that when environmental factors was added as a moderator, the results obtained indicated that independent variables and the moderating variable were significantly and jointly related to competitiveness of Commercial Banks in Kenya ($p<0.05$). The R^2 moved to 0.752 (75.2%) from 0.627 (62.7%) implying that an additional 0.124 (12.4%) was added in the model.

Finally, Model 3, to investigate how the environmental factors moderates the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya. The interaction terms of the independent variables (specific variables) and the moderator

(Environmental factors) were entered in the regression model. The resultant model indicated that interaction between strategic innovation and environmental factors accounted for significantly 4.3%, (R^2 = 0.043, p = .001), indicating that there is a potentially significant moderation effect of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya. The final R square as a result of moderation was found to be 0.794 implying that the model explained 79.4% variance in competitiveness of Commercial Banks in Kenya.

Table 4. 26: Regression Coefficients for Moderating Variable of Environmental factors

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.746	.273		2.736	.007
	Product Innovation	.354	.078	.376	4.543	.000
	Market Innovation	.261	.079	.266	3.318	.001
	Service Innovation	.116	.046	.176	2.524	.013
	Managerial Innovation	.146	.059	.182	2.474	.015
2	(Constant)	.191	.236		.810	.420
	Product Innovation	.211	.067	.224	3.158	.002
	Market Innovation	.175	.066	.178	2.662	.009
	Service Innovation	.103	.038	.156	2.724	.008
	Managerial Innovation	.044	.050	.055	.876	.383
	Environmental Factors	.466	.063	.472	7.383	.000
3	(Constant)	-8.277	2.045		-4.048	.000
	Product Innovation	.930	.701	.988	1.327	.187
	Market Innovation	1.402	.605	1.426	2.319	.022
	Service Innovation	.201	.494	.305	.406	.685
	Managerial Innovation	.077	.634	.096	.121	.904
	Environmental Factors	2.426	.481	2.454	5.047	.000
	PI*EF	-.154	.158	-1.196	-.974	.332
	MI*EF	-.291	.144	-2.192	-2.024	.046
	SI*EF	-.022	.112	-.202	-.199	.843
	MGI*EF	-.011	.144	-.091	-.075	.941

a. Dependent Variable: Competitiveness

Source: Research Data (2022)

The results in Table 4.26 indicate coefficient result for the moderation effect of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya. In step 1, after entering the strategic innovation, all the innovations used in this study were found to have positive and significant predicative power ($P<0.05$). In step 2,

when environmental factors were entered in the model, it also had a positive and significant effect on competitiveness (β=0.466, P=0.000) apart from managerial innovation which moved from significant to insignificant. This implies that if environmental factors change by one unit, the competitiveness significantly change by 0.466 units in same direction.

In step three, upon the introduction of the interaction term (cross-product between strategic innovation and environmental factors), three of the strategic innovation constructs losses their significance (product innovation, service innovation and managerial innovation). One of the added interaction terms was found to be significant. Market innovation interaction* environmental factors (β= -0.291, t=-2.024, p = .046) while the interaction of product innovation, service innovation and managerial innovation were all insignificant. These findings were also represented in the model equation as shown in below

$$Y= \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3+ \beta_4X_4+ \beta_5M+ \beta_6X_1 M+ \beta_7X_2 M + \beta_8X_3 M + \beta_9X_4 M +\varepsilon$$

$$Y=-8.277+0.930+1.402+0.077+0.201+2.426-0.154-0.291-0.022-0.011$$

Where Y is the competitiveness of Commercial Banks in Kenya (**Dependent Variable**)

X_1 is the product innovation (**Independent Variable**)

X_2 is the market innovation (**Independent Variable**)

X_3 is the service innovation (**Independent Variable**)

X_4 is the managerial innovation (**Independent Variable**)

M is the environmental factors (**Moderating Variable**)

The results indicated that environmental factors have mixed outcome on competitiveness of Commercial Banks in Kenya. The environmental factors interaction product innovation coefficient is negative, meaning that the interactive effect is negative; therefore, as environmental factors increase by one unit, the level of product innovation effect on competitiveness significantly decreases although this interaction is not significant. From the model, the environmental factors interaction market innovation coefficient is negative, meaning that the interactive effect is negative, therefore, as environmental factors increase by one unit, the level of market innovation effect on competitiveness significantly decreases by 0. 291.This interaction was however significant as P=0.046. The environmental factors interaction service innovation coefficient is negative, meaning that the interactive effect is negative; therefore, as environmental factors increase by one unit, the level of service innovation effect on competitiveness significantly decreases although this interaction is not significant.

Finally, the environmental factors interaction managerial innovation coefficient is negative, meaning that the interactive effect is negative; therefore, as environmental factors increase by one unit, the level of managerial innovation effect on competitiveness significantly decreases although this interaction is not significant.The outcome of this study is partly in agreement with Mirzam (2017); Arokodare (2021) who found that environmental factors significantly moderated the relation between innovation and business performance. The study also partly concurs with Purity, James and Stephen (2019); Jestita (2018) who found a non-significant

moderating effect of environmental factors on the relationship between resource isolating and performance and market orientation and performance respectively.

4.11 Hayes Macros Process Interaction Process

To better examine the effect of a moderating variable Hayes macros process, by Andrew F was adopted. Hayes was used for each of the independent variables as shown below.

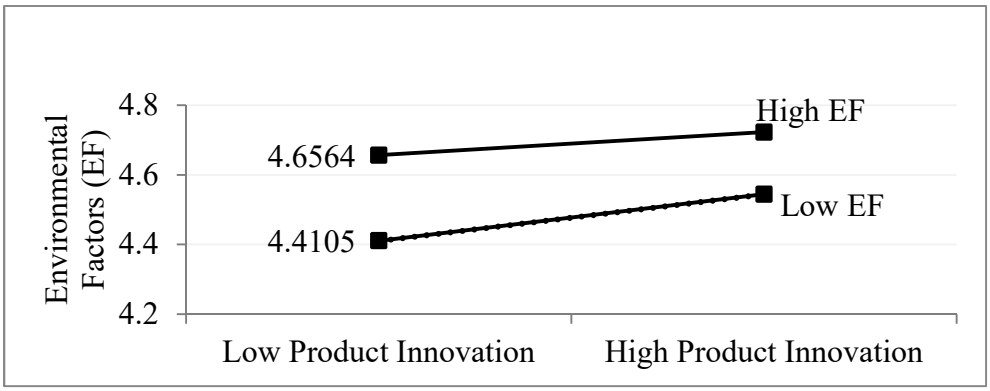


Figure 4. 13:Product Innovation
Source: Research Data (2022)

The figure above shows that when the level of environmental factors is high the relationship between product innovation and competitiveness is relatively low; however, when the slope of regression drops downwards represents strong relationship at high values of product innovation. Thus, moderation occurs at high values of product innovation.

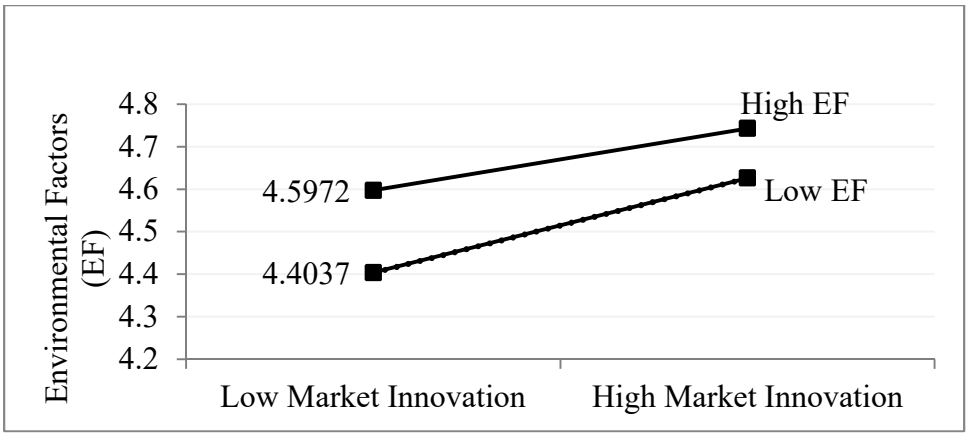


Figure 4. 14: Market Innovation

Source: Research Data (2022)

When environmental factors are low, market innovation is found to have a positive influence on competitiveness. Thus, moderation is strong at high values of market innovation.

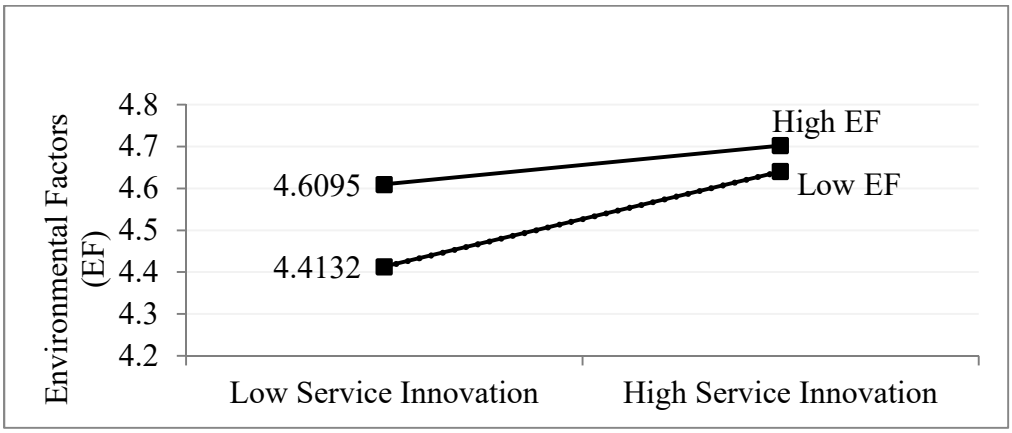


Figure 4. 15: Service innovation

Source: Research Data (2022)

When the environmental factors are high the relationship between competitiveness and service innovation is high and when environmental factors are low service innovation is found to have

a positive influence on competitiveness of commercial banks. Environmental factors were found to have a significant moderating effect on the relationship between competitiveness and service innovation as shown in figure 4.15 above. Also, service innovation was highly moderated by environmental factors.

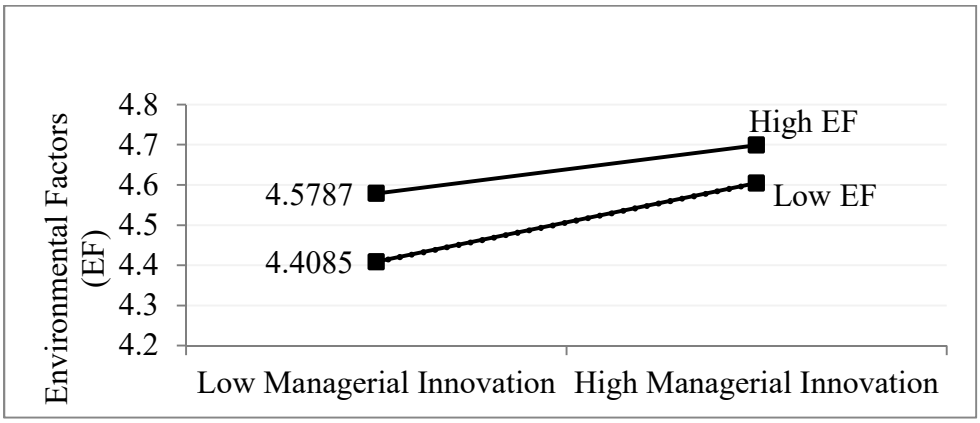


Figure 4. 16: Managerial innovation

Source: Research Data (2022)

When the environmental factors are high the relationship between competitiveness and managerial innovation is high and when environmental factors are low managerial innovation is found to have a positive influence on competitiveness. Environmental factors were found to have a moderating influence on the relationship between competitiveness and managerial innovation. Thus, moderation is strong at high values of managerial innovation.

4.12 Hierarchical Moderating Effect of Environmental factors on the Relationship between Strategic innovation and Competitiveness (All IVs combined)

This section presents the findings of the moderating influence of environmental factors on the combined strategic innovations and competitiveness. The analysis differs from 4.10 since,

average of the four innovations was computed to yield a single variable (strategic innovation). The study noted that there are three steps involved in testing the moderating effect.

Step One involved testing the influence of independent variable in this case combined strategic innovation on dependent variable.

Step Two entailed testing the effect of independent variable and moderating variable in this case environmental factors on dependent variable.

Finally step Three involved, testing the effect of, independent variable, moderating variable and the interactive term (product of independent and moderating variable) on dependent variable. Moderating effect happens if the effect of interaction is significant in the third step. The three steps involved in hierarchical regression analysis for moderating effect were written as:

Step One: $Y= \beta_0 + \beta_1 X_1 + \varepsilon$

Step Two: $Y= \beta_0 + \beta_1 X_1 + \beta_2 M + \varepsilon$

Step Three: $Y= \beta_0 + \beta_1 X_1 + \beta_2 M + \beta_3 X_1 * M + \varepsilon$

Where,

β_0 represented Constant Term,

β_i; i = 1 to 3 is the regression coefficients which measured the change induced on the study variables.

X_1= Strategic innovation

M=Environmental factors;

$X_1 * M$=Interaction term between Strategic Innovation and Environmental factors;

Y=Competitiveness

ε=Error/disturbance.

The relevant results are summarized in Table 4.27

Table 4. 27: Model Summary for Moderating Variable of Environmental factors

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.745[a]	0.555	0.551	0.283757	0.555	140.819	1	113	0.000
2	.759[b]	0.577	0.569	0.277921	0.022	5.796	1	112	0.018
3	.792[c]	0.627	0.617	0.262186	0.050	14.846	1	111	0.000

a. Predictors: (Constant), Strategic Innovation
b. Predictors: (Constant), Strategic Innovation, Environmental Factors
c. Predictors: (Constant), Strategic Innovation, Environmental Factors, Strategic Innovation*Environmental Factors

Source: Research Data (2022)

From Table 4.27, in Model 1, the regression of independent variable (strategic innovation) and competitiveness produced an R^2 of 0.555. This means that strategic innovation explained 55.5% of variance in the dependent variable. Further, Model 2, the findings also showed that when environmental factors was added as a moderator, the results obtained indicated that independent variable and the moderating variable were significantly and jointly related to competitiveness of Commercial Banks in Kenya ($p<0.05$). The R^2 moved from 0.555 (55.5%) to 0.577 (57.7%) implying that an additional 0.022 (2.2%) was added in the model.

Lastly, in model 3, to investigate how the environmental factors moderates the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya, the interaction terms of the independent variable and the moderator (Environmental factors) were entered in the regression model and R square of 0.627 was realized. This represented an additional 5.0% in the final R square indicating that there is a potentially significant moderation

effect of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya.

Table 4. 28: Model Fitness (ANOVA Table)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.338	1	11.338	140.819	.000[b]
	Residual	9.099	113	0.081		
	Total	20.437	114			
2	Regression	11.786	2	5.893	76.295	.000[c]
	Residual	8.651	112	0.077		
	Total	20.437	114			
3	Regression	12.807	3	4.269	62.100	.000[d]
	Residual	7.630	111	0.069		
	Total	20.437	114			

Source: Research Data (2022)

In model 1, ANOVA results showed that F (1,113) = 140.819 and P value was 0.000 meaning the model is feasible. Tests were done at 0.5 or 5% level of significance. The results indicated that strategic innovation had a statistically significant effect in explaining change in competitiveness. In model 2, ANOVA results showed that F (2,112) = 76.295, P=0.000 implying the model is feasible at 5% level of significance. The results indicated that strategic innovation and environmental factors have a statistically significant effect in explaining change in competitiveness. Finally, in model 3, ANOVA results showed that F (3,111) = 62.100, P=0.000 implying the model is significant at 0.05. The results indicated that strategic innovation, environmental factors and interaction of innovation and environmental factors have a statistically significant effect in explaining change in competitiveness.

Table 4. 29: Regression Coefficients for Moderating Variable of Environmental factors

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	0.701	0.311		2.254	0.026
	Strategic Innovation	0.877	0.074	0.745	11.867	0.000
2	(Constant)	0.691	0.305		2.268	0.025
	Strategic Innovation	0.754	0.088	0.641	8.533	0.000
	Environmental Factors (EF)	0.121	0.050	0.181	2.407	0.018
3	(Constant)	-4.881	1.474		-3.311	0.001
	Strategic Innovation	1.967	0.326	1.672	6.041	0.000
	EF	1.489	0.358	2.230	4.156	0.000
	Strategic Innovation*EF	-0.297	0.077	-2.782	-3.853	0.000
a. Dependent Variable: CO						

Source: Research Data (2022)

The results in Table 4.29 indicate coefficient result for the moderation effect of environmental factors on the relationship between strategic innovation (combination of all four independent variables) and competitiveness of Commercial Banks in Kenya. In model 1 which comprised of strategic innovation, the B coefficient is 0.877, p=0.000 implying that a unit increase in strategic innovation would results to competitiveness to significantly increase by 0.877 units. In model 2, when environmental factors were entered in the model, the B coefficient for strategic innovation is 0.754, p=0.000 while for environmental factors is 0.121, p=0.018. This postulated that a unit increase in environmental factor would results to competitiveness to significantly increase by 0.121 units. In model 3, when environmental factors interaction strategic innovation was entered in the model, the B coefficient for strategic innovation is 1.967 p=0.000, environmental factors is 1.489, p=0.000 and interaction of environmental factors

interaction strategic innovation is -0.297, P=000. This postulated that a unit increase in environmental factor would cause the effect of strategic innovation on competitiveness of Commercial Banks to decrease by 0.297 units. This implies that environmental factor has a negative significant moderating effect on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya. These findings were also represented in the model equation as shown in below

$Y=0.701+0.877X_1$

$Y=0.691+0.754X_1+0.121M$

$Y=-4.881+0.1967X_1+1.489M-0.297X_1M$

Where Y is the competitiveness of Commercial Banks in Kenya (**Dependent Variable**)

X_1 is the Strategic innovation (**Independent Variable**)

M is the environmental factors (**Moderating Variable**)

4.13 Stepwise Regression

Stepwise regression is a method of fitting regression models in which the choice of predictive variables is carried out by an automatic procedure. In each step, a variable is considered for addition to or subtraction from the set of explanatory variables based on some pre-specified criterion. The results are as shown in Table 4.30.

Table 4. 30: Stepwise Regression

Variable	R^2	F Statistics	df1	df2	Sig. F
Product Innovation	.498	111.951	1	113	.000
Managerial Innovation	.068	17.632	1	112	.000
Market Innovation	.040	11.242	1	111	.001
Service innovation	.022	6.371	1	110	.013
Overall	**0.627**	**46.322**	**4**	**114**	**0.000**

Source: Field Data (2022)

From Table 4.30 results using R^2 the value increases with addition of each of the independent variables. The F value shows that product innovation and market innovation are significant on every addition at 95% confidence level. These results show that for the significant variables the value of R^2 increase in every step to a value of 0.627. Based on the above values it shows that product innovation 49.8% in explaining variance in competitiveness of Commercial Banks in Kenya, while the contribution of managerial innovation is 6.8%, the contribution of market innovation to the model is 4.0% and service innovation only contributed 2.2% of the overall variance. This shows that product innovation contributed the highest followed managerial innovation then market innovation and lastly, service innovation.

4.14 Testing for null hypotheses

This section presents the hypothesis testing of the study variables. The null hypotheses were based on B Coefficient, t=statistics and P Values. The rule of the thumb is to reject the

hypothesis if B coefficient is not equal to zero ($B \neq 0$), $t>1.96$ and $P<0.05$ (Greenland, Senn, Rothman, Carlin, Poole and Goodman, 2016).

$H_0 1$: Stated that there is no significant influence of product innovation on competitiveness of Commercial Banks in Kenya. However, research findings showed that product innovation had coefficients of estimate which was significant basing on $\beta_1=0.664$ (p-value=.000) which is less than 0.05) implying that we reject the null hypothesis stating that product innovation has no significant influence on competitiveness of Commercial Banks in Kenya. This indicates that for each unit increase in product innovation there is unit 0.664 increase in competitiveness of commercial banks in Kenya. Furthermore, the influence of product innovation was stated by the t-test value =10.581 which implies that the influence of product innovation was greater than 1.96 ($t>1.96$).

$H_0 2$: Pointed out that there is no significant influence of market innovation on competitiveness of Commercial Banks in Kenya. However, research findings showed that market innovation had coefficients of estimate which was significant basing on $\beta_1=0.640$ (p-value=.001) which is less than 0.05) implying that we reject the null hypothesis stating that market innovation has no significant influence on competitiveness of Commercial Banks in Kenya. This indicates that for each unit increase in market innovation there is 0.640 unit increase in competitiveness of commercial banks in Kenya. Furthermore, the influence of market innovation was stated by the t-test value =9.126 which implies that the influence of market innovation was greater than 1.96 ($t>1.96$).

$H_0$3: Suggested that there is no significant influence of service innovation on competitiveness of Commercial Banks in Kenya. However, research findings showed that service innovation had coefficients of estimate which was significant basing on β_1=0.329 (p-value=.000) which is less than 0.05) implying that we reject the null hypothesis stating that service innovation has no significant influence on competitiveness of Commercial Banks in Kenya. This indicates that for each unit increase in service innovation there is 0.329 unit increase in competitiveness of commercial banks in Kenya. Furthermore, the influence of service innovation was stated by the t-test value =6.134 which implies that the influence of service innovation was greater than 1.96 (t>1.96).

$H_0$4: Indicated that there is no significant influence of managerial innovation on competitiveness of Commercial Banks in Kenya. However, research findings showed that managerial innovation had coefficients of estimate which was significant basing on β_1=0.448 (p-value=.000) which is less than 0.05) implying that we reject the null hypothesis stating that managerial innovation has no significant influence on competitiveness of Commercial Banks in Kenya. This indicates that for each unit increase in managerial innovation there is 0.448 unit increase in competitiveness of commercial banks in Kenya. Furthermore, the influence of managerial innovation was stated by the t-test value =7.128 which implies that the influence of managerial innovation was greater than 1.96 (t>1.96).

$H_0$5: Stated that there is no significant moderating influence of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya. However, the R^2 as a result of the moderation increased from 62.7% to 79.4%. The findings

reveal that environmental factors moderate the relationship between strategic innovation and competitiveness as there was change in R squared. Further moderation results on the influence of environmental factors on the relationship between strategic innovation (product, marketing, service and managerial innovation) combined and competitiveness indicate a statistically positive significant effect revealing that environmental factors moderated the relation between strategic innovation and competitiveness as R^2 as a result of the moderation increased from 55.5% to 62.7%.

Table 4. 31: Null Hypothesis

Hypothesis	B≠0	t>1.96	P<0.05	Verdict
H_{01}: There is no significant influence of product innovation on competitiveness of Commercial Banks in Kenya.	0.664	10.581	.000	Rejected
H_{02}: There is no significant influence of market innovation on competitiveness of Commercial Banks in Kenya.	0.640	9.126	.000	Rejected
H_{03}: There is no significant influence of service innovation on competitiveness of Commercial Banks in Kenya.	0.329	6.134	.000	Rejected
H_{04}: There is no significant influence of managerial innovation on competitiveness of Commercial Banks in Kenya	0.448	7.128	.000	Rejected
H_{05}: There is no significant moderating influence of environmental factors on the relationship between innovation and competitiveness of Commercial Banks in Kenya	R^2 change 0.627	F Change 14.846	0.000	Rejected

Source: Research Data (2022).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The objective of the study was to examine the influence of strategic innovation on competitiveness of Commercial Banks in Kenya. From this general objective, this study aimed to identify the influence of product innovation on competitiveness of Commercial Banks in Kenya, to establish the influence of market innovation on competitiveness of Commercial Banks in Kenya, to examine the influence of service innovation on competitiveness of Commercial Banks in Kenya, to investigate the influence of managerial innovation on competitiveness of Commercial Banks in Kenya and to determine the moderating influence of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya.This chapter presents the summary of major findings of the study and the conclusions of the influence of strategic innovation on competitiveness of commercial banks in Kenya. Finally, the chapter records recommendations for additional research besides presenting implications of the study in regard to policy, theory and practice which aided in generation of new knowledge in regard to philosophical orientation of the study.

5.2 Summary of the Findings

This research was undertaken on the assertion that strategic innovation has significant influence on competitiveness of Commercial Banks in Kenya. Theoretical and empirical

literature on strategic innovation was reviewed. From the literature review, a conceptual framework was established to conceptualize the association between strategic innovation and competitiveness of Commercial Banks in Kenya. The hypothesized relation was then tested empirically and was guided by the following specific objectives. To identify the influence of product innovation on competitiveness of Commercial Banks in Kenya, to establish the influence of market innovation on competitiveness of Commercial Banks in Kenya, to examine the influence of service innovation on competitiveness of Commercial Banks in Kenya, to investigate the influence of managerial innovation on competitiveness of Commercial Banks in Kenya and to determine the moderating influence of environmental factors on the correlation between strategic innovation and competitiveness of Commercial Banks in Kenya. These relationships have been shown in the conceptual framework. The singular effects of the independent variables on the dependent variable was tested using simple linear regression while the interaction of all the independent variables was investigated through the use of multiple linear regression. Moreover, hierarchical regression analysis was used to test the moderating effect of environmental factors. The summary of the findings per objectives is as follows.

5.2.1 Influence of Product innovation on Competitiveness

The first objective of the study was to identify the influence of product innovation on competitiveness of Commercial Banks in Kenya. From the results, it is evident that product innovation has positive effect on competitiveness of Commercial Banks in Kenya (β_1=0.664, P=0.000).

5.2.2 Influence of Market innovation on Competitiveness

The second objective of the study was to establish the influence of market innovation on competitiveness of Commercial Banks in Kenya. The results revealed that market innovation had positive influence on competitiveness of Commercial Banks in Kenya (β_1=0.640, P=0.001).

5.2.3 Influence of Service innovation on Competitiveness

The third objective of the study was to examine the influence of service innovation on competitiveness of Commercial Banks in Kenya. The results indicated that service innovation had a statistically significant effect in explaining change in competitiveness (β_1=0.329, P=0.000).

5.2.4 Influence of Managerial innovation on Competitiveness

The fourth objective of the study was to investigate the influence of managerial innovation on competitiveness of Commercial Banks in Kenya. The results indicated that managerial innovation had a statistically positive and significant effect in explaining change in competitiveness (β_1=0.448, P=0.000).

5.2.5 The moderating Influence of Environmental factors on the Relationship between Strategic innovation and Competitiveness

The fifth objective of the study was to determine the moderating influence of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya. The results confirmed that there is a potentially significant moderation effect of environmental factors on the relationship between strategic innovation and competitiveness of Commercial Banks in Kenya (Moderated R square=0.794, P=0.000).

5.3 Conclusions

The study set out to examine the influence of strategic innovation on competitiveness of commercial banks in Kenya. Based on the empirical evidence, several logical conclusions can be made as follows in the sections 5.3.1 to 5.3.5 below. First, the study confirmed that product innovation has significant positive influence on competitiveness of commercial banks in Kenya. Therefore, the first null hypothesis was rejected and it was concluded that product innovation has significant positive influence on competitiveness of commercial banks in Kenya. The study similarly concluded that product innovation has the most significant influence on competitiveness of commercial banks in Kenya

Second, the study established that market innovation has significant positive influence on competitiveness of commercial banks in Kenya. Therefore, the second null hypothesis was rejected and it was concluded that market innovation has significant positive influence on competitiveness of commercial banks in Kenya. The study also concluded that market

innovation had the second most significant influence on competitiveness of commercial banks in Kenya.

Third, the study revealed that service innovation has significant positive influence on competitiveness of commercial banks in Kenya. Therefore, the third null hypothesis was rejected and it was concluded that service innovation has significant positive influence on competitiveness of commercial banks in Kenya. However, service innovation had the least significant influence with regards to competitiveness of commercial banks in Kenya.

Fourth, the study found out that managerial innovation had significant positive influence on competitiveness of commercial banks in Kenya. Therefore, the fourth null hypothesis was rejected and it was concluded that managerial innovation has significant positive influence on competitiveness of commercial banks in Kenya. Further, the study concluded that managerial innovation had the third most significant influence on commercial banks' competitiveness.

Fifth, empirical results indicated that environmental factors as a moderator, adds significant variation beyond what strategic innovation explains on competitiveness of commercial banks in Kenya. This implied that organizational structure, organization culture and competitive intensity strengthen the influence of strategic innovation on competitiveness of commercial banks in Kenya. Therefore, the fifth null hypothesis was rejected and the study concluded that environmental factors have significant statistical moderating influence on the relationship between strategic innovation and the competitiveness of commercial banks in Kenya.

5.4. Recommendations

- ✓ Based on the findings the study recommends that commercial banks in Kenya embrace product innovation to build competitiveness. Commercial banks should apply practices related to product innovation comprising of regular surveys on internet and mobile banking products consumed by its clients, enhance Internet and mobile banking services, train clients on how to use mobile and internet banking services before onboarding, seek employees suggestion before new products are designed, train employees on new or significantly improved products before they are launched, seeking client views before new mobile and internet products are developed.

- ✓ Second, commercial banks need to embrace market innovation to enhance competitiveness. This means continuous market surveys before introducing new products/services, use of account cash flows to measure clients' financial strength, regular reviews of marketing strategies to match the dynamic business environment, provision of various products for different customers, enhanced promotional campaigns on various media platforms, use of artificial intelligence technology and provision of banking products/services to non-clients using intermediaries.

- ✓ The study also recommends that commercial banks consider service innovation as part of its strategic innovation to enhance competitiveness. Service innovation practices include automation of bank processes, constant reviews of automated products and services, use of virtual personal assistant (VPA) technology, provision of stable network for automated services and accessibility of services using VPA technology.

- ✓ Moreover, from the findings commercial banks need to adopt managerial innovation to be competitive. The practices related to managerial innovation are; use of policies employee to guide employee operations, staff mentorship, exemption of policies through relevant authorities, disciplining of employees who do not abide by policies, active alliances and corroborations, networking with the telecommunication operators, seamless working with partners and resolution of customer complaints arising from collaborations.

- ✓ Finally, commercials banks should maximize on competitive abilities by creating a fit between strategies employed and the environment in which they operate. Practices related to the environment include strict adherence to laid down procedures, centralization of power, development of policies which encourage creativity and innovation, leadership which encourages teamwork, consideration of employees suggestion on innovation activities, market research to know what rivals offer, design products/services based on the competitor matrix.

5.5 Contribution to Theory, Policy, Practice and Knew Knowledge

This research is expected to make significant contribution to theory, policy and practice in the field of Strategic management.

5.5.1 Theoretical implications

Reviewed literature revealed mixed findings on the link between strategic innovation and competitiveness. Even though some studies have indicated positive and significant effect of strategic innovation on competitiveness, others have indicated insignificant positive effect, significant negative effect and insignificant negative effect. These mixed effects have made it difficult to generalize the theoretical implication from the previous studies. The current study has established that there is significant positive influence of strategic innovation on competitiveness of commercial banks in Kenya. From a theoretical view the study has put forward a theoretical representation that strategic innovation through its constructs positively and significantly influences competitiveness and is moderated by environmental factors.

First, this study demonstrated that strategic innovation and environmental factors are primary drivers of competitiveness and that there is a relation that exists. Strategic innovation, therefore, is a key capability fundamental for commercial banks in Kenya to improve competitiveness through its components, product innovation, market innovation, service innovation and managerial innovation which were found to be positively related to competitiveness. In affirming the role of environmental factors as a moderator, the study extends the theory by suggesting that the effectiveness of strategic innovativeness depends on

an organization's internal and external environmental conditions. This study thus suggests to firms that the selection of strategic innovation approaches should be accompanied by a careful appraisal of their organization structure, organization culture and competition intensity in the industry.

5.5.2 Practical Implications

This study investigated how commercial banks can utilize their internal strengths, from strategic innovation abilities and environmental factors to wrestle external threats and seize opportunities to build on competitiveness. The study suggests homogenizing elements of strategic innovation and environmental factors to revamp competitiveness. This can be obtained through a systematized institutional evaluation and processes investigation followed by capacity development. The results indicate, to be competitive, firms must be way ahead of competition matters strategic innovation. In this context, strategic innovation is comprised of Product, Market, Service and Managerial innovation. Therefore, commercial banks need to adopt Product, Marketing, Service and Managerial innovations to enhance competitiveness.

Commercial banks can take advantage of innovation capabilities to better their products. Also, by leveraging marketing innovations corporations can have a clearer understanding of their customers' needs hence fulfill them. Besides, commercial banks can create an edge for themselves by service innovation that is complex to duplicate. Additionally, managerial innovation by collaborating with various stakeholders can help a firm build innovative

products/services. Further, this study offers managers a deeper understanding by underscoring the significance of environmental factors in stimulating strategic innovation activities.

5.5.3 Policy Implications

The study informs policy makers such as Central bank of Kenya, Capital Markets Authority, Kenya bankers Association and the government of Kenya on strategic innovation activities and how they influence competitiveness of companies. Particular focus should not only be on strategic innovation that was found to have a significant predictive ability to determine competitiveness of firms but also on environmental factors which also played key role in enhancing competitiveness. Although the study focused on commercial banks in tier 1, various policy makers in the country can copy from the study outcomes and develop policies for the attainment of vision 2030 goals and the country's Big Four Agenda.

5.6. Areas for further Research

Despite the fact that this study achieved its objective in regard to the influence of strategic innovation on competitiveness of commercial banks in Kenya, there are a number of areas for further research emanating from the scope of the study, methodology and the findings. First, whereas the findings can be applied to other commercial banks in Kenya, the research was conducted on commercial banks in tier 1 only. The study thus recommends that further research should widen the scope and incorporate extra banks in the tier two and three categories so as to augment external validity. Second, the study focused on strategic innovation practices and competitiveness of commercial banks and environmental factors as a moderator.

Whereas, these three variables explained more than 79.4% of the variations in competitiveness of Commercial Banks in Kenya, the study recommended that further studies should introduce a fourth variable, in this case a mediator or intervening variable particularly government policies. Third, this study employed descriptive survey and correlational research designs. Future research can utilize longitudinal and qualitative research methods to explain the nature of the proposed relations. Fourth, this study concentrated on the banking industry. Though, a solo industry inquiry lessens complexities that are brought by multiple industries analysis future investigations should evaluate mixed industries to offer more awareness and reinforce the generalizability of results. Further, considering the value of strategic innovations for companies, future inquiries should be undertaken to point out other antecedents and consequences of strategic innovation on competitiveness of firms.

REFERENCES

Aaker, B. (2016). Innovation, Market Structure and Firm Size. *Journal of Economics and Statistics*.69 (4), 567-574

Abbas, M. W. & Hassan, M. (2016). Impact of Learning & Market Orientation on Business Performance & Innovation: The Mediating Role of Business Resilience & CRM effectiveness*, European Journal of Business and Management*, 8, (22), 75-84.

Abdallah, A. B., Phan, A. C., & Matsui, Y. (2016). Investigating the effects of managerial and technological innovations on operational performance and customer satisfaction of manufacturing companies. *Journal of Business Innovation and Research,* 10(5), 332-335

Adefulu, A. D., Ashikia, O. U., Makinde, O. G., & Alao, A. E. (2020). Strategic Marketing, Innovation Culture and Competitive Advantage of Selected Petroleum Products Marketing Companies: Evidence from Nigeria. *Journal of Business and Management (IOSR-JBM)*, *22*(3), 54-64.

Adnan, Z., Abdullah, H., Ahmad, J. (2016) Assessing the Moderating Effect of Competition Intensity on HRM Practices and Organizational Performance Link: The Experience of Malaysian R&D Companies *Procedia Economics and Finance,* 35(5), 462 – 467.

Afriyie, S., Du, J., & Ibn Musah, A.A. (2019). Innovation and marketing performance of SME in an emerging economy: The moderating effect of transformational leadership. *Journal of Global Entrepreneurship Research, 9*(1), 1–25.

Aggelopoulos, E. & Georgopoulos, A. (2017) 'Bank branch efficiency under environmental change: A bootstrap DEA on monthly profit and loss accounting statements of Greek retail branches', *European Journal of Operational Research* 261(1), 35-44, 1170-1188. Available at: https://doi.org/10.1016/j.ejor.2017.03.009

Ahmad, A. (2015). Business intelligence for sustainable competitive advantage: in sustaining competitive advantage via business intelligence, knowledge management, and system dynamic, *Advances in Business Marketing & Purchasing*, 22(2), 3-220. doi:10.1108/S1069-09642015000022B008

Ahmad, K., & Zabri, S. M. (2016). The effect of non-financial performance measurement system on firm performance. *International journal of economics and financial issues*, 6(S6), 50-54.

Ali, B., J. Omar,W,A,W and Bakar,R. (2016) Accounting Information System (AIS) and Organizational Performance: Moderating Effect of Organizational Culture *International Journal of Economics, Commerce and Management*, volume 4(4),138 - 158

Ambrosini, V., & Bowman, C. (2009). What are dynamic capabilities and are they a useful construct in strategic management? *International Journal of Management Reviews*, 11(1), 29-49.

Andreeva, L and Sviridov, O (2017) "Experience of Greece on recapitalization of banks, marketing management and personnel retraining in conditions of economic recession" *Open Journal of Business and Management*, *8*(01), 78.

Anning-Dorson, T. (2016b). Organisational culture and leadership as mediators of service innovation and firm competitiveness: A study of an emerging economy. *International Journal of Innovation Management*, 20(7), 16500-17464. http://dx.doi.org/10.1142/S136391961650064X.

Anning-Dorson, T. (2018), "Innovation and competitive advantage creation: The role of organizational leadership in service firms from emerging markets", *International Marketing Review,* 35(4), 580-600. https://doi.org/10.1108/IMR-11-2015-0354

Anning-Dorson, T., Hinson, R.E. and Amidu, M. (2018) 'Managing market innovation for competitive advantage: how external dynamics hold sway for financial services', *Int. J. Financial Services Management*,9(1)70–87 DOI: 10.1504/IJFSM.2018.10011051

Arasa, R., & Dzinekou, J. (2018). Managerial Capabilities and Private University Performance in Kenya *Journal of Language, Technology & Entrepreneurship in Africa*, *3*(1), 109-132.

Arcari, A. M., Pistoni, A., & Peluso, S. (2018). The role of managerial control in innovation processes: an empirical analysis among Italian firms. *International Journal of Business Performance Management,* 19(3), 349-370.http://dx.doi.org/10.1504/IJBPM.2018.092760.

Ardolino, M., Rapaccini, M., Saccani, N., Gaiardelli, P., Crespi, G., & Ruggeri, C. (2018). The role of digital technologies for the service transformation of industrial companies. *International Journal of Production Research*, 56(6), 2116-2132.http://dx.doi.org/10.1080/00207543.2017.1324224.

Arokodare, M. A. (2021). The Moderating Effect of Environmental Turbulence on the Strategic Agility-Performance Relationship: Empirical Evidence from Lagos State, Nigeria. *Journal of Business and Management Research*,10(1) https://doi.org/10.5430/bmr.v10n1p1

Arundel, A., Bloch, C., and Ferguson, B. (2019). Advancing innovation in the public sector: Aligning innovation measurement with policy goals. *Research Policy*, 48(3), 789– 798. doi: 10.1016/j.respol.2018.12.001

Asiedu, E. (2016). A study of use and impact of market segmentation practices on bank performance: with special reference to commercial banks in Colombia. *Journal of Business & Financial Affairs*, *5*(162), 2167-0234.

Aysel,G and Fatma,D.,T.(2017).Analysis of the relationship between financial innovation and the performance of Turkish banking system. *International review of economics and management*. 5(3), 16-32. DOI: 10.18825/iremjournal.280341 Volume 5, Number 3, 16-32.

Azad, A. K; Munisamy, S.; Masum, A. K. M. M.; Saona, P. & Wanke, P. (2017) 'Bank efficiency in Malaysia: a use of malmquist meta-frontier analysis', *Eurasian Business Review* 7(2), 287-311. Available at: https://link-springercom.plymouth.idm.oclc.org/article/10.1007%2Fs40821-016-0054-4.

Babbie, E. (2004). The practice of social research, 10th ed. Belmont, CA: Wadsworth. https://cengage.com.au/product/title/the-practice-of-socialresearch/isbn/9781305104945

Baradarani, S., & Kilic, H. (2018). Service innovation in the hotel industry: culture, behavior, performance. *Service Industries Journal*, 38(13-14), 897-924. http://dx.doi.org/10.1080/02642069.2017.1420172.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99–120. doi:10.1177/014920639101700108

Barney, J.B. (2012), "Purchasing, supply chain management and sustained competitive advantage: the relevance of resource-based theory", *Journal of Supply Chain Management*, 48 (2), 3-6.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Batiz-Lazo, B. & Woldesenbet, K. (2016). The dynamics of product and process innovation in UK banking. *International Journal of Financial Services Management,* 1(4), 400- 421.

Benaim, M. (2018). From symbolic values to symbolic innovation: Internet-memes and innovation. *Research Policy*, 47(5), 901–910. doi:10.1016/j.respol.2018.02.014

Bhatnagar, N., & Kumar Gopalaswamy, A. (2017). The role of a firm's innovation competence on customer adoption of service innovation. *Management Research Review*, 40(4), 378- 409. http://dx.doi.org/10.1108/MRR-11-2015-0280.

Biemans, W. G., Griffin, A., & Moenaert, R. K. (2016). Perspective: New service development: How the field developed, its current status and recommendations for moving the field forward. *Journal of Product Innovation Management*, 33(4), 382-397.http://dx.doi.org/10.1111/jpim.12283

Binz, C., and Truffer, B. (2017). Global Innovation Systems—A conceptual framework for innovation dynamics in transnational contexts. *Research Policy*, 46(7), 1284–1298. doi: 10.1016/j.respol.2017.05.012

Boateng, H., Adam, D., Okoe., A. and Anning-Dorson, T. (2016) "Assessing the determinants of internet banking adoption intentions: A social cognitive theory perspective", *Computers in Human Behavior*, vol. 65(1), 468-478.

Bouncken, R. B., Lehmann, C., & Fellnhofer, K. (2016). The role of entrepreneurial orientation and modularity for business model innovation in service companies. *International Journal of Entrepreneurial Venturing*, 8(3), 237-260

Booyens, I. and Hart, T.G.B. (2019), Innovation in a changing South Africa: extant debates and critical reflections, in J. Knight and C.M. Rogerson, eds, *Geography of South Africa - Contemporary Changes and New Directions,* Cham: Springer International, pp. 269-278.

Bresler, L., & Stake, R. E. (2017). Qualitative research methodology in music education. *Critical essays in music education*, 113-128.

Bruijl, D., & Gerard, H. T. (2018). The relevance of Porter's five forces in today's innovative and changing business environment. *Available at SSRN 3192207*.

Bryman, A. & Bell, E. (2011). Ethics in business research. *Business Research Methods*, 7(5), 23-56.

Byukusenge, E., & Muiruri, P., M. (2021). Financial Inclusion Strategies and Performance of Commercial Banks in Rwanda; A Case of I&M Bank in Rwanda. *Journal of Finance and Accounting* 5(4), 23-34. https://doi.org/10.53819/81018102t5029

Central Bank of Kenya (2022). The Quarterly Economic Review. Retrieved from https://www.centralbank.go.ke/uploads/quarterly_economic_review/394277683_Q3%202022.pdf

Central Bank of Kenya. (2016). Quarterly report on Development in the Kenyan banking Sector for the period ended 30th June 2016, www.centrabank.go.ke/downloads, retrieved on 10th April 2016

Chabowski, B., Kekec, P., Morgan, N. A., Hult, G. T. M., Walkowiak, T., & Runnalls, B. (2018). An assessment of the exporting literature: using theory and data to identify future research directions. *Journal of International Marketing*, 26(1), 118-143.

Chari, M.D.R., and David, P. (2012), "Sustaining superior performance in an emerging economy: an empirical test in the Indian context", *Strategic Management Journal*, 33(2), ; 217-229.

Chen, B. T. (2017). Service innovation performance in the hospitality industry: the role of organizational training, personal job fit and work schedule flexibility. *Journal of*

Hospitality Marketing & Management, 26(5), 474-488. http://dx.doi.org/10.1080/19368623.2017.1264116.

Chen, J. S., Kerr, D., Tsang, S. S., & Sung, Y. C. (2015). Co-production of service innovations through dynamic capability enhancement. *Service Industries Journal*, 35(1-2), 96-114. http://dx.doi.org/10.1080/02642069.2014.979405.

Chen, J. S., Weng, H. H., & Huang, C. L. (2018). A multilevel analysis of customer engagement, its antecedents, and the effects on service innovation. *Total Quality Management & Business Excellence,* 29(3-4), 410-428. http://dx.doi.org/10.1080/14783363.2016.1203249.

Cheng, B.L., Cham, T.H.,Dent, M.M. and Lee, T.H. (2019) 'Service innovation: building a sustainable competitive advantage in higher education', *Int. J. Services, Economics and Management*, 10(4), 289–309.

Cheng, T. D., & Chen, C. V. (2017). Does service innovation matter? An empirical study on market orientation and supply chain performance. *South African Journal of Business Management,* 48(1), 11-22. http://dx.doi.org/10.4102/sajbm.v48i1.16.

Chester Goduscheit, R., & Faullant, R. (2018). Paths toward radical service innovation in manufacturing companies—a service□dominant logic perspective. *Journal of Product Innovation Management*, *35*(5), 701-719.

China Daily. (2018, November 21). Guoqi buqiangdiao zuoda yingyi zuoqiang weizhu (The SOEs need to focus on being strong but not being big). China Daily. Retrieved June, 2019, from http://chuangxin.chinadaily.com.cn/2018-11/21/content_37294505.htm

Chong, W. K., Bian, D., & Zhang, N. (2016). E-marketing services and e-marketing performance: the roles of innovation, knowledge complexity and environmental

turbulence in influencing the relationship. *Journal of Marketing Management*, 32(1-2), 149-178.

Clavel-Arroitia, B., & Fernández-Domínguez, J. (2015). Structuring the investigation: from objectives to research design. *Writing and presenting a dissertation on linguistics, applied linguistics and culture studies for undergraduates and graduates in Spain*, 59.

Coccia, M. (2016). Radical innovations as drivers of breakthroughs: characteristics and properties of the management of technology leading to superior organisational performance in the discovery process of R&D labs. *Technology Analysis & Strategic Management*, 28(4), 381-395.

Cooper, D., & Schindler, P. S. (2013). Business research methods. New York, NY: McGraw-Hill.

Copley P., (2018), The experiential learning process on the small enterprise marketing/logistics and supply chain management interface–a conceptual model for the practical classroom, CABS Learning, teaching and student experience conference, 24- 25 April 2018, Glasgow, UK.

Cozzi, G., Pataracchia, B., Ratto, M., & Pfeiffer, P. (2017). How much Keynes and how much Schumpeter? An estimated macromodel of the US economy.

Creswell, J., & Clark, V. (2017). Designing and conducting mixed method research (3 ed.). Cincinnati, OH: Sage Publications.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika,16(3)*, 297-334.

D'Angelo, A., & Baroncelli, A. (2020). An investigation over inbound open innovation in SMEs: Insights from an Italian manufacturing sample. *Technology Analysis & Strategic Management*, *32*(5), 542-560.

Daneels H. and Kleinsmith J. (2016). Value maximization, stakeholder theory, and the corporate objective function. *European Financial Management*, 7, 297-317.

Das, J. and Joshi, H. (2015). Involving stakeholders in developing corporate brands: The communication dimension. *Journal of Marketing Management*, 23(5), 59-73

Day, G. S. (1994). "The Capabilities of Market-Driven Organizations". *Journal of Marketing.* 58 (4): 37–52. doi:10.2307/1251915. JSTOR 1251915

Den Hertog, P. (2000). Knowledge-intensive business services as co-producers of innovation. *International Journal of Innovation Management*, 4(4), 491–528.

Dhakal, B., (2017). "Using factor analysis for residents' attitudes towards economic impact of tourism in Nepal," International Journal of Statistics and Applications, 7(5), 250-257.

Diffley, S., McCole, P., & Carvajal-Trujillo, E. (2018). Examining social customer relationship management among Irish hotels. *International Journal of Contemporary Hospitality Management,* 30(2), 1072-1091. http://dx.doi.org/10.1108/IJCHM-08-2016-0415.

Divisekera, S., & Nguyen, V. K. (2018). Determinants of innovation in tourism evidence from Australia. *Tourism Management*, 67(7), 157-167. http://dx.doi.org/10.1016/j.tourman.2018.01.010

Doh, S., & Kim, B. (2014). Government support for SME innovations in the regional industries: The case of government financial support program in South Korea. *Research policy*, *43*(9), 1557-1569.

Dong, X., Yu, Y., & Zhang, N. (2016). Evolution and coevolution: dynamic knowledge capability for catching-up in emerging economies. *Management and Organization Review*, 12(4), 717-745

Donnell, L., Kramar, R. and Dyball, M. (2013) 'Complementing a positivist approach to investment analysis with critical realism'. *Qualitative Research in Financial Markets*, 5 (1), pp. 6-25.

Dragisa,O., & Dragan,O.(2016). "The Role Innovation On Strategic Orientations And Competitiveness Of Enterprises," EcoForum, "Stefan cel Mare" University of Suceava, Romania, Faculty of Economics and Public Administration - *Economy, Business Administration and Tourism Department*., 5(1), 1-11.

Drost, E., A. (2011). Validity and reliability in social science research. *Education Research and Perspectives, 38* (1), 105-124.

Du, L., Huang, Q., Yeung, K., & Jian, Z. (2016). Improving Service Innovation Performance through the Big Data Management Closed Loop Competence in China Mobile. *IJCSA*, *13*(1), 116-132.

Duhamel F., Carbone V., Moatti V., (2016), The impact of internal and external collaboration on the performance of supply chain risk management, "*International Journal of Logistics Systems and Management"*, 23 (4), 78-86

Durst, S., Mention, A. L., & Poutanen, P. (2015). Service innovation and its impact: What do we know about? *Investigaciones europeas de dirección y economía de la empresa*, *21*(2), 65-72.

Edvardsson, B., Frow, P., Jaakkola, E., Keiningham, T. L., Koskela-Huotari, K., Mele, C., & Tombs, A. (2018). Examining how context change foster service innovation. *Journal of Service Management*, 29(5), 932-955. http://dx.doi.org/10.1108/JOSM-04-2018-0112

Efrat, K., Hughes, P., Nemkova, E., Souchon, A. L., & Sy-Changco, J. (2018). Leveraging of dynamic export capabilities for competitive advantage and performance consequences: Evidence from China. *Journal of Business Research*, *84*(5), 114-124

Ejike,S.I.(2018) Effect of bank innovations on financial performance of commercial banks in Nigeria. *European Journal of Accounting, Finance and Investment 4*(7), 77-89.

Eisenhardt, K., & Martin, J. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21: 1105-1121.

Emad, A., Yoshifumi,H., and Idris,N., (2017). Factors influencing competitive advantage in banking sector: A systematic literature review. Res. J. *Business Manage*., 11(7): 67-73.

Emenike, K., Olutayo, O., & Agaba, M. (2018). Product innovation, price levels and compeitive advantage: perception assessment of beer products. *Journal of Management and Entreprenuership, 6*(1), 26-34

Eze,S., Bello, A., and Adekola, A. (2017).The Effects of Organizational Structure on the Performance of Organizations. *European Journal of Business and Innovation Research,* 5(6),51-62, 2017, Available at SSRN: https://ssrn.com/abstract=3856701

Feng, C., & Sivakumar, K. (2016). The role of collaboration in service innovation across manufacturing and service sectors. *Service Science*, 8(3), 263-281. http://dx.doi.org/10.1287/serv.2016.0135.

Filho, V. A. V., & Moori, R. G. (2017). The role of technological capabilities in the competitive advantage of companies in the Campinas, SP Tech Hub. *Innovation & Management Review,* 15(3), 247–268.

Fiorentino, R., Longobardi, S., & Scaletti, A. (2020). The early growth of start-ups: innovation matters. Evidence from Italy. *European Journal of Innovation Management 4*(1), 1368434.

Fitz-Koch, S., & Nordqvist, M. (2017). The reciprocal relationship of innovation capabilities and socioemotional wealth in a family firm. *Journal of Small Business Management*, 55(4), 547- 570.

Frankel, J.R. and Wallen, N.E. (2006). How to design and evaluate research in education. New York: Mc Graw-Hill

Francesca, A. & Claeys, P. (2017). Innovation and performance of European banks adopting Internet. *Journal of Banking & Finance*, *31*(4), 1083-1099.University of Milan and Cass Business School, City University London and University of Barcelona Centre for Banking Research, Cass Business School. City University London Working Paper Series, WP, 4(10).

Funsho,T,K.,Joseph,O,M.,Samuel,O.,D., and Adeola,O,A., (2021). Strategic marketing innovation and bank performance in Nigeria. *Innovative Marketing*,17(1), 120-129. doi:10.21511/im.17(1).2021.10

Gast, H. (2018). Strategic orientation of the firm and new product performance. *Journal of marketing research*, 34(1), 77-90.

Gathu, G. (2017). *Small and micro enterprises adoption of ICT for competitive advantage* (Doctoral dissertation, University of Nairobi, Nairobi, Kenya). Retrieved fromhttp://erepository.uonbi.ac.ke/bitstream/handle/11295/102833/George%20Gathu Research%20Project-15%20xii2017%20%20.pdf

Gianluca, B., & Elisa, G. (2021) The noxious consequences of innovation: what do we know? *Industry and Innovation*, 28(:1,), 19-41, DOI: 10.1080/13662716.2020.1726729

Gichobi, C. G. (2015). *Business intelligence and the performance of Kenya power* (Doctoral dissertation, University of Nairobi, Nairobi, Kenya). Retrieved from http://hdl.handle.net/11295/93776

Golovkova, A., Eklöf, J., Malova, A.and Podkorytova, O. (2019). "Customer satisfaction index and financial performance: a European cross-country study", *International Journal of Bank Marketing*, 37(2), 479-491.

Gorzeń-Mitka, I. (2015). Management challenges in the context of risk culture. *Problems of Management in the 21st Century*, 10(2), 60-61.

Greenland, S., Senn, S. J., Rothman, K. J., Carlin, J. B., Poole, C., Goodman, S. N., et al. (2016). Statistical tests, P. *European Journal of Epidemiology, 31*, 337–350. https://doi.org/10.1007/s10654-016-0149-3.

Guerra, R. M. de A., & Camargo, M. E. (2016). The role of technological capability in the internationalization of the company and new product success: A systematic literature review. *Revista Eletronica de Negocios Inernacionais*, 11(1), 49–62

Gure, A. K. & Karugu, J. (2018). Strategic management practices and performance of small and micro enterprises in Nairobi City County, Kenya. *International Academic Journal of Human Resource and Business Administration*, 3(1), 1-26

Gustafsson, A., Snyder, H., & Witell, L. (2020). Service Innovation: A new conceptualization and path forward. *Journal of Service Research*, 1(2), 5-11. http://dx.doi.org/10.1177/1094670520908929.

Hair Jr, J. F., Sarstedt, M., Matthews, L. M., & Ringle, C. M. (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: part I–method. *European Business Review* 9(9), 1-11

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. & Tatham, R. L. (2016). *Multivariate data analysis (Vol. 5, No. 3, pp. 207-219). Upper Saddle River,* NJ: Prentice Hall.

Halac, D. S. (2015). Multidimensional construct of technology orientation. *Procedia-Social and Behavioral Sciences*, *19(5)*, 1057-1065.

Haneda, Shoko & Ito, Keiko, 2018. "Organizational and human resource management and innovation: Which management practices are linked to product and/or process innovation?," *Research Policy, Elsevier,* 47(1), 194-208.

Harraf A., Wanasika I., Tate K., Talbott K., (2015), Organizational agility, "*Journal of Applied Business Research*", *31*(2), 127-136.

Hartnell, C. A., Kinicki, A. J., Lambert, L. S., Fugate, M., & Doyle Corner, P. (2016). Do similarities or differences between CEO leadership and organizational culture have a more positive effect on firm performance? A test of competing predictions. *Journal of Applied Psychology*, *101*(6), 846-851.

Hart, T. G. B., Booyens, I., & Sinyolo, S. (2020). Innovation for development in South Africa: experiences with basic service technologies in distressed municipalities. *Forum for Development Studies*, *47*(1), 23-47. https://doi.org/10.1080/08039410.2019.1654543

Hasanudin, A.I., Yuliansyah, Y., Said, J.,Christin,S,M., (2019). Management control system, corporate social responsibility, and firm performance. *Entrepreneurship and Sustainability Issues*, 6(3), 1154-1168. http://doi.org/10.9770/jesi.2019.6.3(21)

Helfat C. E., Martin,J.(2015).A. in press. Dynamic managerial capabilities: A perspective on the relationship between managers, creativity and innovation in organizations. In Shalley C., Hitt M., Zhou J. (Eds.), *The Oxford handbook of creativity, innovation, and entrepreneurship: Multilevel linkages*. New York: Oxford University Press.

Heale, R., & Twycross, A. (2015). Validity and Reliability in Quantitative Studies. Evidence Based Nurs, 18(4), 66-67.

Ikon, M. A., Onwuchekwa F. C., & Nwoye C. O. (2018). Business process reengineering (BPR) and competitive advantage in a recessed economy. a study of selected brewing firms in Anambra State, Nigeria. *International Journal of Management*, 5(2),1-15. Retrieved from http://www.eajournals.org/wpcontent/uploads/Business-Process-Reengineering-Bpr-and-CompetitiveAdvantage-in-a-Recessed-Economy.-A-Study-of-Selected-Brewing-Firms-inAnambra-State-Nigeria.pdf

Issau, K., Acquah, I. S. K., Gnankob, R. I., & Hamidu, Z. (2021). Innovation orientation and performance of small and medium-sized enterprises (SMES) in Ghana: evidence from manufacturing sector. *Innovation & Management Review*, (ahead-of-print).

Jaakkola, M. (2015). Market-driven innovation capability and financial performance: Moderating effect of environmental turbulence. *The Sustainable Global Marketplace*, 7(1),320-320. https://doi.org/10.1007/978-3-319-10873-5_184

Jackson, E.A. (2020). *Fostering sustainable innovation through creative destruction theory,* In: Leal Filho W., Azul A., Brandli L., Özuyar P., Ozuyar, P.G. (ed.) Industry, Innovation and Infrastructure. Encyclopedia of the UN Sustainable Development Goals. Springer. https://doi.org/10.1007/978-3-319-71059-4_119-1.

Jackson, E.A., Jabbie, M. (2019). *Understanding Market Failure in the Developing Country Context.* In, Wa617lter L. Filho (eds), Decent Work and Economic Growth: Encyclopaedia of Sustainable Development Goals. Springer Nature. https://doi.org/10.1007/978-3-319-71058-7_44-1

Janssen, M. J., Castaldi, C., & Alexiev, A. (2016). Dynamic capabilities for service innovation: conceptualization and measurement. *R & D Management*, 46(4), 797-811. http://dx.doi.org/10.1111/radm.12147.

Jestita. F. (2018). The moderating effect of environmental factors on the relationship between market orientation and school performance: basis for institutional enhancement. *Review of Integrative Business and Economics Research*, *7*, 78-105.

Jiménez.J., and Aguiar-Díaz, I. (2019.) "Educational level and Internet banking", *Journal of Behavioral and Experimental Finance,* 22(6), 31-40

Jiménez-Zarco, A. I., González-González, I., Martínez-Ruíz, M. P., & Izquierdo-Yusta, A. (2015). New service innovation success: analyzing the influence of performance indicator nature. *Computers in Human Behavior*, 51(2), 1024-1031. http://dx.doi.org/10.1016/j.chb.2014.09.046

Kairanya, F. K. & Bett, S. (2018). Evaluation of competitive advantage on performance of Postal Corporation Kenya. *International Academic Journal of Human Resource and Business Administration,* 3(2), 211-234

Kaiser, H.F, (1958). "The varimax criterion for analytic rotation in factor analysis," Psychometrika, 23, 187-200. 1958.

Kamasak, R. (2017) "The contribution of tangible and intangible resources, and capabilities to a firm's profitability and Competitiveness", *European Journal of Management and Business Economics, 26*(2),252-275, https://doi.org/10.1108/EJMBE-07-2017-015

Kamau, J. G., Nzioki, S. C., Senaji, T. A. (2019). Relationship between strategic capabilities and competitive advantage in the Kenyan banking sector, *European Journal of Business and Strategic Management*, *4*(2), 1-23. Retrieved from http://ir.mksu.ac.ke/handle/123456780/4638

Kao, P. J., Pai, P., Lin, T., & Zhong, J. Y. (2015). How strategic innovation fuels employees' service innovation behavior. *Service Industries Journal*, *35*(7-8), 664-466. http://dx.doi.org/10.1080/02642069.2015.1015519.

Kim, J. (2018). A study on the effect of environmental turbulence on the agility of government agencies and the effect of agility on the organizational performance. *Journal of Product Research*, *36*(1), 19-27. https://doi.org/10.36345/kacst.2018.36.1.003

Kirzner, I.M. (1997). Entrepreneurial discovery and the competitive market process. *Journal of Economic Literature*, XXXV: 60-85.

Kiveu, M. N., Namusonge, M., & Muathe, S. (2019). Effect of innovation on firm competitiveness: the case of manufacturing SMEs in Nairobi County, Kenya. *International Journal of Business Innovation and Research*, *18*(3), 307-327.

Kohtamäki, M., Parida, V., Oghazi, P., Gebauer, H., & Baines, T. (2019). Digital servitization business models in ecosystems: A theory of the firm. *Journal of Business Research*, 104(3), 380-392. http://dx.doi.org/10.1016/j.jbusres.2019.06.027

Kombe, C., Mpemba, Z., Yabu, N., Kazi, M. I., Machemba, J., Kibesse, B., Mwita, D.L., Mgangaluma, E. , Mashini, S. , Chaula, A. , Ndunguru, E. , Lugobi, M. , & Mziya, M. (2017). Bank of Tanzania potentiality of sunflower sub-sector in Tanzania. Working Paper; Bank of Tanzania (BoT): Dar es salaam, Tanzania, 2017; Volume 10

Kong,Yu., & Masud,I. (2019) "Service innovation, service delivery and customer satisfaction and loyalty in the banking sector of Ghana", *International Journal of Bank Marketing*, https://doi.org/10.1108/IJBM-06-2018-0142

Kontoghiorghes, C. (2016). Linking high performance organizational culture and talent management: satisfaction/motivation and organizational commitment as mediators. *The International Journal of Human Resource Management*, 27(16), 1833-1853.

Kopp, C.M. (2019) Creative destruction. Available at: https://www.investopedia.com/terms/c/creativedestruction.asp. (Accessed: 18th March, 2021).

Kothari, C. (2017). *Research methodology methods and techniques by CR Kothari*. Published by New Age International (P) Ltd., Publishers.

Kowo. S., Akanmu, P. M., Olalekan, A., & Alhaji, S. A. (2018). Moderating influence of organizational reward system on employee's performance. *Journal of Business Research*, *68*(9), 1964-1973.

Kraśnicka, T., Głód, W., Wronka-Pośpiech, M. (2016). Management Innovation and Its Measurement. *Journal of Entrepreneurship, Management and Innovation*, 12(2), 95-122

Kumar, R. (2019). *Research methodology: A step-by-step guide for beginners*. Sage Publications Limited.

Kusumadewi, R. N., & Karyono, O. (2019). Impact of Service Quality and Service Innovations on Competitive Advantage in Retailing. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *2*(2), 366-74.

Kwon, S. J., Ryu, D., & Park, E. (2018). The influence of entrepreneur's strategic agility and dynamic capability on the opportunity pursuit process of new ventures: Evidence from South Korea. *Academy of Strategic Management Journal*, 17(1), 1-17

Kyei, D. A., & Bayoh, A. T. M. (2017). Innovation and customer retention in the Ghanaian telecommunication industry. *International Journal of Innovation*, *5*(2), 171-183.

Lambert, T. E., & Velardo, T. (2020). Schumpeter, Sweezy, the Financial System, and Innovation: Small versus Big Business. *International Review of Entrepreneurship*, *18*(3), 67-78.

Langroodi, F.E. (2017). *Schumpeter's Theory of Economic Development: a Study of the Creative Destruction and Entrepreneurship Effects on the Economic Growth*. Working Paper. Goethe Universität Frankfurt am Main. *Ilkogretim Online-Elementary*

Education Online, *20*(1), 831-843 https://www.researchgate.net/publication/324918904

Laurencia and Riyanto. (2013). Education influence and employee experience at PT Global Sarana quality information. University of Yogyakarta and University of Mercu Buana

Ledford, J. R. & Gast, D. L. (2018). *Single case research methodology: Applications in special education and behavioral sciences*. London: Routledge

Lestari, E. R., & Ardianti, F. L. (2019). Technological capability and business success: The mediating role of innovation. IOP Conference Series: Earth and Environmental Science. *Information development*, *32*(3), 637-654.

Liao, S., Liu, Z., & Fu, L. (2019). Investigating open innovation strategies and firm performance: The moderating role of technological capability and market information management capability. *Journal of Business & Industrial Marketing*. 8(2), 24-41

Lichtenthaler, U. (2020). Agile innovation: the complementarity of design thinking and lean startup. *International Journal of Service Science, Management, Engineering, and Technology (IJSSMET)*, *11*(1), 157-167.

Li, L. (2017). China's manufacturing locus in 2025: With a comparison of "Made-in-China2025" and "Industry 4.0". Technological Forecasting & Social Change, 135,66-74

Lin, F.J., & Lai, C. (2020). Key factors affecting technological capabilities in small and medium-sized enterprise in Taiwan. *International Entrepreneurship and Management Journal*, *17*(1), 131-143.

Lin, H. F., Su, J. Q., & Higgins, A. (2016). How dynamic capabilities affect adoption of management innovations. *Journal of Business Research*, *69*(2), 862-876.

Lizovskaya, V., Salichova, Y., & Khalina, E. (2019). Experience Marketing in Banking. In *Annual Gsom Emerging Markets Conference 2019* (274-275).

Lizovskaya, V., Salikhova, I., & Khalina, E. (2020, March). Marketing in Banking Sector and Digital Ecosystems. In *"New Silk Road: Business Cooperation and Prospective of Economic Development" (NSRBCPED 2019)* (pp. 790-794). Atlantis Press.

Loewe, M., Al-Ayouty, I., Altpeter, A., Borbein, L., Chantelauze, M., Kern, M., Niendorf, E., & Red, M. (2013). Which factors determine the upgrading of small and medium-sized enterprises (SMEs)?: The case of Egypt. SSRN Electronic Journal. DOI: 10.2139/ssrn.2283056

Luthans, F. (2015). Organizational Behaviour, 10th Edition, McGraw-Hill, Inc. NY Maani, K.E., Putterill, M.S. and Sluti, D.G. (2014). Empirical analysis of quality improvement in manufacturing, *International Journal of Quality & Reliability Management,* 11(7), 19-37.

Lütjen, H., Schultz, C., Tietze, F., & Urmetzer, F. (2019). Managing ecosystems for service innovation: A dynamic capability view. *Journal of Business Research*, 104, 506-519.http://dx.doi.org/10.1016/j.jbusres.2019.06.001

Madhani, P. M. (2019). Resource based view (RBV) of competitive advantages: Importance, issues and implications. *KHOJ Journal of Indian Management Research and Practices*, *1*(2), 2-12.

Maingi, J., Awino, Z.,K'Obonyo,P., & Pokhariyal,G.,(2019).Does Organizational Structure Moderate the Relationship between Strategic Planning and Competitive Advantage? A

Study of Large Manufacturing Firms in Kenya. *International Journal of Business and Management*, 14(5), 89-97

Manar, I. A. (2014). The impact of organizational structure on organizational commitment: a comparison between public and private sector firms in Jordan. *European Journal of Business Management*, 6(12),30-37.

Mandal, P. (2015). Inter-functional spread of quality in manufacturing, *Industrial Management & Data Systems,* 100(3), 135-40

Maritan, C. A., & Peteraf, M. A. (2011). Invited editorial: Building a bridge between resource acquisition and resource accumulation. *Journal of management*, *37*(5), 1374-1389.

Masa'deh, R. E., Shannak, R., Maqableh, M., & Tarhini, A. (2017). The impact of knowledge management on job performance in higher education: The case of the University of Jordan. *Journal of Enterprise Information Management*, *30*(2), 244- 262.

Mashovic, A (2018). Key financial and nonfinancial measures for performance evaluation of foreign subsidiaries, *Journal of Contemporary Economic and Business Issues*, *5*(2), 63-74.

Masocha.R., and Matiza, T. (2017) "The role of e-banking on the switching behaviour of retail clients of commercial banks in Polokwane, South Africa", *Journal of Economics and Behavioral Studies, 9*(3), 192-200

Mathur, P., & Nair, M. (2015). Organizational structure, a key driver to competitive advantage. *International Journal of Management and Commerce Innovations*, *3*(2), 348-356.

Matthysen, M., & Harris, C. (2018). The relationship between readiness to change and work engagement: A case study in an accounting firm undergoing change. *SA Journal of Human Resource Management*, *16*(1), 1-11.

Mauthner, N.S. (2016) Un/re-making method: Knowing/enacting posthumanist performative social research methods through 'diffractive genealogies' and 'metaphysical practices'. In: Victoria Pitts-Taylor (ed.) Mattering: Feminism, Science and Materialism. New York, NY: New York University Press, pp. 258–83.

McKinsey Global Banking Annual Review 2021

Medrano, N., Cornejo-Cañamares, M., & Olarte-Pascual, C. (2020). The impact of marketing innovation on companies' environmental orientation. *Journal of Business and Industrial Marketing, 35*(1), 1–12. https://doi.org/10.1108/JBIM-10- 2018-0319

Mendoza-Silva, A. (2021), "Innovation capability: a systematic literature review", *European Journal of Innovation Management*, 24(3), 707-734. https://doi.org/10.1108/EJIM-09-2019-0263

Menon, A. H. & Varadarajan, W. O. (2017). Market orientation: A meta-analytic review and assessment of its antecedents and impact on performance. *Journal of Marketing*, *69*(1), 24-41.

Mindra, R., Sejjaaka, S., & Nsereko, I. (2015). Leadership traits and business sustainability in Ugandan SMEs: A qualitative analysis. *International Journal Of Management Science And Business Administration. DOI*, *10*.

Mintzberg, H. (1979). *The Restructuring of Organizations*: A Synthesis of the Research. Prentice Hall, Engelwood Cliffs, NJ.

Mirzam,W.A (2017).Moderating Impact of Environmental Turbulence on Relationship between Business Innovation and Business Performance. *Journal of Commerce and Social Sciences,*12 (2),576-596.

M'kuma, E.K. (2015). Strategic Positioning and Competitive Advantage in Banking Industry in Kenya: A Descriptive Statistics of Private Sector Banks European *Journal of Business and Management* www.iiste.org *7*(32), 2222-2839

Mohajan, H. (2017). Two criteria for good measurements in research: validity and reliability. *Annals of Spiru Haret University. Economic Series*, *17*(4), 59-82.

Mohammad, M. M. (2018). *Innovation strategies and sustainable competitive advantage of information and communication technology firms in Mombasa County, Kenya* (Master's Thesis). University of Nairobi, Nairobi, Kenya. Retrieved from http://hdl.handle.net/11295/104841

Monteiro, A., Soares, A. M., & Rua, O. L. (2017). Entrepreneurial orientation and export performance: the mediating effect of organizational resources and dynamic capabilities. *Journal of International Business and Entrepreneurship Development*, *10*(1), 3-19.

Moses, A., & Osunsan, O. (2018). Product innovation, Price level and competitive advantage: A perception assessment of beer products. *Jurnal Manajemen dan Kewirausahaan*, *6*(1), 26-34.

Mu, J. (2015). Marketing capability, organizational adaptation and new product development performance. *Industrial Marketing Management*, 49(7), 151–166.

Mugenda, A. and Mugenda, O., (2013). Research methods: Quantitative and qualitative approaches. Nairobi: ACTS Press

Mugo, P., & Macharia, J. (2021). Market Innovation and Competitive Advantage of Telecommunication Companies in Kenya. *European Journal of Management Issues*, *29*(1), 37-46. https://doi.org/10.15421/192104

Mulatu, A. (2016). On the Concept of 'Competitiveness' and its Usefulness for Policy. *Structural Change and Economic Dynamics*, *36(3)*, 50-62.

Mulaudzi, T. G. (2021). *A business sustainability framework for community pharmaceutical SMEs in South Africa, Gauteng Province* (Doctoral dissertation).

Murphy, C. (2016). *Competitive intelligence: gathering, analysing and putting it to work*. Routledge. doi:10.4324/9781315573151

Musyoka, S. M. (2016). *Factors that influence organisational performance in the hospitality industry: A case study of Sankara Nairobi* (A MBA Project Report, Chandaria School of Business).

Mutuku, P. K. & Wambua, P. (2019). Service innovation and customer choices in the hotel industry Nairobi City County, Kenya. *International Academic Journal of Human Resource and Business Administration*, *3*(7), 104-116

Myhren, P., Witell, L., Gustafsson, A., & Gebauer, H. (2018). Incremental and radical open service innovation. *Journal of Services Marketing*, *32*(2), 101-112. http://dx.doi.org/10.1108/JSM-04-2016-0161.

Na , Y., Kang , S., & Jeong , H. (2019). The effects of market orientation on performance of sharing economy business: focusing on marketing innovation and sustainable competitive advantage. *Journal of Sustainability*, *11*(3), 729-734

Nafei, W. A. (2016). Organisational agility. The key to organisational success. *International Journal of Business and Management*, 11(5), 296-309. https://doi.org/10.5539/ijbm.v11n5p296

Najda-Janoszka, M. (2016). *Dynamic capability-based approach to value appropriation*. Cracow: Jagiellonian University Press.

Namazi, M., & Namazi, N. R. (2016). Conceptual analysis of moderator and mediator variables in business research. *Procedia Economics and Finance*, *36(4)*, 540-554.

Nataya, A. (2018). The effects of product innovation and service innovation towards marketing performance. *International Journal of Business and Management*, 7(8), 61-66.

Nazari-Shirkouhi, S., & Keramati, A. (2017). customer satisfaction with new product design marketing capabilities for sustainable competitive using a flexible fuzzy regression-data envelopment advantage. analysis algorithm. *Applied Mathematical Modelling*, *50*, 755-771.

Neirotti, P., & Pesce, D. (2019). ICT-based innovation and its competitive outcome: the role of information intensity, *European Journal of Innovation Management*, 22(2), 383-404. doi:10.1108/EJIM-02-2018-0039.

Neubert M J, Hunter E M and Tolentino R C (2016), "A Servant Leader and Their Stakeholders: When Does Organizational Structure Enhance a Leader's Influence?", *The Leadership Quarterly*, 27(6), 896-910.

Ngango,M,A (2015). *Electronic banking and financial performance of commercial banks in Rwanda: a case study of bank of Kigali*. (Master's Thesis). Jomo Kenyatta University of Agriculture and Technology

Ngibe, M. (2020). *A proposed integrated model for innovative business leadership for the attainment of sustainable growth in small and medium manufacturing enterprises in KwaZulu-Natal* (Doctoral dissertation).

Ngugi, B.K., Elliot, E.A., and Blankson, C. (2020) Toward a conceptual framework explaining the strategic factors responsible for mobile product innovation success in an emerging African market. *Thunderbird Int. Bus. Rev*; 1–15. https://doi.org/10.1002/tie.22179

Nieves, J., & Diaz-Meneses, G. (2018). Knowledge sources and innovation in the hotel industry: Empirical analysis on Gran Canaria Island, a mature mass-tourism destination. *International Journal of Contemporary Hospitality Management 6*(11), 21-28.

Nikpour, A. (2017). The impact of organizational culture on organizational performance: The mediating role of employee's organizational commitment. International Journal of Organizational Leadership, 6(1), 65–72. DOI: 10.33844/ijol.2017.6043

Nuryakin, S. (2018). Competitive advantage and product innovation: key success of batik SMEs marketing performance in Indonesia. *Academy of Strategic Management Journal*, 17(2), 1-17.

Nwachukwu, C. (2018). The impact of different types of innovations on customer satisfaction in Microfinance Bank in Nigeria [Published MBA thesis]. Jam University of Applied Sciences.

Nwachukwu, C., & Žufan, P. (2017). Influence of customer focused mission statement on customer satisfaction. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis,* 65(3), 1031–1038.

Nwachukwu, C., Chladkova, H., & Olatunji, F. (2018). Strategy formulation process and innovation performance nexus. *International Journal for Quality Research*, *12*(1), 147–164.

Nwachukwu, C., Vu, H. M., & Moses, C. L. (2019, November 22). Competition intensity and innovation performance: Insights from Nigeria microfinance sector. *SAGE Open, 12*(2), 21582440221082146.Emerging markets economics and business contributions of young

researchers (No. 7, pp. 26– 29). In Proceedings of the 10th International Conference of Doctoral Students and Young Researchers, Oradea, Romania.

Nzewi, H. N., Osisioma, H. E., Mgbemena, I. C., & Onwuzuligbo, L. T. (2016). Management innovation and competitiveness of selected pharmaceutical firms in Anambra state, Nigeria, *African Journal of Management*, 4(2), 156-164.

Obeidat, B. (2016) The effect of strategic orientation on organizational performance: the mediating role of innovation. *International Journal of Communications, Network and System Sciences,* **9(8)**, 478-505.

Odhiambo, P. (2015). *Innovation and service quality in the telecommunication industry in Kenya.* Published Masters Research Project. University of Nairobi.

OECD (2005), Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data, 3rd ed.,OECD Publishing, Luxembourg.

Okoe, A. F., Boateng, H., Narteh, B., & Boakye, R. O. (2018). Examining human resource practice outcomes and service innovation. *Service Industries Journal*, *38*(7-8), 431-445. http://dx.doi.org/10.1080/02642069.2017.1397636.

O'Gorman, K.D. and MacIntosh, R. (2015) 'Mapping Research Methods'. In: 2 (ed.) Research Methods for Business and Management. Goodfellow Publishers Ltd, pp. 50-74.

Onafadeji, O. A., & Adeniran, A. B. (2021). The Link between Product Innovation and Sales Growth: Case Study of Shoes and Garment Enterprises in Ibadan, Nigeria.

Osano, H.M & Koine, P.W. (2016) Role of foreign direct investment on technology transfer and economic growth in Kenya: A case of the energy sector. *Journal of Innovation and Entrepreneurship*, *5*(1), 1-25.

Osborne, S., & Hammoud, M. S. (2017). Effective employee engagement in the workplace. *International Journal of Applied Management and Technology*, *16*(1), 4-8

Otley, D. (2016). The contingency theory of management accounting and control: 1980- 2014. *Management Accounting Research*, 31(7), 45-62.

Owiti, S. (2019). *The Effects of Technological Innovation on Competitive Advantage: A Case of Safaricom Plc Customers in Nairobi County* (Doctoral dissertation, United States International University-Africa).

Ozer, M. and Zhang, W. (2015), "The effects of geographic and network ties on exploitative and exploratory product innovation", *Strategic Management Journal*, *36* (7)1105-1114.

Palmer,J. C., Wright , R. E., & Powers , J. B. (2015). Effects of environments, business strategy innovation and competitive advantage in small businesses. Journal of Small Business Strategy, 11(3), 30-4

Palmer,D. and Kaplan,S.(2017). A Framework for Strategic Innovation; Blending strategy and creative exploration to discover future business opportunities, Managing Principals, InnovationPoint LLC

Pavlou, P. A., & El Sawy, O. A. (2011). Understanding the elusive black box of dynamic capabilities. *Decision sciences*, *42*(1), 239-273.

Pedraza, M. (2014) How to Evaluate Competitiveness: Which Economic Indicators to Use [online] https//www.researchgate.net (accessed 15 August 2016).

Peng, J.Qin, Q.Tang, T.(2021).The Influence of Marketing Innovations on Firm Performance under Different Market Environments: Evidence from China. *Sustainability*, *13*, 10049. https:// doi.org/10.3390/su131810049

Pérez-Cabañero, C., Cruz-Ros, S., & González-Cruz, T. (2015). The contribution of dynamic marketing capabilities to service innovation and performance. *International Journal of Business Environment,* 7(1), 61-78. http://dx.doi.org/10.1504/IJBE.2015.065996.

Peter, M. N., Munga, J., Nzili, J. M. (2021). Effect of process innovation strategies on performance of tier one commercial banks in Kenya, *International Academic Journal of Innovation, Leadership and Entrepreneurship*, 2(2), 142-162.

Peteraf, M. A. (1993). *"The Cornerstones of Competitive Advantage: A Resource-based View". Strategic Management Journal. 14 (3). 179-191.* doi:10.1002/smj.4250140303

Pituch, K. A. and Stevens, J., (2016). Applied multivariate statistics for the social sciences: Analyses with SAS and IBM's SPSS (6th ed.), Taylor & Francis, New York

Pooja, M. & Balwinder, S. (2017). The impact of internet banking on bank performance and risk: The Indian experience. *Eurasian Journal of Business and Economics*, 2(4), 43-62.

Porter, M. E. (1980), *Competitive Strategy: Techniques for Analyzing Industries and Competitors,* New York, NY: Free Press

Porter, M. (1985). Technology and competitive advantage. Journal of Business Strategy, 5(3), 60-78

Porter, M. E. (1990). *The competitive advantage of nations*. New York: The Free Press. doi:10.1007/9781-349-11336-1

Prahalad, C. K.; Hamel, G. (1990)"The Core Competence of the Corporation". *Harvard Business Review.* 68 (3), 79–91.

Prajogo, D. I. (2016). The strategic fit between innovation strategies and business environment in delivering business performance. *International Journal of Production Economics,* 171(2), 241–249.

Prasad,B. and Junni,P. (2016), "CEO Transformational and Transactional Leadership and Organizational Innovation: The Moderating Role of Environmental Dynamism", *Management Decision*, 54 (7), 1542-1568.

Presley, P. (2016). The emergent knowledge-based theory of competitive advantage: An evolutionary approach to integrating economics and management an integrated conceptual framework. *Managerial and Decision Economics*, 24(1), 245-251

Purchase, S., & Volery, T. (2020). Marketing innovation: a systematic review. *Journal of Marketing Management*, 36(9–10), 763–793. https://doi.org/10.1080/0267257X.2020.1774 631

Purity W. Ndegwa, James M. Kilika, Stephen M. A. Muathe, The Moderating Role of External Environment on the Relationship Between Resource Isolating Mechanism and Sustainable Competitive Advantage, International Journal of Management, 10 (3), 2019, pp. 50–59. http://www.iaeme.com/IJM/issues.asp?JType=IJM&VType=10&IType=3

Rahman, A. (2020). Brand Image, eWOM, Trust and Online Purchase Intention of Digital Products among Malaysian Consumers. *Journal of Xi'an University of Architecture & Technology,* 12XII(3III), 4935–4946. https://doi.org/10.37896/jxat12.03/452.

Raja, M. W., & Wei, S. (2014). Relationship between innovation, quality practices and firm performance: A study of service sector firms in Pakistan. *Journal of Management Research,* 6(4), 124–140.

Rajapathirana, R. P. J., & Hui, Y. (2018). Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation & Knowledge*, 3(1), 44–55.

Rastogi, N., and Trivedi, M.K. (2016). "Pestle Technique – A Tool to Identify External Risks in Construction Projects,." *International Research Journal of Engineering and Technology* 3(1), 384-388

Ravitch, S. M. & Riggan, M. (2017). *How conceptual frameworks guide research*. 2 nd Edn. Los Angeles, CA: Sage

Razali, N. M., & Wah, Y. B. (2011). Power comparisons of shapiro-wilk, kolmogorov-smirnov, lilliefors and anderson-darling tests. *Journal of statistical modeling and analytics*, *2*(1), 21-33.

Recker J., Holten R., Hummel M., Rosenkranz C., (2017), How agile practices impact customer responsiveness and development success: A field study, *"Project Management Journal*", 48 (2), 56-63.

Reuters (2012) UPDATE 2-Safaricom sees strong end to year as price war ebbs, Reuters, http://www.reuters.com (accessed November 7, 2012).

Riviere, M., Suder, G., & Bass, A. E. (2018). Exploring the role of internationalization knowledge in fostering strategic renewal: A dynamic capabilities perspective. *International Business Review*, *27*(1), 66-77.

Riyanto, S., (2019). *The Impact of Leadership, Organizational Culture and Organizational Climate on Employee Job Satisfaction (Case Study: PT Garuda Indonesia (Persero) Tbk).* Jakarta : Mercu Buana University

Roberts, P. W. & Amit, R. (2018). The Dynamics of Innovative Activity and Competitive Advantage: The case of Australian retail banking, 2016 to 1995. *Organization Science*, 14(2), 107-122.

Rocha, F. (2015). Does governmental support to innovation have positive effect on R&D investments? Evidence from Brazil. *Revista Brasileira de Inovação*, 14(1), 37-60

Rodríguez, A., Nieto, M. J., & Santamaría, L. (2018). International collaboration and innovation in professional and technological knowledge-intensive services. *Industry and Innovation*, 25(4), 408-431. http://dx.doi.org/10.1080/13662716.2017.1414752.

Rowley, C., & Oh, I. (2020). Trends in Chinese management and business: change, confucianism, leadership, knowledge & innovation. *Asia Pacific Business Review*, *26*(1), 1-8.

Roy, M. (2016). Innovation management. [Online] Retrieved from: https://searchcio.techtarget.com/definition/innovation-management (Accessed: 4 February 2020).

Roy,F,L., Robert,M. & Giuliani,P. (2018). The concept of management innovation: definition, state of the art and future research avenues. *International Journal of Entrepreneurship and Small Business*, 35(1): 44-56.DOI: 10.1504/IJESB.2018.094277

Russell, S. N., & Millar, H. H. (2014). Exploring the relationship among sustainable manufacturing practices, business performance and competitive advantage: perspectives from a developing economy. *Journal of Management and Sustainability, 4*(3), 1925-4733.

Ryu, H. S., & Lee, J. N. (2018). Understanding the role of technology in service innovation: comparison of three theoretical perspectives. *Information & Management*, 55(3), 294-307.http://dx.doi.org/10.1016/j.im.2017.08.003.

Safaricom (2012) Safaricom website http://www.safaricom.co.ke/index.php?id=123 accessed 28 November 2012.

Salerno, M. S., de Vasconcelos Gomes, L. A., Da Silva, D. O., Bagno, R. B., & Freitas, S. L. T. U. (2015). Innovation processes: Which process for which project?. *Technovation*, *35(8)*, 59-70.

Salisu, Y., & Bakar, L. J. A. (2019). Technological capability, relational capability and firms' performance: The role of learning capability. *Revista de Gestão*.

Santy, R. D., Habibillah, M. I., Dimyati, Y. R., Nofia, V. S., Luckyardi, S., Gaol, T. V., & Oktafiani, D. (2021). Artificial Intelligence as Human Behavior Detection for Auto Personalization Function in Social Media Marketing. *International Journal of Research and Applied Technology (INJURATECH*), 1(1), 25-34

Sarji, M.(2017). Information Technology and its influence on the Lebanese Banking Sector. *Management,*18(2),19-30. doi:10.2478/manment-2014-0039

Saunders, M., Lewis, P. & Thornhill, A. (2016). *Research methods for business students* (Seventh). Nueva York: Pearson Education.

Schneider, A., Wickert, C., & Marti, E. (2017). Reducing complexity by creating complexity: a systems theory perspective on how organizations respond to their environments. *Journal of Management Studies*, 54(2), 182-208.

Schumpeter, J. A. (1934). The Theory of Economic Development, Harvard University Press, Cambridge, Mass.

Schumpeter, J. (1942). Capitalism, Socialism, and Democracy. New York: Harper & Bros.

Scott, D. M. (2020). *The new rules of marketing & PR: how to use content marketing, podcasting, social media, AI, live video, and newsjacking to reach buyers directly* (7th ed.). John Wiley & Sons, Inc., Hoboken, New Jersey.

Secluk, A.E. (2016) 'Factors affecting firm competitiveness: evidence from an emerging market', *International Journal of Financial Studies*, Vol. 4, No. 9, pp4(9),.1–10

Senguo, R. A., & Kilango, N. C. (2015). Marketing innovation strategies for improving customer satisfaction: Vodacom Tanzania. *Open Journal of Business and Management, 7*(15), 127–132.

Shah, T. R. (2022). Can big data analytics help organisations achieve sustainable competitive advantage? A developmental enquiry. *Technology in Society*, *68*, 101801.

Sharma, P.N., and Kirkman, B.L. (2015) Leveraging leaders: a literature review and future lines of inquiry for empowering leadership research. *Group Organ Manage 40*(2): 193–237.

Sharon Purchase & Thierry Volery (2020) Marketing innovation: a systematic review, *Journal of Marketing Management*, *36*(9), 763-793, DOI: 10.1080/0267257X.2020.1774631

Shilpi,S.,and Saraf P,K. (2018) "Organizational culture as a moderator between affective commitment and job satisfaction: Empirical evidence from Indian public sector enterprises", *International Journal of Public Sector Management*, *31*(2), 184-206, https:// doi.org/10.1108/IJPSM-03-2017-0078

Shin,H., Lee J.N., Kim D., Rhim H., (2015), Strategic agility of Korean small and medium enterprises and its influence on operational and firm performance, *International Journal of Production Economics*, *168(*8*)*, 181-196.

Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, *9*(1), 4-11.

Shrestha, N.(2020) “Detecting multicollinearity in regression analysis,” *American Journal of Applied Mathematics and Statistics, 8*(2), 39-42, 2020.

Siddiqua, A., Chowdhury, A. M. H., Chowdhury, A. S. M. M. H., Mainuddin, M., & Rahman, M. L. (2017). Impact of internal factors on the profitability of banks: A case of commercial banks in Bangladesh. *Asian Business Review*, *7*(1), 1-14.

Simao, L.B., Carvalho, L. and Madeira, M.J. (2023), "The influence of management innovation on the organisational performance of KIBS: the mediating role of service innovation and technology", *International Journal of Innovation Science*, Vol. 15 No. 4, pp. 636-655. https://doi.org/10.1108/IJIS-01-2022-0007

Singh, S., Akbani, I., & Dhir, S. (2020). Service innovation implementation: a systematic review and research agenda. *Service Industries Journal*, 40(7-8), 1-27. http://dx.doi.org/10.1080/02642069.2020.1731477.

Sjödin, D., Parida, V., Kohtamäki, M., & Wincent, J. (2020). An agile co-creation process for digital servitization: A micro-service innovation approach. *Journal of Business Research,* 112, 478-491. http://dx.doi.org/10.1016/j.jbusres.2020.01.009.

Smith, K.G., Ferrier, W. & Ndorfer, H. (2002). Competitive dynamics research: Critique and future directions. In M. Hitt, J. Harrison, & E. Freeman (Eds.), *Handbook of strategic management:* 315-361. UK: Blackwell.

Snyder, H., Witell, L., Gustafsson, A., Fombelle, P., & Kristensson, P. (2016). Identifying categories of service innovation: A review and synthesis of the literature. *Journal of Business Research,* 69(7), 2401-2408. http://dx.doi.org/10.1016/j.jbusres.2016.01.009.

Struwig, F. W., Nuwagaba, G., & Krüger, J. (2019). The influence of the business environment on the growth of informal businesses in Uganda. *The Southern African Journal of Entrepreneurship and Small Business Management*, *11*(1), 1-10.

Su, Z., Chen, J., and Wang, D. (2018). Organisational structure and managerial innovation: The mediating effect of cross-functional integration. *Technology Analysis and Strategic Management*, 31(3), pp. 253–265. doi:10.1080/09537325.2018.1495324

Su,Z. and Tang, J. (2016), "Product innovation, cost-cutting and firm economic performance in the post-crisis context: Canadian micro evidence", *Journal of Centrum Cathedra,* Vol 9, 1, pp9(1)., 4-26. https://doi.org/10.1108/JCC-08-2016-000

Swoboda, B., & Olejnik, E. (2016). Linking processes and dynamic capabilities of international SMEs: the mediating effect of international entrepreneurial orientation. *Journal of Small Business Management,* 54(1), 139-161.

Syafarudin, A. (2016). Strategy of leadership and innovation in improving company performance against competitive advantage: A case study of PT. Pegadaian (Ltd) in Indonesia. *International Journal of Economics, Commerce and Management,* 4(6), 471-482. http://ijecm.co.uk/wp-content/uploads/2016/06/4627.pdf

Symaniec-Micka, K. (2014). Resource-based view in strategic management of public organizations—A review of the literature. *Management*,18(2), 19-30.doi:10.2478/manment-2014-0039

Tabe-Khoshnood, N., & Nematizadeh, S. (2017). Strategic agility and its impact on the competitive capabilities in Iranian private banks. *International Journal of BusinessandManagement*,12(2), 220-229. https://doi.org/10.5539/ijbm.v12n2p220

Tajeddini, K. (2016). Financial orientation, product innovation and firm performance — an empirical study in the Japanese SMEs. *International Journal of Innovation and Technology Management*, 13 (03), 1-30.

Tang, R. W., & Gudergan, S. P. (2018). A meta-analysis of the international entrepreneurship ownership strategy relationship: A dynamic capabilities view. *Management International Review*, 58(4), 541-570.

Tang, T. W. (2016). Making innovation happen through building social capital and scanning environment. *International Journal of Hospitality Management*, 56, 56-65. http://dx.doi.org/10.1016/j.ijhm.2016.04.002.

Tang, T. W., Wang, M. C. H., & Tang, Y. Y. (2015). Developing service innovation capability in the hotel industry. *Service Business*, 9(1), 97-113. http://dx.doi.org/10.1007/s11628-013- 0220-z

Teece, D. J. (2018). Business models and dynamic capabilities. *Long range planning*, *51*(1), 40-49 Long Range Planning, 51, 40–49

Teece, D. J. (2020). Hand in glove: Open innovation and the dynamic capabilities framework. *Strategic Management Review*, *1*(2), 233-253.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal,* 18(7), 509-533.

The Lab. (2017). How to increase operational efficiency in the banking sector. Retrieved July 8, 2018, from Insight from the lab: www.thelabconsulting.com/how-to- increase-operational efficiency- in-the-banking-sector/amp/

Thumbi, G. W., & Ragui, M. (2019). Environmental Factors and Performance of Commercial Banks in Kenya. *International Journal of Current Aspects*, *3*(6), 149-175.

Thumbi, G., & Ragui, M. (2019). Environmental Factors and Performance of Commercial Banks in Kenya. *International Journal of Current Aspects*, 3(6V, 149-146. https://doi.org/10.35942/ijcab.v3iVI.83

Tidd, J., & Bessant, J. R. (2020). *Managing innovation: integrating technological, market and organizational change*. John Wiley & Sons.

Truong, N. T., Dang-Pham, D., McClelland, R. J., & Nkhoma, M. (2020). Service innovation, customer satisfaction and behavioural intentions: A conceptual framework. *Journal of Hospitality and Tourism Technology*, 11(3), 529–542.

Tuan, N.; Nhan, N.; Giang, P.; Ngoc, N. (2016). The effects of innovation on firm performance of supporting industries in Hanoi, Vietnam. *Journal of Industrial Engineering and Management*, *9*(2), 413-431.

Tulsian, J. (2015). Innovative capability, innovation strategy and market orientation: an empirical analysis in Turkish software industry. *International Journal of Innovation Management*, 12 (1), 69–111.

Ungerman, O., Dedkova, J., & Gurinova, K. (2018). The Impact of Marketing Innovation on the Competitiveness of Enterprises in the Context of Industry 4.0. *Journal of Competitiveness,* 10(2), 132–148. https://doi.org/10.7441/joc.2018.02.09.

U.S. Treasury Office of Tax Policy, Investing in U.S. Competitiveness: The Benefits of Enhancing the Research and Experimentation (R&E) Tax Credit (March 2011), availablehttp://www.treasury.gov/resourcecenter/taxpolicy/Documents/Research%20and%20Experimentation%20report%20FINAL.PDFhttp://www.treasury.gov/resourcecenter/taxpolicy/Documents/Research%20and%20Experimentation%20report%20FINAL.PDF.

Vi.S., and Bedi,H. S. (2016), "Effect of Organisational and Environmental Factors on Innovativeness and Business Performance Relationship", *International Journal of Innovation Management,* 20(3), 16500-3187.

Vij, S., and Farooq, R. Moderating Variables in Business Research (December 25, 2017). *The IUP Journal of Business Strategy*, *14*(4), 34-54, Available at SSRN: https://ssrn.com/abstract=3219666

VTB ecosystem (2019). Retrieved from: https://www.vtb.ru/o-banke/presscentr/novosti-i-press-relizy/2019/07/2019-07-19-vyacheslav-dusaleevnaznachen-generalnym-direktorom-zhilishchnoy-ekosistemy-vtb/ (Lastaccessed: October 31,).

Wallace, C. K., Kilika, J., (2021). Strategic innovations and competitiveness of saccos in South Imenti Sub-county, Meru County, *International Academic Journal of Innovation, Leadership and Entrepreneurship*, 2(2), 93-117.

Wang, Q., Voss, C., Zhao, X., & Wang, Z. (2015). Modes of service innovation: a typology. *Industrial Management & Data Systems*, 115(7), 1358-1382.

Wang, S. (2015). *What motivates marketing innovation and whether marketing innovation varies across industry sectors* [Master thesis, Telfer School of Management, University of Ottawa].https://central.baclac.gc.ca/.item?id=TC-OOU-33008&op=pdf&app=Library&oclc_number=1032924416

Wedel, M., & Kannan, P. K. (2016). Marketing analytics for data-rich environments.

Weigelt, C. (2013), "Leveraging supplier capabilities: the role of locus of capability deployment*", Strategic Management Journal,* 34(1)., 1-21.

Wernerfelt, B (1984). "A Resource-based View of the Firm". Strategic Management Journal. ***5*** *(2): 171–180.* doi*:*10.1002/smj.4250050207.

Williams, M. N., Grajales, C. A. G., & Kurkiewicz, D. (2013). Assumptions of multiple regression: Correcting two misconceptions. *Practical Assessment, Research, and Evaluation*, *18*(1), 11-17

Witell, L., Snyder, H., Gustafsson, A., Fombelle, P., & Kristensson, P. (2015). Defining service innovation: A review and synthesis. *Journal of Business Research*, 69(8), 2863-2872. http://dx.doi.org/10.1016/j.jbusres.2015.12.055

World Bank (2015) The Path to Universal Health Coverage in Kenya: Repositioning the Role of the National Hospital Insurance Fund. Smart Les-sons. http://documents.worldbank.org/curated/en/832461468188355009/pdf/99070-BRI-IFC-586467-SMART-LESSONS-Box393181B-PUBLIC-20150624T081248-2015-Universal-Health-Coverage-Kenya-C.pdf

World Bank (2016). *Kenya Economic Update*, World Bank, Washington, DC.

World Bank (2017). *Business Environment and Firm Performance in European Lagging Regions Policy Research*, Working Paper 8281. Available Web at http://econ.worldbank.org

Xiang, A. B. (2015, August 23). New "Made in China" Model. China Today. Retrieved May, 2018, from http://www.chinatoday.com.cn/english/economy/opinion/2015-08/content_324594.htm

Xu, H., Guo, H., Zhang, J., & Dang, A. (2018). Facilitating dynamic marketing capabilities development for domestic and foreign firms in an emerging economy. *Journal of Business Research*, 8(6), 141-152.

Yamane, T. (1967) *Statistics, An Introductory Analysis*, 2nd ed., Harper and Row, New York

Yang K, Tu.J., and Chen.T.(2019). Homoscedasticity: an overlooked critical assumption for linear regression. General Psychiatry 2019;32: e100148. doi:10.1136/ gpsych-2019-100148

Yang, Y.F., Yang, L. W., & Chen, Y.S. (2014). Effects of service innovation on financial performance of small audit firms in Taiwan. *The International Journal of Business and Finance Research*, 8(2), 87–99.

Yasar, A. G. (2021). Re-examining Schumpeter's Legacy: Creative Destruction as Competition, Innovation and Capitalism. *Innovation and Capitalism (July 2021)*.

Yeh, T. M., Chen, S. H., & Chen, T. F. (2019). The relationships among experiential marketing, service innovation, and customer satisfaction—A case study of tourism factories in Taiwan. *Sustainability*, 11(4), 1041. https://doi.org/10.3390/ su11041041

Yuliansyah,Y.,and Mohd, S. A. R., (2015). Non-financial performance measures and managerial performance: the mediation role of innovation in an Indonesian stock exchange-listed organization. *Problems and Perspectives in Management, 13*(4), 135-144

Zhang, H., Wang, Y., & Song, M. (2019). Does competitive intensity moderate the relationships between sustainable capabilities and sustainable organizational performance in new ventures? *Sustainability*, 12(1), 253.

Zhang, J. Z., & Chang, C. (2020). Consumer dynamics: Theories, methods, and emerging directions. *Journal of the Academy of Marketing Science*. *49*(1), 166-196. https://doi.org/10.1007/s11747-020-00720-8.

Zhang, J., O'Kanea, C., & Chen, G. (2020). Business ties, political ties, and innovation performance in Chinese industrial firms: The role of entrepreneurial orientation and environmental dynamism. Journal of Business Research, 121(2020), 254–267. DOI: 10.1016/j.jbusres.2020.08.055

Zhang, J. Z., Watson, G. F., IV, & Palmatier, R. W. (2018). Customer relationships evolve so must your CRM strategy. *MIT Sloan Management Review*, 59(3), 1–7.

Zhang, J. Z., Watson, G. F., IV, Palmatier, R. W., & Dant, R. P. (2016). Dynamic relationship marketing. *Journal of Marketing*, 80(5), 53–75.

Zikmund, A. (2017). Technological innovations and banking: An evaluation of customers' perceptions. *Academic leadership online journal*, 8(4), 205-211.

Zikmund , W. G., Babin , B. J., & Griffin , M. (2013). Business research methods. Boston MA: Cengage Learning

Ziraba A., & Okolo C. (2018). *The impact of information technology (IT) policies and strategies to organization's competitive advantage*. Munich, Germany: GRIN Verlag. Retrieved from https://www.grin.com/document/421249

Zuñiga-Collazos, A., & Castillo-Palacio, M. (2016). Impact of image and satisfaction on marketing innovation. *Journal of Technology Management & Innovation*, 11(2), 70–75

APPENDIX 1: LETTER OF INTRODUCTION

Dear Sir/Madam,

REF: REQUEST FOR RESEARCH DATA

My Name is Asisi Idah, a graduate student in the School of Business and Economics of Masinde Muliro University of Science and Technology pursuing a PhD of Business Administration in Strategic Management. I would wish to conduct my research on **Strategic Innovation and competitiveness of commercial banks in Kenya** as part of the examinations. I am using the attached questionnaire to collect information for the study. It is my kind request that you fill the questionnaire and respond appropriately to questions providing the relevant information to facilitate the study. Please use the space provided to fill in the information required as objectively and honestly as possible. The information provided will be treated with strict confidentiality for the purpose of this study only.

Thank you in advance

Yours faithfully,

Asisi Idah

PRINCIPAL RESEARCHER

APPENDIX II: QUESTIONNAIRE

SECTION 1

Instructions:

1. Do **NOT** write your name anywhere in this questionnaire.

2. Kindly respond to all questions.

3. Please tick appropriately.

SECTION 1: BACKGROUND INFORMATION OF RESPONDENTS

1. Kindly indicate your gender

Male [ ] Female [ ]

2. Please indicate your age.

[ ] 18-25 [ ] 26-35 [ ] 36-45 [ ] 46 and over

3. Please indicate your education qualification…….

Certificate [ ] Diploma [ ] Degree level [ ] Masters level [ ] Others [ ]

4. How long have you worked for your organization?

Less than 5 years [ ] 6 to 10 years [ ] 11 to 15 years [ ] 16 and above [ ]

SECTION 2: STRATEGIC INNOVATION

PART A: PRODUCT INNOVATION

Please rate the extent to which you agree or disagree with the following statements on product innovation, ranging from strongly disagree to strongly agree.

Key: SD= Strongly Disagree (1), D= Disagree (2), N= Fairly agree (3), A= Agree (4), SA= Strongly Agree (5)

No.	STATEMENT	SD (1)	D (2)	N (3)	A (4)	SA (5)
1	The bank regularly carries out surveys on internet and mobile banking products consumed by its clients					
2	Internet and mobile banking has improved service delivery for our clients					
3	Clients are trained on how to use mobile and internet banking before they are onboarded on the platforms					
4	Employees suggestions are sought for before new products are designed					
5	Employees undergo training for the new or significantly improved products before they are launched					
6	Mobile and internet banking have stable network					
7	Mobile banking and internet product innovations were developed by my bank and other institutions/partners.					
8	Clients' views are sought before new mobile and internet products are developed					

What product innovations has your organization embarked on…

What actions can the bank undertake to ensure product innovation is successful

PART B: MARKET INNOVATION

Please rate the extent to which you agree or disagree with the following statements on market innovation, ranging from strongly disagree to strongly agree.

Key: SD= Strongly Disagree (1), D= Disagree (2), N= Fairly agree (3), A= Agree (4), SA= Strongly Agree (5)

No.	STATEMENT	SD (1)	D (2)	N (3)	A (4)	SA (5)
1	My organization carries out market surveys before introducing a new product/service					
2	My bank uses account cash flows to measure clients' financial strength					
3	The bank regularly reviews its marketing strategies to match with the dynamic business environment.					
4	The bank has various products for different customers					
5	My bank runs promotion campaigns on various media platforms					
6	My company utilises Artificial intelligence technology to target new customers					
7	My organization offers banking products/services to non-clients using our clients as intermediaries.					
8	Through intermediaries, my organization has been able to onboard new clients.					

What market innovations has your organization embarked on

What actions can the bank undertake to ensure market innovation is successful

PART C: SERVICE INNOVATION

Please rate the extent to which you agree or disagree with the following statements on service innovation, ranging from strongly disagree to strongly agree.

Key: SD= Strongly Disagree (1), D= Disagree (2), N= Fairly agree (3), A= Agree (4), SA= Strongly Agree (5)

No.	STATEMENT	SD (1)	D (2)	N (3)	A (4)	SA (5)
1	The bank has automated most of its processes					
2	The automated services have stable network					
3	Service automation has reduced queues in the banking hall					
4	There are constant reviews of products and services automated by the bank					
5	My organization utilizes virtual personal assistant (VPA) technology in delivering services					
6	The VPA technology is available 24/7					
7	My organization's virtual personal assistant can be accessed from any device					
8	The bank's VPA can be accessed by both customers and non-customers					

What service innovations have your organization embarked on

What actions can the bank undertake to ensure service innovation is successful

PART D: MANAGERIAL INNOVATION

Please rate the extent to which you agree or disagree with the following statements on managerial innovation, ranging from strongly disagree to strongly agree.

Key: SD= Strongly Disagree (1), D= Disagree (2), N= Fairly agree (3), A= Agree (4), SA= Strongly Agree (5)

No.	STATEMENT	SD (1)	D (2)	N (3)	A (4)	SA (5)
1	Employees' operations in my organization are guided by policies					
2	The supervisors mentor staff they lead					
3	My organization has room for exemption of policies through relevant authorities					
4	Employees who do not follow the laid down policies are punished					
5	My supervisor actively seeks relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting to better the bank					
6	Networking with the telecommunication operators has improved service delivery to clients					
7	There is seamless working between the bank and the partners in offering partnered services					
8	Customer complaints arising from partnerships/collaborations are resolved quickly					

What managerial innovations have your organization embarked on

In your own opinion, what are some of the measures that can be undertaken to improve service innovation in your bank?

SECTION 3

ENVIRONMENTAL FACTORS

Please rate the extent to which you agree or disagree with the following statements on environmental factors, ranging from strongly disagree to strongly agree.

Key: SD= Strongly Disagree (1), D= Disagree (2), N= Fairly agree (3), A= Agree (4), SA= Strongly Agree (5)

No.	STATEMENT	SD (1)	D (2)	N (3)	A (4)	SA (5)
1	Operations in my organization is strictly according to laid down standard, rules and procedures					
2	Power and authority is centralized at the hands of top management					
3	As an employee of this organization any decision I make must have my immediate manager's approval					
4	My organizations has a policy which encourages creativity and innovation					
5	My organization's leadership encourages teamwork					
6	The organization takes consideration of employees' ideas regards to innovation activities					
7	My organization carries out market research to know what their rivals offer					
8	Products/services are designed based on the competitor matrix					

What other environmental factors other than organizational structure, organizational culture and competitor intensity influence innovation activities in your organization

What measures have been undertaken to ensure environmental factors do not hinder innovation in your organization

SECTION 4

COMPETITIVENESS

Please rate the extent to which you agree or disagree with the following statements on competitiveness, ranging from strongly disagree to strongly agree.

Key: SD= Strongly Disagree (1), D= Disagree (2), N= Fairly agree (3), A= Agree (4), SA= Strongly Agree (5)

No.	STATEMENT	SD (1)	D (2)	N (3)	A (4)	SA (5)
1	My organization has enjoyed reduced labor costs due to digitization					
2	My company enjoys reduced production costs due to innovation					
3	Innovation has greatly improved turnaround time for rendering services to customers					
4	The organization customer base has continued to increase in the last 3 years					
5	My bank's branch network has grown for the past 3 years					
6	The use of artificial intelligence in gathering customer purchasing behavior has brought more clients to my organization					
7	New products are designed from customer suggestions					
8	My organization has a knowledgeable customer representative to take care of customer needs					

In your opinion how has strategic innovation impacted on your organization's competitiveness

What measures has your organization undertaken to ensure strategic innovation enhances your organization's competitiveness

APPENDIX III: FACTOR ANALYSIS RESULTS

PRODUCT INNOVATION

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.723
Bartlett's Test of Sphericity	Approx. Chi-Square	245.261
	Df	28
	Sig.	.000

Communalities		
	Initial	**Extraction**
The bank regularly carries out surveys on internet and mobile banking products consumed by its clients	1.000	.570
Internet and mobile banking has improved service delivery for our clients	1.000	.753
Clients are trained on how to use mobile and internet banking before they are onboarded on the platforms	1.000	.766
Employees suggestions are sought for before new products are designed	1.000	.696
Employees undergo training for the new or significantly improved products before they are launched	1.000	.666
Mobile and internet banking have stable network	1.000	.729
Mobile banking and internet product innovations were developed by my bank and other institutions/partners.	1.000	.599
Clients' views are sought before new mobile and internet products are developed	1.000	.745
Extraction Method: Principal Component Analysis.		

Rotated Component Matrix[a]			
	Component		
	1	**2**	**3**
The bank regularly carries out surveys on internet and mobile banking products consumed by its clients	.649	.274	.272
Internet and mobile banking has improved service delivery for our clients	.804	-.304	.117
Clients are trained on how to use mobile and internet banking before they are onboarded on the platforms	.310	-.032	.818
Employees suggestions are sought for before new products are designed	.223	.803	.047
Employees undergo training for the new or significantly improved products before they are launched	.732	.362	.015
Mobile and internet banking have stable network	-.019	.329	.787
Mobile banking and internet product innovations were developed by my bank and other institutions/partners.	.706	.303	.098

Clients' views are sought before new mobile and internet products are developed	.099	.819	.252
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

MARKET INNOVATION

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.686
Bartlett's Test of Sphericity	Approx. Chi-Square	239.345
	Df	28
	Sig.	.000

Communalities		
	Initial	**Extraction**
My organization carries out market surveys before introducing a new product/service	1.000	.581
My bank uses account cash flows to measure clients' financial strength	1.000	.650
The bank regularly reviews its marketing strategies to match with the dynamic business environment.	1.000	.643
The bank has various products for different customers	1.000	.691
My bank runs promotion campaigns on various media platforms	1.000	.611
My company utilises Artificial intelligence technology to target new customers	1.000	.653
My organization offers banking products/services to non-clients using our clients as intermediaries.	1.000	.784
Through intermediaries, my organization has been able to onboard new clients.	1.000	.784
Extraction Method: Principal Component Analysis.		

Rotated Component Matrix[a]			
	Component		
	1	**2**	**3**
My organization carries out market surveys before introducing a new product/service	.659	.366	.109
My bank uses account cash flows to measure clients' financial strength	.219	.073	.772
The bank regularly reviews its marketing strategies to match with the dynamic business environment.	.768	.210	.097
The bank has various products for different customers	.411	-.436	.576
My bank runs promotion campaigns on various media platforms	.768	-.040	.140
My company utilises Artificial intelligence technology to target new customers	-.053	.377	.712
My organization offers banking products/services to non-clients using our clients as intermediaries.	.109	.872	.107
Through intermediaries, my organization has been able to onboard new clients.	.429	.753	.181
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

SERVICE INNOVATION

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.862
Bartlett's Test of Sphericity	Approx. Chi-Square	425.752
	Df	28
	Sig.	.000

Communalities		
	Initial	**Extraction**
The bank has automated most of its processes	1.000	.673
The automated services have stable network	1.000	.635
Service automation has reduced queues in the banking hall	1.000	.680
There are constant reviews of products and services automated by the bank	1.000	.611
My organization utilizes virtual personal assistant (VPA) technology in delivering services	1.000	.648
The VPA technology is available 24/7	1.000	.723
My organization's virtual personal assistant can be accessed from any device	1.000	.798
The bank's VPA can be accessed by both customers and non-customers	1.000	.645
Extraction Method: Principal Component Analysis.		

Rotated Component Matrix[a]		
	Component	
	1	**2**
The bank has automated most of its processes	.172	.802
The automated services have stable network	.388	.696
Service automation has reduced queues in the banking hall	.201	.800
There are constant reviews of products and services automated by the bank	.268	.734
My organization utilizes virtual personal assistant (VPA) technology in delivering services	.748	.298
The VPA technology is available 24/7	.842	.119
My organization's virtual personal assistant can be accessed from any device	.827	.338
The bank's VPA can be accessed by both customers and non-customers	.749	.289
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

MANAGERIAL INNOVATION

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.817
Bartlett's Test of Sphericity	Approx. Chi-Square	264.805
	df	28
	Sig.	.000

Communalities		
	Initial	**Extraction**
Employees' operations in my organization are guided by policies	1.000	.477
The supervisors mentor staff they lead	1.000	.433
My organization has room for exemption of policies through relevant authorities	1.000	.334
Employees who do not follow the laid down policies are punished	1.000	.426
My supervisor actively seeks relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting to better the bank	1.000	.428
Networking with the telecommunication operators has improved service delivery to clients	1.000	.554
There is seamless working between the bank and the partners in offering partnered services	1.000	.544
Customer complaints arising from partnerships/collaborations are resolved quickly	1.000	.409
Extraction Method: Principal Component Analysis.		

Component Matrix[a]	
	Component 1
Employees' operations in my organization are guided by policies	.691
The supervisors mentor staff they lead	.658
My organization has room for exemption of policies through relevant authorities	.578
Employees who do not follow the laid down policies are punished	.653
My supervisor actively seeks relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting to better the bank	.654
Networking with the telecommunication operators has improved service delivery to clients	.744
There is seamless working between the bank and the partners in offering partnered services	.737
Customer complaints arising from partnerships/collaborations are resolved quickly	.640
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

ENVIRONMENTAL FACTORS

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.733
Bartlett's Test of Sphericity	Approx. Chi-Square	209.022
	Df	28
	Sig.	.000

Communalities		
	Initial	**Extraction**
Operations in my organization is strictly according to laid down standard, rules and procedures	1.000	.582
Power and authority is centralized at the hands of top management	1.000	.581
As an employee of this organization any decision I make must have my immediate manager's approval	1.000	.474
My organizations has a policy which encourages creativity and innovation	1.000	.571
My organization's leadership encourages teamwork	1.000	.457
The organization takes consideration of employees' ideas regards to innovation activities	1.000	.466
My organization carries out market research to know what their rivals offer	1.000	.612
Products/services are designed based on the competitor matrix	1.000	.511
Extraction Method: Principal Component Analysis.		

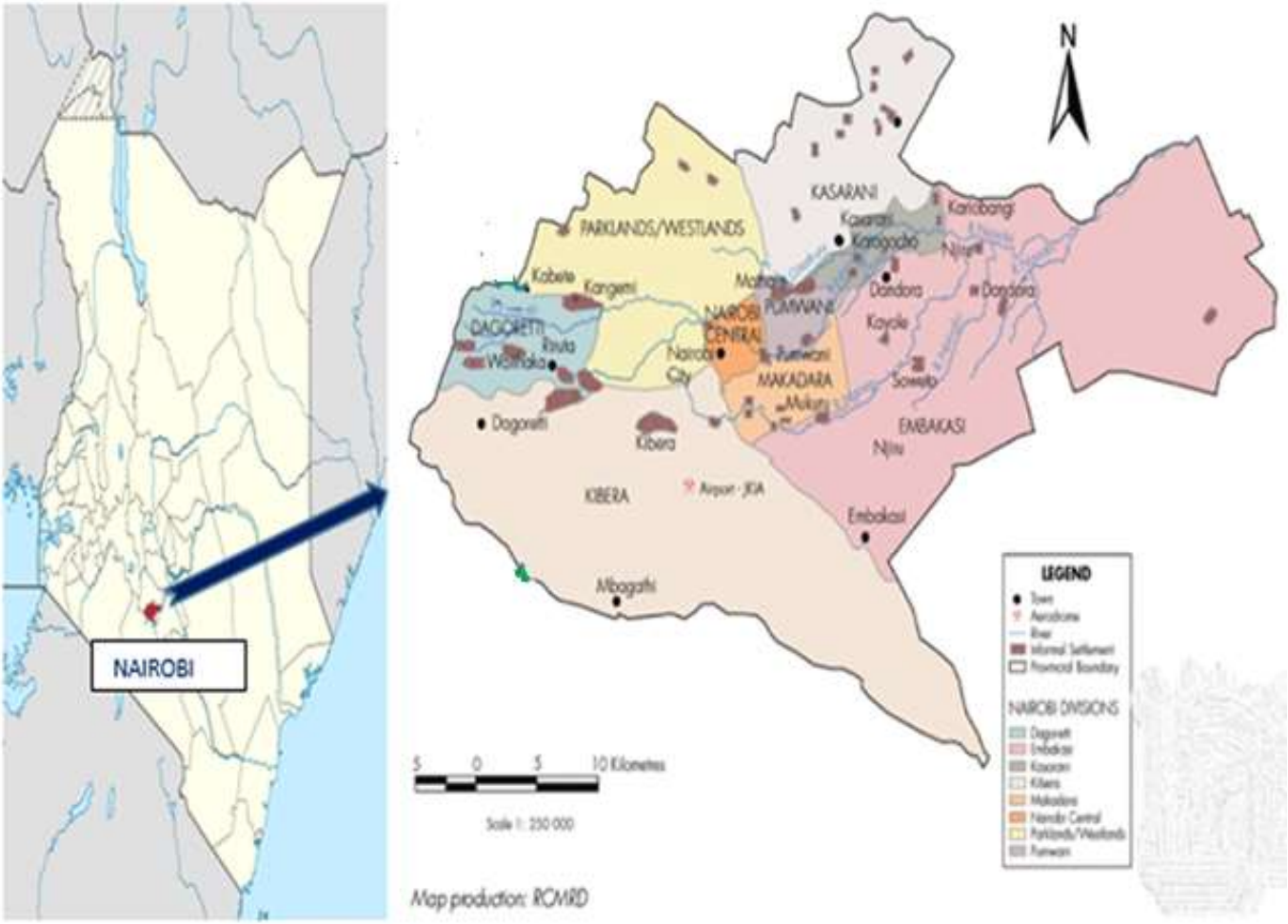
Rotated Component Matrix[a]		
	Component	
	1	2
Operations in my organization is strictly according to laid down standard, rules and procedures	.445	.619
Power and authority is centralized at the hands of top management	.079	.758
As an employee of this organization any decision I make must have my immediate manager's approval	-.009	.688
My organizations has a policy which encourages creativity and innovation	.755	-.034
My organization's leadership encourages teamwork	.653	.146
The organization takes consideration of employees' ideas regards to innovation activities	.681	-.052
My organization carries out market research to know what their rivals offer	.737	.263
Products/services are designed based on the competitor matrix	.673	.241
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

APPENDIX IV: LIST OF TIER 1 BANKS

1.Kenya Commercial Bank
2.Equity Bank
3.Cooperative Bank
4.Absa
5.NCBA Bank
6.Standard Chartered Bank
7.Stanbic Bank
8.Diamond Trust Bank
9.I &M bank

Source: Central bank of Kenya (2022)

APPENDIX V: MAP OF NAIROBI COUNTY



APPENDIX VI: RESEARCH AUTHORIZATION

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **866270**

Date of Issue: **06/June/2022**

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This is to Certify that Miss.. ASISI IDAH GORRET of Masinde Muliro University of Science and Technology, has been licensed to conduct research in Nairobi on the topic: Strategic Innovation and competitiveness of commercial banks in kenya for the period ending : 06/June/2023.

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