

**INNOVATION TYPES, DYNAMIC CAPABILITIES AND BUSINESS
PERFORMANCE OF MANUFACTURING SMES IN NAIROBI, KENYA**

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DECLARATION

Declaration by Candidate

This thesis is my original work and has not been presented for a degree in any other university.

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DEDICATION

I dedicate this study to my dear wife, Ludy Oluoko, and our two children, Bradley and Mshindi, who provided encouragement, support, and an enabling environment. You sacrificed your rights for my sake to ensure that I did my best. Your patience in delaying your benefits so that we enjoy the fruits of this work tomorrow is worth it.

To God, be the glory for strength at all times!

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ABSTRACT

Business performance of Micro and Small Enterprises (MSEs) not only play a significant role in a country's economy but are essential to the economic stability of the country. However, many challenges affect MSEs and as a result, they perform dismally leading to high mortality rates. Despite the many studies already done in this area, little is still known concerning the interplay of innovation types, dynamic capabilities and business performance of SMEs, thus the need to interrogate the link between these variables. Therefore, the focus of this study was to examine the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya. Specifically, the study sought to examine the effect of product innovation, process innovation, marketing innovation and organizational innovation on business performance. The study examined the moderating role of dynamic capabilities on the relationship between innovation types and business performance. The study was anchored on Resource Based View theory and Dynamic Capabilities Theory. The study utilized the explanatory research design and targeted 987 respondents consisting of medium and small enterprises managers and owners. Cluster sampling, stratified random sampling and simple random sampling technics were used to select a sample size of 284 respondents for the study. Questionnaire was used as the data collection instrument. Data analysis was done using descriptive statistics of frequencies and percentages, and inferential statistics which included Pearson's Correlation Coefficient that was used to find out the association between innovation types constructs and business performance. Simple Linear Regression was used to analyze the first four objectives. Multiple Regression was tested for statistical significant effect between innovation types and business performance. Hierarchical Regression Analysis was used to find out the moderating effect of dynamic capabilities on the relationship between innovation types and business performance. Data is presented in form of tables and figures. The study found a negative and insignificant relationship between product innovation and business performance ($\beta = -0.030$, $t = -0.322$, $\rho = 0.748$) while process innovation ($\beta = 0.412$, $t = 6.413$, $\rho = 0.000$), market innovation ($\beta = -0.495$, $t = -6.690$, $\rho = 0.000$) and organizational innovation ($\beta = 0.230$, $t = 3.167$, $\rho = 0.002$) had significant effect on business performance. The moderator (dynamic capabilities) was found to have a positive and insignificant effect on business performance ($\beta = 0.271$, $t = 1.49$, $p = 0.137$). The interaction effects indicate that dynamic capabilities moderate the relationship between product innovation and business performance ($\beta = 1.120$, $t = 6.038$, $p = .000$) indicating an enhanced moderation. The interaction between dynamic capabilities on the relationship between process innovation and business performance ($\beta = 0.105$, $t = 0.714$, $p = 0.476$) is insignificant indicating an antagonistic moderation. Moreover, the interaction effects indicate that dynamic capabilities moderate the relationship between market innovation and business performance ($\beta = -1.321$, $t = -11.126$, $p = .000$) thus, indicating an enhanced moderation. The interaction effect shows that dynamic capabilities moderate the relationship between organizational innovation and business performance ($\beta = 1.128$, $t = 4.269$, $p = .000$) thus indicating an enhanced moderation. Therefore, the moderating effect of dynamic capacities gives new insights into literature and theory in relation to the research variables. These new insights have consequences for managers and policy makers. The study recommends that SMEs consider implementing innovations to boost their competitiveness. Specifically, managers of SMEs should encourage innovation within their companies by optimizing their operations by adopting innovations that create a competitive edge in the performance of the organization. This study contributes to the growing body of research on how innovation uptake and organizational performance are affected by the context of developing markets.

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ACRONYMS AND ABBREVIATIONS

DC	Dynamic Capability
EU	European Union
GDP	Gross Domestic Product
GOK	Government of Kenya
ICT	Information Communication Technology
IFC	International Finance Corporation
KAM	Kenya Association of Manufacturers
MFIs	Microfinance Institutions
OECD	Organization for Economic Cooperation and Development
SMEs	Small and Medium Enterprises
SPSS	Statistical Package of Social Sciences
USA	United States of America
USD	United States Dollar

OPERATIONAL DEFINITION OF TERMS

Business Performance: Measures of how well a firm can use its assets from its primary mode of business and generate revenues (Investopedia, 2011)

Competitiveness: The ability and performance of a firm in the production and sale of their products and services in a given market in relation to the ability and performance of other related firms in the same market

Innovation activities: All activities involved in the development or implementation of a new or significantly improved product, process, marketing and organizational methods including those planned for implementation in the future. Include all scientific, technological, organizational, financial and commercial steps which actually, or are intended to, lead to the implementation of innovations.

Innovation: The implementation of a new or significantly improved product, process, a new marketing method, or a new organizational method by the SMEs arising from new scientific or technology knowledge and ability of innovative entrepreneurs (Ndesaulwa & Kikula, 2016).

Manufacturing Enterprises: These are enterprises involved in the transformation of raw materials into intermediate goods or final products through a mechanized process. They include building, construction and mining enterprises; those engaged in chemical processing, agro-

processing, metal processes, those involved in the production of pharmaceutical and medical equipment, energy, electrical and electronics, production of paper products, leather and leather products, plastics and rubber, textile and apparel

Market Innovation: The implementation of new marketing methods involving significant changes in product design or packaging, product placement, product promotion or pricing (Walobwa, Ngugi & Chepkulei, 2013)

Organizational Innovation: The introduction of new practices of doing business, workplace organizing methods, decision making system and new ways of managing external relations (Mwangi & Namusonge, 2014).

Process Innovation The development and implementation of a new or significantly improved process Marketing Innovation The development and implementation of new or significantly improved marketing methods

Product Innovation: The development and implementation of a new or significantly improved product

Small and Medium Enterprises: Business entities that employ 5-99 permanent employees. Small enterprises employ 5-49 employees while medium enterprises employ 50 -99 employees

CHAPTER ONE

BACKGROUND TO THE STUDY

1.1 Introduction

This chapter consists of the background information of the study, the statement of the problem, the objectives, research questions, research hypotheses, the justification of the study and the scope of the study. The chapter explains what the problem under study was and then articulates the research objectives and hypotheses based on the title

1.2 Background to the Study

Business performance is a measure of how well a firm is able to achieve its goals and expected results. The performance of MSEs can be determined by their ability to meet their goals, such as increasing profits, providing sustainable employment, increasing stock, and expanding their workforce. The success of a business, which is strongly linked to its commercial efficiency, is decided by the company's capacity to establish an appropriate organizational structure in order to provide a product or service that fulfills the expectations of consumers and customers (Mubarak, Shaikh, Mubarik, Samo, & Mastoi, 2019). Typically, a company's capability is assessed according to its performance. Lucianetti, Battista, and Koufteros (2019) defines performance as a comprehensive phrase encompassing all aspects related to the success of a company and its operations. Performance in this study pertains to the achieved results. A company's performance is categorized into three primary domains: innovative performance, operational performance, and financial performance. Financial performances encompass metrics such as sales value, sales growth, gross profit, and profitability. On the other hand, business performance can be categorized into financial and non-financial aspects (Kori, Muathe, & Maina, 2020).

Innovation is crucial to business success and is a significant driver of productivity growth. The correlation between innovation and corporate performance is well-established. Innovation is critical to an economy's competitiveness, accounting for a large portion of the long-term increase in living standards. Economic growth and living standards in recent decades have benefited significantly from innovation, which results in higher productivity and the development of new goods, services, processes, and industries.

According to Ndesaulwa and Kikula (2016), innovation is the process of developing new or improved processes, goods, or services as a result of new scientific or technological knowledge and entrepreneurial aptitude. Ndesaulwa and Kikula (2016) further state that innovation relates to new products or services, new production processes, new marketing techniques, and new organizational or managerial structures. Innovation is described as the process by which, firms master and implement design, and the production of goods and services that are new to them. Innovations generally assume different forms such as product innovations, marketing innovations, micro MFIS, location innovation, and research and development innovation. In today's business environment, organizations need to consider innovation as a key factor in organizational products and processes to survive in highly competitive international markets and changing technologies (Alegre, Lapiedra, & Chiva, 2006). the current global frontier in technological invention, innovation and adoption is dominated by the developed world. The United States of America (U.S.A) and most countries within the European Union (EU) reign supreme in productivity, competitiveness and technological innovation (EU, 2009). Statistics on innovation diffusion within the EU indicate that as high as 39% of EU innovative firms adopt innovations with the rest generating internal innovation (EU, 2009).

According to Ndesaulwa and Kikula (2016), innovation encompasses new products or services, new manufacturing processes, new marketing techniques, and new organizational or managerial structures. Innovation is defined as the process by which businesses master and implement design, as well as the production of novel goods and services. In general, innovations take on a variety of forms, including product innovation, marketing innovation, micro MFIS innovation, location innovation, and research and development innovation. In today's business environment, firms must prioritize innovation in their goods and operations in order to compete in highly competitive worldwide markets and rapidly changing technologies (Alegre et al., 2006; Baron and Tang, 2011). The developed world currently dominates the global frontier of technological invention, innovation, and acceptance. The United States of America (USA) and the majority of European Union (EU) member countries are world leaders in productivity, competitiveness, and technical innovation (EU, 2009). According to statistics on innovation diffusion in the EU, up to 39% of innovative enterprises adopt innovations, with the remainder creating internal innovation (EU, 2009).

1.2.1 Dynamic Capabilities

Organizations must develop the ability to pool resources and update their core competencies (Ramachandran, 2011). Numerous researchers have emphasized the critical nature of organizations generating, acquiring, and retaining distinct bundles of resources and talents across time (Easterby-Smith, Lyles, & Peteraf, 2009; Pavlou & El Sawy, 2011). One of the primary issues facing businesses is acquiring and deploying the resources necessary to capitalize on opportunities, given their relatively small resource base (Alvarez & Busenitz, 2001; Hadjimanolis, 2000). Environmental changes have an effect on how businesses compete with one another and how they respond to client wants and industry advancements (Drnevich & Kriauciunas, 2011). Thus, over

the last two decades, an increasing number of scholars have argued that dynamic capabilities are central to company strategy, value generation, competitive advantage, and, consequently, firm performance (Wilden, Gudergan, Nielsen, & Lings, 2013).

Businesses rely on everyday capabilities to maintain the continuity of ongoing operations. Ordinary capabilities, on the other hand, may be insufficient in unstable environments (Leonard- Barton, 1992). This line of reasoning implies that changes in the operational market environment reduce the impact of ordinary capabilities on business performance. Environmental uncertainty refers to the unpredictable nature of consumer preferences, manufacturing or service delivery technology, and the overall level of competition (Miller & Friesen, 1983). Dynamic capabilities are thus critical in a dynamic environment since they aid enterprises in their 'catch-up' efforts (Chmielewski & Paladino, 2007; Helfat, 2007). Dynamic capabilities, defined as a firm's ability to produce, adapt, or modify its own resources and talents (Teece, Pisano, & Shuen, 1997), are critical to a firm's ability to adapt to quickly changing environments. In recent years, those qualities have been examined from a variety of perspectives with the goal of determining their impact on enhancing performance and results at the global arena (Jantunen, Puumalainen, Saarenketo, & Kyläheiko, 2005; Prange & Verdier, 2011). However, empirical research is scarce in Kenya, particularly in the contexts of SMEs. While prior research has examined the role of innovativeness in enhancing organizational performance (Sharabati, Jawad, & Bontis, 2010) and how firms' innovation may be a result of improved organizational performance (Cheng, Chen, & Huang, 2014), there is a dearth of literature on how dynamic capabilities moderate the relationship between innovativeness and competitive advantage and business performance.

1.2.2 Innovations in Small and Medium Enterprises

Small and medium-sized businesses are increasingly being acknowledged as the primary engine of economic development in both industrialized and developing countries (Donkor, Donkor, Kankam-Kwarteng, & Aidoo, 2018). According to Kotey and Meredith (1997), SMEs are a significant source of employment, revenue, innovation, and technical advancement. As a result, SMEs have developed into a significant asset in the majority of the world's economies. In the majority of the world's countries, economic reliance on small and medium-sized firms has increased in recent years. In today's macroeconomic context, the individual performances of the various SMEs drive the overall economic development of the majority of countries.

In the recent decade, SMEs have gained importance in the global economy. In the United States, SMEs account for 99.7 percent of all employment prospects, whereas in the European Union, they account for 99 percent of potential positions (Hervás-Oliver, Parrilli, Rodríguez-Pose, & Sempere-Ripoll, 2021). SMEs account for 99.2 percent of all business establishments in Malaysia and employ 65.1 percent of the workforce (Leong, 2006). Small and medium-sized businesses are the "heart and soul" of any thriving economy (Colclough, Moen, Hovd, & Chan, 2019). They are the unsung heroes of the economies of many emerging nations. In 2006, SMEs numbered 4.2 million in Japan and accounted for 99.7 percent of all businesses, compared to 0.3 percent of large businesses. SMEs employed 42 million people in this country, accounting for 78 percent of overall employment. In Kenya, SMEs employ 74% of the workforce and generate more than 18% of the country's GDP (Douglas, Douglas, Muturi, & Ochieng, 2017). In this country, this sector accounts for more than 90% of firms, and in 2011, the (K. KNBS, 2013) discovered that of the 503,000 employment generated, 440,400, or 80%, were created by the SME sector. It is widely recognized that small and medium-

sized enterprises, including agriculture, manufacturing, and information and communication technology, have made significant contributions to the country's economic progress (Kombo & Letting, 2019).

Different methods of clustering have been used to classify SMEs, and some nations, such as India, Pakistan, the Philippines, and Taiwan, cluster firms according to their invested capital and assets. Other countries, such as Mexico and Portugal, group businesses together based on their sales numbers ((Jeganathan, Degamboda, & Prasad, 2021). In Kenya, small and medium-sized businesses are classified mostly according to the number of employees they employ. Micro-enterprises are those with less than five employees, whereas those with five to 49 employees and 50 to 99 employees are classed as small and medium-sized enterprises, respectively. Large-scale firms are defined as those with more than one hundred employees (Benedict, Gitonga, Agyeman, & Kyei, 2021).

In these turbulent times, innovation is critical to any business's growth. SMEs try to differentiate themselves in more competitive marketplaces; they also fight to build and sustain their businesses. Information and communication technology (ICT) solutions have the potential to boost the competitiveness of small and medium-sized businesses (SMEs). They can contribute to the efficiency and effectiveness of a firm, which is necessary for its sustainability. ICT enables SMEs to compete with giant corporations (Degong, Ullah, Khattak, & Anwar, 2018). Innovation can have a variety of positive effects on organizational performance, including facilitating adaptation to environmental change, increasing the efficiency or effectiveness of internal processes, establishing prestige and reputation in the institutional environment, and generating financial or economic gains (Del Giudice et al., 2021). Numerous factors influence the performance of SMEs. The primary determinant has been identified as a lack of capital

and financial resources. Innovation has a significant impact on an enterprise's success since it results in an improved market position, which results in a competitive advantage and greater performance. As a result, SMEs must constantly evolve through innovation to remain competitive, emphasizing the importance of excellent business performance.

For many years, business performance has sparked intellectual discussions, with empirical evidence demonstrating that organizations with low performance do not survive in the long run (Rengkung, Pangemanan, & Sondak, 2018). Firms encounter numerous challenges in today's volatile business climate, including changes in technology, consumer demand, customer expectations, competition, laws, and globalization. The competitive landscape is evolving at a breakneck pace, resulting in an elevated level of uncertainty. These advancements have an effect on organizations' competitive advantage and performance. Only those businesses who are capable of establishing and maintaining a competitive advantage and improving their performance in a chaotic market survive (Wilden et al., 2013).

Despite their critical position in many economies, research indicates that they face a slew of issues. Each year, about one million SMEs are founded globally. 40% of these businesses fail within a year, and data indicate that by the fifth year, 80 percent cease operations, and 96 percent cease operations by the tenth year (Mutua, 2018). The SBA observed that 24% of all new enterprises in the United States fail during the first two years, and 63% fail within the first six years. Given this scenario, it is critical for SMEs to adapt their business practices, particularly in today's volatile business environment. This can only be accomplished through the use of dynamic capabilities, which entails changing a firm's process routines, business models, and risk management. Numerous research have been conducted on the innovativeness of SMEs (Adam & Alarifi, 2021; Bigliardi, 2013; Zahoor & Al-Tabbaa, 2020). These reviewed

studies produced inconsistent findings and conclusions. In certain studies, strong positive links between innovation and business performance are established, whereas in others, the association is found to be weak. Other researchers report conflicting findings. This disparity in findings and conclusions is due to differences in methodology, variables used, and study timeframe. Additionally, there is a variation in the study area that impacts the variables relating to business performance. However, research on dynamic capabilities has tended to focus on established firms, leaving out small and medium-sized businesses. These organizations often rely on dynamic capabilities to establish themselves, get legitimacy, develop, and survive, as well as reap the rewards of innovation (Heider, Gerken, van Dinther, & Hülsbeck, 2021).

1.2.3 Manufacturing Small and Medium Enterprises in Kenya

In Kenya there are many SMEs spread across the different products and services that provide employment to both low and middle level income sectors of the economy and this number has been rising every year. These, SMEs are spread across all industries including the manufacturing, finance, textile, transport and hospitality sector, among others. Kenya has a volatile and unpredictable business environment where activities of enterprises are influenced by internal and external factors. Unlike large businesses, SMEs are less agile, and therefore are more vulnerable to uncertainties posed by the volatile business environment. The contribution of SMEs in Kenya's economic development is well-documented. The sector, for example accounts for 74.2% of the total persons in employment (KNBS, 2019). Equally, SMEs contribute around 18.4% of Kenya's GDP. Besides providing goods and services sector. SMEs in Kenya promote innovation and competition and improve entrepreneurship which plays a key role in industrialization and development in the private sector (Gituma, 2017).

Manufacturing is among the key sectors in Kenya's socio-economic development. Kenya's Vision 2030 aims at the country becoming a newly industrialized achieving middle level income status with a sustainable annual average GDP growth rate of 10%. To this end, the manufacturing sector is among the key productive sectors identified in vision 2030 to spur economic development and deliver the 10% annual growth. Further, the sector is expected to generate 136,000 formal and 212,000 informal jobs by 2017 (Kiveu, Namusonge, & Muathe, 2019). Manufacturing has immense potential for wealth creation and capital accumulation, knowledge spill-overs poverty alleviation and employment generation (GOK, 2007). The sector is thus expected to play a significant role in propelling the country to sustainable growth path towards the achievement of vision 2030. In 2016, the manufacturing sector documented an employment growth of 1.8 per cent accounting for 11.8 per cent (300,800 jobs) of the 2.55 million wage employment (K. KNBS, 2013).

SMEs dominate the manufacturing sector of most developing countries including Kenya accounting for about three-quarters of total employment (Matsongoni & Mutambara, 2018). The Kenya's manufacturing sector comprises mainly of micro, small, medium enterprises. The share of medium and large firms about 5 per cent and yet their contribution to sector's GDP is above 60 per cent. About 95 per cent of manufacturing firms are small, contributing only about 20 per cent of sector's GDP (Were, 2016). The competitiveness of SMEs in the Manufacturing sector is affected by several challenges that hinder them from maximizing their potential, consequently limiting their contribution to socio-economic development. The challenges include stiff competition from larger enterprises and multinationals; limited access to resources and markets; overcrowded saturated markets; limited technology and unfavourable legal regulation among others (Were, 2016).

Several factors contribute to low productivity in manufacturing SMEs and include the use of obsolete and inefficient technologies, machinery and systems. There is an urgent need for the enterprises to upgrade and modernize their machinery, technology and processes to become competitive. Furthermore, there are opportunities for enterprises to develop and implement cheaper, efficient and appropriate technology that will reduce the production cost while increasing productivity (Yego). The above challenges have affected the competitiveness of the SMEs in terms of survival and growth, leading to the death or closure of many manufacturing SMEs. A total of 2.2 million MSMEs closed down in the last five years. On average, small and medium enterprises were closing at the average age of 3.8 years (KNBS, 2019). New start-ups or acquired enterprises within 2014 and 2015 were more vulnerable to closures, accounting for 61.3 per cent of total businesses that closed (KNBS, 2019). It is imperative that manufacturing SMEs come up with sustainable strategies to enable them survive and compete effectively in the globalized, dynamic environment. These enterprises need to reposition their competitive priorities to enable them compete effectively in the dynamic market place. This can be achieved through the process of innovation (Wilden et al., 2013).

1.3 Statement of the Problem

The performance of small and medium enterprises is crucial as they contribute to sustaining economic growth and industrial development. However, the SME sector has faced major hurdles to utilize resources and develop businesses. The major obstacles in this regard are indicated by Suvittawat (2019) and include the access to international markets due to low standard of products quality, shortage of skilled labor, especially at technical and managerial levels that meet the demand of international markets and design products to match the benchmark, lack of strategies to retain the capable and

skilled employees, inefficient work system at the organizational level and inadequate training facilities to develop employees skills, lack of advanced technology and equipment, and finally, the unavailability of required financial assistance to meet these requirements. The business statistic in Kenya revealed that the rate of small and medium business failure is high with only 3 out of 5 business surviving 5 months to one year after formation and those that survive 80% of them collapse before the fifth year (Kenya National Bureau of Statistic 2018).

Innovation is widely recognized as a critical aspect in a firm's competitiveness, survival, and growth (Becheikh, Landry & Amara, 2006; Kiraka, 2009; Lin & Chen, 2007). Within the business context, innovation is frequently viewed as a critical source of strategic change that enables organizations to improve their competitiveness (Lin & Chen, 2007). As a result, the pressure on all organizations to innovate continuously through the development and launch of new products and services is higher than ever (Kiraka, Kobia & Katwalo, 2013). It has been underlined that SMEs require increased innovation in order to develop and sustain competitiveness, as they lack the resource advantage enjoyed by larger firms (Lin & Chen, 2007; Aikeli, 2007). Thus, innovation is important to the growth, survival, and competitiveness of SMEs. SMEs are believed to be more adaptable, versatile, and innovative (Lin & Chen, 2007).

Kenya's Vision 2030, which aims to transform the country into a newly industrialized economy by 2030, is dependent on the competitiveness of manufacturing SMEs. These enterprises are essential to Kenya's development strategy of international competitiveness (GOK, 2007). Numerous impediments impede SMEs' competitiveness in the manufacturing sector, preventing them from reaching their full potential and thereby limiting their contribution to socioeconomic growth. Among the obstacles include severe competition from large enterprises and multinational corporations;

restricted access to resources, knowledge, and markets; congested saturated markets; insufficient technology; and adverse legislative regulation (GOK, 2005). Globalization, shorter product lifecycles, technological innovation, increased standardization requirements, and changed consumer tastes have all worsened these issues (Kiraka, 2009; KAM, 2012). Moreover, institutional barriers to the SME industry entry which are disproportionately high for new players, and skeptical societal attitudes towards SMEs on one hand and internal challenges stemming from ineffective organizational routines exacerbated by inadequate resource endowments and a lack of managerial sophistication and inability of SMEs to exploit technological innovation on the other hand have continued to affect SMEs in the manufacturing industry in Kenya.

Despite the fact that SMEs are recognized as more innovative and better positioned to develop, the majority of these businesses remain uncompetitive in comparison to their larger counterparts. While much emphasis is placed on business innovation as a strategy for competitiveness, empirical evidence linking innovation and firm competitiveness is extremely sparse. The majority of the few studies available are based on enterprises in industrialized countries (Belderbos, Duvivier & Wynen, 2010; Terziovski, 2010; Rojas, Cerda, Garcia & Barcenas, 2012; Kiss, 2011). The majority of research on SME innovation has also concentrated on the relationship between innovation and firm performance, with only a few studies examining the effect of innovation on competitiveness (Belderbos, Duvivier & Wyen, 2010; Kiss, 2010; Gakure et al., 2013; Rojas et al., 2013). The available research on the effect of innovation has produced mixed results; while some studies found no significant effect of innovation on performance or competitiveness (Kiss, 2011; Terzioski, 2010), others discovered a significant relationship between innovation and competitiveness and firm performance (Lin & Chen, 2007; Varis & Littunen, 2010; Ar & Baki, 2011; Atalay et al., 2013;

Najib, 2013, Gakure et al., 2013; Rojas et al., 2013, Mensah & Acquah, 2015). This discrepancy necessitates additional research in this field to validate and explain the links between the studied variables. Thus, the purpose of this study is to investigate the moderating effect of dynamic capabilities on the relationship between innovativeness and competitive advantage and business performance of manufacturing SMEs in Kenya.

1.4 Objectives of the Study

1.4.1 General Objective

The main objective of the study was to examine the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya.

1.4.2 Specific Objectives

The study was guided by the following objectives;

1. To examine the effect of product innovation on business performance of manufacturing SMEs in in Kenya.
2. To assess the effect of process innovation on business performance of manufacturing SMEs in Kenya
3. To establish the effect of marketing innovation on business performance of manufacturing SMEs in Kenya
4. To determine the effect of organizational innovation on business performance of manufacturing SMEs in manufacturing SMEs in Kenya
- 5a To establish the moderating effect of dynamic capabilities on the relationship between product innovation and business performance of manufacturing SMEs in Kenya

5b To establish the moderating effect of dynamic capabilities on the relationship between process innovation and business performance of manufacturing SMEs in Kenya

5c To establish the moderating effect of dynamic capabilities on the relationship between market innovation and business performance of manufacturing SMEs in Kenya

5d To establish the moderating effect of dynamic capabilities on the relationship between organizational innovation and business performance of manufacturing SMEs in Kenya

1.5 Research Hypothesis

In line with the specific objectives of the study, the following hypotheses were tested

H0₁: There is no statistically significant effect of product innovation on business performance of manufacturing SMEs in in Kenya

H0₂: There is no statistically significant effect of process innovation on business performance of manufacturing SMEs in Kenya

H0₃: There is no statistically significant effect of marketing innovation on business performance of manufacturing SMEs in Kenya

H0₄: There is no statistically significant effect of organizational innovation on business performance of manufacturing SMEs in manufacturing SMEs in Kenya

H0_{5a} There is no statistically significant moderating effect of dynamic capabilities on the relationship between product innovation and business performance of manufacturing SMEs in Kenya

H_{05b} There is no statistically significant moderating effect of dynamic capabilities on the relationship between process innovation and business performance of manufacturing SMEs in Kenya

H_{05c} There is no statistically significant moderating effect of dynamic capabilities on the relationship between market innovation and business performance of manufacturing SMEs in Kenya

H_{05d} There is no statistically significant moderating effect of dynamic capabilities on the relationship between organizational innovation and business performance of manufacturing SMEs in Kenya

1.6 Significance of the Study

This study will contribute to the growing empirical literature on the effect of innovation types on the business performance of Small and Medium-Sized Enterprises, filling in the knowledge gap regarding the moderating role of dynamic capabilities, which is suggested as the missing link. Thus, this research will help to a better understanding of the indirect relationship between innovation types and business performance by modeling the moderating effect of dynamic capabilities in SMEs operating in Kenya. Not only will this study contribute to pioneering research by broadening the field of investigation, but it will also serve as a catalyst and springboard for future interest in other, more extensive investigations being conducted in Kenya and the rest of East Africa.

This research will build on and extend the theoretical frameworks and understandings produced by previous researchers in order to investigate the subject matter in Kenya, thereby contributing to a greater understanding of the subject matter. Additionally, the dynamic nature of the SME business environment creates uncertainty and challenges for enterprises, compelling them to seek out new opportunities to establish and maintain

a competitive edge. This pressure necessitates those businesses to become more informed and aware in order to operate successfully in a dynamic environment with an ever-increasing number of competitors. Such dynamism and operational effectiveness necessitate the acquisition of knowledge and understanding, which this study's findings provide. Adequate consideration of the issues raised and recommendations suggested could significantly increase SMEs' innovation efforts in Kenya and the rest of the East African region.

This study contributes to a better knowledge of innovation practices in manufacturing SME firms in Kenya and their impact on firm performance. This is critical for practitioners in small and medium-sized enterprises (SMEs), as well as for government agencies and other scholars. Likewise, it is anticipated that the study findings will give the knowledge needed for the establishment of appropriate and successful policies and programs in the field of SMEs and the use of innovation as a tool for development and innovation stimulation. Government policymakers in SMEs and the Ministry of Trade and Commerce can use the study's recommendations to influence the creation of policies targeted at increasing innovation adoption in SMEs.

1.7 Scope of the Study

The main objective of the study was to examine the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya. Four innovation variables (independent) are discussed: product innovation, process innovation, marketing innovation and organizational innovation and their effects on business performance (dependent) moderated by dynamic capabilities. The choice of these four types was motivated by previous studies which emphasized its importance (Kiraka, Kobia & Katwalo, 2015; Jabeen, Faisal, Al

Matroushi, & Farouk, 2019). The introduction of an interaction effect establishes the direction of the relationship.

The study will focus on SMEs registered with the Kenya Association of Manufacturers (KAM) as at December 2020. The unit of analysis was the manufacturing firm and the respondents was their permanent employees. The study was carried out in Nairobi County since it has the highest proportion of SMEs establishments at 14.8 per cent as per the SMEs Basic Report (2016). Nairobi County is chosen because it has the highest proportion of employment in SMEs is recorded in Kenya, accounting for 27.8 per cent of the persons 14.9 million engaged in SMEs. Primary data on innovation and business performance was collected. Descriptive survey and explanatory research designs was used to ascertaining the status and nature of innovation in manufacturing SMEs and establishing causal relationships between the independent and dependent variables respectively. Multiple Linear regression analysis was used to analyze the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya.

The basis of inclusion of firms in the sample was the number of employees, business entity registered with the government and have been operating for at least five years. Only those firms with between 5-49 employees for small enterprises and 50-99 employees for medium enterprises was considered in the study. The theoretical scope of the research is limited to the dynamic capabilities' theory, Resource-Base-View theory and the Schumpeterian Theory of Innovation and Entrepreneurship

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a comprehensive review of the existing literature pertinent to the fundamental aspects of innovation types, dynamic capabilities, business performance among SMEs in the manufacturing sector. It expounds on the main concepts of the study. It discusses theoretical and empirical reviews relevant to the study as well as the conceptual framework showing the relationship of the study variables. A critique of the empirical literature is also done with a view of identifying knowledge gaps which this study seeks to fill.

2.2 Concepts

2.2.1 Product Innovation

The process of developing and bringing new or substantially better products or services to market has been consistently used in the literature to define product innovation. For further clarification and distinction, product innovation can be divided into three basic types: (1) product line extensions (familiar to the organization but new to the market), (2) me-too products (familiar to the market but new to the organization), and (3) new-to-the-world products (new to both the organization and the market) Slater, Mohr, and Sengupta (2014). The intention of product innovation is to modify the functionality of the product in some manner to enhance value to the consumer or the organization (OECD. et al., 2005). Product innovation has been cited by researchers on multiple occasions as a necessary element for long-term firm survival (Heij, Volberda, Van den Bosch, & Hollen, 2020; Helfat & Raubitschek, 2018; Ramadani et al., 2019).

Product innovation is key if an organization desires to be differentiated from its competitors, or it can be put across that, for an organization to remain competitive then

it must consistently innovate new products and services. An improvement in product innovation leads to improved revenue growth, share performance and market capitalization, and profitability. (Drucker, 1985). Product innovation may be measured in a number of ways; there are both input and output measures of innovation. Research and development expenditure is an input measure of innovation; while the number of new or redesigned products introduced into the market, the percentage of revenue from new or enhanced products and overall firm performance are some of the output measures of product innovation. Another potential set of output measures are intellectual property such as patents and trademarks registered (Zizlavsky, 2011).

2.2.2 Organizational Innovation

An organizational innovation is defined according to OECD (2007) as “...a new organizational method in the firm’s business practices, workplace organization or external relations. Organizational innovations can be intended to increase a firm’s performance by reducing administrative costs or transaction costs, improving workplace satisfaction (and thus labour productivity), gaining access to non-tradable assets (such as non-codified external knowledge) or reducing cost of supplies.” With “business practices” it includes organizational elements such as leadership, culture, human resource management, management processes including business development, performance and incentive systems and mechanisms for learning, and external and internal corporate communication

Organizational innovations are very important for a company’s competitiveness. Its increasing relevance can be explained by the fact that organizational innovations influence performance of organizations. First, Organizational Innovations are seen as enablers and facilitators for technological innovations. Second, organizational innovations can be an immediate source of competitive advantage and third, they are

relevant as prerequisites of knowledge development in companies (Porch, 2006). Although the importance of organizational innovations has been acknowledged, a clear understanding of the phenomenon is lacking. There is no consensus on a definition of the term organizational innovation and it has been subject to different interpretations within different strands of literature, resulting in an ambiguous phenomenon (Armbruster 2008, Lam 2005). Although there is an increasing awareness of the importance of organizational innovation for the competitiveness of enterprises, the empirical basis for measuring organizational innovation is scattered (Porch 2006). Integrating the existing definitions in an overview, and elucidate on distinguishing features, will help clarify the actual contribution of organizational innovations and create consistency about the phenomenon. It is relevant to study organizational innovations separately from other more technological innovations, because they emerge and develop in a different way than product innovations and are affected by different actors. Administrative and technical innovations can affect different aspects of organizational performance (Totterdell, 2002).

2.2.3 Process Innovation

While product innovation focuses more on the market, process innovation is more internally concentrated (Damanpour and Gopalakrishnan 2001). Fagerberg, Mowery, and Nelson (2004) in *The Oxford Handbook for Innovation* summarize process innovation as—new or significantly improved methods in the production or manufacturing process.¶ In a similar fashion, Baer and Frese (2003) define process innovation as deliberate and new organizational attempts to change production and service processes (Baer and Frese 2003). According to the internationally recognized Organization for Economic Cooperation and Development (OECD), process innovation is the implementation of new or significantly improved methods for

production or delivery, to include significant changes in techniques, equipment, and/or software.

According to Schumpeter (1934) process innovation “is the introduction of a new method of production, not yet tested in the industry” (Schumpeter, 1934). Process innovation has also been defined as “the process of reengineering and enhancing the internal operation and capabilities of business process” (Sidek & Rosli, 2013). Such processes involve manufacturing, technical design, management and commercial activities. It includes new procedures, policies, organisational forms and knowledge embodied in products, distribution channels, applications as well as customer expectations, preferences and needs (Sidek & Rosli, 2013). According to Oslo OECD Innovation Manual, a process innovation involves “the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software” (OECD, 2005). Process innovations consists of new or significantly improved methods for the production and provision of services. Process innovations may include new or significantly improved equipment, techniques and software in auxiliary support activities, like purchasing, accounting, computing and maintenance. Such innovations can involve significant changes in the equipment and software used in services-oriented firms or in the procedures or techniques that are employed to deliver services. Process innovations are intended to decrease unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products. (OECD, 2005)

2.2.4 Marketing Innovation

A marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. Marketing innovations are aimed at better addressing customer

needs, opening up new markets, or newly positioning a firm's product on the market, with the objective of increasing the firm's sales (OECD. et al., 2005). The distinguishing feature of a marketing innovation compared to other changes in a firm's marketing instruments is the implementation of a marketing method not previously used by the firm. It must be part of a new marketing concept or strategy that represents a significant departure from the firm's existing marketing methods. The new marketing method can either be developed by the innovating firm or adopted from other firms or organizations. New marketing methods can be implemented for both new and existing products (OECD. et al., 2005).

According to Johne (1999), marketing innovations involve the marketing mix and market offerings that are made to satisfy customer's needs. Rodriquez- Cano et al. (2004) assert that marketing innovation aims at fulfilling market needs while responding to market opportunities. Hence any marketing innovation need to focus on meeting customer needs. The first purpose of marketing innovation is to identify new potential markets and new ways to serve target markets. The most important thing to do in marketing innovation is to identify the potential markets through market segmentation, which is to say, divide a whole potential market into smaller and manageable parts. The second purpose of marketing innovation is concerned with serving chosen markets better. This requires the analysis of customers buying preferences to (Johne, 1999).

2.2.5 Dynamic Capabilities

In today's increasingly volatile, uncertain, complex and ambiguous world, it is important for firms to be able to quickly and accurately adapt to shifts in the marketplace or changes in technology. Dynamic capabilities are the routines and processes that enable companies to transform themselves and evolve with the times. By

developing these capabilities that go beyond ordinary strategic capabilities, firms will be in a strong position to achieve a long-lasting competitive advantage. Dynamic capabilities are defined as “the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments” (Teece et al., 1997).

Thus, some types of dynamic capabilities integrate firm resources (e.g., processes/routines involving product development and strategic decision making). Other types involve the reconfiguration of resources within the firm (e.g., knowledge transfer and collaboration). Finally, some are related to the gain and release of resources (e.g. knowledge creation, alliance and acquisition, and exit routines) (Eisenhardt & Martin, 2000). Such processes and routines are considered dynamic capabilities because they enable firms to create, renew, or orchestrate their resources in a manner that creates new value and allows them to compete and evolve.

2.2.6 Small and Medium Enterprises

“SME” stands for small and medium sized enterprises. There is no universally accepted definition of an SME and several parameters have been used in different countries to define an SME firm. In Europe, an SME is defined using the number of employees and or annual the turnover or the balance sheet total: In this case small firms employ less than 50 employees and has a turnover of up to 10 million Euros or a balance sheet total of up to 10 million Euros. A medium enterprise on the other hand employs up to 250 people and has a turnover of up to 50 million Euros or a balance sheet total of up to 43 million Euros (EC, 2015). In USA and Canada, a small firm employs less than 100 people while a medium firm employs up to 500 employees. According to World Bank, an SME is a registered business where small businesses employ between 10-50 people, has a total asset of between 100,000 to 3 million USD and a total annual sale of between

100,000 to 3 million USD while a medium enterprise employ between 50-300 people, has a total asset of between 3 million USD to 15 million USD and a total annual sale of between 3 million to 15 million USD (IFC, 2012). In Japan, an SME is defined according to the type of industry, paid-up capital and number of paid employees. SMEs have a stated capital of up to 300 million yens and employing up to 300 people (Lee & Yang, 2013). In Kenya, SME are defined as enterprises with fulltime employees not exceeding 100 or annual sales turnover not exceeding Ksh 150 million (Kihara, 2017).

2.3 Theoretical Perspective

This study is grounded on two theoretical perspectives namely: Resource Based View Theory and Dynamic Capabilities Theory

2.3.1 Resource Based View Theory

The resource-based view theory as articulated by Birger Wernerfelt in 1984 was derived from the initial seminal work of Penrose (1959). This view argues that a firm has a competitive advantage on the basis of internally available resources that a firm has a competitive advantage on the basis of internally available resources that are valuable, idiosyncratic to it, un-imitable and limited in nature (Wernerfelt, 1984; Barney, 1991). This view has been applied in various fields, ranging from social sciences to information systems (Priem & Butler, 2001).

The Resource Based View (RBV) theory views the firm as a bundle of resource and that each firm possesses heterogenous resource base which enables them to participate and compete in the market place. These resources serve as inputs to the organizational processes and are typically not embedded within the organizational processes. The RBV of the firm is an influential theoretical framework for planning and achieving firm-level sustainable competitive advantage (Teece 2000,; Collis and Montgomery

1995) and understanding the evolution of firm resource stock over time and the impact of the evolution of competitive advantage (Ambrosini and Bowman 2009).

Barney (1991) defined a firm's resources to include "all assets, capabilities, organizational processes, firm attributes, information (and) knowledge controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness". These "resources are firm-specific assets that are difficult, if not impossible, to imitate" (Teece et al., 1997). Therefore, if resources are valuable, rare, inimitable, durable, and difficult to substitute (Barney 1995, Collis and Montgomery 1995) then sustainable competitive advantage can be achieved through value-creating strategies (Barney 1991). Teece et al. extended the RBV generally and also specifically to "rapidly changing environments" (1997; Ambrosini and Bowman 2009) and explained the firm's ability to sustain its competitive advantage in terms of its dynamic capabilities – its ability to "integrate, build, and reconfigure" its resources in response to dynamic environmental changes

This is the main theory that will inform this study. This is because, technological innovation is considered as a critical resource among SMEs. RBV theory simply considers technological innovation as a physical capital resource that can be used to generate a sustained competitive advantage. By adopting innovation, small and medium enterprises should perform better by way of effective service delivery. Effectiveness in service delivery includes improved business performance, proactive management of operations and prompt decisions. Efficiency includes lower costs, more highly organized information, lower cycle time and lower unauthorized buying. Innovation as a resource, if harnessed should lead them to better service delivery and improved business performance.

2.3.2 Dynamic Capabilities Theory

Teece and Pisano proposed the dynamic capability hypothesis in (1994). This theory explains how organizations attain and maintain competitiveness by examining the processes that occur within the organization in response to the dynamic, volatile environment. The theory's development was prompted by the resource-based and action-based theories' inability to address dynamic economies. Entrepreneurship, innovation, organizational learning, and knowledge and change management are all incorporated within the dynamic capabilities paradigm (Teece, 2010).

The ability of a corporation to adapt to market changes through innovation is critical to the firm's competitiveness. According to some, capitalism's essential thrust is derived from the invention of new products, new means of production, new markets, and new forms of industrial organization (Schumpeter, 1942). Dynamic capabilities relate to a business's ability to "create new goods and processes in response to changing market conditions" (Teece & Pisano, 1997). Dynamic capabilities refer to the set of skills, procedures, organizational structures, and decision rules that organizations can use to create and capture value. These capabilities may be derived from change management procedures, product development, or inventive managerial competencies. They assist the business to better align its differentiated resources/competences with the changing business environment. Dynamic capabilities are crucial for a business's long-term profitability (Teece, 2007). Dynamic capabilities help businesses to structure their resources, competencies, and other assets profitably if they wish to survive in changing contexts and markets (Teece, 2009).

Capabilities are critical in a dynamic environment characterized by rapid change, which is prevalent in a rising number of businesses (Teece, 2007; Teece, 2009). Innovation is widely recognized as a crucial corporate capability that contributes to a firm's long-

term competitive advantage and superior performance (Albaladejo & Romjin, 2000). Innovation capability enables businesses to leverage existing resources to develop new resources, products, processes, and systems, as well as find novel methods to utilize existing resources in order to achieve a competitive edge (Teece & Pisano, 1997). The capacity for innovation can be strengthened through education and training, research and development, procedures, firm organization, and affiliations with other stakeholders such as customers, suppliers, public and private research institutes, and industry associations. Dynamic capabilities also refer to a business's ability to handle market difficulties and create a new and inventive type of competitive advantage (Teece, et al., 2007). The strategy emphasizes a firm's ability to renew competence and to integrate and rearrange resources in order to respond to and drive market change through innovation (Teece & Pisano, 1997; Eisenhardt & Martin, 2000).

This theory guided the investigation into the significance of a firm's dynamic capabilities, which are critical for establishing competitiveness in a dynamic, volatile environment. SMEs operate in such situations, and it is important for their survival and growth that they acquire dynamic capabilities, including innovation. The dynamic capability method captures a firm's capacity for issue solving and competitiveness (Teece et al., 1997). The concept of dynamic capabilities provides a more comprehensive framework for understanding how organizations generate value for competitive advantage in a dynamic environment. This is critical because to changes in consumer preferences, products, and technology, as well as the competitive forces of other firms, which might jeopardize a firm's current position or create an opportunity for a new or better one.

2.4 Effect of Product Innovation on Business Performance

Innovation is hypothesized as one possible mechanism by which organizations can gain a competitive advantage in the marketplace through unique organizational resources (Barney, 1991). The critical role of innovation in the development of a company and its contribution on the economic growth of firms has been widely documented. Product innovation can be the source of competitive advantage to the innovator and at the same time can lead to a sustainable increase in firm profits (Geroski, Machin and VanReenen, 1993; Chandy and Tellis, 1998). Past research supports the argument that innovation serves as a key mediator between antecedents of innovation and performance (Conner, 1991; Han et al, 1998). In particular, innovation mediates the relationship between environmental uncertainty and performance.

Product innovation results into improved competitive products and services rolled out; a firm's market share might improve also, thereby enhancing profitability. The disruptive innovation theory (Christensen, 1997) posits that a new market and value proposition is the result of product innovation; as such a firm deploying a disruptive product innovation shall enjoy improved profitability. Organizations that use offensive strategies in introduction of new products have a very high probability of succeeding in introducing new products and in turn achieve high levels of profitability (Dwyer and Mellor, 1993).

Product innovation can actually improve an organizations performance in numerous ways. Innovation has a significant impact on an organizations performance in the sense that it improves its market position hence giving the organization competitive advantage and as a result superior performance (Walker, 2004). There is a positive relationship between innovation and profitability, size, market share and growth rate (Deshpande et al., 1993). Baldwin and Johnson (1996) hold that product innovation

significantly affects a broad range of an organization's performance measures which are, the market share gain and return on investment. Innovators earn higher profits compared to non-innovators because of, improved capabilities (Geroski & Machin, 1992).

Product innovation is an effort made by business actors who manufacture products to improve, enhance and develop products produced so far into superior products (Jeong et al., 2019; Ashrafi & Ravasan, 2018). Products developed in the form of goods, with innovation are a series of developments by applying science and technology to a product. This product innovation can occur due to several things, including the economy of the customer which affects needs, a combination of modes and needs and a reasonable price (Falahat et al., 2020; Kristinae et al., 2020). This innovation process must be carried out continuously so that the product continues to develop, improve, and reach perfection, which can be done by utilizing science and technology. The product innovation capability of the relationship in the business is the ability to form and a variety of organizational capabilities to increase activities to improve business performance of new products. Along with changing times and needs, goods that are created will be increasingly obsolete since they cannot meet the needs of the present. These items give an innovation in order to meet the needs of today's consumer behavior (Montiel, 2018; Acosta, 2018). Product innovation is also carried out, because products that get innovation are given additional product modes, product quality, product enhancements and product functions can improve business performance.

2.5 The Effect of Process Innovation on Business Performance

In their research, Shu et al. (2012) stated that, process innovation relates with the improvement in or generation of tools and the expansion of operations. Murray, Gao, and Kotabe (2011) agreed that, technological innovation, ability, methods, operations

and process that is applied in the procedure of converting or to transform inputs into outputs. With regard to the manufacturing operations, process innovation may be termed as, improved or new methods, devices, techniques, and information in creation of a product (Lichtenthaler, 2016). Matitz and Chaerki (2018) specified process innovation as, the application of a new or significant developed manufacturing or distribution process that involved important variations in the tools, equipment or applications. Moreover, process innovation has the purpose to of reducing unit cost of production or delivery, enhancing quality, or to generate upgraded products. It also involves significantly developed methods of creation and delivering of services and variations in the applicable services-cantered businesses in the methods involved in the service delivery.

ONeira et al. (2009) argues that Process innovation is very pertinent to firms facing a lot of competition as it enhances productivity. Process innovation has a direct and immediate 40 impact on productivity performance of SMEs and due to their organizational simplicity (Castillejo et al., 2013). Oke et al., (2013) reiterates that process innovation should be emphasized in manufacturing enterprises as a primary distinctive competence. Varis and Littunen (2010) in their study of SMEs in Finland found process innovation to be positively correlated to firm performance. Sidek and Rosli(2013) carried out a study on the “impact of Innovation on the performance of Small and Medium Manufacturing Enterprises in Malaysia”. Research findings indicate that process innovation influenced firm performance positively. The study recommended that SMEs can apply innovation to increase their performance.

2.6 Effect of Marketing Innovation on Business Performance

Marketing innovation is a powerful tool for the sustainability of small- to mediumsized firms because it can quickly increase a firm’s market share based on its existing

products and technologies. Although some scholars have recognized that marketing innovation could play a key role in propelling product upgrades and sales rise, the mechanism through which market innovations exert such effects is largely unknown, and many arguments about it are yet to be empirically verified. Studies pointed out that different types of marketing innovations may affect a firm's performance differently. Bodlaj et al. (2012) also expressed the need to distinguish different types of marketing orientations and explore their antecedents and consequences. Oke (2007) called for studies on the typology of marketing innovations and the refinement of the measurement of marketing innovations, as they found different types of innovations could differently explain firms' innovative performances in the UK. Similarly, Gunday et al. (2011) reported that the type of innovation influences firm performance in Turkey. However, existing studies are mostly descriptive analyses, and more in-depth research is needed to investigate the dimensionality of marketing innovation and its effect.

A large number of studies have provided positive appraisals that higher innovativeness in marketing results in increased corporate performance. Walker (2005) found that marketing innovation exerts a considerable impact on corporate performance by creating an improved market position that is advantageous in competition. Similarly, Naidoo (2010) found that marketing innovations promote product differentiation and cost efficiency and thus aid sustainable competitive advantages. John and Davies (2000) found that in medium-sized insurance companies, marketing innovations facilitate new ways of understanding the different markets, push up sales by increasing product consumption, and yield additional profit for firms.

2.7 Effect of Organizational Innovation on Business Performance

All the organizations try the best for the improvement of performance and culture of the organization is one of the most important drivers for the betterment of firm's

performance. Organizations make strategic decisions in competitive global environments in which development of technology and technological processes is important to maintaining levels of competitiveness. organizational innovation implies the execution of new organizational techniques in the endeavor's business practices, work environment association or outside relations. Changes in business practices, working environment association or outer relations that depend on organizational techniques as of now being used in the endeavor, changes in administration system, mergers and acquisitions, stopping to utilize a procedure, basic capital substitution or augmentation, changes coming about absolutely from changes in factor prices, customization, consistent seasonal and other patterned changes, exchanging of new or significantly enhanced products are not thought as innovation".

Organizational innovation is the extent of introducing change in the way the organization is managed. Rajapathirana and Hui (2018) defined organizational innovation as "implementation of a new organizational method in the firm's business practice, organization or external relations" (p. 46). Organizational innovation can thus, improve organizational performance through cost reduction, as well as improvement in employee and customer satisfaction (Yusheng & Ibrahim, 2019). Gopalakrishnan and Damanpour (1997) in Zainal Abidin et al. (2011) described organization innovation "as a process of organizational change that directly affects the technical and social systems of an organization." This system according to them involves two stages: initiation and implementation. Initiation stage consists of three sub-stages: that is, "awareness of innovation, formation of attitude towards it, and evaluation from organizational standpoint." The implementation stage also consists of two sub-stages: that is, "trial implementation and sustained implementation" (Gopalakrishnan & Damanpour, 1997). Empirical evidence suggests a positive link between organizational innovation and firm

performance (Chiang & Hung, 2010; Reed et al., 2012). This helps in understanding the types of capabilities firms need to achieve competitive advantage (Camisón & Villar-López, 2012). Yavarzadeh et al. (2015) explored the relationship between organizational innovation and performance in Iran and found that, innovation dimensions including organizational innovation positively influence organizational performance (Rajapathirana & Hui, 2018)

Organizational innovation can increase the performance of the organization by decreasing the transaction cost and administrative cost. Firms bring organizational innovation to bring efficiency in the business. The new organizational method must be at least new to the organization and new method can be developed by the firm itself or with the help of third party (Polder et al., 2010). Organizations bring changes in their organizational setup. They change the ways of organizing things to compete with their competitors and satisfy the customers (Ettlie & Reza 1992).

2.8 Moderating Effect

Bii and Onyango (2018) did an extensive review of literature on the moderating effect of Dynamic Capabilities (DC) on the Relationship between Entrepreneurial Orientation (EO) and Business Performance (BP) of Small and Medium Enterprises. From the review it has been established that there are inconsistent findings in terms of relationships between DCs, EO and performance of SMEs which is justified by the fact that DCs, EO dimensions vary independently and may not be equally valuable across performance metrics or different stages of development of SMEs, besides different situations impacts on the relationship between DCs, EO and business performance of SMEs.

Chang (2019) investigated how dynamic capabilities moderate the relationships between bonding and bridging ties and firm performance, thus an area with potential to explain the divergent empirical results contained in the existing literature on the relationship between intra/extra-organizational ties and performance

Ado and Edgar (2019) investigated the moderating effects of dynamic managerial capabilities on heterogeneous workplaces: a case study of private banks in Egypt. Their study established that resource idiosyncrasy, deployment, utilizations and organizational culture accommodate dynamic managerial capabilities (DMC) to achieve sustainable competitive advantage (SCA) in the multigenerational heterogeneous workplace. Further, the study found out that DMC as an underestimated moderator for achieving SCA.

2.9 Control Variable

This study will control for financial leverage and firm growth. Nwude (2003) defines debt to equity ratio as a measure of the proportion of debt to shareholders funds (i.e Net Worth) in the total financing of a business. Items such as accumulated losses and deferred expenditures are eliminated from the shareholders' funds before using it as the denominator. "The ratio indicates how much naira was raised as debt for N1 of equity". Okwo et al., (2012) opines that debt-to-equity ratio is a financial ratio indicating the relative proportion of equity and debt used to finance a company's assets which is an indicator of the financial leverage. It is equal to total debt divided by shareholders' equity.

Firm growth has been one of most widely studied topics in economic literature. Several arguments highlight the crucial importance of this field. First, firm growth is related very closely to firm survival. Specifically, firm growth is positively correlated with the

likelihood of survival. Hence firms that experience continuous growth will have a higher probability of surviving in the market. Its impact on employment, industry concentration, firm survival and economic activity are reasons enough for it to be considered an issue of crucial interest

It is important to control the confounding variables to avoid any false rejection of hypotheses (Bartov, Gul, & Tsui, 2000). Control variables are included to reduce the possibility of omitted-variable bias (Afrifa & Tauringana, 2015). This study will control for financial leverage and firm growth. According to Pandey (2010), several measures of financial leverage have been proposed. These include Debt Ratio (total liabilities to total assets), Debt-Equity Ratio (total liabilities to total equity) and Equity Ratio (total equity to total assets). This study used the Debt Ratio as a measure of financial leverage. According to Kajanathan (2012), the Debt Ratio is the ratio widely used to measure financial leverage since it is easily understandable. Pandey (2010) asserts that the DR captures the true value of the indebtedness of a firm by comparing the value of total assets financed by total liabilities and, unlike other measures, it is more specific since its value ranges between zero to one

Firm growth can be measured by several attributes such as turnover/sales, employment, assets, market shares, and profits. Among these measures, sales and employment are in particular broadly used indicators for growth (Ardishvili, Cardozo, Harmon & Vadakath, 1998; Davidsson, 1991; Delmar, 1997; Weinzimmer, Nystrom & Freeman, 1998; Wiklund, 1998). This is because growth in sales and employment reflect both short-term and long-term changes in a firm and they are easy to obtain. Furthermore, compared to other indicators such as market shares, sales and employment are more objective measures (Delmar, 1997). In this study, was measured as a percentage of sales turnover.

2.10 Conceptual Framework

The conceptual framework shows how the dependent variable is related to the independent variable and the role of the moderating variables in the innovation types and business performance relationship. These relationships are depicted in Figure 2.1

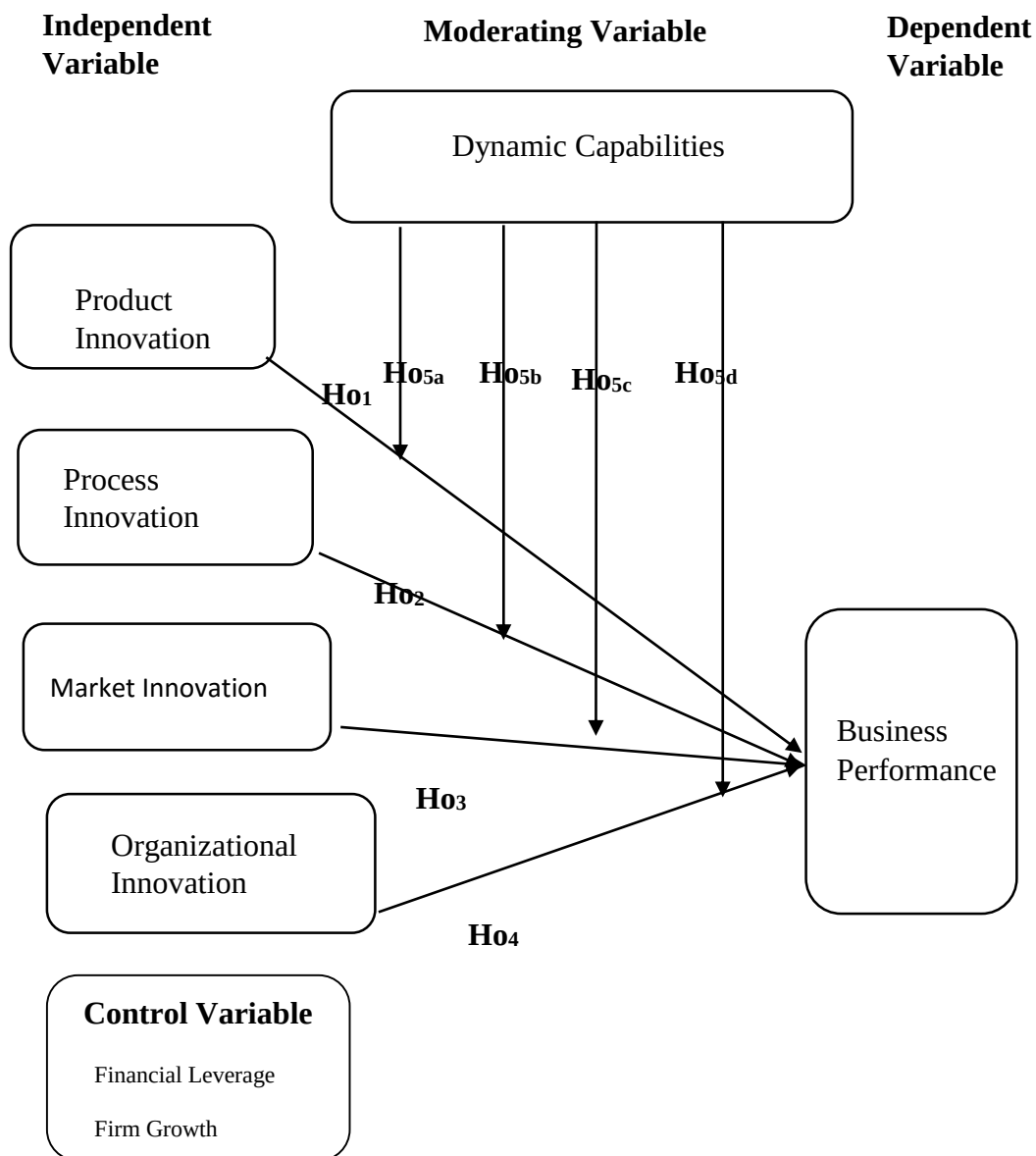


Figure 2.1: Conceptual Framework Diagram

2.11 Research Gap

Numerous studies on innovation and business performance have been done, as indicated by the preceding empirical overview, and the volume of related studies certainly continues to rise. The majority of these research, on the other hand, have concentrated on the developed world of Asia, America, the United Kingdom, India, and a few African countries (Alegre et al., 2006; Baron and Tang, 2011; Zacharakis, 2002; Peacock, 2004; Geroski, Machin and VanReenen, 1993; Chandy and Tellis, 1998; Ndesaulwa & Kikula, 2016). Because of the many contexts in which these studies were done, the results were mixed and inconclusive, resulting in conceptual, contextual, and methodological gaps. While the bulk of the empirical studies have used a descriptive study design and a panel approach, others used a mixed-methods or cross-sectional method. Furthermore, some researchers employed secondary data sources, while others relied on primary data sources or a combination of both. The majority of these research looked into the direct effects of the study variables. Few studies have looked at how the research variables interact with the moderating variable. There have been a lot of research conducted in Kenya. The majority of these studies have focused on the performance and innovation of small businesses. Generalizing these findings to developing countries in Africa, particularly Kenya, may lead to incorrect conclusions. As a result, this work is an attempt to close these gaps.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a detailed description and explanation of the methodological approach used in the study that includes methods and procedures. The content includes research design, population, sampling size and sampling technique, data collection instruments, data collection procedure, pilot study, measurement and scaling technique, data analysis and processing, and statistical model and hypothesis testing.

3.2 Research Design

A research design establishes a framework for the collection and analysis of data in order to validate the study's hypotheses (Bryman & Bell, 2011). According to Kothari (2014), research design is a detailed plan outlining how the research was conducted, whereas Cooper and Schindler (2014) define it as a blueprint for the collection, measurement, and analysis of data within the constraints of limited resources in order to address research questions. Explanatory research design was used in this study.

According to Zikmund, Babin, Carr, and Griffin (2010), the primary goals of explanatory research are to analyze the cause-and-effect relationships between variables and to test hypotheses in order to determine the validity of theories and their ability to make predictions about social phenomena. Explanatory research benefits from a greater degree of reliability and internal validity (McDaniel and Gates, 2013). The design is suited for the study since it enables the researcher to conduct the study in realistic settings and uses probability sampling. This enables statistical inferences to be drawn about larger populations and for findings to be generalized to real-world situations. (2008) (Frankfort-Nachmias & Nachmias).

3.3 Study Area

An overview of the study location is necessary for comprehension of the study findings and subsequent study on SMEs. The data for this study was gathered in Nairobi County, one of the country's forty-seven (47) counties created by the Kenyan Constitution (2010). Nairobi County has the largest percentage of small and medium enterprises and serves as the country's economic hub (KNBS, 2016). Nairobi County is divided into seventeen (17) seats and eighty-five (85) electoral wards. Data from the Micro and Small Enterprise Authority and Nairobi County Government showed an increase in the county's number of registered MSEs in the past six years. In Nairobi, the data revealed a concentration of SMEs in Embakasi constituency (Nairobi County, 2021). This is attributed to the increase to the introduction of devolved government that led to development in various County economy sectors. Given that SME are the primary source of employment in Kenya, Embakasi East Constituency was chosen as the study area because it has the greatest number of licensed Small and Medium Enterprises in Nairobi County, according to County Government data.

3.4 Target Population

Target population is defined as a group of individuals (or firms/ organizations) with some common defining characteristic that a researcher can study Creswell (2013). Zikmund et al. (2013) define population as an extensive collection of all the subjects from which a sample is taken. Kombo and Tromp (2009) define the target population as a group of persons, objects or items from which samples are taken for measurement. The target population for the study was manufacturing SMEs in Nairobi County that employ 5- 99 permanent employees. There were 987 registered manufacturing SMEs of which 341 are small employing 11-49 permanent employees and 646 are medium employing 50- 99 permanent employees (Nairobi City County, 2019).

Table 3.1: Target Population

ENTERPRISES	NUMBER
Small Enterprises	341
Medium Enterprises	646
TOTAL	987

Source: Business Register, Nairobi City County, 2020

3.5 Sampling Design and Procedures

Sampling technique refers to the process of selecting a representative sample in order to ascertain the factors by which the researcher selects representative respondents from the target population (Adams et al., 2007). Saunders et al. (2014) define sampling as a procedure that allows for the selection of a subset of the population. As such, the sampling procedure should ensure that a representative sample of the target population is chosen (Cooper & Schindler, 2014). The sample frame from which the population and sample for the study was obtained from the Nairobi County licensing records. The sample was selected from three defined Industrial clusters based on geographical location. Cluster one comprised of manufacturing SMEs in Industrial area, Cluster two comprised on Manufacturing SMEs in Ruaraka/ Baba Ndogo Industrial area while cluster three included those SMEs in the Industrial cluster Kariobangi. Care was taken in the sampling to ensure a good representation of both the small and medium enterprises, at the ratio corresponding to the target population of the enterprises.

In the second stage of sampling, stratified random sampling was used to select SMEs from the three clusters. Stratification is necessary because manufacturing SMEs are heterogeneous in terms of size and the activities they are involved in. This study will consider stratification based on the size of the enterprises where they are classified as either small or medium enterprises. Enterprises will randomly be selected from the

strata to eliminate bias. The Yamane, (1967) sample size calculation formula was used to arrive at a sample size of 284 SMEs as follows;

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

Where:

n = Sample size

N = Population size

e = the error of Sampling

Hence

$$\begin{aligned} & \frac{987}{1 + 987(0.05)^2} \\ & = 284 \end{aligned}$$

The sample of 284 is distributed as indicated in Table 3.2, where by the sample distribution was based on the percentage numerical strength of each stratum

Table 3.1: Sample Size

Enterprise	Population (N)	Sample Size (n)	% n/N*100
Small	341	98	28.7
Medium	646	186	28.7
Total	987	284	

3.6 Data Types and Sources, Collection and Procedures

3.6.1 Data Types and Sources

The study will make use of primary data to test the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya. Primary data is the collection of original data or first-hand information for a specific purpose by a researcher (Kotler et al., 2005). According

to Driscoll (2011), “the ultimate objective of conducting primary research is to learn about something new that can be confirmed by others and to eliminate own biases in the process.” Primary data was collected from the respondents’ using questionnaires. According to Best & Kahn (2008) closed ended questions yield quantitative data.

3.6.2 Data Collection Instruments

Primary data was collected by use of structured questionnaire that captured the various variables of the study. Questionnaires are set of questions which give answers of the research participants in a set of ways. According to Kombo and Tromp (2006), a questionnaire is a research instrument that gathers data over a large sample. Most questionnaires are designed to gather already structured data and so include a set of answers which the respondent can choose from, although some may include more open-ended questions which allow the respondent to answer the question in their own way; others give a provision where all the participants are asked the same questions in the same order and using the same wording and have the same set of answers to choose from (Matthews & Ross, 2010). According to Kothari (2008), questionnaires are usually free from the interview bias as the answers are in respondent’s own words. Respondents will have adequate time to give well thought out answers. Questionnaire is an efficient research tool which when used the researcher will obtain personal ideas from a respondent. It also allows the participants to give their own opinion on the issue at stake (Matthews & Ross 2010). The questionnaire was designed to address specific objectives and that it will have closed-ended questions

3.7 Operationalization of Study Variables

Operationalization is the process of assigning numerals, numbers and other symbols to the study variables. According to Sekaran (2006), operationalization is the explicit specification of a variable in such a way that its measurement is possible.

3.7.1 Dependent Variable

Business Performance

Business performance and its evaluation belong to frequently used terms in management theory. Neely et al. defined performance as the efficiency and effectiveness of targeted action. Dwight associated performance with the level of goal achievement. Veber defined performance as a general measure of an individual's or group's effort. Sink defined seven dimensions of performance as efficiency, effectiveness, quality, productivity, quality of working life, innovation and profitability. For every enterprise, it is important to gain the best possible performance. As a necessary condition to achieve that, managers need to be able to effectively measure and evaluate business performance. Business performance is the profitability of a business enterprise measured through various measures mostly return on assets and return on equity. It measures how well a firm is generating value for the owners (Ahmad et al., 2011).

3.7.2 Independent Variable

The four independent variables in this study include product innovation, process innovation, marketing innovation and organizational innovation.

Product Innovation

Oslo Innovation Manual defines product innovation “as the introduction of a good or service that is new or significantly improved in relation to its characteristics or intended functionality” (OECD, 2005). Significant improvements may be in relation to technical specifications, components and materials, built-in software, user friendliness or other functional characteristics. In this study product innovation was measured as the number of new products or product improvement developed and implemented within 3 years among the SMEs. It includes the number of patent application done by an SME.

Process Innovation

Process innovation involves the implementation of new or improved procedures regarding service distribution (applied to human resources, working methods, equipment, or combinations thereof) it includes; production method alteration (techniques, equipment, or machinery) or delivery method innovation; existing-method improvements (quality, lead time, or cost-production reduction). In this study, process innovation was measured in terms of the number of process innovations developed and implemented in the last 3 years

Marketing Innovation

Marketing innovation is the implementation of a new marketing method that involves significant changes in product design or packaging, product placement, product promotion or pricing” (OECD, 2005). This involves introduction of new methods implying changes in services (aimed at improving customer needs, entering new business markets, or gaining revenue); market share growth from new products & services market share protected by patents and the percentage of number of customers on the new products against the number of customers on the old products. In this study, marketing innovation was measured in terms of number of Marketing Innovations developed and implemented in the last 3 years

Organizational Innovation

Organizational innovation involves the implementation of new organizational methods in the firm’s business practices, workplace organization or external relations” (OECD, 2005). These include the “implementation of new methods for organizing procedures and routines for the conduct of work, introduction of management systems, business re-engineering, lean production, and quality-management system, implementation of new methods for allocating responsibilities and implementation of new ways of

organizing relations with external firms /institutions” (OECD, 2005). It entails changes in a company's activities; more efficient uses of work assets and resources and or technical innovations or cooperation with other companies to enable innovation. In this study, organizational innovation was measured in terms of Number of organizational Innovations developed and implemented in the last 3 years

3.7.3 Moderating Variable

In order to measure dynamic capabilities, a list of items was used to measure the three dimensions of the construct – sensing capabilities, seizing capabilities and reconfiguration capabilities. A number of items was used in the questionnaire to capture the scales for sensing capabilities, seizing capabilities and reconfiguration capabilities. These was adapted from past studies with only minimal adjustments. This is to ensure content validity of the measures. Sensing capabilities was measured using two scales. The first scale is the recognition of opportunities and threats from the environment. This consisted of four items, adopted from prior studies (Cao, 2011; Lichtenthaler, 2009; Danneels, 2008; Jansen, 2005). The second scale was monitoring of internal capabilities, which is measured using four items adopted from a previous study (MacInerney-May, 2012). Seizing capabilities was three scales. These were knowledge acquisition, knowledge sharing and knowledge integration. The knowledge acquisition scale were measured using three items adopted from previous studies (MacInerney-May 2012; Lichtenthaler, 2009; Jansen et al., 2005). Knowledge sharing was measured using three items adopted from prior research (MacInerney-May, 2012; Tippins and Sohi, 2003). Knowledge integration scale was measured using four items adopted from a prior research (MacInerney-May 2012). Reconfiguration capabilities variable was measured using two scales – capabilities creation and capabilities integration. Capabilities creation had four items adopted from prior reaserch (MacInerney-May,

2012), while capabilities integration was measured using three items adopted from various prior studies (MacInerney-May, 2012; Prieto et al., 2009; Pavlon & El Sawy, 2006).

3.7.4 Control Variable

This study controlled for financial leverage and firm growth. According to Pandey (2010), several measures of financial leverage have been proposed. These include Debt Ratio (total liabilities to total assets), Debt-Equity Ratio (total liabilities to total equity) and Equity Ratio (total equity to total assets). This study used the Debt Ratio as a measure of financial leverage. According to Kajanathan (2012), the Debt Ratio is the ratio widely used to measure financial leverage since it is easily understandable. Pandey (2010) asserts that the DR captures the true value of the indebtedness of a firm by comparing the value of total assets financed by total liabilities and, unlike other measures, it is more specific since its value ranges between zero to one

Firm growth can be measured by several attributes such as turnover/sales, employment, assets, market shares, and profits. Among these measures, sales and employment are in particular broadly used indicators for growth (Ardishvili, Cardozo, Harmon & Vadakath, 1998). In this study, was measured as a percentage of sales turnover.

Type of Variable	Variable Definition	Indicators	Operationalization of the Variable	Measure	Source
Dependent	Business Performance	Profits ROA ROE	Net Profit (Ksh)		
Independent	Innovation Types	Product Innovation	Number of Product innovations developed and implemented in the last 3 years	5 point Likert scale	
		Process Innovation	Number of Process Innovations developed and implemented in the last 3 years	5 point Likert scale	
		Marketing Innovation	Number of Marketing Innovations developed and implemented in the last 3 years	5 point Likert scale	
		Organizational Innovation	No. of Organizational Innovations developed and implemented in the last 3 years	5-point Likert scale	
Moderating Variable	Dynamic Capabilities	Sensing capabilities			Pavlou et al (2011); MacInerney-May (2012)
		Seizing capabilities			Pavlou et al (2011); MacInerney-May (2012)
		Reconfiguration capabilities			Pavlou et al (2011); MacInerney-May (2012)
Control Variable		Financial Leverage	total liabilities to total assets		
		Firm Growth	percentage of sales turnover		

3.8 Validity and Reliability of Instruments

3.8.1 Validity

Content, face and construct validity was analyzed in this study. Content validity was conducted to examine if the content of the study instruments is appropriate and relevant to the study purpose. Face validity shows the appropriateness of a questionnaire to the purpose of the study and content area. It measures the appearance of the questionnaire in terms of feasibility, readability, consistency of style and formatting, and the clarity of the language used. In order to access the face validity of draft data collection

instruments in terms of readability, translations, contextual appropriateness of questions, length of questionnaire, formatting and flow of the tools, a discussion of the items in the instruments was done with the supervisors and their evaluations through comments and suggestions for improvements was incorporated to the instruments. Construct validity defines how well a test or experiment measures up to its claims. It is an inference of how well a certain tool measures a theoretical construct. It warrants that the abstract concepts are measured logically and the association between variables which is identified with the tool based on theory and clear operational definitions. In this current study, the variables was operationalized to create common understanding between the researcher and readers. The questionnaire will then be constructed based on the reviewed literature and the relevant variables to be measured in order to determine the degree to which it will collect the required information.

3.8.2 Reliability

Reliability is synonymous with the consistency of a tool or test. It is the degree to which an assessment tool produces stable and consistent results. The Cronbach's coefficient alpha was used in this study to test the reliability of the data collection instruments. This method is appropriate in situations where a tool was administered once (Kothari, 2017). The closer the reliability coefficient is to 1, the higher the internal consistency reliability. The research instrument would be deemed reliable if it meets the predetermined threshold of 0.7 and above which is the accepted threshold in research.

3.9 Data Collection Procedures

Research procedures help a researcher structure the step-by-step processes that was engaged in a given order to be able to accomplish research work and fulfil the study objectives (Cooper & Schindler, 2014). To ensure proper procedures and steps are followed for this study, the researcher will take preliminary measures. The researcher

will start by gaining permission to carry out the study from National Council of Science and Technology (NACOSTI) through their website portal and pay the requisite fee having satisfied the Moi University ethics requirements for commencing data collection. Upon obtaining the permission to carry out the study the researcher will carry out pilot testing to pre-test the questionnaire for qualities such as completeness, redundancy, inclusivity, friendliness or sensitivity to the respondent, and relevance. The data collection process was undertaken by the researcher with the help of research assistants who have a background in research. An orientation training was conducted for the research assistants with the aim of familiarizing with the objectives of the study. The researcher will conduct the training giving overview of the study, how to recruit subjects, how to use the structured questionnaire, ethical considerations to be adhered to throughout this study and how to ensure quality data collection.

3.10 Data Analysis and Presentation

Data analysis involves manipulation of data collected (Orodho, 2008). Data collected was coded and analyzed using the SPSS version 26 computer programme. The computer software enabled the study to comprehensively analyze data by manipulating and transforming variables into desired forms.

In this study, both descriptive and inferential data analysis techniques were used. According to Mugenda and Mugenda (1999), the first step in data analysis is to describe or summarize the data using descriptive statistics. Data was edited, coded, classified and summarized into categories. In order to make the data collected amenable to statistical analysis using the Statistical Package for Social Sciences (SPSS) version 25, the data was coded as follows: For nominal data for example, representing demographics of the respondents and other characteristics such as , male = 1 and female = 2. In categorical data where Likert scale was used representing, 1- 5 where, 1 imply

least, 5- imply most was used. Descriptive data analysis started during data collection. Descriptive data was analyzed by use of frequencies and central tendencies and was presented in form of tables, pie charts, and bar graphs.

According to Orodho (2009) inferential statistics are applied whenever a researcher wishes to infer things about the population from the information sourced from a small sample derived from the population. A sample is studied in order to make a conclusion about the large population from which the sample was extracted. Thus, inferential statistics is about generalization about bigger situations or total population, that has not been studied (Sekaran et. al., 2013). The purpose of this study was to investigate the moderating effect of attitudes on the relationship between sociodemographic factors and uptake of micro pension schemes among urban informal sector workers in Kenya. Thus, inferential data analysis was important in this study in order to generalize about the bigger population (Thornhill et. al. 2009). Using statistical packages for social sciences (SPSS) version 25. Correlation analysis was used to test the cause-effect relationship between the dependent variable and the independent variables. Simple regression analysis was conducted to assess the effect of one independent variable on the dependent variable while the multiple regression analysis was conducted to establish the strength, direction and significance of the relationship between micro pension uptake and more than one independent variables (Gupta & Gupta, 2007). For testing all the four hypotheses, the researcher will adopt the use of (Analysis of Variance) ANOVA to test the overall robustness of the regression model. The P-values associated with each variable was used for determining statistical significance of each independent variable on the dependent variable. The rule of the thumb was to reject Hoi if $p\text{-values} \leq 0.05$ otherwise fail to reject if $p\text{-value}$ is not ≤ 0.05 . (At 95% confidence level, level of significance, $\alpha=0.05$) (Tabachnick, et al, 2007).

Moderation implies an interaction effect, where introducing a moderating variable changes the direction or magnitude of the relationship between two variables. A moderation effect could be: enhancing, where increasing the moderator would increase the effect of the predictor (the four variables) on the outcome variable or buffering, where increasing the moderator would decrease the effect of the predictor on the outcome; or antagonistic, where increasing the moderator would reverse the effect of the predictor on the outcome.

3.11 Diagnostic Tests

Diagnostic tests for regression are procedures for examining the issues inherent in regression analysis and deciding whether certain assumptions are plausible (Fox, 1991). Before data analysis can begin, numerous assumptions about regression models must be satisfied. Linearity, normality, multicollinearity, and homoscedasticity are some of these assumptions (Hayes, 2018).

3.11.1 Normality

A normality test is used to decide whether sample data has been drawn from a normally distributed population. There are several methods of assessing whether data are normally distributed or not. They fall into two broad categories: graphical and statistical. Normality plays a vital role in predicting the scores of the dependent variable and also in knowing the shape of the distribution (Smith, 2015). This study will adopt Shapiro Wilk test to test for normality. It tells how well a theoretical distribution models the empirical data. Cope (2015) states that the quantile-quantile plot compares ordered values of a variable with quantile of a specific theoretical distribution (the normal distribution). If two distributions match, the points on the plot will form a linear pattern passing through the origin with a unit slope.

3.11.2 Multicollinearity

Multicollinearity refers to the phenomenon where one independent variable in the situation of a multiple regression model is linearly predicted from the analysis of the others with a certain degree of accuracy (Sekaran & Bougie, 2010). Multicollinearity was performed on the data by examining VIF (Variance Inflation Factor) and assessing the tolerance ($1 / \text{VIF}$). Independent variables are considered collinear if the value of VIF exceeds 3. Multicollinearity will also be tested in this study.

3.11.3 Homoscedasticity

In a linear regression model, we assume the error term has a normal distribution with mean of zero and constant variance of which is called homoscedasticity. In a situation where the error term does not have constant variance, it is said to be heteroscedastic. When the regression error is homoscedastic that is when the regression model is accurate across the range of the dependent variable. When the homoscedasticity assumption is met, residuals form a pattern less cloud of dots.

3.11.4 Linearity

Linear relationships can be expressed in a graphical format where the variable and the constant are connected via a straight line or in a mathematical format where the independent variable is multiplied by the slope coefficient, added by a constant, which determines the dependent variable (Murshed & Zhang, 2016). Linearity also refers to the point at which a dependent variable has a linear relationship with one or more independent variables. This means that the expected value of dependent variable is a straight-line function of each independent variable, holding the others constant. To test linearity, an ANOVA output table for the linear and nonlinear components of any pair of variables was computed using the SPSS version 25.0. If the value of significant deviation from linearity is > 0.05 , then the relationship between the independent

variables is linearly dependent. If otherwise, then the relationship between the independent variables with the dependent is not linear.

3.12 Hypothesis Testing

Hypothesis is statement about an unknown population parameter and in research; it is a formal question that a researcher intends to solve. Hypothesis testing has concerns on how to use a random sample to judge if it is evidence that backs or not the hypothesis. Multiple regression analysis was carried out. To test each of the individual independent variables (product innovation, process innovation, marketing innovation) against the dependent variable (business performance) and the moderating variable (dynamic capabilities) regression analysis was used.

3.13 Model Specification

Linear regression analysis attempts to determine whether a group of variables together predict a given dependent variable and, in this way, attempt to increase the accuracy of the estimate (Kumar, 2019). The general linear regression model for this study is as shown:

$$Y_{it} = \beta_{0it} + \beta_1 FLev_{it} + \beta_2 FG_{it} + \varepsilon_{it} \dots \dots \dots \text{Model 1}$$

$$Y_{it} = \beta_0 + C + \beta_1 ProdIn_{it} + \beta_2 ProcIn_{it} + \beta_3 MrkIn_{it} + \beta_4 OrgIn_{it} + \beta_5 DC_{it} + \varepsilon_{it} \dots \dots \dots \text{Model 2}$$

$$Y_{it} = \beta_0 + C + \beta_1 ProdIn_{it} + \beta_2 ProcIn_{it} + \beta_3 MrkIn_{it} + \beta_4 OrgIn_{it} + \beta_5 DC_{it} + \beta_6 DC_{it} * ProdIn_{it} + \varepsilon_{it} \dots \dots \dots \text{Model 3}$$

$$Y_{it} = \beta_0 + C + \beta_1 ProdIn_{it} + \beta_2 ProcIn_{it} + \beta_3 MrkIn_{it} + \beta_4 OrgIn_{it} + \beta_5 DC_{it} + \beta_6 DC_{it} * ProdIn_{it} + \beta_7 DC_{it} * ProcIn_{it} + \varepsilon_{it} \dots \dots \dots \text{Model 4}$$

$$Y_{it} = \beta_0 + C + \beta_3 \text{ProdIn}_{it} + \beta_4 \text{ProcIn}_{it} + \beta_5 \text{MrkIn}_{it} + \beta_6 \text{OrgIn}_{it} + \beta_7 \text{DC}_{it} + \beta_8 \text{DC}_{it} * \text{ProdIn}_{it} + \beta_9 \text{DC}_{it} * \text{ProcIn}_{it} + \beta_{10} \text{DC}_{it} * \text{MrkIn}_{it} + \varepsilon_{it} \dots \text{Model 5}$$

$$Y_{it} = \beta_0 + C + \beta_1 \text{ProdIn}_{it} + \beta_2 \text{ProcIn}_{it} + \beta_3 \text{MrkIn}_{it} + \beta_4 \text{OrgIn}_{it} + \beta_5 \text{DC}_{it} + \beta_6 \text{DC}_{it} * \text{ProdIn}_{it} + \beta_7 \text{DC}_{it} * \text{ProcIn}_{it} + \beta_8 \text{DC}_{it} * \text{MrkIn}_{it} + \beta_9 \text{DC}_{it} * \text{OrgIn}_{it} + \varepsilon_{it} \dots \text{Model 6}$$

Y_{it} = Business Performance

ProdIn_{it} = Product Innovation of SME i at year t

ProcIn_{it} = Process Innovation of SME i at year t

MrkIn_{it} = Market Innovation of SME i at year t

OrgIn_{it} = Organizational Innovation of SME i at year t

DC = Dynamic Capabilities of SME i at year t

C = Control Variable (Firm Leverage and Firm Growth)

$\beta_1 \dots \beta_5$ = Coefficients of the equations

t = Time

3.14 Ethical Consideration

In conducting this research, there is neither intent nor interest in violating the rights and welfare of the research participants. The sole objective of this study was to contribute to the development of systematic and verifiable knowledge. In this regard, the information obtained from the research participants was kept private, anonymous and confidential. The researcher will attempt to address all ethical issues during the entire research process. During the development of the proposal, data collection, analysis and final proposal write up, plagiarism was avoided as much as possible by citing relevant sources and authorities of the secondary sources of information. The researcher will

seek consent from the participants before they are issued with questionnaires to fill. The respondents were informed of their right to voluntary consent or decline to participate and to withdraw participation at any time without penalty. Anonymity and confidentiality was upheld throughout the study by not disclosing the respondents name on the questionnaires.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the analysis, presentation and interpretation of the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya. Specifically, the study sought to analyze; the effect of product innovation; effect of process innovation; the effect of marketing innovation and effect of organizational innovation on business performance of manufacturing SMEs in manufacturing SMEs in Kenya. In addition, it also sought to establish the moderating effect of dynamic capabilities on the relationship between product innovation, process innovation, market innovation, organizational innovation and business performance of manufacturing SMEs in Kenya. This chapter describes the Response Rate, Data Screening and Cleaning, Demographic Information of the Respondents, Results of Reliability Tests, Results of Validity Tests, Results of Factor Analysis, data transformation, assumptions for the regression, Correlation Statistics, and Hypotheses testing. Data was presented and interpreted in this chapter.

4.2 Response Rate

Data was collected from respondents in small and medium enterprises in Nairobi County, Nakuru County. A total 284 questionnaires were issued of which 237 were filled and returned and represented a response rate of 83.45%. The response rate was considered satisfactory since Nyamjom, (2013) argues that a response rate of 75% was considered excellent and a representative of the population. The achieved response rate of 83.45% in the current study was high and implied that the response rate was very good. The success rate was attributed to the self-administration of the questionnaires by the researcher with the help of the research assistants who were able to reach out to

most of the respondents. The willingness of the target sample to take part in the study also aided the high response rate. The researcher also made follow-up calls to clarify queries raised thus enhancing the high response rate. The response rate is represented in table 4.1

Table 4.1: Response Rate Questionnaire

	Count	Percentage
Returned	237	83.45%
Non returned	47	16.55%
Total	284	100

Source: Research Data, (2022)

4.3 Data Preparation and Cleaning

Preparation of data included coding the responses, cleaning, screening the data and selecting the appropriate data analysis strategy for testing the hypothesis. Coding involved assigning a numeric symbol to enable quick data entry and to minimize errors during the analysis. Each item in the questionnaire was assigned a code that upon completion was entered into a statistical analysis software package IBM SPSS version 26. Cleaning and screening the data involved checking for inconsistencies, missing responses, and other errors to ensure accuracy and completeness.

4.4 Reliability of Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. The researcher used Cronbach alpha coefficient which is widely used by researchers for assessing reliability of multiple items. Reliability test was also done using SPSS to check if the instruments met the expected standards. A rule of thumb for interpreting alpha for dichotomous questions (i.e. questions with two possible answers) or Likert scale questions is: $\alpha \geq 0.9$, excellent, $0.9 \geq \alpha \geq 0.8$, good, $0.8 \geq \alpha \geq 0.7$, acceptable, $0.7 \geq \alpha \geq 0.6$, questionable, $0.6 \geq \alpha \geq 0.5$,

poor, $0.5 > \alpha$, unacceptable. The instruments were considered reliable if their reliability coefficients were above the recommended 0.7 threshold (Fraenkel & Wallen, 2000). The generally acceptable level of Cronbach's alpha is above 0.70.

According Bryman & Bell (2007) reliability is whether the concept and the result are reliable and if the study can be replicated with the same result. The findings indicated that all constructs had Cronbach's Alpha values within the suggested value of between 0.801 and 0.905 thus the data collection tool was reliable. On the basis of this reliability test it was confirmed that the scales used in the study were reliable to capture the constructs. The findings of the reliability test are shown in table 4.2.

Table 4. 2: Reliability Coefficients of Study Constructs

Construct	Cronbach's Alpha	Number of Items	Comment
Product Innovation	.827	8	Good
Process Innovation	.801	5	Good
Market Innovation	.827	5	Good
Organizational Innovation	.817	5	Good
Dynamic Capabilities	.905	17	Excellent
Business Performance	.829	8	Good

Source: Research Data (2022)

4.5 Test for Outliers

Outliers refers to those observations that deviate from the centroid (Zink *et al.*, 2018). It is a data point that differs significantly from other observations (Hadi *et al.*, 2009). Outliers are those observations which tend to extremely deviate from other observations. The possibility of existence of multivariate outliers as a combination of independent and dependent variables was expected. In such cases, the responses from the outlying elements needed to be scrutinized, with the aim of understanding the reason for the outliers. The reasons of the outliers could range from coding error, incorrect data, or distribution of the sample for specific variables which may have a more

extreme distribution than normal (Zink *et al.*, 2018). Cleaning data of outliers eliminates potential sources of threats to internal validity. It was therefore important to test whether there were multivariate outliers present among the study variables. The researcher used Mahalanobis Distance and Chi Square to check for multivariate outliers. This resulted in flagging 2 cases which were significant outliers. The researcher eliminated them for further analysis and therefore pursued the analysis with 235 cases. The outliers were shown in the study to be values that were out of the normal distribution in the study. The outliers could have been caused by the respondents not understanding the content. It could also be caused by the respondent not being keen on participating in the study, and therefore just fill the questionnaires for the sake of it. Therefore, cases with a value of less than 0.001 were excluded from further analysis as shown in Table 4.3.

Table 4.3: Test for Outliers

	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	.3459	28.0838	4.9789	3.7503	235

4.6 Demographic Characteristics of Respondents

Demographic information provide data regarding research participants and is necessary for the determination of whether the individuals in a particular study are a representative sample of target population for generalization purposes (Salkind, 2010). Respondents were asked to provide information on their demographic profile, including gender, age, education qualification, years of operation, number of full-time employees and type of business ownership. It was crucial to comprehend the attributes of the unit of analysis as it provides a foundation for further analysis of the specific research objectives and

their findings using descriptive statistics, frequency tables and percentages. This helps in shedding the light on the nature and caliber of the respondents from which interpretation would be justifiably made.

Table 4.4: Demographic Characteristics of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	155	66.0	66.0	66.0
	Female	80	34.0	34.0	100.0
	Total	235	100.0	100.0	
Age of Respondents	26- 33 Years	22	9.4	9.4	9.4
	34- 40 Years	67	28.5	28.5	37.9
	41-47 Years	146	62.1	62.1	100.0
	Total	235	100.0	100.0	
Education Qualification	Post graduate	44	18.7	18.7	18.7
	Bachelor's degree	187	79.6	79.6	98.3
	Diploma	4	1.7	1.7	100.0
	Total	235	100.0	100.0	
Years of Operation	1 – 5 Years	131	55.7	55.7	55.7
	6- 10 Years	89	37.9	37.9	93.6
	11-15 Years	11	4.7	4.7	98.3
	Over 20 years	4	1.7	1.7	100.0
	Total	235	100.0	100.0	
Number of Employees	Below 10 employees	210	89.4	89.4	89.4
	10-49 employees	21	8.9	8.9	98.3
	50-99 employees	4	1.7	1.7	100.0
	Total	235	100.0	100.0	
Type of Ownership	Sole proprietorship	44	18.7	18.7	18.7
	Partnership	8	3.4	3.4	22.1
	Limited Company	183	77.9	77.9	100.0
	Total	235	100.0	100.0	

Source: Research Data, (2022)

Table 4.4 summarizes the demographic information/characteristics. The majority of the respondents involved in the study were male who were 155 and represented 66.0%. The females were 80 and represented 34% of the respondents. This may represent a gender disparity in the small and medium enterprises in the county. With regard to age, the majority of the respondents were between the ages of 41 and 47, 146 (62.1%), followed by those who were between the ages of between 34 and 40, who were 67 representing (28.5%) of the population. Those who were of the ages between 26 and 33 were 22 representing 9.4% of the population.

With respect to educational qualification, majority of the respondents, 187, representing 79.6% of the population had bachelor's degree qualification while a total of 44

respondents representing 18.7% of the respondents had postgraduate qualifications. A paltry 4 respondents representing 1.7% of the respondents had diploma qualifications. Regarding years of operation of the enterprise, the study established that 131 enterprises had operated for between 1 and 5 years representing 55.7% of the population while 89 enterprises had operated for between 6 and 10 years representing 37.9% of the population. Those that had been in operation for between 11 and 15 years were 11 enterprises representing 4.7% of the population. Only 4 enterprises had been in operation for over 20 years representing 1.7% of the population.

In relation to the number of employees employed, 210 enterprises employed less than 10 employees representing 89.4% of the respondents while 21 enterprises employed between 10 and 49 employees representing 8.9% of the respondents and 4 enterprises representing 1.7% of the respondents employed between 50 and 99 employees. In terms of the type of business ownership, the study established that a majority of the enterprises 183, representing 77.9% of the respondents were registered as limited companies whereas 44 enterprises representing 18.7% of the respondents were registered as sole proprietorship and 8 enterprises representing 3.4% of the respondents were registered as partnership.

The study further sought to establish whether the enterprises had come up with new innovations over the last three years of their operation. The findings are summarized as shown in table 4.5.

Table 4.5: New Innovations

		Frequency	Percent	Valid Percent	Cumulative Percent
New or Significantly Improved Product	Yes	170	72.3	72.3	72.3
	No	65	27.7	27.7	100.0
	Total	235	100.0	100.0	
New or Significantly improved Process	Yes	188	80.0	80.0	80.0
	No	47	20.0	20.0	100.0
	Total	235	100.0	100.0	
New or significantly improved Marketing Method	Yes	193	82.1	82.1	82.1
	No	42	17.9	17.9	100.0
	Total	235	100.0	100.0	
New or significantly improved organizational systems	Yes	174	74.0	74.0	74.0
	No	61	26.0	26.0	100.0
	Total	235	100.0	100.0	

Source: Research Data, (2022)

Results in table 4.5 show that a majority of the small and medium enterprises had introduced new or significantly improved products, 170, representing 72.3% of the respondents; 188 enterprises had introduced new or significantly improved process representing 80% of the respondents; 193 enterprises representing 82.1% of the respondents had introduced new and significantly improved marketing methods and 174 enterprises representing 74% of the respondents had introduced new or significantly improved organizational systems over the last three years of their operation.

The study sought to establish from the respondents the nature of their innovation by either rating them as significantly improved, new to the firm, new to the market, new to the country and new to the world. The respondents were asked to indicate for every innovation developed whether it was significantly improved, New to the firm, New to the Industry, New to the country and New to the world. The Study findings are shown in Table 4.6.

Table 4.6: Nature of Innovation

		Frequency	Percent	Valid Percent	Cumulative Percent
Product	Significantly Improved	131	55.7	55.7	55.7
	New to the firm	54	23.0	23.0	78.7
	New to the Market	50	21.3	21.3	100.0
	Total	235	100.0	100.0	
Process	Significantly Improved	139	59.1	59.1	59.1
	New to the firm	46	19.6	19.6	78.7
	New to the Market	50	21.3	21.3	100.0
	Total	235	100.0	100.0	
Market	Significantly Improved	152	64.7	64.7	64.7
	New to the firm	62	26.4	26.4	91.1
	New to the Market	21	8.9	8.9	100.0
	Total	235	100.0	100.0	
Organizational	Significantly Improved	120	51.1	51.1	51.1
	New to the firm	90	38.3	38.3	89.4
	New to the Market	25	10.6	10.6	100.0
	Total	235	100.0	100.0	

Source: Research Data, (2022)

In terms of innovation novelty, findings in table 4.6 a total of 131 enterprises representing 55.7% of the respondents indicated they had introduced innovations that significantly improved their products, while 54 enterprises representing 23% of the respondents had introduced product innovations that were new to the firm and 50 enterprises representing 21.3% of the respondents had introduced product innovations that were new to the market. In addition, a total of 139 enterprises representing 59.1% of the respondents indicated that they had introduced new innovation that significantly improved their processes. A total of 46 enterprises representing 19.6% of the respondents had introduced processes that were new to the firm and 50 enterprises representing 21.3% of the respondents had introduced processes that were new to the market.

A total of 152 respondents representing 64.7% of the respondents indicated they had introduced innovations that significantly improved their marketing methods while 62 respondents representing 26.4% of the respondents indicated that they had introduced marketing innovation that were new to the firm and a total of 21 respondents representing 8.9% of the respondents indicated that the marketing innovations were

new to the market. In relation to organizational innovation, a total of 120 respondents representing 51.1% of the respondents indicated that they had introduced innovations that significantly improved their organizational processes, while 90 respondents representing 38.3% indicated that they had introduced organizational processes that were new to the firm and 25 respondents representing 10.6% of the respondents indicated that they had introduced organizational processes that were new to the market.

4.7 Descriptive Statistics of Study Variables

According to Garson (2012) all forms of quantitative analysis presume sound measurement which is relatively free from coding errors. It is therefore good practice to run descriptive statistics on one's data in such a way that one is sure that the data is generally as anticipated in terms of means and standard deviations. Descriptive analysis was used to describe the features of the independent, moderating and dependent variables as they provide summaries about the variable measured.

The findings were based on a 5-point Likert scale “1” denoting strongly disagree (SD) “2” denoting as Disagree (D) “3” denoting undecided (U) “4” denoting Agree (A) and “5” denoting Strongly Agree (SA). The descriptive analysis used included means, standard deviation, skewness, and kurtosis. The mean was used as a measure of central tendency, while the standard deviation was used as a measure of dispersion to inform how the responses were dispersed from the mean. Normality was then measured using skewness and Kurtosis (Fidell, 2007 & Tabachnick). The distribution through the variable was considered to be normally distributed if skewness and kurtosis values fell between -20.0 to 3.0. When the skewness and kurtosis values for the study variable, ranged within the acceptance range the normality assumption was therefore considered to have been met.

4.7.1 Descriptive statistics for Product Innovation

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing product innovation as summarized in table 4.7.

Table 4.7: Descriptive statistics for Product Innovation

	N	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
	Statistic	Statistic	Statistic	Statistic	Error	Statistic	Error
Development of new quality products enhances the market share of our enterprise	235	4.51	.501	-.026	.159	-2.017	.316
Introduction of custom-tailored products enhances satisfaction levels with firm customers	235	4.64	.480	-.599	.159	-1.656	.316
Adoption of technology in product development contributes to competitive pricing	235	4.45	.710	-1.542	.159	3.000	.316
The new products have made us better than our competitors in the same industry	235	4.51	.501	-.026	.159	-2.017	.316
Employees are rewarded for coming up with new product ideas for improvement of existing products	235	3.95	.930	-.645	.159	-.382	.316
Product innovation is considered as means of achieving a firm's competitive advantage	235	4.73	.446	-1.029	.159	-.948	.316
Product innovation increases the morale and productivity of employees in the organization	235	4.08	.652	-.922	.159	2.403	.316
Product Innovation boosts the overall performance of our enterprise	235	4.63	.485	-.522	.159	-1.742	.316
Product Innovation	235	4.39	0.62	-0.781	0.159	0.054	0.316

Source: Research Data, (2022)

Findings in table 4.7 show that the mean score and standard deviation for items on product innovation. It is worth noting that the mean response approximates to 4.39 (agree) on the 5-point scale used in the questionnaire indicating that respondents generally in agreement on the items relating to product innovation. It can also be observed that the standard deviation of the majority of the items ranged between 0.446 and 0.930. It could then be deduced that the responses on product innovation was not deviating much from the expected responses. The skewness ranged between -0.026 and -1.542 and kurtosis ranged between 3.011 and -2.017, indicating that the distribution of

values deviates from the mean, but is within the stipulated values of < 3 for skewness and < 10 for kurtosis as per Kline (2005, 2010) respectively.

The majority of the respondents agreed that development of new quality products enhanced the market share of their enterprise (mean = 4.51, SD = 0.501). In the same vein, majority of the respondents were in agreement that introduction of custom-tailored products enhanced satisfaction levels with firm customers (mean = 4.64, SD = 0.480). regarding the statement on adoption of technology in product development contributes to competitive pricing, respondents were in general agreement as depicted by the mean and standard deviation (mean = 4.45, SD = 0.710). Respondents also agreed that the new products had made them better than their competitors in the same industry (mean = 4.51, SD = 0.501). Respondents were unsure regarding the statement on employees being rewarded for coming up with new product ideas for improvement of existing products (mean = 3.95, SD = 0.930). Regarding the statement about product innovation being considered as means of achieving a firm's competitive advantage, majority of the respondents were in agreement as depicted by the mean and standard deviation respectively (mean = 4.73, SD = 0.446). Similarly, respondents to the study agreed that product innovation increased the morale and productivity of employees in the organization (mean = 4.08, SD = 0.652). In relation to the statement about product Innovation boosting the overall performance of the enterprise, majority of the respondents were in agreement as depicted by the mean and standard deviation respectively (mean = 4.63, SD = 0.485).

4.7.2 Descriptive statistics for Process Innovation

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing process innovation as summarized in table 4.8.

Table 4.8: Descriptive statistics for Process Innovation

	N	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Improving service quality through process innovation is one of the key objectives of the organization	235	4.54	.699	-1.903	.159	5.128	.316
The enterprise has introduced new and significantly improved methods of manufacturing or producing goods or services	235	3.90	1.099	-1.167	.159	1.093	.316
The enterprise has introduced new and significantly improved logistics, delivery or distribution methods for your inputs, goods or services	235	3.60	1.091	-.627	.159	.172	.316
The enterprise has engaged in acquisition of advanced machinery, equipment, software and buildings to be used for new or significantly improved processes	235	3.55	1.462	-.581	.159	-1.109	.316
Process innovation undertaken in the firm has enhanced the efficiency of its services and reduces unit cost of their services	235	4.00	.959	-1.225	.159	1.920	.316
Process Innovation	235	3.918	1.062	-1.1006	0.159	1.4408	0.316

Source: Research Data, (2022)

Table 4.8 shows that the mean score and standard deviation for items on process innovation. Notably, the mean response approximates to 3.918 (agree) on the 5-point scale used in the questionnaire indicating that respondents generally agreed on the items relating to process innovation. Further, findings reveal that the standard deviation of the majority of the items ranged between 0.699 and 1.462. It could then be deduced that the responses on process innovation was not deviating much from the expected responses. The skewness ranged between -0.581 and -1.903 and kurtosis ranged between 5.128 and -1.109, indicating that the distribution of values deviates from the mean, but is within the stipulated values of < 3 for skewness and < 10 for kurtosis.

Most respondents were in agreement that improving service quality through process innovation is one of the key objectives pursued by the enterprises. This is depicted by the mean and standard deviation (mean = 4.54, SD = 0.699). Similarly, respondents agreed that the enterprise had introduced new and significantly improved methods of manufacturing or producing goods or services (mean = 3.90, SD = 1.099). The statement regarding the enterprise has introduced new and significantly improved logistics, delivery or distribution methods for your inputs, goods or services revealed that majority of the respondents were in agreement (mean = 3.60, SD = 1.019). Respondents were also in agreement that the enterprise has engaged in acquisition of advanced machinery, equipment, software and buildings to be used for new or significantly improved processes as depicted by the mean and standard deviation (mean = 3.55, SD = 1.462). In addition, the respondents were in agreement that process innovation undertaken in the firm has enhanced the efficiency of its services and reduces unit cost of their services (mean = 4.00, SD = 0.959).

4.7.3 Descriptive statistics for Market Innovation

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing market innovation as summarized in table 4.9.

Table 4.9: Descriptive statistics for Market Innovation

	N	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
	Statistic	Statistic	Statistic	Statistic		Statistic	
Marketing innovation may open new markets, address customer needs, reposition products in the market	235	4.77	.479	-2.918	.159	7.365	.316
The use of online tools and social media has helped the company grow and attract new clients	235	4.08	.802	-.841	.159	.618	.316
The firm competitiveness has increased greatly since the introduction of market innovation	235	4.17	.599	-.083	.159	-.363	.316
Our enterprise has implemented significant changes to the aesthetic design or packaging of a good or service introduced	235	3.95	.918	.102	.159	-1.815	.316
Our enterprise has introduced new techniques for promotion of new and significantly improved products	235	3.92	.496	-.175	.159	.970	.316
Market Innovation	235	4.178	0.6588	-0.783	0.159	1.355	0.316

Source: Research Data, (2022)

Table 4.9 shows that the mean score and standard deviation for items on workforce administration. Notably, the aggregate mean response approximates to 4.178 (agree) on the 5-point scale used in the questionnaire indicating that respondents generally agreed on the items relating to market innovation. Further, findings reveal that the standard deviation of the majority of the items ranged between 0.479 and 0.918. It could then be deduced that the responses on market innovation was not deviating much from the expected responses. The skewness ranged between 0.102 and -2.918 and kurtosis ranged between 7.365 and -1.815, indicating that the distribution of values deviates from the mean, but is within the stipulated values of < 3 for skewness and < 10 for kurtosis.

Rating for the item on marketing innovation may open new markets, address customer needs, reposition products in the market had a mean and standard deviation of (mean= 4.77; SD= 0.479) implying that majority of the respondents were in agreement with the statement. Additionally, rating on the item about the use of online tools and social media has helped

the company grow and attract new clients revealed that majority of the respondents were in agreement with the statement as depicted by the mean and standard deviation respectively (mean= 4.08; SD= 0.802). Rating on the item on the firm competitiveness has increased greatly since the introduction of market innovation reveal that majority of the respondents were in agreement with the statement as indicated by the mean and standard deviation (mean= 4.17; SD= 0.599). The statement regarding our enterprise has implemented significant changes to the aesthetic design or packaging of a good or service introduced reveal that a majority of the respondents were in agreement with the statement as depicted by the mean and standard deviation (mean= 3.95; SD= 0.918). Finally, the statement regarding to our enterprise has introduced new techniques for promotion of new and significantly improved products revealed that a majority of the respondents were in agreement as depicted by the mean and standard deviation (mean= 3.92; SD= 0.496). respectively.

4.7.4 Descriptive statistics for Organizational Innovation

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing organizational innovation as summarized in table 4.10.

Table 4.10: Descriptive statistics for Organizational Innovation

	N	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
The enterprise introduced new business practices for organizing procedures (i.e. supply chain management, business reengineering, lean production etc.)	235	3.42	1.044	-.084	.159	-.960	.316
New methods of organizing work responsibilities and decision making introduced into the enterprise	235	4.11	.807	-.196	.159	-1.438	.316
The enterprise always endeavors for competitive advantage that can be obtained from the qualified human resources	235	4.23	.911	-1.063	.159	.280	.316
Through investment in the use of IT our enterprise has introduced new practices of doing business	235	4.14	.752	-.784	.159	.698	.316
Investment in IT has enabled the enterprise to introduce new ways of managing external relations.	235	3.99	.967	-.631	.159	-.595	.316
Organizational Innovation	235	3.978	0.8962	-0.5516	0.159	-0.403	0.316

Source: Research Data, (2022)

4.7.5 Descriptive statistics for Dynamic Capabilities

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing organizational innovation as summarized in table 4.11.

4.7.5.1 Descriptive statistics for Sensing Capabilities

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing statements on sensing capabilities as summarized in table 4.11.

Table 4.11: Descriptive statistics for Sensing Capabilities

	N	Mean	Std. Dev	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Thoroughly observing technological trends has helped us gain strategic advantage over our competitors	235	4.11	.679	-.145	.159	-.827	.316
Scanning the environment for new technologies has helped us realize new product needs.	235	4.46	.780	-1.759	.159	3.180	.316
Thorough collection of industry information has boosted our process efficiency	235	4.19	.862	-1.301	.159	1.460	.316
Benchmarking ourselves with the global industry (that is worldwide manufacturing companies) has helped us improve our product quality	235	4.66	.473	-.698	.159	-1.526	.316
We periodically review the likely effect of changes in our business environment on customers	235	4.03	.971	-.850	.159	-.195	.316
Sensing Capabilities	235	4.29	0.753	-0.9506	0.159	0.4184	0.316

Source: Research Data, (2022)

4.7.5.2 Descriptive statistics for Seizing Capabilities

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing statements on seizing capabilities as summarized in table 4.12.

Table 4.12: Descriptive statistics for Seizing Capabilities

	N	Mean	Std. Dev	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Integrating new knowledge in our existing knowledge base has boosted our process efficiency	235	4.43	.626	-.644	.159	-.539	.316
Regularly matching new market opportunities with ideas for new products has helped us create unique products that are priced well	235	4.21	.440	.948	.159	.136	.316
Recognizing links between new technological knowledge and existing knowledge has boosted our process efficiency	235	4.60	.491	-.411	.159	-1.847	.316
We have invested in new assets due to information obtained from industry research which have impacted our product quality	235	4.01	.901	-.335	.159	-1.044	.316
We constantly consider how to better exploit technologies to help develop quality products	235	4.39	.827	-1.250	.159	.790	.316
Seizing Capabilities	235	4.328	0.657	-0.3384	0.159	-0.5008	0.316

Source: Research Data, (2022)

4.7.5.3 Descriptive statistics for Reconfiguring Capabilities

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing statements on reconfiguring capabilities as summarized in table 4.13.

Table 4.13: Descriptive statistics for Reconfiguring Capabilities

	Descriptive Statistics						
	N	Mean	Std. Dev	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
We have flexibly reworked our organizational structure which has boosted our process efficiency	235	3.97	.852	-.312	.159	-.783	.316
We actively renew our innovation processes over time to enhance our competitive position	235	4.05	.815	-.524	.159	-.304	.316
We constantly redesign our business model to help optimize our technology management in a dynamic environment which leads to effective products	235	4.02	1.072	-.819	.159	-.608	.316
We actively conduct asset-realignment to increase our process efficiency	235	3.85	.872	-.057	.159	-1.049	.316
We revamp our research and development activities and routines to address new product demands which lead to product effectiveness	235	4.00	.728	.000	.159	-1.103	.316
We are satisfied with the costs associated with asset realignment and restructuring	235	3.59	1.019	-.080	.159	-1.105	.316
We have realized improvement in performance within 3 years attributed to the long-term recombination of resources	235	4.31	.773	-.591	.159	-1.092	.316
Reconfiguring Capabilities	235	3.97	0.875857	-0.34043	0.159	-0.86343	0.316

Source: Research Data, (2022)

4.7.5.4 Descriptive statistics for Business Performance

The study respondents were asked to indicate on a five-point Likert scale their level of agreement on several statements describing statements on reconfiguring capabilities as summarized in table 4.14.

Table 4.14: Descriptive statistics for Business Performance

	Descriptive Statistics						
	N	Mean	Std. Dev	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Growth in Sales	235	3.37	.865	.593	.159	-.353	.316
Growth in Market share	235	3.26	.947	.517	.159	-.581	.316
Growth in Profit margin	235	3.28	.936	.525	.159	-.543	.316
Growth in Net Profits	235	3.06	1.157	.017	.159	-.469	.316
Increase in Return on Investment	235	3.10	.871	-1.100	.159	.874	.316
Increase in competitive position	235	3.47	.807	-1.051	.159	-.640	.316
Customer satisfaction	235	3.63	1.145	-1.236	.159	.871	.316
Employee satisfaction	235	3.76	.694	-1.113	.159	1.361	.316
Business Performance	235						

Source: Research Data, (2022)

4.8 Factor Analysis

Factor analysis is a process of reducing data using a specific technique (Pallant, 2007); this is achieved by taking a large variable set and summarizing them using a smaller set of factors (Pallant, 2007). Variables can be described as an item or factor that can be regulated or adjusted. The set of variables used in these analyses are the items or factors stated in each section of the questionnaire. To show the validity of the factors or if it is appropriate for factor analysis, those items less than 0.3 are regarded as weak items and they must be left out. In order to enhance the factorability of the data, Bartlett Test of Sphericity and the Kaiser- Meyer – Olkin (KMO) Measure of Sampling Adequacy were used (Pallant 2007). In this regard, the Bartlett Test of Sphericity is considered significant if less than 0.05 and Kaiser-MeyerOlkin (KMO), an index, should be from 0 to 1 with 0.6 considered as suitable minimum value of good factor analysis (Pallant, 2007).

4.8.1 Factor Analysis with All the Items

Table 4.15: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.775
Bartlett's Test of Sphericity	Approx. Chi-Square	19807.333
	df	1081
	Sig.	.000

Source: Research Data, (2022)

To examine construct validity, 42 items were examined by principal component extraction with Varimax rotation. The Kaiser-Meyer–Olkin (KMO) had a measure of 0.775 as shown in table 4.15 which is above the threshold of 0.50 (Fisher, 2005). The Bartlett’s test was significant in this study with a chi-square of 19807.333 (p-value < 0.000), at $df = 1081$. Therefore, with KMO value of 0.775 and significance of Bartlett’s statistic confirm the appropriateness of the factor analysis for the data set. The factor analysis process yielded nine components as indicated in Table 4.16 with Eigen values above 1.0.

Table 4.16 shows the factor loading for each item for all the variables Business Performance (dependent variable), Product Innovation, Process Innovation, Market Innovation, Organizational Innovation (independent variable), Dynamic Capabilities (moderator) all are sorted by size. The eigen value for each factor is greater than 1.0 (13.94,5.58,5.10,4.72,3.65,2.58,2.17,1.41 and 1.19) which implies that each factor can explain more variance than a single variable. The cumulative percentage of variance explained by the six factors is 85.89 per cent. In other words, more than 85 per cent of the common variance shared by the 47 items can be accounted or explained by these nine factors. Based on these results, the construct validity is established.

Table 4.16: factor loading

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.940	29.659	29.659	13.940	29.659	29.659	8.395	17.862	17.862
2	5.582	11.876	41.535	5.582	11.876	41.535	5.934	12.625	30.488
3	5.108	10.868	52.402	5.108	10.868	52.402	5.747	12.229	42.716
4	4.721	10.045	62.447	4.721	10.045	62.447	5.053	10.751	53.467
5	3.657	7.780	70.227	3.657	7.780	70.227	4.250	9.043	62.509
6	2.582	5.493	75.721	2.582	5.493	75.721	3.792	8.069	70.578
7	2.179	4.636	80.356	2.179	4.636	80.356	3.783	8.049	78.627
8	1.410	3.000	83.357	1.410	3.000	83.357	2.117	4.503	83.131
9	1.195	2.543	85.899	1.195	2.543	85.899	1.301	2.769	85.899

Extraction Method: Principal Component Analysis.

Source: Research Data, (2022)

Table 4.17: Rotated Component Matrix

	Component								
	1	2	3	4	5	6	7	8	9
1.			.853						
2.			.826						
3.			.784						
4.			.751						
5.			.700						
6.			.843						
7.			.815						
8.			.884						
9.							.834		
10.							.895		
11.							.845		
12.							.495		
13.							.862		
14.					.868				
15.					.893				
16.					.949				
17.					.786				
18.					.932				
19.						.677			
20.						.812			
21.						.792			
22.						.853			
23.						.833			
24.									.374
25.		.659							.424
26.	.418	.723							
27.	.344	.567							
28.	.584	.871							
29.	.764	.784							
30.	.321	.599							
31.	.645	.869							
32.	.338	.464							
33.	.602	.827							
34.	.779	.355							
35.	.782	.408							
36.	.890								
37.	.857								
38.	.819								
39.	.896								
40.	.878								
41.				.856					
42.				.860					
43.				.783					
44.				.882					
45.				.840					
46.								.764	
47.								.723	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Source: Research Data, (2022)

4.9 Data Transformation

Data was transformed by getting the means of the items that loaded to the respective factors. Subsequently, the means of the various factors derived were then used for further analysis. The descriptive statistics were used for further analysis, as shown in Table 4.18

Table 4.18: Data Transformation

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Product Innovation	235	3.38	5.00	4.4362	.40929	-.844	.159	.207	.316
Process Innovation	235	1.40	5.00	3.9183	.80583	-.578	.159	.597	.316
Market Innovation	235	2.60	5.00	4.1779	.52414	-.423	.159	-.308	.316
Organizational Innovation	235	2.80	5.00	3.9770	.68711	-.159	.159	-1.097	.316
Dynamic Capabilities	235	3.06	5.00	4.1695	.50006	-.261	.159	-.352	.316
Business Performance	235	2.50	4.50	3.3670	.63444	.515	.159	-.822	.316
Valid N (listwise)	235								

Source: Research Data, (2022)

Table 4.18 shows the results of data transformation undertaken on the study variables. From the findings, product innovation had the highest mean (4.4362) followed by Market innovation (4.1779). Dynamic capabilities had a mean of (4.1695) and organizational innovation had a mean of (3.9770) while process innovation had a mean of (3.9183). Business performance had had the lowest mean of (3.3670). The implication is that among the explanatory variables, product innovation exhibited superior effect on enhancing business performance. The standard deviations for all the variables were less than 1 indicating less variations in the responses. Finally, all the independent variables, moderator and the dependent variables were normally distributed as demonstrated in Table 4.18

4.10 Testing Assumptions of Regression Analysis

Before carrying out correlation and regression analysis, the researcher tested several assumptions of the regression model. This is because if the assumptions are not met the results may not be trustworthy, resulting in a Type I or Type II error, or over- or under-estimation of significance or effect size(s). According to Hair et al. (1998), regression analysis assumptions is essential in order to ensure that the results obtained were actually representative of the sample, in order to achieve the best possible results. The key assumptions tested included normality, linearity, multi-collinearity, homoscedasticity and independence of errors (Hair et al., 1998). The study used the existing sample data to test for the hypotheses after it met the key assumptions.

4.10.1 Normality Test

Multiple regression assumes that variables have normal distributions (Darlington, 1968; Osborne & Waters, 2002). This means that errors are normally distributed, and that a plot of the values of the residuals will approximate a normal curve (Keith, 2006). The assumption is based on the shape of normal distribution and gives the researcher knowledge about what values to expect (Keith, 2006). Non-normally distributed variables can distort relationships and significance tests (Osborne & Waters, 2002). Outliers can influence both Type I and Type II errors and the overall accuracy of results (Osborne & Waters, 2002). Normal distribution assumes the symmetrical bell-shaped curve which is defined by mean $\mu = 0$ and variance $\sigma = 1$. Graphically, a histogram is used to show the normal distribution of a variable as shown in Figure 4.1. The rule of the thumb is that any skewness statistics that is outside this range should be examined.

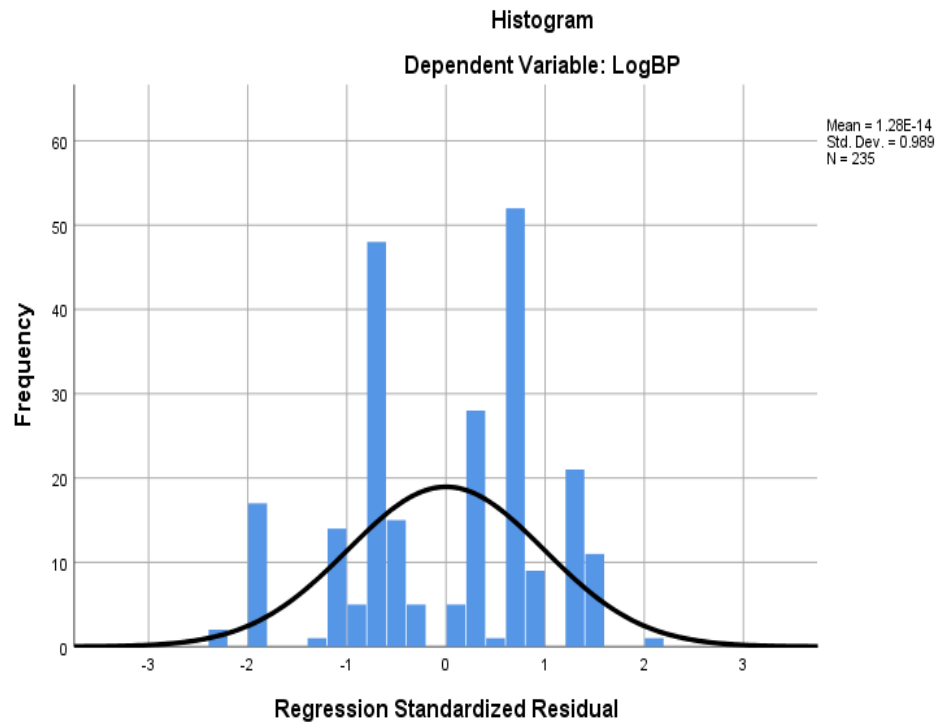


Figure 4.1: Normality Test

Source: Research Data, (2022)

From the data, the values ranged from -0.413 and 0.339 and according to Pallant (2007) negative or positive skewness does not represent any problem unless they are outside the normal range. The “peakedness” of the distribution is known as the Kurtosis. Positive kurtosis values indicate a peak distribution while negative kurtosis values indicate a flat distribution with ranges from -1.206 and 0.973 . Based on our data, the kurtosis ranges were -0.232 and -1.107 implying that the variables were within the range and according to Pallant (2007) negative or positive skewness does not represent any problem until and unless they are within normal range

Table 4.19: Normality Test

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Business Performance	235	.40	.65	.5198	.08011	.255	.159	-.970	.316
Product Innovation	235	.00	.42	.1803	.10871	.339	.159	-.599	.316
Process Innovation	235	.00	.66	.2839	.17847	-.354	.159	-.734	.316
Market Innovation	235	.00	.53	.2423	.12776	-.202	.159	-.580	.316
Organizational Innovation	235	1.04	1.12	1.0793	.02477	.083	.159	-1.107	.316
Dynamic Capabilities	235	.00	.47	.2456	.12431	-.413	.159	-.232	.316
Valid N (listwise)	235								

Source: Research Data, (2022)

4.10.2 Linearity

Linearity means the correlation between variables, which is represented by a straight line. Knowing the level of the relationship among variables is considered an important element in data analysis. Hair et al. (2010) argue that linearity is an assumption of all multivariate techniques based on co-relational measures of association, including regression, multiple regression and factor analysis. Therefore, it was crucial to test the relationship of the variables to identify any departure that may impact the correlation. The results in Table 4.20 show that all the variables were linear with each other. The findings indicated that p values for linearity were less than 0.05; this showed that the assumption of linearity was not violated.

Table 4.20: Linearity Test

ANOVA Table						
		Sum of Squares	df	Mean Square	F	Sig.
Business Performance * Product Innovation	(Combined)	61.184	9	6.798	46.345	.000
	Linearity	2.857	1	2.857	19.480	.000
	Deviation from Linearity	58.326	8	7.291	49.703	.000
Business Performance * Process Innovation	(Combined)	59.603	17	3.506	21.999	.000
	Linearity	17.283	1	17.283	108.444	.000
	Deviation from Linearity	42.320	16	2.645	16.596	.000
Business Performance * Market Innovation	(Combined)	39.179	8	4.897	20.120	.000
	Linearity	.184	1	.184	.757	.000
	Deviation from Linearity	38.995	7	5.571	22.886	.000
Business Performance * Organizational Innovation	(Combined)	67.155	7	9.594	80.559	.000
	Linearity	14.926	1	14.926	125.332	.000
	Deviation from Linearity	52.229	6	8.705	73.096	.000
Business Performance * Dynamic Capabilities	(Combined)	76.958	11	6.996	90.545	.000
	Linearity	7.809	1	7.809	101.069	.000
	Deviation from Linearity	69.148	10	6.915	89.492	.000

Source: Research Data, (2022)

4.10.3 Multicollinearity

Multiple linear regression assumes that there is no multicollinearity in the data. Multicollinearity occurs when the independent variables are too highly correlated with each other. Multi-collinearity was tested through examination of tolerance and VIF using regression results provided by the SPSS collinearity diagnostics results. According to Garson (2012), if the tolerance value is less than cutoff value .20, the independent variable should be dropped from the analysis due to multicollinearity. The rule of thumb is that $VIF > 4.0$ when multicollinearity is a problem as shown in table 4.21.

Table 4.21: Multicollinearity Test

Coefficients ^a								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.931	.439		6.669	.000		
	Product Innovation	.022	.113	.014	.195	.846	.602	1.660
	Process Innovation	.260	.067	.330	3.856	.000	.433	2.307
	Market Innovation	-.361	.079	-.298	-4.585	.000	.752	1.330
	Organizational Innovation	.324	.087	.351	3.741	.000	.362	2.764
	Dynamic Capabilities	-.110	.113	-.087	-.980	.328	.404	2.474

a. Dependent Variable: Business Performance

Source: Research Data, (2022)

From Table 4.21 the tolerance ranges between 0.362 and 0.752 substantially greater than .20 and VIF ranges from 1.330 to 2.764, thus, it is acceptable as being less than 4.0. In line with suggestion of Garson (2012), Hair, Anderson, Babin, and Black (2010) and Aminu and Shariff (2014) these result show that multi-collinearity does not exist in this study, since tolerance values are above .20 and VIF values are less than 4.0.

4.10.4 Homoscedasticity

This refers to the assumption that dependent variable exhibits similar amounts of variance across the range of values for independent variable around the regression line, meaning they have equal spread. The absence of homoscedasticity is indicated by higher errors (residuals) in some portions of the range compared to others. When the homoscedasticity assumption is met, residuals will form a pattern-less cloud of dots (Garson, 2012).

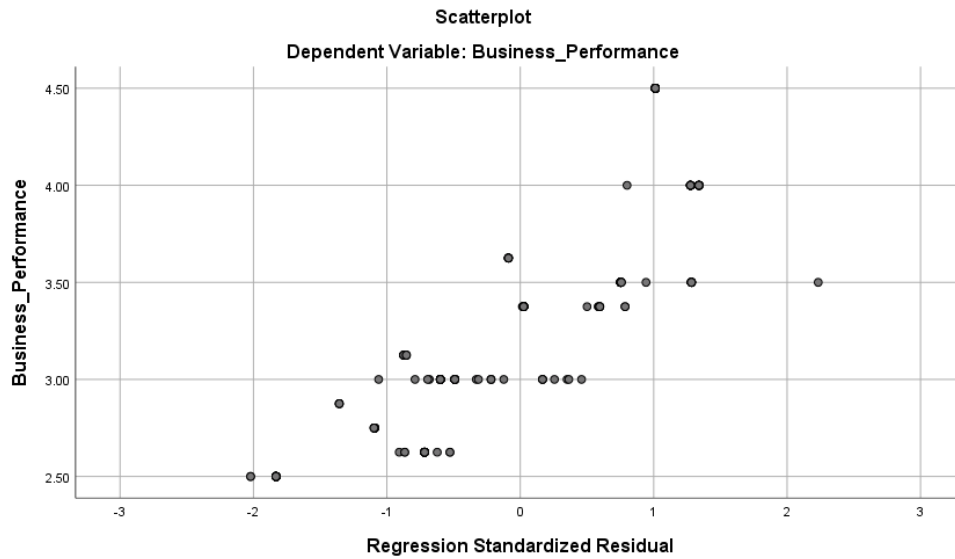


Figure 4.2: scatter plot

Source: Research Data, (2022)

As evidence from residual scatter plot in figure 4.2. there is no clear relationship between the residuals and the predicted value of the dependent variable, indicating that linearity between them. Furthermore, the variance of residuals is considered to be equal or same for all predicted value of dependent variable which provided support of homoscedasticity. Therefore, the assumptions of linearity and homoscedasticity in the multivariate analyses have been fulfilled.

4.11 Correlation Analysis

Pearson correlation coefficient analysis is used to evaluate the direction of linear relationship and the level of strength between variables in the study. According to Wong & Hiew (2005) the correlation coefficient value (r) that range from 0.10 to 0.29 is considered weak, any that lies between 0.30 to 0.49 is considered medium and from 0.50 to 1.0 is considered strong. However, according to Field (2005), correlation coefficient should not go beyond 0.80 to avoid multicollinearity.

Table 4.22: Correlation Analysis

		Business Performance	Product Innovation	Process Innovation	Market Innovation	Organizational Innovation	Dynamic Capabilities
Business Performance	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	235					
Product Innovation	Pearson Correlation	.174**	1				
	Sig. (2-tailed)	.007					
	N	235	235				
Process Innovation	Pearson Correlation	.428**	.487**	1			
	Sig. (2-tailed)	.000	.000				
	N	235	235	235			
Market Innovation	Pearson Correlation	.044**	.350**	.347**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	235	235	235	235		
Organizational Innovation	Pearson Correlation	.398**	.441**	.714**	.454**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	235	235	235	235	235	
Dynamic Capabilities	Pearson Correlation	.288**	.588**	.641**	.286**	.685**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	235	235	235	235	235	235

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

Source: Research Data, (2022)

From the results in table 4.22 there is a positive and significant correlation between the independent variables and business performance. Particularly, the correlation results showed that product innovation has a positive and significant relationship with business performance ($r = .174$, $p < 0.01$). process innovation positively and statistically significantly correlates with business performance ($r = .428$, $p < 0.01$). Further, results indicated that market innovation positively and significantly correlates to business performance ($.044$, $p < 0.01$). organizational innovation is also positively and significantly correlated to business performance ($.398$, $p < 0.01$). From the results, dynamic capabilities positively and significantly correlate to business performance ($.288$, $p < 0.01$).

4.12 Hypothesis Testing

This study adopted hierarchical multiple regression analysis to test hypotheses H0₁, H0₂, H0₃ and H0₄ (direct effects) and H0_{5a}, H0_{5b}, H0_{5c} and H0_{5d} (moderating effects).

4.12.1 Testing Effect of Control Variables in the Study

A test to identify the effects of the control variables on the dependent variable was done in order to understand how they affected the dependent variable. Results from Model 1 show the effect of the control variable on the Dependent variable. The findings in Table 4.23 indicate that firm growth ($\beta=0.234$, $p = .030$) has a significant effect on business performance. On the other hand, firm leverage ($\beta=0.057$, $p = 0.097$) was insignificant. This model explains 3.1% of the total variance in business performance as shown by R^2 0.031 which has a significant $F= 3.663$, $p=0.027$.

Table 4.23: Effect of Control Variables in the Study

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.978	.152		19.554	.000
	Firm Growth	.234	.107	.141	2.179	.030
	Firm Leverage	.057	.034	.108	1.666	.097
Model Summary						
	R		.175			
	R ² Change		.031			
	Std. Error of the Estimate		.62734			
Model Fit						
	F change		3.663			
	Sig.		.027			

a. Dependent Variable: Business Performance

Source: Research Data, (2022)

4.12.2 Testing for Direct Effects

The coefficient between independent variables and business performance were calculated using a multiple linear regression analysis. $R^2 = .403$ indicates that the total prediction of all factors explained approximately 40.3% of the total variance business performance. The ANOVA model demonstrated that the prediction of the independent variable, as indicated in Table 4.24, was statistically significant ($F = 25.615$, $=.000$).

This clearly demonstrates the existence of a strong association between the predictor variables product innovation, process innovation, market innovation, organizational innovation, and business performance. The significance value is 0.000, which is less than 0.05, so the model is statistically significant in its ability to predict business performance. It also means that the independent variables influence the business performance of Small and Medium-Sized Enterprises (SMEs).

Model 2 reveals the results of hypotheses H_{01} , H_{02} , H_{03} and H_{04} while holding constant for firm growth and financial leverage. Results indicate that firm growth ($\beta = 0.664$, $p = 0.000$) was found to be significant as firm leverage remained insignificant ($\beta = 0.048$, $p = 0.088$) in this model.

H0₁ postulated that there is no statistically significant effect of product innovation on business performance of manufacturing SMEs in Kenya. However, findings in Table reveal that the beta coefficient for product innovation is $\beta = -0.030$, $t = -0.322$, $p = 0.748$. Due to high p-value associated with the t-ratio, the study fails to reject the null hypothesis. Therefore, it was concluded that there is no statistically significant effect of product innovation on business performance. This implies that product innovation does not improve business performance among SMEs in Nairobi County, Kenya.

H0₂ stated that there is no statistically significant effect of process innovation on business performance of manufacturing SMEs in Kenya. However, findings in Table reveal that the beta coefficient $\beta = 0.412$, $t = 6.413$, $p = 0.000$. Therefore, this hypothesis did not hold considering the low p-value associated with the t-ratio. Consequently, the null hypothesis was rejected, indicating the presence of a statistically significant effect of process innovation on business performance. The results suggest that process innovation leads to improved business performance among SMEs in Nairobi Kenya.

H0₃ hypothesized that there is no statistically significant effect of marketing innovation on business performance of manufacturing SMEs in Kenya. Based on the findings in Table, the beta coefficient for marketing innovation is $\beta = -0.495$, $t = -6.690$, $p = 0.000$. Therefore, this hypothesis did not hold considering the low p-value associated with the t-ratio. It was concluded that there is a statistically significant negative effect of marketing innovation on business performance.

H0₄ postulated that there is no statistically significant effect of organizational innovation on business performance of manufacturing SMEs in Kenya. However, findings in Table reveal that the beta coefficient $\beta = 0.230$, $t = 3.167$, $p = 0.002$. Therefore, this hypothesis did not hold considering the low p-value associated with the t-ratio. Consequently, the null hypothesis was rejected, indicating the presence of a statistically significant effect of organizational innovation on business performance. The results suggest that organizational innovation leads to improved business performance among SMEs in Nairobi Kenya.

Table 4.24: Testing for Direct Effects

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
2					
(Constant)	2.140	.397		5.393	.000
Firm Growth	.664	.094	.400	7.033	.000
Firm Leverage	.048	.028	.092	1.713	.088
Product Innovation	-.030	.094	-.020	-.322	.748
Process Innovation	.412	.064	.523	6.413	.000
Market Innovation	-.495	.074	-.409	-6.690	.000
Organizational Innovation	.230	.073	.249	3.167	.002
Model Summary					
R		.635			
R ² Change		.372			
Std. Error of the Estimate		.49675			
Model Fit					
F change		35.501			
Sig.		.000			

a. Dependent Variable: Business Performance

Source: Research Data, (2022)

4.12.3 Testing For Moderating Effect of Dynamic Capabilities

The moderating effect was tested in a series of hierarchical blocks. In model 1, the control variables were tested. In model 2, all the four independent variables product innovation, process innovation, market innovation and organizational innovation were tested. In model 3, dynamic capabilities which is a moderator was also tested so as to establish the contribution on the model. Then a cross product of the moderator with each independent variable was then computed. In model 4 to model 7, the interaction terms between the moderator and each of the independent variables was hierarchically tested.

Model 3 indicates the inclusion of the moderator in the model. Findings show that firm growth ($\beta = 0.765, p = 0.000$) significantly affects business performance whereas firm leverage was insignificant ($\beta = 0.765, t = -0.087, p = 0.931$). Moreover, product innovation was negative and statistically insignificant ($\beta = -0.162, t = -1.257, p = 0.210$). On the other hand, process innovation ($\beta = 0.398, t = 6.158, p = 0.000$), market innovation ($\beta = -0.468, t = -6.154, p = 0.000$) have a significant effect on business performance in this model. However, organizational innovation was insignificant ($\beta = 0.159, t = 1.826, p = 0.069$). Furthermore, results indicate that the moderator (dynamic capabilities) as a variable has a positive and insignificant effect on business performance as indicated by ($\beta = 0.271, t = 1.49, p = 0.137$) implying that dynamic capabilities to have a positive and insignificant effect on business performance).

H0_{5a}: stated that there is no statistically significant moderating effect of dynamic capabilities on the relationship between product innovation and business performance of manufacturing SMEs in Kenya. Model 4 shows the results of the first interactions of dynamic capabilities on the relationship between product innovation and business performance of SMEs in Nairobi County. Accordingly, this model indicates an

improved R^2 of 0.491 and change in R^2 of 0.082 with $F = 27.211$, $p = 0.000$ which implies that the first interaction explains 49.1% of the variance in business performance.

In relation to the control variables in the model, firm growth, ($\beta = 0.942$, $t = 8.412$, $p = 0.000$) Firm leverage ($\beta = -0.095$, $t = -2.142$, $p = 0.033$) was found to be significant. In addition, the findings of the study reveal that product innovation ($\beta = -4.647$, $t = -6.177$, $p = 0.000$), process innovation ($\beta = 0.198$, $t = 2.879$, $p = 0.004$) and market innovation ($\beta = -0.565$, $t = -7.789$, $p = 0.000$) were all found to be significant in the model. Organizational innovation ($\beta = 0.143$, $t = 1.769$, $p = 0.078$) was not significant.

Finally, the interaction results indicate a $\beta = 1.120$, $t = 6.038$, $p = .000$. Since the p-value of the moderation is less than 0.05, hypothesis H04a is rejected by the study and conclusion made that dynamic capabilities moderates the relationship between product innovation and business performance.

To better understand the nature of the interaction between dynamic capabilities and innovation types constructs, (product innovation, process innovation, market innovation and organizational innovation) and business performance, The moderated results are presented on a moderation graph as suggested by Aiken & west (1991) who proposed that it is insufficient to conclude that there is interaction without probing the nature of that interaction at different levels of the moderator. The significance of the regression coefficient of dynamic capabilities was assessed at low and high levels of the constructs.

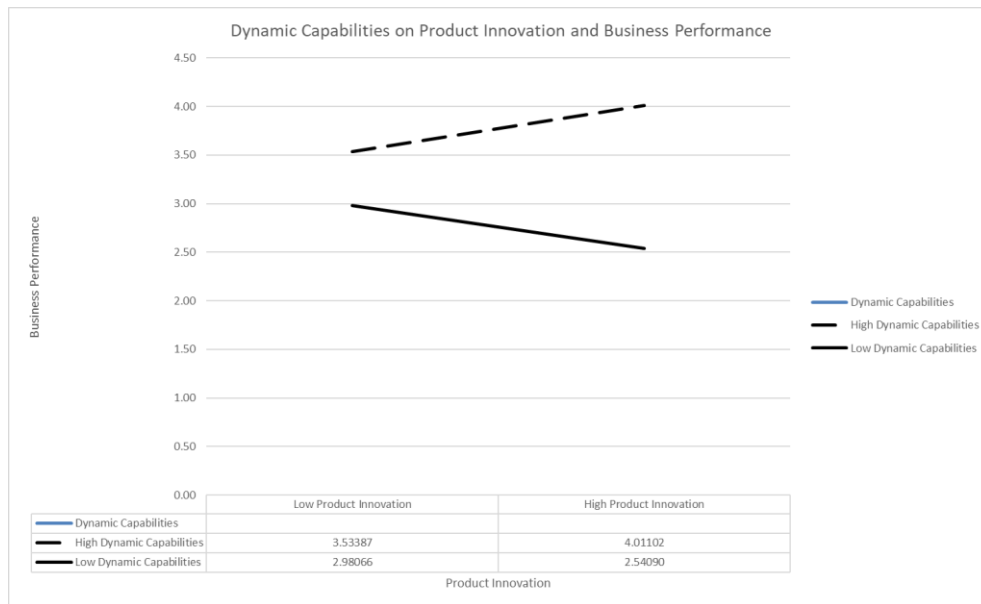


Figure 4. 3: Mod graph of Dynamic Capabilities on Business Performance

Source: Research Data, (2022)

These results are further illustrated by Figure 4.3 which reveals that at low levels of product innovation, business performance is high with SMEs which have high dynamic capabilities compared to those with low levels of product innovation. However, product innovation increases, business performance increases with both groups of SMES, but the increase is high with those who have low levels of product innovation.

The above relationship indicates an enhanced moderation since the results from model 2 which shows the direct effect of the independent variables, product innovation on the dependent variable, business performance has increased in model 4 when the moderator is introduced. The enhanced moderation is from $\beta = -0.030$, $p = 0.748$ in model 2 to $\beta = -4.647$, $p = 0.000$ in mode 4 which are both significant.

H0_{5b}: postulated that there is no statistically significant moderating effect of dynamic capabilities on the relationship between process innovation and business performance of manufacturing SMEs in Kenya. Model 5 shows the results of H0_{5b}. Results of this model shows an improved R^2 of 0.492 and change in R^2 of 0.001 with $F = 24.192$, $p =$

0.000 which implies that the second interaction explains 49.2% of the variance in business performance.

The model shows that the control variables firm growth ($\beta = 0.937$, $t = 8.342$, $p = 0.000$) and financial leverage ($\beta = -0.102$, $t = -2.246$, $p = 0.026$) was found to be significant. Similarly, the study established that product innovation ($\beta = -4.075$, $t = -3.709$, $p = 0.000$), and market innovation ($\beta = -0.548$, $t = -7.149$, $p = 0.000$) were all found to be significant in the model. Process innovation ($\beta = -0.199$, $t = -0.355$, $p = 0.723$) and organizational innovation ($\beta = 0.095$, $t = 0.907$, $p = 0.365$) were not significant. The moderator in this model was also found to be insignificant ($\beta = 0.095$, $t = 0.907$, $p = 0.365$). The findings of the second interaction show a $\beta = 0.105$, $p = 0.476$ which gives evidence that dynamic capabilities do not moderate the relationship between process innovation and business performance and as such, the study fails to reject the $H0_{5b}$.

As concerns the moderating effect in this model, Figure 4.1 reveals that at low levels of process innovation, business performance is low with those SMEs that have low levels of the process innovation than with those having high levels levels. However, as process innovation increases, dynamic capabilities increase with both groups' SMEs, but the increase is more with SMEs having high levels of dynamic capabilities about the process.

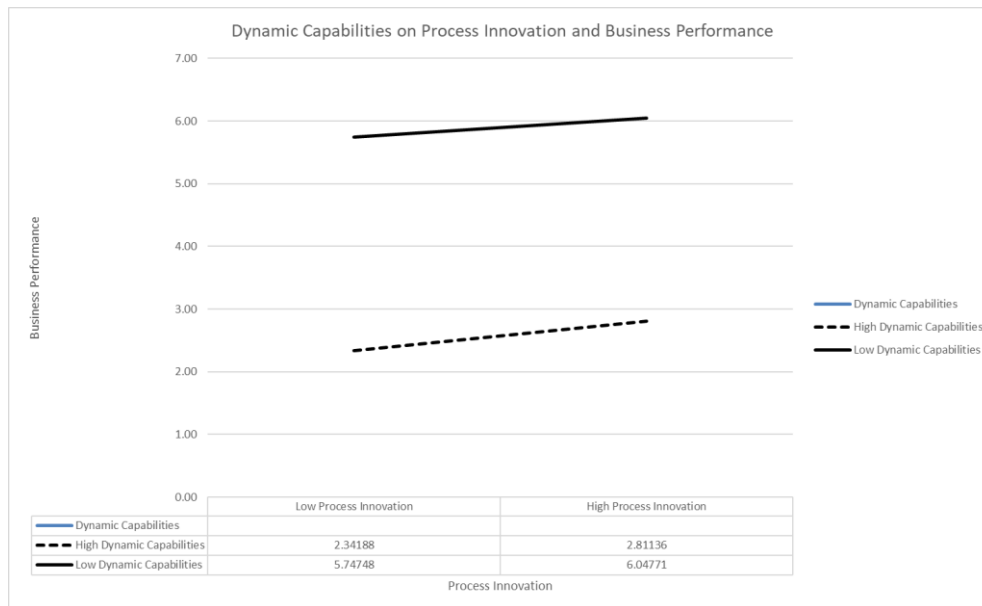


Figure 4.4: Mod graph on Dynamic Capabilities on Process Innovation and Business Performance

Source: Research Data, (2022)

The above relationship also indicates an antagonistic moderation where increasing the moderator would reverse the effect of the predictor on the outcome. Results from model 2 which shows the direct effect of the independent variables, process innovation on the dependent variable, business have decreased in model 5 when the moderator is introduced. The reverse moderation is from $\beta = 0.412$, $p = 0.000$ in model 2 to $\beta = -0.199$, $p = 0.723$ in model 5 which is insignificant.

H0_{5c}: hypothesized that there is no statistically significant moderating effect of dynamic capabilities on the relationship between market innovation and business performance of manufacturing SMEs in Kenya. Model 6 shows the results of this hypothesis. The findings show an improved R^2 of 0.673 and change in R^2 of 0.181 with $F = 46.032$, $p = 0.000$ which implies that the second interaction explains 18.1% of the variance in business performance. The control variable, firm growth ($\beta = 0.805$, $t = 8.837$, $p = 0.000$) in the model was statistically significant whereas financial leverage ($\beta = 0.078$, $t = 1.952$, $p = 0.052$) was not statistically significant.

Moreover, the findings of the study reveal that product innovation ($\beta = -4.265$, $t = -4.825$, $p = 0.000$) and market innovation ($\beta = 4.789$, $t = 9.903$, $p = 0.000$) were all found to be significant in the model. Process innovation ($\beta = -0.654$, $t = -1.447$, $p = 0.149$) and organizational innovation ($\beta = 0.229$, $t = 2.681$, $p = 0.008$) were not significant. Finally, the interaction results in this model indicate a $\beta = -1.321$, $t = -11.126$, $p = .000$. Since the p-value of the moderation is less than 0.05, hypothesis H05c is rejected by the study and conclusion made that dynamic capabilities moderates the relationship between market innovation and business performance.

As concerns the moderating effect in this model, Figure 4.5 reveals that at low levels of market innovation, business performance is low with those SMEs that have low levels of the market innovation than with those having high levels. However, as market innovation increases, dynamic capabilities increase with both groups' SMEs, but the increase is more with SMEs having high levels of dynamic capabilities about the market.

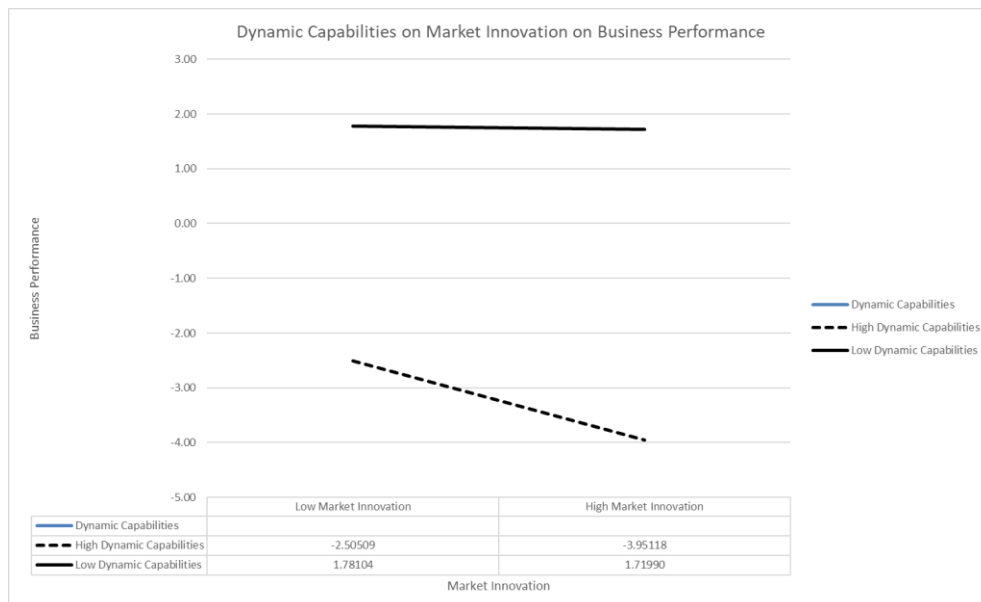


Figure 4.5: Mod graph of Dynamic Innovation on Market Innovation and Business Performance

Source: Research Data, (2022)

The above relationship indicates an enhanced moderation since the results from model 2 which shows the direct effect of the independent variables, market innovation on the dependent variable, business performance has increased in model 6 when the moderator is introduced. The enhanced moderation is from $\beta = -0.495$, $p = 0.000$ in model 2 to $\beta = 4.789$, $p = 0.000$ in mode 6 which are both significant.

H0_{5a}: hypothesized that there is no statistically significant moderating effect of dynamic capabilities on the relationship between organizational innovation and business performance of manufacturing SMEs in Kenya. Model 7 shows the results of this hypothesis. The findings show an improved R^2 of 0.697 and change in R^2 of 0.025 with $F = 46.722$, $p = 0.000$ which implies that the fourth interaction explains 2.5% of the variance in business performance. The control variable, firm growth ($\beta = 0.992$, $t = 10.112$, $p = 0.000$) in the model was statistically significant whereas financial leverage ($\beta = 0.041$, $t = 1.046$, $p = 0.297$) was not statistically significant.

Moreover, the findings of the study reveal that product innovation ($\beta = -0.241$, $t = -0.189$, $p = 0.850$) and process innovation ($\beta = 0.418$, $t = 0.831$, $p = 0.407$) were all found to be insignificant in the model. Market innovation ($\beta = 4.916$, $t = 10.528$, $p = 0.000$) and organizational innovation ($\beta = -4.259$, $t = -4.039$, $p = 0.000$) were significant. Finally, the interaction results in this model indicate a $\beta = 1.128$, $t = 4.269$, $p = .000$. Since the p-value of the moderation is less than 0.05, hypothesis H0_{5d} is rejected by the study and conclusion made that dynamic capabilities moderates the relationship between organizational innovation and business performance.

As concerns the moderating effect in this model, Figure 4.6 reveals that reveals that at low levels of organizational innovation, business performance is low with those SMEs that have low levels of the organizational innovation than with those having high levels.

However, as organizational innovation increases, dynamic capabilities increase with both groups' SMEs, but the increase is more with SMEs having high levels of dynamic capabilities about the market.

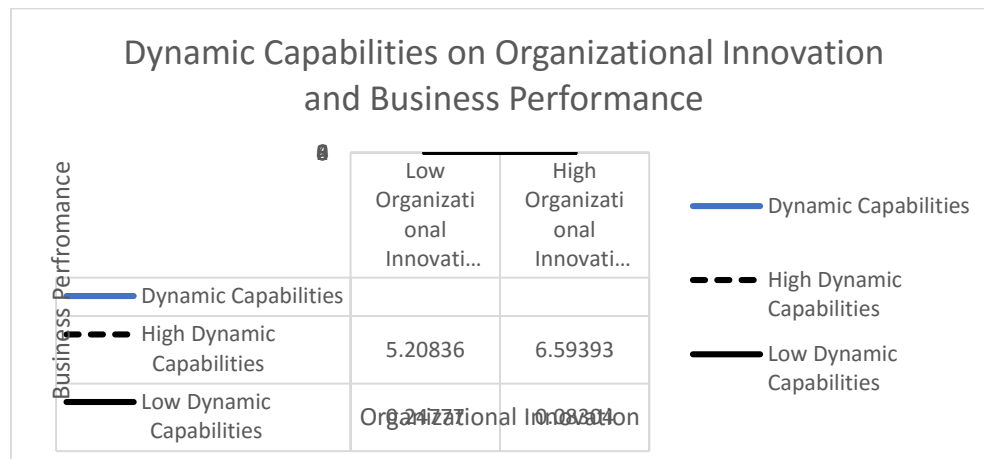


Figure 4.6: Mod graph of Dynamic Capabilities on Organizational Innovation and Business Performance

Source: Research Data, (2022)

The above relationship indicates an enhanced moderation since the results from model 2 which shows the direct effect of the independent variables, organizational innovation on the dependent variable, business performance has increased in model 7 when the moderator is introduced. The enhanced moderation is from $\beta = 0.230$, $p = 0.002$ in model 2 to $\beta = 1.128$, $p = 0.000$ in mode 7 which are both significant.

Table 4.25: Results of the Interaction of Leadership on Outsourcing and Employee Performance

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)
Control Variable							
(Constant)	2.978 (.152)	2.140 (.397)	1.785 (.462)	19.664 (2.992)	18.862 (3.198)	.009 (3.081)	-3.941 (3.109)
Firm Growth	.234 (.107)	.664 (.094)	.765 (.116)	.942 (.112)	.937 (.112)	.805 (.091)	.992 (.098)
Financial Leverage	.057 (.034)	.048 (.028)	-.004 (.045)	-.095 (.044)	-.102 (.046)	.078 (.040)	.041 (.040)
Main Effect							
Product Innovation		-.030 (.094)	-.162 (.129)	-4.647 (.752)	-4.075 (1.099)	-4.265 (.884)	-.241 (1.270)
Process Innovation		.412 (.064)	.398 (.065)	.198 (.069)	-.199 (.560)	-.654 (.452)	.418 (.503)
Marketing Innovation		-.495 (.074)	-.468 (.076)	-.565 (.073)	-.548 (.077)	4.789 (.484)	4.916 (.467)
Organizational Innovation		.230 (.073)	.159 (.087)	.143 (.081)	.095 (.105)	.229 (.085)	-4.259 (1.054)
Moderator							
Dynamic Capability			.271 (.182)	-3.957 (.720)	-3.732 (.787)	.541 (.740)	1.705 (.090)
Interaction Term							
X1				1.120 (.185)	.974 (.276)	1.071 (.222)	.164 (.302)
X2					.105 (.147)	.223 (.118)	-.072 (.133)
X3						-1.321 (.119)	-1.383 (.115)
X4							1.128 (.264)
Model Summary							
R	0.175	0.635	0.639	0.7	0.701	0.82	0.835
R Square	0.031	0.403	0.408	0.491	0.492	0.673	0.697
Adjusted R Square	0.022	0.387	0.39	0.473	0.471	0.658	0.682
St.Error of the Estimate	0.62734	0.49675	0.49543	0.46074	0.46124	0.371	0.3575
Change Statistics							
R Square Change	0.031	0.372	0.006	0.082	0.001	0.181	0.025
F Change	3.663	3.663	3.663	3.663	3.663	3.663	3.663
df1	2	4	1	1	1	1	1
df2	232	228	227	226	225	224	223
S. F Change	.027	.027	.027	.027	.027	.027	.027

Source: Research Data (2022)

4.12.4. Summary of Hypotheses Tests Results

The results presented in Table below 4.25 indicated the summary of both multiple and hierarchical regression models. Thus, the table shows (R^2) and Δ in (R^2) for both main and interaction effects as well as the decision on the formulated hypothesis.

Table 4.256: Summary of Hypotheses Tests Results

Hypothesis Formulated	Beta β	ρ – values	Decision	R²
H0₁: There is no statistically significant effect of product innovation on business performance of manufacturing SMEs in Kenya	-.030	.748	Fail to Reject	.403
H0₂: There is no statistically significant effect of process innovation on business performance of manufacturing SMEs in Kenya	.412	.000	Rejected	
H0₃: There is no statistically significant effect of marketing innovation on business performance of manufacturing SMEs in Kenya	-.495	.000	Rejected	
H0₄: There is no statistically significant effect of organizational innovation on business performance of manufacturing SMEs in manufacturing SMEs in Kenya	.230	.002	Rejected	
Moderation- Dynamic Capabilities				R²Δ
H0_{5a} There is no statistically significant moderating effect of dynamic capabilities on the relationship between product innovation and business performance of manufacturing SMEs in Kenya	1.120	.000	Moderated	.082
H0_{5b} There is no statistically significant moderating effect of dynamic capabilities on the relationship between process innovation and business performance of manufacturing SMEs in Kenya	.105	.476	Not Moderated	.001
H0_{5c} There is no statistically significant moderating effect of dynamic capabilities on the relationship between market innovation and business performance of manufacturing SMEs in Kenya	-1.321	.000	Moderated	.181
H0_{5d} There is no statistically significant moderating effect of dynamic capabilities on the relationship between organizational innovation and business performance of manufacturing SMEs in Kenya	1.128	.000	Moderated	.025

Level of significance, *p< .05,

Source: Research Data, (2022)

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study findings as guided by the specific objectives as well as the conclusion and recommendations. Managerial and theoretical implications are then discussed, as well as the limitations of the study and suggestions for further research. The structure of the chapter was guided by the research objectives and the hypotheses tested.

5.2 Summary of Findings

The main objective of the study was to examine the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya. The study developed a conceptual framework of this argument and tested it empirically guided by the following specific objectives; to examine the effect of product innovation; to assess the effect of process innovation; to establish the effect of marketing innovation and to determine the effect of organizational innovation on business performance of manufacturing SMEs in manufacturing SMEs in Kenya. Further the study sought to establish the moderating effect of dynamic capabilities on the relationship between of product innovation; process innovation; marketing innovation and organizational innovation and business performance of manufacturing SMEs in manufacturing SMEs in Kenya. The study hypothesized that there was no statistically significant effect of product innovation; process innovation; marketing innovation and organizational innovation on business performance of manufacturing SMEs in manufacturing SMEs in Kenya.

Moreover, it was hypothesized that dynamic capabilities do not moderate the relationship between of product innovation; process innovation; marketing innovation

and organizational innovation and business performance of manufacturing SMEs in manufacturing SMEs in Kenya. A review of literature was undertaken with the aim of identifying knowledge gaps which the study sought to fill. This study was grounded on two theoretical perspectives namely: Resource Based View Theory and Dynamic Capabilities Theory. The third chapter expounded the methodological approach used in the study to arrive at the findings of the study. The findings of this research are presented in chapter four. A summary of the findings based on the study objectives are presented in this section. Implications and meaning of the findings. Preliminary analyses focused on establishing the characteristics of the respondents and descriptions of response on the measures of study variables. After which relevant hypotheses tests to address the study objectives were conducted. The discussions in the following sections highlight the key findings of the study.

5.2.1 Effect of Product Innovation on Business Performance

The study examined whether product innovation has a direct significant effect on business performance. Hypothesis H_{01} results concluded that there is no statistically significant effect of product innovation on business performance ($\beta = -0.030$, $t = -0.322$, $\rho = 0.748$) with the model explaining 40.3 ($R^2 .403$) of the total variance in business performance. The findings of this study lend support to extant literature (Acquah & Mensah, 2015; Keveu, 2017). However, the study results are in contrary with the findings of Tsai et.al, (2020) who found out that product innovation has a positive effect on organizational performance.

5.2.2 Effect of Process Innovation on Business Performance

The study hypothesized that there is no statistically significant effect of process innovation on business performance. The results revealed that process innovation has a direct and a significant effect on business performance ($\beta = 0.412$, $t = 6.413$, $\rho = 0.000$).

The results suggest that process innovation leads to improved business performance among SMEs. This finding lends support to the findings of that process innovation has a significant effect on organizational performance. It also echoes the findings of Keveu (2017) whose study established that there was a positive and significant relationship between process innovation and performance. On the contrary, the finding contradicts the results of a study by Kibisu (2020) which came to the conclusion that there was a negative relationship between process innovation and financial performance.

5.2.3 Effect of Marketing Innovation on Business Performance

The study sought to examine whether marketing innovation has a direct significant effect on business performance. Hypothesis H₀₃ results established that there is a statistically significant negative effect of marketing innovation on business performance ($\beta = -0.495$, $t = -6.690$, $\rho = 0.000$). This result supports the findings of previous studies (Kibisu, 2020; Sulton, 2020) which concluded that marketing innovation has a significant effect on business performance. In the same vein, the findings lend support to empirical study by Gunday, et.al., (2021) which concluded that marketing innovation has a positive and significant effects on firm performance. The study finding also concurs with Osuga and Namanda (2016) who concludes that innovations in marketing have a strong positive association with the performance of the SMEs. However, these results differ from that of Atalay, Anafarta and Salvan, (2013) who established that the effect of marketing innovation on performance was statistically insignificant.

5.2.4 Effect of Organizational Innovation on Business Performance

The study sought to establish whether the relationship between organizational innovation and business performance was significant. Findings of the study reveal that the relationship was positive and significant ($\beta = 0.230$, $t = 3.167$, $\rho = 0.002$). The results

suggest that organizational innovation leads to improved business performance. This concurs with the findings of a study by Salim and Suleiman, (2011) which concluded that organizational innovation has a significant influence on firm performance. Similarly, it validates the assertion of Phan, (2019) that the relationship between organizational innovation and performance was positive and significant. The findings also concur with Makanyeza and Dzvuke (2015) who found that organizational innovation and product innovation positively predicted the performance of SMEs. However, the results disagree with the findings of Ndesaulwa, and Kikula (2016) who found that no consistent results on whether the innovations altogether influence firms' performance.

5.2.5 Moderating Effect of Dynamic capability

The study established that dynamic capability moderates the relationship between product innovation ($\beta = 1.120$, $t = 6.038$, $p = .000$), market innovation ($\beta = 4.789$, $t = 9.903$, $p = 0.000$) and organizational innovation business performance ($\beta = -4.259$, $t = -4.039$, $p = 0.000$). However, the results also indicate that there is a positive and insignificant moderating effect of dynamic capabilities on the relationship between process innovation and business performance ($\beta = 0.105$, $p = 0.476$). Generally, are consistent with the results by Osisioma et al (2016) on First Bank Nigeria Plc and United Bank for Africa Plc in Awka, Nigeria, where it was found that dynamic capability enhances organizational performance. The findings are also in harmony with Li & Liu (2014) who undertook a research which found that firms that display the propensity to sense opportunities and threats, so as to make timely decisions in implementing strategic decisions and changes efficiently, end up pursuing the right direction and achieve competitive advantage. This study further corroborated the finding of Woldesenbet et al (2012) that found that firms apply sensing capabilities in

their creative search to identify opportunities and threats, changing customer demands and the dynamic competition landscape.

5.3 Conclusion of the Study

This study sought to examine the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya. Eight specific objectives were derived from the main objective. To achieve the specific objectives, eight hypotheses were formulated based on literature review. The hypotheses were subjected to correlation and regression analyses and the following conclusions can be drawn from the study:

Empirical findings of this study confirmed that there is significant relationship between innovation types and business performance. This suggests that the types of innovations in SMEs that drive and influence company performance create a distinction between firms that have high performance and firms that have low performance. This suggests that the types of innovations in SMEs that drive and influence company performance create a distinction between firms that have high performance and firms that have low performance. In today's business world, innovation is widely recognized as an essential factor in determining a firm's level of competitiveness. Thus, firms that adopt various types of innovation gain competitive advantage in an environment characterized by global competition.

The study sought to examine the effect of product innovation on business performance. From the findings of the study, it was concluded that product innovation does not significantly influence business performance. The study also concludes that that process innovation has a direct and a significant effect on business performance implying that process innovation leads to improved business performance among

SMEs. Organizations that seek to improve on their overall performance should therefore embrace innovation in process by adopting innovative process tools. Process innovation is a source of competitive advantage for companies

The study came to the conclusion that marketing innovation has a significant effect on business performance. Marketing innovation is aimed at better meeting customer needs, opening new markets, or positioning the company's products in the market, with the aim of increasing sales ultimately improving business performance.

From the study findings, it was concluded that the relationship between organizational innovation and business performance of small and medium enterprises was positive and significant. The results suggest that organizational innovation leads to improved business performance. Organizational innovation involves the implementation of new organizational methods in the firm's business practices, workplace organization or external relations the effect of which leads to improved performance. Organizational innovation can increase the performance of the organization by decreasing the transaction cost and administrative cost. Firms bring organizational innovation to bring efficiency in the business.

Finally, the study concludes that dynamic capability moderates the relationship between product innovation, market innovation and organizational innovation business performance. It also concludes that dynamic capabilities do not moderate the relationship between process innovation and business performance. The essence of explorative capability emphasizes the creation of something beyond the existing knowledge of an organization, such as the development of new knowledge, by using new methods to experiment with technologies, business processes, or markets and to search for new norms, practices, and systems.

An organization's dynamic capability plays an important role because it is directly associated with the organization's overall financial performance and because it draws attention to the accumulation of capabilities that are already present in the company. The reason for this is due to the fact that dynamic capability plays an important role in an organization. When it comes to performance, businesses that operate in an environment that is constantly changing are required to continually innovate in order to maintain their advantages over their competitors and keep up with the competition. But in order for companies to make the most of these opportunities, they need to be equipped with dynamic capabilities that are both powerful and patient, in addition to being constantly innovative. Only then will they be able to maximize their potential.

5.4 Limitations of the Study

This research is not without its limitations and thus should prompt further study. First, the sample frames used in this study were selected from SMEs in only one (Nairobi) County from among the 47 counties. The justification of selecting Nairobi is due to its diversity of Industries compared to other areas in Kenya. Generalization of findings in this study should therefore be done with caution. The generalizability of the current findings to other large corporations that are not operating in the manufacturing sector is further limited by the context of the study, which was conducted in the manufacturing sector, where many of the firms are small and medium sized.

Due to the fact that the data for the study were only collected at a single point in time, the study had a cross-sectional design and was unable to take into account either the lag time or the long-term effects. As a result, future research could take a longitudinal approach to investigate the relationship between innovation types, dynamic capabilities and business performance within the context of a lengthy time series.

The hypotheses of the study were tested after important variables such as the age and size of the company were controlled for in order to ensure the internal validity of the results. It is possible that researchers in the future will want to investigate the effects of these control factors and broaden the scope of their investigation to include other industries so that the results of their studies can revalidate the generalizability of the model.

5.5 Recommendations of the Study

According to the findings of this study, business owners and managers of small and medium-sized enterprises (SMEs) should encourage innovation within their companies and work to put new ideas into practice. The owners and managers of SMEs should give some thought to pursuing an innovation strategy in order to improve the firm's competitiveness. This should involve making significant improvements to their products, processes, marketing methods, and organizational methods, as well as coming up with completely new products, processes, marketing methods, and organizational methods.

According to the findings of the study, in order for owners of small and medium-sized businesses to improve their companies' overall performance, they should ensure that they are always up to date on the most recent innovative trends in the industry in which they work. A sufficient understanding of the innovations that can be applied could make the implementation of the most significant innovations, which would have a beneficial effect on performance.

Regarding the organizational innovations, the research suggests that small business owners should optimize their operations by adopting innovations that create a competitive edge in the performance of the organization. This was one of the recommendations that came out of the study. Adopting efficient organization innovations may create efficiency in dealing with customers, which will make small

and medium businesses more versatile and flexible in meeting the needs and preferences of their customers. The survival of small and medium businesses in the face of competition from large and well-established companies was ensured as a result of this.

5.5.1 Theoretical Implications

The findings add to current body of knowledge on examine the the effect of innovation types on business performance of manufacturing SMEs. The study confirmed the existing literature in terms of positive influence of innovation types on business performance of small and medium. Specifically, the contribution of this study is that dynamic capabilities moderates the relationship innovation types and business performance, a gap that has been missing in extant literature. Therefore, the findings of this study may form the basis for future studies in the area. Secondly, the findings collaborate the assertions of the dynamic capabilities theory that firm's competitiveness lies in the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. The theory of resource-based view (RBV) explains the firm competitive advantage through the uniqueness, rare and imitable resources that the firm created which leads to firm growth. In today's increasingly volatile, uncertain, complex and ambiguous world, it is important for firms to be able to quickly and accurately adapt to shifts in the marketplace or changes in technology. Dynamic capabilities are the routines and processes that enable companies to transform themselves and evolve with the times. By developing these capabilities that go beyond ordinary strategic capabilities, firms was in a strong position to achieve a long-lasting competitive advantage.

5.5.2 Policy implication

The findings of the study have important implications for future policy formulation in the small and medium enterprise sub-sector by the Kenyan Government. SMEs should put more effort into developing plans, strategies, and policies that directly enhance adoption of various types of innovation in their businesses, as this has a direct influence on their performance. This should be done in addition to working toward improving the overall organization's efficiency.

The government and those who make policy ought to work together to devise policies that offer direction regarding the implementation of innovations. These policies ought to be transparent, uncomplicated, and consistent. Furthermore, they ought to provide value to small and medium-sized businesses in terms of their efficacy and cost-effectiveness. These kinds of characteristics will encourage business owners to welcome and utilize innovation. Because innovation is driven primarily by the private sector, regulation shouldn't be overly complicated but should instead be designed to facilitate the development of an environment that is advantageous for private investors.

5.5.3 Managerial Implications

The findings of the study have significant repercussions for managers in practice and business owners of SMEs. The findings provide managers, owners, and other stakeholders in the manufacturing industry with direction on how to achieve optimal firm performance. According to the findings of the research, the application of dynamic capabilities leads to an increase in the performance of the company.

5.5.4 Implication for Practice

It is essential for small and medium-sized businesses to implement the most cutting-edge, innovative business practices that are available to them in order to achieve the

results that are most important to them. As a result, the findings of this study offer guidance to small and medium businesses on how to incorporate a variety of different types of innovative practices into their businesses.

5.6 Limitations of the Study

In spite of the significant contributions made by this study, its scope was limited to small and medium-sized enterprises (SMEs) operating in the manufacturing sector in Nairobi County. These findings might be more convincing if they were validated using a large sample size that included both small and large businesses operating in the manufacturing sector as well as other sub-sectors of the economy. This would allow for the collection of additional data regarding the different types of innovations and how well firms performed.

This study relied on a survey of cross-sectional data, in which respondents were asked to evaluate their perspectives on each individual item in the instrument. On the other hand, some of the superior performance factors of different types of innovations are known to be strategic and dynamic in nature. Because of this, it would be preferable to conduct a study that was longitudinal because it could provide a better perspective on the effect that innovation has on the performance of small and medium enterprises in Kenya. The study was only limited to the Kenyan context and hence similar studies could be conducted in other developing countries as well.

5.7 Suggestion for Future Research

The study centered on four distinct categories of innovation, including product innovation, process innovation, marketing innovation, and organizational innovation. It is necessary to establish more sorts of innovation that have an impact on the business

performance of small and medium-sized enterprises (SMEs). Therefore, future research can include other groundbreaking categories that were not considered in this study.

The moderating variable, in contrast, included dynamic capacities. One can perform thorough study by including additional moderating variables. Additionally, this study utilized cross-sectional data survey methodology, in which participants were requested to evaluate their perspectives on each item in the instrument. Nevertheless, several invention types exhibit superior performance aspects that are recognized for their strategic and dynamic characteristics. Hence, a longitudinal study would be more advantageous as it would offer a more comprehensive understanding of the impact of different types of innovation on the business performance of small and medium enterprises (SMEs) in Kenya.

The sample study specifically focused on small and medium-sized enterprises (SMEs) within the manufacturing sector. Subsequent research could explore industries outside of the manufacturing sector. The study was exclusively confined to the Kenyan environment, thereby suggesting the possibility of doing comparable investigations in other developing nations.

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APPENDICIES

Appendix I: Letter of Introduction

Fred Otieno Wambia
Department of Accounting & Finance
School of Business and Economics
Moi University

Dear respondent,

RE: DATA COLLECTION

My name is Fred Otieno Wambia, a postgraduate student from Moi University. In partial fulfillment of the requirements of the award of Master of Business Administration Degree, I am conducting academic research on the moderating effect of dynamic capabilities on the relationship between innovation types and business performance of manufacturing SMEs in Kenya.

You have been randomly selected to participate in this exercise. I kindly request for your input in filling this questionnaire. Please note that your honest responses will be treated with strict confidentiality and will purely be used for academic purpose. Your acceptance to complete this questionnaire is greatly appreciated.

Yours Faithfully,

Fred Otieno Wambia

Appendix II: Respondents' Questionnaire

Kindly fill in the correct information honestly.

SECTION A: Organizational Profile

Name of Firm: (Optional) _____

Tick (✓) or fill in the gaps where applicable

1. Gender?

Male () Female ()

2. Age of Respondent (years): Tick (✓) as appropriate.

18- 25 Years () 26- 33 Years () 34- 40 Years () 41-47 Years ()
48 and Above ()

3. Your highest education qualification?

Post graduate () Bachelor's degree () Higher Diploma () Diploma ()
Certificate ()

Other (Specify)_____

4. How long has your enterprise been in this business

1 - 5 () 6- 10 () 11-15 () 15-20 () Over 20
years ()

5. Number of full-time employees in your firm

Below 10 employees () 10-49 employees () 50-99 employees ()
()

6. Indicate the type of Business Ownership for your enterprise

Sole proprietorship () Partnership () Limited Company ()
Others (please specify)_____

SECTION B: FIRM GROWTH

In the last three years, did your firm come up with new innovations?

(If yes indicate the specific number of innovations per type of innovation)

S.NO	INNOVATION	YES	NO
1.	New or significantly improved Product	No of Innovations	
2.	New or significantly improved Process		
3.	New or significantly improved Marketing methods		
4.	New or significantly improved Organizational systems		

7. For each of the product type, indicate the level of novelty of the innovation in your firm

Type of Innovation	Degree of novelty				
	Significantly Improved	New to the firm	New to the Market	New to the Country	New to the World
Product					
Process					
Market					
Organizational					

8. During the Last three years, 2017 to 2020, did your enterprise introduce? Tick as appropriate

LEVERAGE	YES	NO
New or significantly improved goods		
New or significantly improved services		
New or significantly improved methods of manufacturing or producing goods and services		
New or significantly improved logistics, delivery or distribution methods for your inputs, goods or services		
New or significantly improved supporting activities for your processes, such as maintenance systems or operations for purchasing, accounting, or computing		
Significant changes to the aesthetic design or packaging of a good or service		
New media or techniques for product promotion (i.e. the first time use of a new advertising media, a new brand image, introduction of loyalty cards, etc)		
New methods for product placement or sales channels (i.e. first time use of franchising or distribution licenses, direct selling, exclusive retailing, the concept for product presentation, etc		

9. Please indicate the level of agreement with the following statements on innovation types as applicable in your enterprise. Please respond as appropriate

	Product Innovation	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	Development of new quality products enhances the market share of our enterprise					
2	Introduction of custom-tailored products enhances satisfaction levels with firm customers					
3	Adoption of technology in product development contributes to competitive pricing					

4	The new products have made us better than our competitors in the same industry					
5	Employees are rewarded for coming up with new product ideas for improvement of existing products					
6	Product innovation is considered as means of achieving a firm's competitive advantage					
7	Product innovation increases the morale and productivity of employees in the organization					
8	Product Innovation boosts the overall performance of our enterprise					
	Process Innovation					
9	Improving service quality through process innovation is one of the key objectives of the organization					
10	The enterprise has introduced new and significantly improved methods of manufacturing or producing goods or services					
11	The enterprise has introduced new and significantly improved logistics, delivery or distribution methods for your inputs, goods or services					
12	The enterprise has engaged in acquisition of advanced machinery, equipment, software and buildings to be used for new or significantly improved processes					
13	Process innovation undertaken in the firm has enhanced the efficiency of its services and reduces unit cost of their services					

	Marketing Innovation					
14	Marketing innovation may open new markets, address customer needs, reposition products in the market					
15	The use of online tools and social media has helped the company grow and attract new clients					
16	The firm competitiveness has increased greatly since the introduction of market innovation					
17	our enterprise has implemented significant changes to the aesthetic design or packaging of a good or service introduced					
18	our enterprise has introduced new techniques for promotion of new and significantly improved products					
	Organizational Innovation					
19	The enterprise introduced new business practices for organizing procedures (i.e. supply chain management, business reengineering, lean production etc.)					
20	New methods of organizing work responsibilities and decision making introduced into the enterprise					
21	The enterprise always endeavors for competitive advantage that can be obtained from the qualified human resources					
22	Through investment in the use of IT our enterprise has introduced new practices of doing business					
23	Investment in IT has enabled the enterprise to introduce new ways of managing external relations.					

SECTION C: DYNAMIC CAPABILITIES

Please indicate with a tick the extent to which you agree with the following statements:

	Sensing capability	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	Thoroughly observing technological trends has helped us gain strategic advantage over our competitors					
2	Scanning the environment for new technologies has helped us realize new product needs.					
3	Thorough collection of industry information has boosted our process efficiency					
4	Benchmarking ourselves with the global industry (that is worldwide manufacturing companies) has helped us improve our product quality					
5	We periodically review the likely effect of changes in our business environment on customers					
	Seizing capability					
6	Integrating new knowledge in our existing knowledge base has boosted our process efficiency					
7	Regularly matching new market opportunities with ideas for new products has helped us create unique products that are priced well					
8	Recognizing links between new technological knowledge and existing knowledge has boosted our process efficiency					
9	We have invested in new assets due to information obtained from industry research which have impacted our product quality					
10	We constantly consider how to better exploit technologies to help develop quality products					
	Reconfiguring capability					
12	We have flexibly reworked our organizational structure which has boosted our process efficiency					
13	We actively renew our innovation processes over time to enhance our competitive position					
14	We constantly redesign our business model to help optimize our technology management in a dynamic environment which leads to effective products					
15	We actively conduct asset-realignment to increase our process efficiency					

16	We revamp our research and development activities and routines to address new product demands which lead to product effectiveness					
17	We are satisfied with the costs associated with asset realignment and restructuring					
18	We have realized improvement in performance within 3 years attributed to the long-term recombination of resources					

SECTION D: BUSINESS PERFORMANCE

Compared to other Firms, rate the improvement of your firm over the past 3 years in terms of the following measures. Please tick the single most appropriate response for each of the items below:

**Key: 1 = Not at all 2 = Small Extent 3 = Moderate Extent 4 = Great Extent
5 = Very Great Extent**

	Financial Performance	Not at all 1	Small Extent 2	Moderate Extent 3	Great Extent 4	Very great Extent 5
1	Growth in Sales					
2	Growth in Market share					
3	Growth in Profit margin					
4	Growth in Net Profits					
5	Increase in Return on Investment					
6	Increase in competitive position					
	Non-Financial Performance					
8	Customer satisfaction					
9	Employee satisfaction					

Appendix III: Statistical Output

Descriptive Statistics

	Mean	Std. Deviation	N
Business_Performance	3.3670	.63444	235
Firm_Growth	1.2287	.38268	235
Financial_Leverage	1.7899	1.20366	235
Product_Innovation	4.4362	.40929	235
Process_Innovation	3.9183	.80583	235
Market_Innovation	4.1779	.52414	235
Organizational_Innovation	3.9770	.68711	235
Dynamic_Capabilities	4.1695	.50006	235
X1	18.6162	3.31757	235
X2	16.5946	4.79462	235
X3	17.4942	3.45343	235
X4	16.8163	4.43573	235

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.175 ^a	.031	.022	.62734	.031	3.663	2	232	.027
2	.635 ^b	.403	.387	.49675	.372	35.501	4	228	.000
3	.639 ^c	.408	.390	.49543	.006	2.224	1	227	.137
4	.700 ^d	.491	.473	.46074	.082	36.462	1	226	.000
5	.701 ^e	.492	.471	.46124	.001	.510	1	225	.476
6	.820 ^f	.673	.658	.37100	.181	123.780	1	224	.000
7	.835 ^g	.697	.682	.35750	.025	18.226	1	223	.000

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.883	2	1.442	3.663	.027 ^b
	Residual	91.305	232	.394		
	Total	94.188	234			
2	Regression	37.926	6	6.321	25.615	.000 ^c
	Residual	56.263	228	.247		
	Total	94.188	234			
3	Regression	38.471	7	5.496	22.391	.000 ^d
	Residual	55.717	227	.245		
	Total	94.188	234			
4	Regression	46.212	8	5.776	27.211	.000 ^e
	Residual	47.976	226	.212		
	Total	94.188	234			
5	Regression	46.320	9	5.147	24.192	.000 ^f
	Residual	47.868	225	.213		
	Total	94.188	234			
6	Regression	63.357	10	6.336	46.032	.000 ^g
	Residual	30.831	224	.138		
	Total	94.188	234			
7	Regression	65.687	11	5.972	46.722	.000 ^h
	Residual	28.502	223	.128		
	Total	94.188	234			

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.978	.152		19.554	.000
	Firm Growth	.234	.107	.141	2.179	.030
	Financial Leverage	.057	.034	.108	1.666	.097
2	(Constant)	2.140	.397		5.393	.000
	Firm Growth	.664	.094	.400	7.033	.000
	Financial Leverage	.048	.028	.092	1.713	.088
	Product Innovation	-.030	.094	-.020	-.322	.748
	Process Innovation	.412	.064	.523	6.413	.000
	Market Innovation	-.495	.074	-.409	-6.690	.000
	Organizational Innovation	.230	.073	.249	3.167	.002
3	(Constant)	1.785	.462		3.866	.000
	Firm Growth	.765	.116	.462	6.586	.000
	Financial Leverage	-.004	.045	-.007	-.087	.931
	Product Innovation	-.162	.129	-.105	-1.257	.210
	Process Innovation	.398	.065	.506	6.158	.000
	Market Innovation	-.468	.076	-.387	-6.154	.000

4	Organizational Innovation	.159	.087	.172	1.826	.069
	Dynamic Capabilities	.271	.182	.214	1.491	.137
	(Constant)	19.664	2.992		6.573	.000
	Firm Growth	.942	.112	.568	8.412	.000
	Financial Leverage	-.095	.044	-.180	-2.142	.033
	Product Innovation	-4.647	.752	-2.998	-6.177	.000
	Process Innovation	.198	.069	.251	2.879	.004
	Market Innovation	-.565	.073	-.467	-7.789	.000
	Organizational Innovation	.143	.081	.155	1.769	.078
	Dynamic Capabilities	-3.957	.720	-3.119	-5.493	.000
5	X1	1.120	.185	5.855	6.038	.000
	(Constant)	18.862	3.198		5.897	.000
	Firm Growth	.937	.112	.565	8.342	.000
	Financial Leverage	-.102	.046	-.194	-2.246	.026
	Product Innovation	-4.075	1.099	-2.629	-3.709	.000
	Process Innovation	-.199	.560	-.253	-.355	.723
	Market Innovation	-.548	.077	-.452	-7.149	.000
	Organizational Innovation	.095	.105	.103	.907	.365
	Dynamic Capabilities	-3.732	.787	-2.942	-4.745	.000
	X1	.974	.276	5.092	3.528	.001
6	X2	.105	.147	.791	.714	.476
	(Constant)	.009	3.081		.003	.998
	Firm Growth	.805	.091	.486	8.837	.000
	Financial Leverage	.078	.040	.149	1.952	.052
	Product Innovation	-4.265	.884	-2.751	-4.825	.000
	Process Innovation	-.654	.452	-.831	-1.447	.149
	Market Innovation	4.789	.484	3.956	9.903	.000
	Organizational Innovation	.229	.085	.248	2.681	.008
	Dynamic Capabilities	.541	.740	.426	.730	.466
	X1	1.071	.222	5.602	4.822	.000
7	X2	.223	.118	1.686	1.885	.061
	X3	-1.321	.119	-7.189	-11.126	.000
	(Constant)	-3.941	3.109		-1.267	.206
	Firm Growth	.992	.098	.598	10.112	.000
	Financial Leverage	.041	.040	.079	1.046	.297
	Product Innovation	-.241	1.270	-.155	-.189	.850
	Process Innovation	.418	.503	.531	.831	.407
	Market Innovation	4.916	.467	4.061	10.528	.000
	Organizational Innovation	-4.259	1.054	-4.612	-4.039	.000
	Dynamic Capabilities	1.249	.732	.984	1.705	.090

X1	.164	.302	.856	.543	.588
X2	-.072	.133	-.545	-.541	.589
X3	-1.383	.115	-7.526	-11.991	.000
X4	1.128	.264	7.889	4.269	.000

a. Dependent Variable: Business Performance