

**INFLUENCE OF INNOVATION ON THE FINANCIAL
PERFORMANCE OF SMALL AND MEDIUM WOMEN-
OWNED ENTERPRISES IN NAIROBI CITY COUNTY**

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**Influence of Innovation on the Financial Performance of Small and
Medium Women-Owned Enterprises in Nairobi City County**

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DECLARATION

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

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DEDICATION

To my son Kinoti, my late mother Judith, my father Joel and my siblings Purity, Jennifer, Dorothy, Priscilla, Mugambi, Muchai, Karwitha, Muriithi and Karani.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of variance
DOI	Diffusion of Innovation
GDP	Gross Domestic Product
ILO	International Labor Organization
KAM	Kenya Association of Manufacturers
MSEA	Micro and Small Enterprise Authority
MSME	Medium, Small and Micro Enterprises
OECD	Organization for Economic Development
R&D	Research & Development
SME	Small and Medium Enterprises
UNCTAD	United Nations Conference on Trade and Development
USA	United States America
VIF	Variance Inflation Factor

DEFINITION OF TERMS

Firm Performance	Measures of how well a firm can use its assets from its primary mode of business and generate revenues (Investopedia, 2011).
Innovation	The process of introduction of new or improved processes, products or services arising from new scientific or technology knowledge and ability of innovative entrepreneurs (Ndesaulwa & Kikula, 2016).
Institutional Regulations	Refers to the key elements such as legal system, social networks and cultural rules that ensure that the economy runs smoothly and that resources are allocated efficiently (Foster, 2016).
Legal Regulation	In the context of this study refers to a rule of order having the force of law, prescribed by the government relating to the actions of SMEs under its control (Crossan & Apaydin, 2010)
Market share	Refers to the percent of total sales in an industry generated by a particular company. In this study, market share refers to the number of customers held by the Women owned SMEs in the market (OECD, 2015)
Marketing 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).
Political Networks	are social aggregations where citizens and politicians are connected and share and discuss ideas aimed to benefit each other (Crossan & Apaydin, 2010).
Profitability	Refers to the business's return on an investment based on its resources in comparison with an alternative investment (Lin & Chen, 2007)
Sales turnover	Is the total amount of revenue generated by a business during the calculation period (Gunday <i>et al.</i> , 2011)
Small and Medium Enterprises	These enterprises that engage between 10-99 employees and cover a range of establishments in almost all sectors of the economy (Ong'olo & Odhiambo, 2013).
Strategic Innovation	A development and new application, with the purpose of launching newness into the economic area of an enterprise (Lily & Juma, 2014).
Technological Innovation	A sequence of activities such as application of new technology and methods to enhance performance (Akinwale, Adepoju & Olomu, 2017).

Technology

refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes (Davis, 2009)

Women Owned Enterprise

Refers to a business whereby majority (at least 51%) is owned, operated and controlled on a daily basis by a female (Ong'olo & Odhiambo, 2013).

ABSTRACT

Women-owned SMEs have important contributions to make to innovation and development economies globally. In Kenya Women owned small and medium enterprises report earnings only 57% of income that male enterprise owners earn. Statistics show that women owned SMEs which make 30% of registered SMEs record high failure rate which can be linked to among other factors, their level of innovation. Whereas previous research has been on types of innovation there is a dearth of empirical studies focusing on women-owned SMEs and innovation. Therefore, the objective of this study was to assess the innovations influence of innovation on financial performance of women-owned SMEs. The specific objectives were to determine the influence of technological innovation, to establish the influence of marketing innovation, to assess the influence of organization innovation, to identify the influence of strategic innovation and the moderating effect of environmental factors on the performance of small and medium women-owned enterprises in Kenya. The scope of this study was in Nairobi County and the study further focused on women-owned enterprises in SMEs. The study was guided by an epistemological research philosophy adopting a positivist research paradigm. The research design was cross-sectional survey design using both quantitative and qualitative approaches. The target population for this study was 5,362 registered women owned enterprises registered with the Nairobi City County by December 2017 and the sample size was 358 respondents derived using Fisher's formulae. This study used a self-administered, closed, and open-ended questionnaire to obtain quantitative data. The used descriptive statistics such as mean, standard deviation, median and proportions using the Statistical Package for Social Sciences (SPSS) version 24 and Microsoft Excel. Regression analysis and correlation analysis were used to determine the direction and strength of the relationship between the independent and the dependent variables. The study results revealed that whereas technological innovation, marketing innovation, organizational innovations and strategic innovations had a positive and significant influence on performance of women owned enterprises in Kenya, organizational innovation had the highest positive influence. Environmental factors were also found to have a significant moderating effect on relationship between innovations and performance of women owned SMEs. Study concluded that in this ever-changing entrepreneurial environment, adoption of various innovations by SMEs is a key component of enhancing their performance. Therefore, enterprise owners need to be proactive in adopting different innovations since they all are linked positively to the performance of enterprises.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

There is consensus among policy makers, economists, and business experts that small and medium enterprises (SMEs) are drivers of economic performance of nations. A healthy SME sector contributes prominently to the economy through creating more employment opportunities, generating higher production volumes, increasing exports and introducing innovation and entrepreneurship skills (Gavrea, Ilies, & Stegorean, 2011). Kathuria and Mamta (2012) states, that Small and Medium Enterprises (SMEs) play a vital role in the industrial development of any country and have been recognized as an engine of economic growth.

Schumpeter as cited by (Naudé, 2013) says that entrepreneurship enhances the economic performance of SMEs by allowing the means of production in a society to be used in newer and more efficient combinations thus claiming it is entrepreneurship which causes innovation. Availability of factors of production cannot alone explain economic development. Innovation and entrepreneurship are needed to transform these inputs in profitable way. Drucker in 1985 as quoted by Balkiene and Jagminas (2010) states that innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. It can be presented as a discipline, can be learned or practiced.

Women entrepreneurship is essential for any country's growth and development. Some scholars even argue that women entrepreneurs' contribution tends to be higher than that resulting from entrepreneurial activity of men (Minniti & Naude, 2010). Minniti and Naude (2010) further stated that the general attention to women and entrepreneurship in developing countries has increased to a great extent and the focus on this 'untapped source' of growth seems to be indispensable for development practitioners and policy makers. Foster (2016) on the other hand revealed that many

women entrepreneurs are operating in more difficult conditions than their male counterparts. The constraints that impede all entrepreneurs such as political instability, poor infrastructure, high production costs and non-conducive business environment tend to impact more on businesswomen than businessmen.

In addition, women's entrepreneurial development is impeded by specific constraints such as limited access to key resources (including land and credit), the legal and regulatory framework and the social-cultural environment. Further, the combined impact of globalization, changing patterns of trade and evolving technologies calls for skills that most women entrepreneurs in many regions do not have, as more women than men lack the requisite level of education and training, including business and technical skills and entrepreneurship training (Foster, 2016). On the same, Foster, noted that many women entrepreneurs are located in low value markets where there are few barriers to entry, consequently this leads to saturated markets and little room for growth. He also observed that, without innovation through new products development and access to higher value markets, the potential for success for SMEs is relatively low (Ahmad, Abu Bakar, Faziharudean & Mohamad, 2015). Ndesaulwa and Kikula (2016) support the notion that women SMEs that engage in innovation activities are better performers.

Casadesus-Masanell and Zhu (2013) citing Schumpeter distinguishes between five types of innovations: new products, new methods of production, new sources of supply, exploitation of new markets, and new ways to organize business. Trott (2008) also states that there are different types of innovation related to new products or services, new production processes, new marketing techniques, and new organizational or managerial structures. Innovation may also involve technology, intellectual property, business, or physical activity. Most studies (UNCTAD, 2013; Kim & Shim, 2018) speak of product innovation and process innovation and all these are important towards development being at country or organizational level.

Product innovation is the introduction of a good or service that is new or significantly improved regarding its characteristics or intended uses, including significant improvements in technical specifications, components and materials,

incorporated software, user friendliness or other functional characteristics (Organization for Economic Development (OECD, 2015).

OECD (2015) further contend that product innovation generally means the organization's process for introducing new ideas, new products/commodities, new technology, workflows, new manufacturing methods, new services and new distribution and delivery. It is generally posited that the product innovation becomes the most important source of structural change in an economy because it alters the mix of products, industry and jobs, which make up an economy. A process innovation on the other hand refers to the new procedures, policies, organizational forms and knowledge embodied in the distribution channels, products, applications, as well as customer expectations, preferences, and needs (Gupta, 2013) it is coupled with the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software. It can substantially lead to decreased unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products.

1.1.1 Global Perspective of the Performance of Small and Medium Enterprises

SMEs have been treated as the seedbed of entrepreneurship as they provide conducive and favorable conditions for the emergence and growth of entrepreneurship. SMEs today have received worldwide importance in view of their significant contribution to the process of industrialization, generation and growth of employment and output, promotion of exports and bringing a regional balance (Kathuria & Mamta, 2012). There is ample evidence that economic activity moved away from large firms to small firms in the 70s and 80s. Carree and Thurik (2003) as quoted by Kiraka, Kobia and Katwalo (2015) point at the shift towards the knowledge based economy being the driving force behind the move from large to smaller businesses. Smaller firms are a vehicle in which entrepreneurship thrives. Small firms play an important role in the economy serving as agents of change by their entrepreneurial activity, being the source of considerable innovative activity, stimulating industry evolution and creating an important share of the newly generated jobs (Kiraka, Kobia & Katwalo, 2015).

Small and Medium Enterprises are estimated to account for at least 95% of registered firms in the world accounting for approximately 60% of private sector employment (Ntiamoah, Opoku, Abrokwah, Baah-Frimpong, & Agyei-Sakyi, 2014). They further state that in high income economies such as the European Union, SMEs account for 99.8% of all enterprises, employ 67% of all workers and contribute 58% of gross value added. In the US, SMEs create more than 50% of the nonfarm private GDP, create 75% of net new jobs in the economy and make up 97% of exporters and produce 29% of all export. Lloyd and Technikon (2002) as quoted in Mukumba (2014) indicate that the South African Government also realizes that SMEs are the logical kick start mechanism to job creation and future prosperity in the country, therefore the attitude from the government has changed significantly towards allowing new opportunities for entrepreneurs.

In Morocco, for example, 93% of industrial firms are SMEs, accounting for 38% of the production, 33% of investment and 30% of exports. The contribution of SMEs is considerably higher in South Africa. The estimated 91% of the formal business entities in South Africa that are SMEs contribute 52–57% to GDP. In Ghana, SMEs are even more prominent in the local economy, representing about 92% of Ghanaian businesses and contributing about 70% to Ghana's GDP (Abor & Quartey, 2010). In developing countries there are large number of micro-enterprises and some large enterprises, but far fewer formal SMEs, the phenomena is often referred to as the “missing middle”. International Labour Office and International Labour Conference (2015) points that this missing middle is seen as the root problem of sluggish productivity increases and low growth rates in developing countries. In some developing countries, informal SMEs far outnumber formal enterprises of the same size.

1.1.2 Small and Medium Enterprises Performance in Kenya

The Kenyan MSMEs 2016 survey indicated that majority of male owned establishments were licensed while most female owned establishments were unlicensed. In particular, 47.7 per cent of licensed MSMEs and 31.7 per cent of unlicensed MSMEs were male owned compared to 32.1 per cent of licensed

establishments and 61.0 per cent of unlicensed establishments which were female owned. Among partnerships, 16.7 per cent of licensed establishments had both male and female partners compared to only 5.8 per cent of unlicensed establishments. Basically, it was argued that women are concentrated in unlicensed businesses that are mostly micro and informal in nature compared to men. The report further indicated that majority of the closed businesses (failure rate) (54.9 per cent) were owned by women (Kenyan MSMEs 2016).

In Kenya, the SME sector has so far employed about 14.9 million people with the unlicensed enterprises contributing about 57.3 per cent and 29% of GDP (KNBS, 2016). The importance of the SMEs in Kenya was first recognized in the International Labour Organization report (ILO) in 1972 on Employment, Income and Equity in Kenya (ILO, 1972). The report underscores the SMEs as engines for incomes and employment growth. The SMEs create close to 80% of Kenya's employment (Africa Economic outlook, 2011). While the SMEs subsector constitute close to 80% of employment, (*Africa Economic Outlook*, 2011) reports that this only contributes to about 20% of the GDP. This implies that the SMEs subsector has been performing dismally despite its potential contribution to Employment, income and equity in Kenya (Ongolo & Awino, 2013).

Recently the role of SMEs in economic development and employment creation has occupied most of the discussions among government and other stakeholders in Kenya. The *Micro, Small and Medium Establishments (MSME survey Report)* conducted by Kenya Bureau of Statistics in 2016, provides the most recent comprehensive picture of SMEs in Kenya. The government over a period of time has initiated several policies in support for SMEs. Ongolo and Awino (2013) outlines these policy initiatives as; Current constitution, SME Act, Sessional Paper No. 2 of 2005, *The Industrial Master Plan* (2008), Private Sector Development Strategy, Business Incubation Policy, *Vision 2030* and Trade and Industry Policy.

In today's volatile business environment, small and medium-sized enterprises (SMEs) in Kenya experience high number of problems affecting their performance, profitability, success and survival. Katua (2014) established that small business

owners in Kenya and other countries have the same characteristics, face the same obstacles but differ in their understanding of how small businesses assist in economic growth. To combat these emerging challenges, SMEs must continuously innovate to reduce their cycle time and introduce cheaper products more quickly; with higher quality and that better satisfy customer and market needs (Chesbrough, 2010). Synchronizing continuous improvement and day-to-day management is of increased importance for success. SMEs that fail to embrace continuous innovation and development initiatives to enhance their performance and competitiveness jeopardize their sustainability. International Labour Office & International Labour Conference (2015) recommends that SME survival requires enabling environment, formalization of informal SMEs improve working conditions and SME productivity, value chain development and innovation.

1.1.3 Innovation in Small Medium Enterprises

Innovation is linked to the growth and performance of Small and Medium enterprises globally due the firm competitiveness that results from innovation. The extent to which innovation has been implemented among SMEs vary across the globe. A 2017 OECD survey on the level of innovation among SMEs in OECD countries indicated that on average, SMEs were less innovative than large companies. For example, across OECD countries, the median value in the national SME share of business R&D is 35%. Moreover, small firms (10-49 employees) are approximately only half as likely as large firms to have a business website allowing for online ordering and only one-third as likely as large firms to be using Enterprise Resource Planning (ERP), a software platform that integrates core business processes in real-time (OECD, 2017a)

The aggregated data from the survey demonstrated that a significant proportion of SMEs engage in all forms of innovation, especially in higher-income countries (Sweden, Australia, Italy, Canada and USA) and that even the smallest employer enterprises (less than 10 workers) can reach productivity levels above the large-company average (OECD, 2017b). The survey further indicated especially in science-driven sectors (biotech and nanotech), small businesses are often the source

of radical innovations, thanks to their flexibility and to their ability of working outside of dominant knowledge paradigms; for example, SMEs account for about 20% of patents in biotechnology-related fields in Europe (OECD, 2017d). SMEs also constitute the bulk of high-growth firms, which are quintessentially “innovative” enterprises able to grow fast over a short period of time thanks to disruptive changes in their ‘business as usual’ practices.

In comparison to local statistics, a study done by Kenya Association of Manufacturers (KAM) (2017) indicates that the presence of innovations, inventions and modifications are signs of growth and performance in SMEs. The study findings reveal that only a few (30%) of SMEs have come up with innovations in the last 3 years of their existence. The rest are just adopting existing innovations established elsewhere. Most of the firms also have not patented their innovations hence run the danger of copying and counterfeiting.

In addition, the Kenyan MSMEs 2016 survey indicated that licensed MSMEs spent about KSh 1.0 billion on all forms of innovation which is significantly low compared to that of other business overheads. In the same breadth, unlicensed businesses reported a monthly spending on innovation at KSh.28.0 Million. The report also indicated that product innovation was manifest in small establishments engaged in manufacturing, ICT, financial and health activities at 31.6, 33.3, 44.4, and 42.5 per cent, respectively. Survey results also show that process and marketing innovations were largely not common features among MSMEs.

An interrogation by Kiende, Anderson and Eshima as cited in Price, Stoica and Boncella (2013) stated that undertaking research on innovation in SMEs is vital since there is possibility of specific set of processes and resources involved that may help explain innovation as a critical factor in predicting SME performance. Innovation is the development of a new product, process or a new product, or the adoption of a new product. There are different types of innovation.

In their study, Mazzarol and Reboud (2008) cited in Abouzeedan, Klofsten and Hedner (2013) considered innovation to be related to new products or services, new production processes, new marketing techniques, and new organizational or

managerial structures. Innovation may also involve technology, intellectual property, business, or physical activity. It is rare that an organization undertakes one type of innovation without affecting other innovation. Innovation is important for SMEs as large companies recognize the ability of smaller firms to capture innovation, often tap the creativity of small growth-oriented firms to remain competitive, and have acknowledged that fostering innovation is very effective via linking to smaller entrepreneurial firms. SMEs innovation suggests that a combination of three basic dimensions: innovativeness, pro-activeness, and risk-taking, creates the factors closely tied to an entrepreneurial firm (Abouzeedan, Klofsten & Hedner, 2013).

Innovativeness in SMEs reflects a tendency to support new ideas, novelty, experimentation, and creative processes, thereby departing from established practices and technologies (Abouzeedan, 2011). The importance of a small firms' innovation strategy is that innovation is the single most important factor in predicting performance in SMEs. The challenge is to provide support to a large set of high-risk innovative startups and SMEs. The European Union (2017) opines that the challenge in innovation in SMEs is on non-existence of enterprises proposing disruptive innovative concepts, products and services applying new sets of rules, values and models which ultimately create new markets (for instance by tackling non-consumption) or disrupt existing markets.

1.1.4 Innovation in Small and Medium Women-Owned Enterprises

A survey done by United Nations Conference on Trade and Development (UNCTAD) (2013) found that women entrepreneurs as are innovative as their male counterparts once they overcome the innovation barriers facing them. Erogul and McCrohan (2008) cited in Tlaiss (2015) found that 89 per cent of women in Brazil, 76 per cent in Switzerland, 76 per cent in Sweden, 80 per cent in Uganda and 76 per cent in Jordan and the United States say that they have implemented a product or service innovation in the course of their enterprise performance. The barriers holding women entrepreneurs from achieving their entrepreneurial dreams can be both internal and external. The key external barriers to innovation include the difficulty of

accessing capital, difficulty of accessing skilled human resources and support networks, having cultural constraints, lacking a supportive legal and policy framework and having difficulties managing time due to family commitments (UNCTAD, 2013).

Women-owned enterprises need to constantly innovate in order to ensure sustainable performance and the broader success of any business (Goby & Eroglu, 2011). Tlaiss (2015) argued that innovation is the best way for stimulating growth in a firm. The most innovative firms realize higher turnover of products and services introduced within a period of time. In order for firms to perform, then they have to adopt an innovative approach that will enable them to gain a competitive edge in the prevailing business environment. Research points that most women-owned SMEs in Kenya are not innovative, and this affects negatively on their performance.

The Kenyan Business system has not fully integrated innovation to enhance competitiveness (Ministry of Science and Technology as cited in Mwangi, 2014). As a result, women-owned enterprises in key sectors such as manufacturing have not been able to become competitive. The contribution of manufacturing has stagnated at 11 percent over the past 15 years. Kenya's industrial structure continues to display insufficient linkages between the various categories of firms especially SMEs where most innovation takes place. In addition, most women-owned enterprises in manufacturing sector have not been able to develop technological competencies to acquire and apply knowledge from foreign firms. Little is documented on women-owned SMEs innovation and its related impact on growth of SMEs in Kenya (Mwangi, 2014).

1.2 Statement of the problem

Enterprises including women-owned enterprises of all sizes have realized the need for enhanced performance through continuous innovation in today's competitive business environments (Bastian, Sidani & El Amine, 2018). Al-Ansari, Pervan and Xu (2013) assert that to enhance performance, women-owned enterprises have the capability of achieving a competitive advantage by possessing resources and capabilities that are valuable, unique and difficult to imitate by others (Hsu &

Ziedonic, 2013); however, the sustainability of a competitive performance depends on their innovative capacities (Yanadori & Cui, 2013). Women-owned small and medium enterprises are important engines for innovation and technological advancement in any given economy (Al-Ansari, Pervan & Xu, 2013).

Compared to large firms, these enterprises might be more willing to undertake risky investments and innovative behaviors to improve their business performances (Jabeen, Faisal, Al Matroushi & Farouk, 2019). In Kenya, majority of the SMEs are in the manufacturing sector contributing 24.3 per cent of the SME's gross value added (MSME Basic Report, 2016). However, in Kenya statistics show that women-owned small and medium enterprises record high failure rate which can be linked to among other factors, their level of innovations. Kiraka, Kobia and Katwaro (2013) found out that incidences of decline or stagnation were significant at between 15 to 30 percent across the several measures of performance with innovations in terms of services, markets and sources of raw materials being less common among women owned enterprises. The MSME Basic Report (2016) survey results showed that product innovation was manifest in SMEs engaged in manufacturing sector at only 31.6%. The survey results also show that process and marketing innovations were largely not common features among Kenyan women-owned SMEs. The report added that on average, SMEs failed at the age of 3.8 years. Again, new start-ups started or acquired within the last two years were more vulnerable to failing and they accounted for 61.3 per cent of the total enterprises closed (MSME Basic Report, 2016; World Bank, 2010). Over 30% of all SMEs in Kenya are owned by women (Foster, 2016).

In Kenya, women-owned SMEs report earning only 57% of income that male business owners earn. They also have fewer employees (World Bank, 2010). The MSME Basic Report (2016) stated that at inception, the proportion of male entrepreneurs was 36.4% and female 63.6% of the total entrepreneurs, however, at the time of the survey the proportion of male had increased to 42.9 per cent and the females decreased to 57.1%. This indicates that the performance in male entrepreneurs was higher than those of women-owned enterprises in the manufacturing sector. The inability to innovate among women-owned enterprises

leads to high casualty rates (World Bank, 2010). Women-owned SMEs have important contributions to make to innovation and development of the Kenyan economy. Whereas previous research has been on types of innovation among SMEs (Walobwa, Ngugi & Chepkulei, 2013; Mwangi & Namusonge, 2014; Kiraka, Kobia & Katwalo, 2015), studies focusing on the link between innovation and performance of women owned SMEs are limited. While previous studies have made efforts to interrogate how innovations affect performance of SMEs, this study adopted a narrow context by focusing on the women owned SMEs given their high failure rate as demonstrated above. In addition, generalizability and transferability of previous findings from such studies across boundaries need further investigation. Therefore, this study sought to determine the influence of innovation on the performance of small and medium women owned enterprises in Nairobi City County.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to assess the influence of innovation on the performance of small and medium women-owned enterprises in Nairobi City County.

1.3.2 Specific Objectives

- i. To determine the influence of technological innovation on the performance of small and medium women-owned enterprises in Nairobi City County.
- ii. To establish the influence of marketing innovation on performance of small and medium women-owned enterprises in Nairobi City County.
- iii. To assess the influence of organization innovation on performance of small and medium women -owned enterprise in Nairobi City County.
- iv. To identify the influence of strategic innovation on the performance of small and medium women-owned enterprises in Nairobi City County.
- v. To establish how environmental factors moderates the relationship between innovation types and the performance of small and medium women-owned enterprises in Nairobi City County.

1.4 Research Hypotheses

The study sought to test the following five alternative hypotheses:

H_{a1}: There is a significant positive influence of technological innovation and performance of small and medium women-owned enterprises in Nairobi City County.

H_{a2}: There is a significant positive influence of marketing innovation and performance of small and medium women-owned enterprises in Nairobi City County.

H_{a3}: There is a significant positive influence of organization innovation and performance of small and medium women-owned enterprise in Nairobi City County.

H_{a4}: There is a significant positive influence of strategic innovation and performance of small and medium women-owned enterprises in Nairobi City County.

H_{a5}: Environmental factors positively moderates innovation types on the performance of small and medium women-owned enterprises in Nairobi City County.

1.5 Significance of the Study

The study findings are expected to be of importance to the government policy makers, women owned enterprises and future researchers among other stakeholders. The government policy makers at MSEA and Ministry of Trade and Commerce can use the study recommendations to guide development of policies aimed at enhancing the uptake of innovation among the SMEs sectors. In understanding its effect on performance, policies can be implemented to guide speedy uptake of innovation in this important sector.

Entrepreneurs and the owners of the SMEs can also benefit from the recommendations of the study. Having established the most significant innovations,

the owners of the SMEs can make efforts and come up with plans and practices to adopt innovations with an aim of improving their performance.

Future researchers and scholars in entrepreneurship who are specifically interested in linking innovation to SMEs performance can build further on the research gaps from this study. The study has presented areas for further study which can guide further theoretical and empirical knowledge creation in the area. More types of innovations can be interrogated in other contexts to widen the concept and context of the study.

1.6 Scope of the Study

The general objective of the study was to assess the influence of innovation on the performance of small and medium women-owned enterprises in Nairobi City County. Four innovation variables were discussed: technological, marketing, organizational and strategic innovations. 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). Based on their arguments, the main vital innovations are the four types.

The study further focused on women-owned enterprises in SMEs sector since their enterprises are not performing. 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 MSME Basic Report (2016). Nairobi County was 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. At inception, the proportion of male entrepreneurs is 36.4 per cent of the total entrepreneurs, however, at the time of the survey the proportion of male entrepreneurs had increased to 64.3 per cent with females decreasing to 33.7%. This indicates that the performance in male entrepreneurs is higher than those of female entrepreneurs in the manufacturing sector. The study focused on the women-owned SMEs that have been registered in Nairobi County. The study was undertaken from 2016-2018.

1.7 Limitations of the Study

Limitations were experienced during the data collection process. Some of the women did not feel comfortable responding to the questionnaire fearing that the information being sort would be used for other purposes other than academic. In such a case, the researcher employed ethical values of confidentiality and assured the respondents that the information they give is only for academic purpose only and not any other reason. In addition, the respondents were assured of anonymity where they were not required to indicate their names on the questionnaire.

Due to high illiterate rate among some of the respondents, it was difficult to read and interpret the technical terms used in the questionnaire. In such cases, the researcher provided clarifications and explained to the respondents. Due effort was made to reduce bias in sampling. To ensure representative sampling, the respondents were proportionately sampled from across the 18 Sub-Counties of Nairobi. The limitation of sampling bias was thus managed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section outlines the literature used in conceptualizing the research study. It entails theoretical orientation, theoretical framework, conceptual framework literature review and critique, research gap and summary.

2.2 Theoretical Framework

Three theories anchored this study: Schumpeter Theory of Innovation as proposed by Joseph Schumpeter, Dynamic capability theory as introduced by David Teece, Gary Pisano and Diffusion of Innovation (DOI) theory as developed by E.M. Rogers, Expectancy Theory by Vroom and the Unified Theory of Acceptance and Use of Technology by Venkatesh *et al.* (2003).

2.2.1 Schumpeter Theory of Innovation

Schumpeter (1928) cited in Baba, Omwenga and Mung'atu (2018) argued that entrepreneurs can create the opportunity for new profits with their innovations. In turn, groups of imitators attracted by super-profits would start a wave of investment that would erode the profit margin for the innovation. The theory emphasized the role of entrepreneurship and the seeking out of opportunities for novel value generating activities which would expand and transform the circular flow of income, but it did so with reference to a distinction between invention or discovery on the one hand and innovation, commercialization and entrepreneurship on the other.

This separation of invention and innovation marked out the typical nineteenth century institutional model of innovation, in which independent inventors typically fed discoveries as potential inputs to entrepreneurial firms. The author further saw innovations as perpetual gales of creative destruction that were essential forces driving growth rates in a capitalist system (Malerba & McKelvey, 2020). Profits would start a wave of investment that would erode the profit margin for the

innovation. The theory emphasized the role of entrepreneurship and the seeking out of opportunities for novel value generating activities which would expand and transform the circular flow of income, but it did so with reference to a distinction between invention or discovery on one hand and innovation, commercialization and entrepreneurship on the other.

Schumpeter further saw innovations as perpetual gales of creative destruction that were essential forces driving growth rates in a capitalist system. The theory distinguished between the entrepreneurs whose innovations create the conditions for profitable new enterprises and the bankers who create credit to finance the construction of the new ventures (Mehmood, Alzoubi, Alshurideh, Al-Gasaymeh & Ahmed, 2019). Schumpeter's brief discussions of historical episodes of innovations in the field of enterprise performance like banks might appear to suggest a positive role for innovations in enhancing the performance of entrepreneurial ventures. For all his insight on the role of innovation, Schumpeter still did not really explain the source of innovation despite pointing out its importance.

The importance of innovation was highlighted by many researchers as cited by Florida, Adler and Mellander (2017) who were able to demonstrate how little neoclassical economics was able to explain performance of firms. In establishing the link between innovation and performance of SMEs, previous studies have also adopted the theory. A study by Kiraka, Kobia and Katwalo (2015) anchored on the theory to interrogate the relationship between Micro, small and medium enterprise growth and innovation in Kenya, Jabeen, *et al.* (2019) also anchored on the theory to interrogate the determinants of innovation decisions among Emirati female-owned small and medium enterprises. International Journal of Gender and Entrepreneurship as well as Baba *et al.* (2018) who anchored on the theory to establish the influence of innovation and performance of Small and Medium Enterprises in Nigeria.

This theory is applicable in this study since sustained innovations of various investments in physical as well as intangible assets in SMEs may lead to enhanced performance. Schumpeter's innovation theory recognizes the importance of innovations in predicting the general performance of entrepreneurial firms. Thus, the

theory will anchor the organization; marketing, technological and strategic innovations as key attributes that may influence the performance of women-owned SMEs. Secondly the theory offers a platform for developing data collection instrument, measurement and the interpretation of how firm performance is influenced by organization, marketing, technological and strategic innovations.

2.2.2 Dynamic Capabilities Theory

Dynamic capability theory was initially introduced by David Teece and Gary Pisano in 1994 according to Gizawi (2014). They defined it as the ability to achieve new forms of competitive advantage by being flexible and fast in dealing with changing market environments. In the attempt to advance this reasoning, the study argued that while resource-based view recognizes the mechanisms that enable competitive advantage, it does not attempt to explain how these mechanisms operate. The environment in which entrepreneurs are currently operating is very dynamic and this has been further complicated by technological disruptions and thus managers need to employ capabilities that enable them to survive the competition. This is echoed by Zitkiene, Kazlauskiene and Deksnys (2015) who stated that entrepreneurs in highly competitive and constantly changing environment, enterprises need to be able to anticipate changes and prepare to make changes in their strategy, in order to gain and maintain competitive advantage. The ability to do this systematically has been referred as dynamic capability and its main goal is to explain long term competitive advantage of the firm.

Dynamic capabilities theory grew as an extension to resource based view, which states that an enterprise will outperform its competitors if it has resources which are valuable, rare, difficult to imitate and substitute. Strategic innovation is one such resource that an enterprise can possess and which can enhance the entire performance. The fundamental concern in the field of entrepreneurship is the antecedent of enterprise performance and how entrepreneurs achieve and sustain competitive advantage in their firms. This concern can be addressed by developing the dynamic capabilities approach through strategic innovation which attempts to analyse the sources of wealth creation and wealth capture by firms. Dynamic

capability approach is relevant in a Schumpeterian world of strategic innovation-based competition, performance rivalry, increasing returns, and the creative destruction of existing competences (Kamau, 2020).

Gizawi (2014) added that competitive advantage would be attributed to those enterprises that are able to react rapidly and flexibly through strategic innovation, while simultaneously possessing the capacity to manage firm specific capabilities in such a way as to effectively coordinate and redeploy internal and external competences. The dynamic capability theory views competition in Schumpeterian terms, where enterprises are constantly seeking to create “new combinations” or innovations and competitors in the marketplace are continuously attempting to improve their competences or to imitate the competence of their most qualified competitors. Rivalry is thus inevitable in Schumpeterian terms, which implies that a firm’s ability to improve or develop new types of competences through strategic innovation is imperative in developing long-term competitive advantage.

Eisenhardt and Martin (2000) as presented by Mutiso (2018) demonstrated that dynamic capabilities are made of specific processes through strategic innovations, such as development of new products, making alliances in the industry, making strategic decisions, that help organizations to compete in rapidly changing environments. Managers reconfigure various capabilities to adjust them to new strategies. Dynamic capabilities show commonalities across different firms and often are used as example of best practice methods. Other studies such as Kamau, Senaji and Nzioki (2019) anchored on the theory to establish the effect of information technology capability on competitive advantage of the Kenyan banking sector, De Guinea and Raymond (2020) adopted the theory in interrogating an enabling innovation in the face of uncertainty through IT ambidexterity while Nyachanchu, Chepkwony and Bonuke (2017) anchored on the theory to establish the role of dynamic capabilities on the performance of manufacturing firms in Nairobi County, Kenya.

This theory is applicable in this study since dynamic capabilities value lies in the reorganization of resources of women-owned enterprises and in specific capabilities

within the enterprise. Dynamic capabilities in women-owned enterprises are important for they support the necessity of strategic innovation in enhancing the differentiation and the re-position of the competitive advantage of the enterprise thus enhancing its performance levels. The theory also demonstrates that through strategic innovation, women-owned enterprises may have the capability to compete rapidly in changing business environments. The theory supports the formulation of questions and interpreting the information on strategic innovation variable.

2.2.3 Diffusion of Innovation (DOI) Theory

Diffusion of Innovation (DOI) theory was developed by Rogers in 1962 as cited by Mehmood and Al Mamun (2018). It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person or enterprise does something differently than what they had previously (purchase or use a new product, acquire and perform a new behavior). The key to adoption is that the person/enterprise must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible (Zitkiene *et al.*, 2015).

Adoption of a new idea, behavior, or product innovation does not happen simultaneously in the field of entrepreneurship; rather it is a process whereby some proactive enterprises/entrepreneurs are more apt to adopt the innovation than others. Entrepreneurs who adopt an innovation early have different characteristics than those who adopt an innovation later (Toushan & Masri, 2020). When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder adoption of the innovation. There are five established adopter categories, and while the majority of the general population tends to fall in the middle categories, it is still necessary to understand the characteristics of the target population. When promoting an innovation, there are different strategies used to appeal to the different adopter categories (Gizawi, 2014).

Innovators are entrepreneurs who want to be the first to try the innovation. They are venturesome and interested in new ideas. These entrepreneurs are very willing to

take risks and are often the first to develop new ideas. Very little, if anything, needs to be done to appeal to this population. Early Adopters are entrepreneurs who represent opinion leaders. They enjoy leadership roles and embrace change opportunities. They are already aware of the need to change and so are very comfortable adopting new ideas. Strategies to appeal to this population include how-to manuals and information sheets on implementation (Senarathna, Wilkin, Warren, Yeoh & Salzman, 2018). They do not need information to convince them to change. Early Majority are entrepreneurs who are rarely leaders, but they do adopt new ideas before the average person. That said, they typically need to see evidence that the innovation works before they are willing to adopt it. Strategies to appeal to this population include success stories and evidence of the innovation's effectiveness (Zitkiene *et al.*, 2015). Late majority are entrepreneurs who are skeptical of change and will only adopt an innovation after it has been tried by the majority. Strategies to appeal to this population include information on how many other people have tried the innovation and have adopted it successfully. Laggards are entrepreneurs who are bound by tradition and very conservative. They are very skeptical of change and are the hardest group to bring on board. Strategies to appeal to this population include statistics, fear appeals, and pressure from people in the other adopter groups (Tariq, Pangil & Shahzad, 2017). The stages, by which an entrepreneur/enterprise adopts an innovation, and whereby diffusion is accomplished, include awareness of the need for an innovation, decision to adopt (or reject) the innovation, initial use of the innovation to test it, and continued use of the innovation (Tariq, Pangil & Shahzad, 2017).

The theory is applicable in women-owned SMEs, diffusion of innovation may be accelerating the adoption of important organization and market innovations through new procedures, routines and programmes in new markets that typically aim to change the organizational and marketing behavior of the women entrepreneur and possibly the entire enterprise. Other studies such as Al Mamun (2018) used the theory to establish diffusion of innovation among Malaysian manufacturing SMEs, Stieninger and Nedbal (2014) applied the theory to interrogate diffusion and acceptance of cloud computing in SMEs as well as Njogu (2014) who applied the

theory to establish the effect of innovation on the financial performance of small and medium enterprises in Nairobi county, Kenya.

The theory is also applicable since women-owned enterprises may adopt new innovation that may enable them to understand the target customer base and the market factors further influencing the rate of adoption of new organization and market innovations. The theory will thus anchor the organization and marketing innovations as possible predictors of the performance of women-owned SMEs. It will offer guide in developing data collection instrument and the interpretation of information marketing innovations and organization variables.

2.2.4 Expectancy Theory

Vroom (1964) as cited in Manzoor, Wei, Nurunnabi, Subhan, Shah and Fallatah (2019) came up with the Expectancy theory (or expectancy theory of motivation). Vroom's expectancy theory assumes that behavior results from conscious choices among alternatives whose purpose it is to maximize pleasure and to minimize pain. Vroom realized that an entrepreneur's performance is based on individual factors such as personality, skills, knowledge, experience and abilities. The theory argued that effort, performance and motivation are linked in a person's motivation. The theory uses the variables Expectancy, Instrumentality and Valence to account for this.

The theory proposed that a person's behaviour is motivated by the expectation that her behaviour will lead to certain outcomes, together with the values she places on those outcomes. The theory was situated on the notion that behaviour is a function of interaction of personality and the environment. Vroom's theory built on the concepts of valence, instrumentality and expectancy. Applying this to women entrepreneurs as managers or owners of women-owned enterprise, it is expected that the strategic level at which individual women entrepreneurs will engage in entrepreneurial innovative behaviour is dependent on how well they desire performance (valence), their perceived probability that their efforts will lead to achievement of their goal (their enterprise performance) and that their innovativeness will have a positive effect on their enterprise (Orser & Riding, 2018).

Nevertheless, a study by Cliff (1998) as presented in Bauwens, Huybrechts and Dufays (2020) showed that women entrepreneur's value personal considerations as more important than economic considerations for business performance decisions. It can, therefore be argued that the different approaches to venture creation and involvement among women entrepreneurs will depend on their strategic preparedness and may lead to their enterprise expectancies through innovation that eventually will enhance performance. Applying the theory, other studies such as Muteru (2013) established the effect of microfinance institutions on growth of women owned enterprises as well as Mwathi (2018) interrogated the determinants of performance of Women-Owned Small and Medium Enterprises in Nairobi County.

The theory is important in explaining organization innovation in women-owned SMEs since through the theory of expectancy the women entrepreneurs' desire to innovate in order to enhance the performance of their enterprises will depend on the interaction of individual women entrepreneur and the environment the enterprise is located. The women-owned enterprises will be innovative if the environment supports the organization effort to embrace innovation. The readiness of the women entrepreneurs to support the enterprises' performance will depend on the willingness to embrace innovation in their enterprises. This theory will thus anchor organization innovation by demonstrating how interactions with the environment shape innovation decisions. The theory also supports development of data collection tools and measurement of the model.

2.2.5 The Unified Theory of Acceptance and Use of Technology

The theory was proposed by Venkatesh *et al.* (2003) as cited in Ikumoro and Jawad (2019). It argues that the behavioral intention of accepting an innovation is dependent on performance expectancy, effort expectancy and social influence which have a direct influence on behavioral intention among other external factors such as legal and regulatory environment, industry factors, gender of the users, age, experience and voluntariness of use which determine the actual use behavior of the system.

According to the theory, performance expectancy is the perception the individual has that the system will improve job performance which he argued was the most influential factor on behavioral intention on innovation. On the other hand, effort expectancy reflects the amount of time and degree of effort individuals think will be spent using the system while social influence is what the user considers others to think of a system (Dwivedi, Rana, Tamilmani & Raman, 2020). However, the external environment is also important in influencing how an innovation would produce the performance expectations.

The theory was adopted by Abdat (2020) in predicting social media adoption among Indonesian SMEs as well as Khazaei (2020) to explain the adoption of Blockchain Technology among Malaysian SMEs. Locally, the theory was adopted by Muathe and Muraguri-Makau (2020) to interrogate acceptance and adoption of E-Commerce in the Health Sector in Kenya. This theory is relevant in underlining the importance of a conducive legal and regulatory environment in realizing the extent of innovation adoption together with its influence on performance. It demonstrates that the external environment will shape how innovation influences performance expectations in the organization. It can thus be linked to the moderating variable of the study.

2.3 Conceptual Framework

A conceptual framework is a presentation where a researcher conceptualizes or represents the relationships between variables in the study and shows the relationship graphically or diagrammatically (Orodho, 2008; Mugenda, 2008). The study seeks to examine the influence of innovation on the performance of women-owned small and medium enterprises in Kenya. These variables in the conceptual framework were derived from theories identified and literature from different scholars in the study. Specifically, Schumpeter theory of innovation informed the choice of the various innovation types.

In addition, the choice is supported by previous studies such as Casadesus-Masanell and Zhu (2013), UNCTAD (2013) and Gupta (2013) who argued that there are different types of innovation related to new products or services, new production processes, new marketing techniques and new organizational or managerial

structures. Therefore, the independent variables of the study are technological innovation, marketing innovation, organization innovation and value strategic innovation which will influence the performance of women-owned small and medium enterprises as the dependent variable. Their relationship is moderated by environmental factors (Figure 2.1).

Conceptual Framework

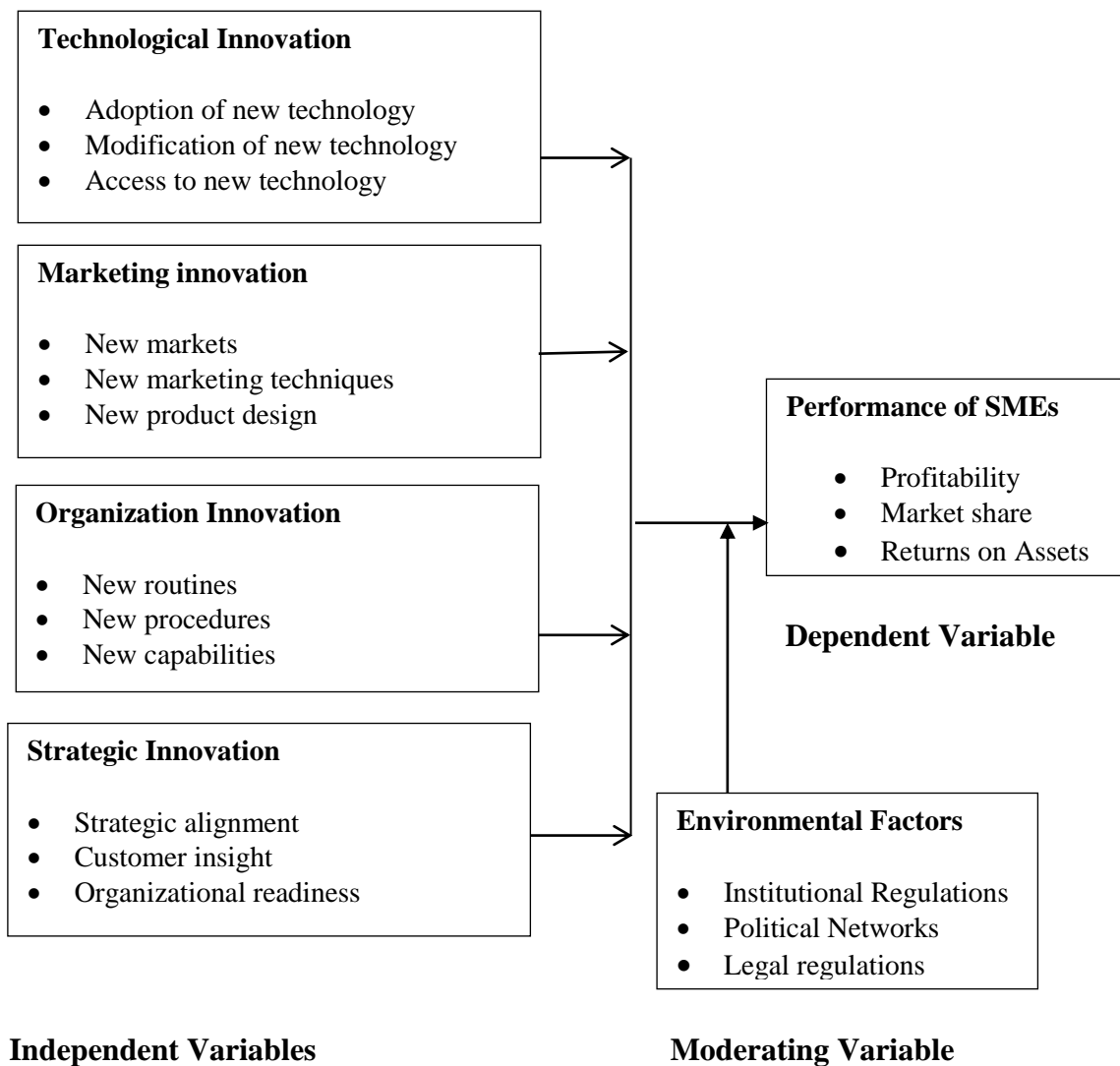


Figure 2.1: Conceptual Framework

2.3.1 Technological Innovation

Innovation has been shown to be a key pillar in the success of entrepreneurship. Ndesaulwa and Kikula (2016) posit that innovation is the process of introduction of new or improved processes, products or services arising from new scientific or technology knowledge and ability of innovative entrepreneurs. 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.

Littunen (2010) opine that innovation is divided into five main types which are product, process, marketing, technological and organizational innovation. Trott (2008) cited in Moraes Silva, Lucas and Vonortas (2020) also states that there are different types of innovation related to new products or services, new production processes, new marketing techniques, and new organizational or managerial structures. Each of these types relies on technology as medium to innovate both through the social networking, free access to information via internet and also machines or technology tools in business operation. In this study, the focus will be on technological, marketing, organization and strategic innovations.

There exists a strong relationship between technological innovation and the performance of SMEs in different industries. According to Schumpeter theory, technological innovation refer to a new means of combining factors of production resulting from a change in inputs to produce outputs. Schumpeter argued that technological innovation is quite important to an understanding of economic performance of a nation or a firm. Nurulhasanah, Zulnaidi and Rafisah (2015) state that technological innovation refers to the process by which firms master and implements the design and production of products/services that are new to the business irrespective of whether the products/services are new to their competitors or their customers or the world. Tidd and Bessant (2010) defined successful SMEs as those who innovate by adopting technologies with the intention of providing them with market competitive edge. In other words, they claimed that SMEs that practice

innovation demonstrate enhanced and sustainable performance compared to others who do not use technology.

Maclaurin as cited in Akinwale, Adepoju and Olomu (2017) identified five steps leading to technological innovations which are research on pure sciences, invention, innovation, finance, and acceptance (or diffusion). Such a standardized theory perceived innovation as a process of technological changes. They further ascertain that technological innovation is a unified process which entails activities of technology, organizations, business and finance. It means that the entrepreneurs seize the market prospects for commercial benefits as the goal to create a stronger performance, more efficient and lower cost of production and operation system. From this process, new products and production method are introduced, new markets are exploited, new raw materials or semi-finished products are obtained, and new business organizations are formed.

Jiang as cited in Bala-Subrahmanya (2012) examines the dynamic mechanism of technological innovation activities. The work argued that the main driving force of technological innovation of enterprises consists of six important factors. These factors include the benefit drive, the market or social demand pull, the driving force of enterprise employees, the corporate image and the driving force of technological development, market competition and the driving force of government. The first four are the internal forces which make enterprises accumulate technological capability, carry on technological innovation, and rest are external which force enterprises to produce innovation behaviour.

Based on the relevance of technological innovation, Akinwale, Adepoju and Olomu (2017) noted that technological innovation capability should be defined to be under the condition of certain scale, technology and economy. It is pertinent that entrepreneurs should make good use of available resources for technological innovation. Considering the economic nature of a developing country, technological innovation is referred to the process by which firms master and implements the design and production of goods and services that are new to them irrespective of whether they are new to their competitors, their customers or the world.

Technological innovation involves a sequence of activities such as application of new technology and methods; adopting new techniques in production and new management tactic or strategy; improving quality of production; developing new production; providing new service; exploring new market and realizing market value. It can be deduced that technological innovation of enterprises is the innovation in Research & Development, production, sale and management.

In addition, Ghobakhloo and Ching (2019) argued that technological innovation encompasses a series of activities such as conceptualizing new ideas, designing products, prototyping, producing in volume, marketing, and commercializing among others. It is a process of knowledge creation, conversion, and application. The essence of technological innovation is the emergence of new techniques in production and its commercial application. It is only through continuous product innovation that SMEs can increase their competitive advantages and cope with market opposition.

Dobbs and Hamilton (2007) cited in Chong, Ong, Abdullah and Choo (2019) also affirmed that the promotion of sustainable development of SME through technological innovation can be revealed through the application of information technology as a driving mechanism to stimulate industrialization. The use of automated means in all types of industries will transform technology level of traditional industries so as to enhance and lay a solid foundation for industrial competitiveness as well as restructuring the old industrial enterprises thereby improving organizational structure of SME, boost the vitality of traditional enterprises and promote enterprise collaboration. More so, through technological innovation and transformation, SMEs are opportune to transform and improve the techniques of their performance (Chong *et al.*, 2019).

Technology is important to support and promote SMEs development as it is responsive to local economies and results in distinctive products and services. Initiatives to support indigenous technology should therefore aim to link SMEs with technology specialists in order to generate an enabling environment that develops technology capacity (Wang, 2019). This is likely to result in a great performance of

SMEs as it provides differentiated products, services and technical services in accordance with the resources available and the market needs in the context of these SMEs. Kongmanila and Takahashi (2009) cited by Yao, Crupi, Di Minin and Zhang (2020) argued that the relationship between technological innovation and profitability helps to ascertain actions and policies to improve the competitive position of firms

2.3.2 Marketing Innovation

Marketing innovation is defined as implementing new marketing method that involve significant changes in the packaging, design, placement and product promotion and pricing strategy. Masood, Sadia, Multan, Saqib and Saman, (2013) opine that marketing innovation is the implementation of a new marketing methods involving significant changes in product design or packaging, product placement, product promotion or pricing. The objective of marketing innovation is to increase the sales and market share and opening new markets. The distinctive feature for the marketing innovation from the other types of innovation is the implementation of new marketing method that the firm has never been implemented before.

The product design, that only changes the appearance of the product and does not change the features and functionality of the product, is also marketing innovation (Chong *et al.*, 2019). Marketing innovation is non-technological innovation. Firms bring innovation in their marketing methods to bring efficiency in their business (Littunen, 2010). Marketing innovation is developing new techniques, methods for marketing. Developing new techniques, methods and tools for marketing have significant role in success of the organizations. The example of marketing innovation is ‘changed ways for collecting customer’s information’. Firms now use computer software to collect customer information. The new formats of trading involving the use of online store is an example of marketing innovation.

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 (Adla, Gallego-Roquelaure & Calamel, 2019).

Market innovation is concerned with improving the mix of target markets and how chosen markets are best served. Its purpose is to identify better (new) potential markets; and better and new ways to serve target markets. Market segmentation, which involves dividing a total potential market into smaller more manageable parts, is critically important if the aim is to develop the profitability of a business to the full (Akinwale, Adepoju & Olomu, 2017).

Incomplete market segmentation will result in a less than optimal mix of target markets, meaning that revenues, which might have been earned, are misread. It is the prime responsibility of marketing specialists to provide such insights (Leckel, Veilleux & Dana, 2020). Sometimes this responsibility is seen to cover solely the identification of present and future geographical market opportunities. A very wide range of possible criteria exists for segmenting, stretching from objective criteria based on demographic data through to subjective criteria based on lifestyle interpretations of consumer and business buying behaviour (Saunila, 2019).

2.3.3 Organizational Innovation

Organizational innovation is the competitive advantage that can be obtained from the qualified human resources which enable the organizations to compete and perform on the basis of quality and innovation. The organizational innovation is believed to be the capability of generating value, products, services, ideas (Leckel, Veilleux & Dana, 2020). It is the beneficial and original procedures for achieving a change and development in the organization's outcomes and it is represented by the capability to create methods and techniques and ideas for work that help in improving work field's circumstances, employees' motivation, increasing employees' capabilities and talents to achieve the best productivity goals and performance (Rajneesh & Kaur, 2014).

Organizational innovation is the introduction of new practices of doing business, workplace organizing methods, decision making system and new ways of managing external relations (Littunen, 2010). It involves the implementation of new ways of organizing business practices, external relations, and workplace. Organizational innovation is new ways of organizing routine activities. Through organizational innovation, firms change the method of organizing that has not been implemented

before. Organizational innovation can increase the performance of the organization by decreasing the transaction cost and administrative cost (Littunen, 2010).

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 (Akinwale, Adepoju & Olomu, 2017). Organizations bring changes in their organizational setup. They change the ways of organizing things to compete with their competitors and satisfy the customers.

According to Chege, Wang and Suntu (2020), the organizational innovations are strongly linked with all administrative efforts to renew organizational routines, procedures, mechanisms, systems, etc. and in order to renew teamwork, sharing of information, coordination, collaboration, learning and innovation. The organizational innovation is considered a source of sustainable competitive advantage (Foster, 2016). Additionally, organizational innovations are strongly associated with all administrative efforts to renew organizational routines, procedures, mechanisms, systems, etc. and in order to promote teamwork, sharing of information, coordination, collaboration, learning and innovation (Oluwaseun, Opeyemi & Oluwaseun, 2016). As regarded by a growing body of researcher's innovation is a catalyst of growth in business and economy.

Organizational innovativeness involves the firms' capacity to engage in new enterprise that is, introduction of new processes, products or ideas. This capacity to innovate is among the most important factors which influences the business performance and as such, innovativeness is amongst the unique culture which embeds in the tangible and intangible resources leading a firm towards successful business performance. Organizational innovation also influences the performance of the firm's quality of work, information exchange, capacity of learning and the use of new knowledge and technologies. It involves the implementation of new methods of organization of the routines and the procedures of execution of the works (Dubé, 2012).

2.3.4 Strategic Innovation

Strategy innovation involves changing the business models; the template on how the firm is going to make money - to make an enterprise more competitive. Strategic innovation requires changing or bringing new value propositions, services and production processes strategic innovation is determined by what organizations want to achieve from the innovation process. Strategic innovation is a strategic tool effective for aligning the firm's resources and capabilities with opportunities in the external environment in order to enhance survival and long-term performance of the organization (Akinwale, Adepoju & Olomu, 2017).

Strategic innovation is considered as developments and new applications, with the purpose of launching newness into the economic area of an enterprise. It can be conceived as the transformation of knowledge to commercial value. Innovation has great commercial importance due to its potential for increasing the efficiency and the profitability of companies. The key reason for innovativeness is the desire of firms to obtain increased business performance and increased competitive edge. Enterprises procure additional competitive advantage and market share according to the level of importance they give to innovations, which are vital factors for firms to build a reputation in the marketplace and therefore to increase their market share (Lilly & Juma, 2014).

Strategic innovation emanates from unexpected occurrences, incongruities, process needs and market changes. Strategic innovation occurs in response to demographic changes around the globe which create new combination of who, what and how of strategic innovators. Katua (2014) argues that new needs that arise due to shifts in consumer preferences, manifested by mapping the neglected segments by competitors, presents insightful source for strategic innovation. There are two distinct types of strategic innovation orientation measures. One identifies whether the organization has an innovation strategy. The other assumes that strategy exists and explores its effectiveness by further measures of strategic fit (Katua, 2014). It has been found that more innovative firms adopt different operational strategies to

accommodate flexibility and quality capabilities and have a range of different financial means to facilitate slack resources.

Strategic innovations can actually enhance the firm performance in several aspects. Particularly, four different performance dimensions are employed to represent firm performance. These dimensions are innovative performance, production performance, market performance and financial performance. Strategic innovation has a considerable impact on corporate performance by producing an improved market position that conveys competitive advantage and superior performance (Lily & Juma, 2014). According to Markides as cited in Shisia, Matoke and Omwano (2014) strategic innovations are seen as the product of activists, be it middle managers, representatives from different organizational functions, young people, new comers, or people at the organizational periphery. Lin and Chen (2007) cited in Mohammadian, Mohammadian and Assante (2020) posit that managed innovation process combines both the traditional and nontraditional approaches to business strategy. They argued that the process is the creative core of the strategic innovation process embracing both the divergent and convergent thinking models. The process facilitates the interplay of external perspective and the internal firm's capabilities and in so doing enables the firm to look beyond the obvious.

2.3.5 Environmental Factors

The first tenet of resource dependence theory suggests that managers interpret demands and dependencies in their environment prior to making strategic choices and instituting adjustments to organizational strategies (Crossan & Apaydin, 2010). In this respect, the effectiveness of product innovation strategies of new technology ventures in depends on managerial perceptions of the peculiarities of the transitional economic environment. New technology ventures in SMEs face more complex environmental situations than their counterparts in large firms. The relatively underdeveloped government, legal, and financial institutions in a country lead to environmental turbulence as well as dysfunctional competition. Thus, the effectiveness of innovation in ventures' use may depend not only on how the owners/managers manage environmental turbulence and dysfunctional competition

but also on the degree of support they receive from government institutions to alleviate their resource and managerial problems (Foster, 2016).

Dysfunctional competition refers to the extent to which the competitive behavior of firms in a market is opportunistic, unfair, or even unlawful. Given the inadequate legal framework that defines and protects property rights in transitional economies, SMEs engage in widespread opportunistic and unlawful behavior with the tacit support of local authorities in some cases (Crossan & Apaydin, 2010). For example, it has been observed that patent and copyright violations, broken contracts and agreements, and unfair competitive practices have become widespread in the business environment. The intellectual property rights of new technology ventures resulting from product innovation may go unprotected, making product innovation a highly risky and less profitable strategy. Thus, in such a dysfunctional competitive environment, new technology ventures' dependence on external resources becomes vital for their survival (Trotter, 2008).

Institutional support reflects the extent to which administrative institutions (such as government departments) provide support for SMEs in order to reduce the adverse effects of the inadequate institutional infrastructure in the transition process. In a developing economy like Kenya, the redistributive institutions interact with market forces in a manner that subordinates market institutions. Thus, although new technology ventures in such economies may receive support from government institutions, such support is particularly significant for those SMEs given their underdeveloped status (Crossan & Apaydin, 2010).

Environmental turbulence refers to the degree of change and unpredictability of a market environment. New technology ventures tend to adopt a product innovation strategy in a turbulent environment because such an environment triggers "unlearning" of current routines and offers novel opportunities to take advantage of emerging market needs. For these reasons, extant research suggests a product innovation strategy leads to higher performance in volatile environments. For example, Lily and Juma, (2014) found that, in contrast to small firms in stable and

benign environments, those in volatile and hostile environments obtained higher performance from product innovation.

The ability of an SME to gain political networking to benefit from government tenders, and favorable loans is decisive for its overall performance. Political networking refers to a SMEs' allocating resources to cultivate relationships with government officials, banks, and administrative and other regulatory agencies. Institutional support reflects the degree of support from government institutions perceived by a new venture's manager/owners (Gunday, Ulusoy, Kilic & Alpkam, 2011). Political networking is a concept similar to use of personal connections and the exchange of favors and is seen as a potential substitute for the lack of institutional infrastructure. Providing testimony for its moderating role, Li and Atuahene-Gima (2001) as cited in Abbas (2019) found that prospector firms achieved better performance from market, technological and strategic innovation efforts than other types of firms did, because owner/managers placed more emphasis on engaging in political activities to support those efforts.

2.3.6 Performance of SMEs

Innovation may influence organizational performance in different ways, such as facilitating adaptation to environmental change, increasing the efficiency or effectiveness of internal processes, gaining prestige and reputation in the institutional environment, and producing financial or economic gains (Crossan & Apaydin, 2010). Several factors affect performance in SMEs. The major factor has been shown as lack of capital and financial resources. However, ILO (2015) found that additional capital and finance can be overcome through innovation and creativity. Business owners in Africa tend to depend upon their own family savings and access to capital remains a challenge. Most of them cannot meet the requirements for commercial loans, and those who do find such loans expensive. Administrative problems have been cited as a major cause of business failure.

Kazooba (2006) cited in Turyahebwa, Sunday and Ssekajugo (2013) found that poor record keeping and lack of basic business management experience and skills were major contributors. Other factors identified are inexperience in the field of business

particularly lack of technical knowledge, lack of managerial skills, inadequate planning and failure to do market research. Ntakobajira (2013) exploring performance of SMEs concludes that access to business information services affected the performance of business to a great extent and that access to finance affected performance of SMEs because it limited the entrepreneurs' ability to take advantage of opportunity as and when they arose. The study further concludes that technology affected the businesses to a very great extent by facilitating communication with both the supplier and customers, by easing the transportation of goods and by easing the marketing of the products.

Innovation has a considerable impact on enterprise performance by producing an improved market position that conveys competitive advantage and superior performance. Lin and Chen (2007) cited in Okpara (2011) argued that organizational innovations rather than technological innovations appeared to be the most vital factor for total sales. The study used both financial and non-financial indicators to measure performance of SMEs. Superior financial performance is a way to satisfy investors and can be represented by profitability, growth and market value (Gunday *et al.*, 2011). Profitability measures a firm's past ability to generate returns increasing size, even at the same profitability level, will increase its absolute profit and cash generation. Larger size also can bring economies of scale and market power, leading to enhanced future profitability. Market value represents the external assessment and expectation of firms' future performance. It should have a correlation with historical profitability and growth levels, but also incorporate future expectations of market changes and competitive moves (OECD, 2015).

On the other hand, non-financial indicators will include customer and employee satisfaction. Customers want companies to provide them with goods and services that match their expectations. To do that, companies must understand their needs, avoid defects and improve the perceived quality and value added by their offerings. Customer satisfaction increases the willingness-to-pay and thus the value created by a company. Employees' satisfaction is related to investments in human resources practices. This group tends to value clearly defined job descriptions, investment in training, career plans and good bonus policies (ILO, 2015).

2.4. Empirical Review

2.4.1 Technical Innovation

Technologically savvy firms commit their resources to acquiring new and advanced technologies and developing new processes, products and services hence high firm performance, although, the rate of technological disruptions within an industry might affect their technological adoption and/or development. Previous studies have found positive relationships between technology orientation and business performance. A study on the ‘Effect of Strategic Orientation on Performance of Small and Medium Enterprises: Evidence from Kenya’, concludes that technology innovation has a significant positive effect on firm performance (Nakora.*et al.*, 2015). Technological innovation and transformation, SMEs are opportune to transform and improve the techniques of their performance.

Another study by Mwangi and Namusonge (2014) interrogated the influence of innovation on small and medium enterprise (SME) growth among garment manufacturing industries in Nakuru county and found that 43% of the responding firms had adopted new technologies and adapted them to their operations, products and services. A further 31 percent of the respondents agreed that technological innovation was important to the growth of the businesses. Sixty three percent of the respondents agreed that an investment in technology would help a firm to realize higher profits as opposed to 36 percent of the respondents who did not believe that investing in technology would yield to higher profits for the business. The study had three variables namely Product, process and technological innovation. This study was a cross section descriptive survey. Stratified random sampling and purposive sampling techniques were employed in deriving a sample. The respondents included a team of top management heading R&D, Sales and Marketing and Manufacturing departments in the enterprises. Data was collected using a structured questionnaire that had close ended, open ended, and Likert scales items. The study focused on growth while this study focused on performance.

Salim and Sulaiman (2011) carried out a study on Organizational learning, Innovation and Performance among Malaysian SMEs. The study used a sample of

320 firms, questionnaires for data collection and stepwise regression analysis be performed to establish the predictive power of organizational innovation on performance. The study findings revealed that technological and market innovations as the critical factors of firm performance. Technological innovation influences financial performance while marketing innovation influence market performance. The study focused on Malaysian SMEs thus presenting a contextual research gap and the findings of the study cannot be generalized to Kenya. Another study focused on the effects of strategic innovation on the performance of SMEs in Nairobi County by Osuga (2016). Through a descriptive survey approach, it concluded that innovations in technological innovation have a strong positive association with the performance of the SMEs. The study however focused on the entire set of SMEs while this study narrows down to women owned SMEs.

Nurulhasanah, Zulnaidi and Rafisah (2015) explored the theoretical review of technological innovation on SME survival in India by looking at literature review with SME studies. Previous reference on survival is still scarce even it is the key benchmark to measure business performance. It has been demonstrated within the literature that the practice of technological innovation is significantly associated with business performance but its effect towards SM E survival is under explored. Atalay, Anafarta and Sarvan (2013) studied on the relationship between innovation and firm performance through an empirical evidence from Turkish automotive supplier industry. They obtained data from the questionnaires are analyzed through the SPSS statistical package program. Analysis results demonstrated that technological innovation (product and process innovation) has significant and positive impact on firm performance, but no evidence was found for a significant and positive relationship between non-technological innovation (organizational and marketing innovation) and firm performance. Compared to this study, the study presented a contextual research gap since the findings in Tunisia cannot be generalized to Kenyan setting. In addition, the study focused on all the SMEs regardless of ownership while this study focused on women owned SMEs.

Subrahmanya (2014) attempted to probe how entrepreneurship and firm level factors promote technical innovations and thereby facilitate economic performance of Small

and Medium Enterprises (SMEs) in the auto components, electronics and machine tool sectors of Bangalore, India. The study was carried out based on primary data gathered from 157 SMEs for a period of five years (2001/02–2005/06) and by means of step-wise regression analysis. It threw light on how entrepreneurship and other firm level factors influence technical innovation and how entrepreneurship, firm level factors, factor inputs and technical innovations determine economic performance of SMEs. Innovative SMEs largely comprise technically qualified entrepreneurs, exclusive design office, and carry out innovations with external support. The findings were that together they determine the innovation performance of SMEs in terms of innovation sales. Innovation sales and factor inputs enable entrepreneurs, particularly of younger firms, to achieve better economic performance in the form of higher growth of sales turnover. The study was based on auto SMEs in India with current study focusing on women SMEs in Kenya

Mulei (2015) studied the impacts of technical innovations on financial performance of SMEs in Starehe Constituency, Nairobi County. The theories include disruptive innovation theory, innovator's dilemma theory and innovator's solution theory. For the purpose of this study descriptive survey research design was used. The study population was SMEs located within Starehe Constituency in Nairobi County. A total of 72 questionnaires were given to business managers and owners which represent 10% of the population planned. This study utilized a questionnaire to collect primary data. This study collected quantitative data using a self-administered questionnaire. Data was analyzed using SPSS where the findings were presented in form of tables and figures. Regression line was also developed. The study found that technical innovations ensure that there is improvement in routines, procedures and processes employed to execute firm activities. It also decreases manufacturing cost in components and materials of current products. It further concluded that marketing approach of current and/or new products can be improved. This can be done through changes such as altering appearance, packaging, shape and volume without changing their basic technical and functional features. The study focuses on technical innovations with current study focusing on four types of innovations. The current study expounded more on not just the technical innovations, but also other types of innovations.

2.4.2 Organization Innovation

Hassan *et al* (2013) studied ‘The Effects of Innovation Types on Firm Performance: An Empirical Study on Pakistan’s Manufacturing Sector’, drawing a sample 150 companies listed in KSE. Their findings of study support the title that higher performance can be achieved better from increased innovativeness in manufacturing firms. To create an environment which is friendly to innovation and learning organizational innovation is very essential and it leads to firm performance.

Makanyeza and Dzvuke (2015) studied on the influences of innovation on the performance of small and medium enterprises in Zimbabwe. Based on a survey of 200 SMEs, the study investigated innovation’s influence on the performance of small and medium enterprises (SMEs) in Harare, Zimbabwe. The study found that SMEs were somewhat innovative. The performance of SMEs was found to somewhat increase over the period SMEs were innovating. Innovation was found to positively predict the performance of SMEs. Organizational innovation and product innovation positively predicted the performance of SMEs while marketing innovation and process innovation did not. The influence of innovation on enterprise performance varied from industry to industry. Though the study was on predicting the influence of innovation on performance of SMEs, the study did not distinguish between the genders implications of the findings. Again, the study is in Zimbabwe, a country with differing macro and micro enterprise aspects from Kenya.

Ndesaulwa, and Kikula (2016) studied on the impact of innovation on performance of small and medium enterprises (SMEs) in Tanzania. This explanatory study used a desktop methodology to investigate the worldwide existing empirical studies results on the relationship between innovation on small and medium enterprises (SMEs) performance. The literature survey revealed that the studies on innovation and its effect on performance are observed to have concentrated to Western, Middle and Far East and very little empirical evidence is noticeable in Africa. The issue of innovation and how it relates to firm’s performance and specially SMEs was therefore yet to be exhaustively explored. The results from review further found that no consistent results on whether the innovations altogether influence firms’

performance. The conclusion was therefore not generally viable. The nature of the empirical results reported in this study though bearing some resemblance to the Kenyan situation fails to clarify of the existence of gender disparities on innovation and performance of SMEs. This is the gap this study seeks to fill.

Wahab and Jabar (2016) studied on organizational innovation strategy towards small medium enterprise performance in Malaysia. This study was undertaken to evaluate the implementation of organizational innovativeness among the Malaysian SME's. The findings of this study indicate that different types of innovation have different impact towards organizational performance. Therefore, willingness to embrace changes and having the right attitude at using knowledge and creativity to manipulate available information to develop the organizational strategies can assist SMEs in Malaysia to sustain and survive in the dynamic and challenging economy. In addition, new generations of SMEs must take the risk in innovations to meet the demand of the technology driven innovation economy. The study was based in Malaysia a developed country compared to Kenya.

Njenga (2015) study was on organizational innovation and operational performance of small and medium enterprises in Nairobi City County. This study was to determine the effect of innovation on the operational performance of small and medium enterprises in Nairobi County. The objectives of the study were to identify innovations practiced, identify the factors that influence adoption of innovation and determine the effect these innovations had on the operational performance of these firms. The researcher used a cross-sectional descriptive research design for this research. The population of the study was small and medium enterprises in Nairobi County. The researcher used judgmental sampling method to select one hundred and fifty SMEs to represent the population. Questionnaires were used as the tools for data collection. The data was Analyzed using descriptive statistics such as means, standard deviations and frequency distributions. The findings from the study established that innovation was widely practiced in SMEs. Factors such as employee training programs, competitive pressures and market segments served were identified to have a large influence on adoption of innovation. The study also established that innovation resulted in improved operational performance in the practicing firms. It

was recommended that SMEs in Nairobi County should continually practice innovations this would lead to better performance. This study was on organization innovation only while the current study focuses on four types of innovation.

Salim and Sulaiman (2011) empirical study attempted to investigate the effect of organizational innovation on company performance in Malaysia. Based on the literature review, the study hypothesized that organizational innovation is positively related to company performance, which is measured in terms of both market and financial metrics. Data was collected via electronic survey from 115 small and medium enterprises operating in the ICT industry in Malaysia. Findings from the study support both the hypothesis that organizational innovation has a significant influence on firm performance. The study is also based in Malaysia, a country with differing SMEs context from Kenya.

2.4.3 Market innovation

Tuan, Nhan, Giang and Ngoc (2016) in their study of ‘The Effects of Innovation on Firm Performance of Supporting Industries in Hanoi-Vietnam’ concludes that innovative activities have a positive influence on performance of SMEs. However, the study further indicates that in support industry focus should be more on process, marketing, and organizational innovation. The study further indicates that process and organization innovation is more important than product and market organization. The study used a questionnaire that included general information, innovation activities; innovative performance and firm performance in measuring indicators on 5 point a likert scale. Another study on the effects of strategic innovation on the performance of SMEs in Nairobi county by Osuga and Namanda (2016) concludes that innovations in marketing have a strong positive association with the performance of the SMEs. This is due to the fact that customer needs and preferences keep on changing in order to adapt to the

Walobwa, Ngugi and Chepkulei (2013) studied on the effect of the type of innovation on the growth of small and medium enterprises in Kenya: a case of garment enterprises in Kericho, Nairobi. This study sought to investigate, and document different types of innovations adopted by garment SMEs in Nairobi. The

study evaluated whether there is any effect between the innovations adopted and growth of the enterprise. Descriptive design was used to study the research objectives. Census was conducted on the population. Questionnaires were administered to thirty-one entrepreneurs/managers of garment businesses in the study area. The study by Waloba, Ngigi and Chepkulei (2013) found out that among the types of innovation analyzed, marketing innovation contributed most to the growth of garment SMEs in Jericho market, Nairobi. However, it was also established that all types of innovation were being practiced in the sector and that innovation is very critical for SMEs to become and remain competitive in the global market. The study presented a contextual research gap since it focused on Kericho while this study focused on Nairobi. The differences in urban and rural setting can bring out differences in the challenges SMEs face in the two contexts. The findings of the study can thus not be generalized to an urban setting.

Nyachwaya (2017) studied on the influence of marketing innovation on the performance of soapstone small and medium enterprises in Kisii, County. The specific objectives of the study is to establish the contribution of marketing innovation in achieving superior performance among the SMEs and also to determine the extent to which SMEs in the sector are responsive to changes in the target market. The study adopted a cross sectional descriptive survey design whereby all the 46 registered Soapstone SMEs in Kisii County were targeted. Data was collected through the use of a semi-structured questionnaire and the data collected was analyzed using descriptive measures. The findings of the study are that the marketing innovation principles took the form of collaboration with firms in their distribution line and among themselves, continuous ideation of new ideas, value creation and implementation of the marketing ideas. The influence of marketing innovation on the SMEs performance was manifested in terms of increase development of products that are perceived by customers as more reliable than competitors' products, increased product range and revenue generated.

From the regression equation, the coefficient of independent variables is positive, and this implies that the adoption of marketing innovations by the soapstone SMEs has positively affected their performance. In line with the findings of the study, the

researcher concluded that for effective implementation of marketing innovation principles, there is need for the SMEs to appreciate and incorporate these principles, set aside requisite resources to support policy and related strategies. There is need to incorporate both the County and National Governments for policy formulation targeting the SMEs as well as for support in infrastructural development and coordination through established agencies with requisite skills capable of supporting them in capacity building, protection of patents and intellectual property, marketing, gathering information on market trends and policy formulation.

Consequently, it is recommended that Kisii County Government recognizes this invaluable resource, develop policies to support the sub-sector and invest in infrastructure for proper harnessing and marketing of the products owing to potential it holds in job creation and wealth generation for both traders and revenue generation for the County. The study was limited to enterprises in the soapstone industry whose findings cannot be generalized to other firms outside this subsector and indeed other SMEs in other sectors in the county and the Country.

Based on contingency perspectives, Seo and Chae (2016) study focused on investigating effective ways to design Innovation management and maximize firm performance according to market dynamics levels. Considering the SMEs as an agent, the study employed a multi-agent simulation method to understand the progress of performance improvement in SMEs, by observing the innovation activity of SMEs over certain periods of time. The results first reveal that the level of firm diversity influences the amount of performance manifested by SMEs' innovative activities. Second, managers have to properly facilitate innovative activity depending on task importance and market dynamics. This study was in Taiwan, a country that is developed with different SMEs experience from Kenya.

Kimani (2016) study examined market orientation in Micro and Small Enterprises in Kenya in relation to their performance. Micro and Small Enterprises are faced with many problems that include stiff competition by multinationals and government owned organizations and this has implication on their performance. With their large resource base and support from their parent organizations and the government,

subsidiaries of multinationals and government organizations are a force to reckon with in the marketplace. Market Orientation is a strategy that firms can use to gain competitive advantage and enhance their performance. Dimensions of market orientation include innovativeness, competitive aggressiveness, pro-activeness and information sharing. The study was conducted in Nairobi where most of these SMEs are found and the target population was all the SMEs which have been in existence for 3 or more years. A list of SMEs was obtained from the Kenya Business directory whereby out of the target population of 1600 employees, a sample population of 160 employees (10%) were selected after cross-checking the 2013 and 2015 directories to ensure that only those firms that are 3 years and above are in the study. The study used the explanatory and descriptive approach to examine the relationship between the dimensions of Market Orientation (innovation, information sharing, pro-activeness and competitive aggressiveness) and the performance of Micro and Small Enterprises in Nairobi County using a questionnaire. The study established a positive relationship between Market Orientation and the performance of Micro and Small Enterprises in Nairobi County. All the four dimensions of market orientation were positively related to performance and the regression analysis indicated that an increase in each of them would result into an increase in performance.

2.4.4 Strategic Innovation

Lily and Juma (2014) studied on the relationship between strategic innovation and performance of Commercial banks in Kenya. The specific objectives of the study were to establish the nature of various strategic innovations such as; new product development, cost reduction, differentiation, quality improvement, increased sales and entrance into new markets in the banking sector and determine the influence of strategic innovations on the performance. This was a case study where only one organization was involved in the study, Kenya Commercial Bank. The target population was 170 managers of 59 branches in Nairobi County. The sample size was 119 respondents out of the possible 170 managers in Nairobi County branches of KCB. The sample included top level managers, middle level managers and low-level managers involved in formulating and implementing strategy at the branch level.

The researcher adopted descriptive research design. Primary data was obtained with the use of structured questionnaires while the secondary data was obtained from the financial statements of the bank to determine the performance in terms of return on equity, return on assets and profitability. Regression analysis was performed to ascertain the validity of the data and to test reliability of the data, content analysis was performed based on information from the published financials information of KCB. The study found out that the strategic innovation measures adopted by the bank greatly affects the bank's performance. Though the study was on strategic innovation and firm performance, its focus is on the banking sector. The current study is on manufacturing sector and specifically the women-owned SMEs.

Shisia, Sang, Matoke and Omwario (2014) aimed at finding the relationship between strategic innovation and performance of public universities in Kenya. The specific objectives of the study were to establish the nature of strategic innovations in the universities and determine the influence of strategic innovations on the performance. The population for the study was the public universities in Kenya from which the sample was selected. The researcher adopted descriptive survey design. Data to establish the relationship was obtained with the use of structured questionnaires. Data analysis was done using multi-hierarchical regression model. Mean and standard deviation were also calculated, and the results presented in form of tables. The researcher obtained a 63% response rate which was deemed valid for analysis. From the analysis it was established and concluded that indeed there existed a positive relationship between strategic innovation and performance of public universities in Kenya.

The study was limited to the influence of strategic innovation on the performance of public universities in Kenya. The researcher recommends that future research should focus on other analysis tools and such studies must include other institutions that are not necessarily public universities. The implication of the findings is the need for the management to align strategic innovation strategy with the wider business strategy. They have to demonstrate their capability in understanding the customer insights and offer new and significant value if their long-term success and survival is to be

guaranteed. The focus of this study was public universities while the current study is on innovation and performance of women-owned enterprises.

AlQershi, Abas and Mokhtar (2018) undertook a conceptual analysis of strategic innovation and its impact on the performance of manufacturing SMEs in Yemen. The study also explained strategic innovation in relation to performance. It presented a framework indicating different types of strategic innovation. The policy implication of the study was in terms of how to improve innovation among Yemeni SMEs. Although this study presented 15 different ways through which manufacturing SMEs can engage in innovation, it may not be possible for SMEs, especially in a developing country like Yemen, to adopt all the recommended types of innovation. However, product innovation and marketing innovation were very important in a developing country like Yemen. Additionally, there is a need for financial innovation because access to finance has been found to be a major problem of SMEs in developing countries. The policy recommendation from this study was the need for the government to assist manufacturing SMEs in terms of training. This argument is since innovation can only take place through well-trained human resources. This study was in Yemen with the current study in Kenya.

Osuga (2016) attempted to establish the effects of strategic innovation on the performance of Small and Medium Enterprises in Nairobi County. The study assessed the effects of Product innovation on performance; evaluated the effects of Process innovation on performance; and examined the effects of market innovation on performance. The underlying concepts of each research objectives were also examined. The research methodology employed for the study was the descriptive research method. The target was owners and employees of small and medium enterprises operating in Nairobi County. The sample frame for the study was drawn from Small and medium Enterprises operating within the Nairobi central district which was 534 SMEs. From this a sample size of 138 SMEs was chosen using simple random sampling technique. To facilitate the process of data collection, questionnaires which contained structured and opened ended questions, were issued to the respondents and informal interviews were also conducted so as to ensure data accuracy. The study established that there is a positive relationship between strategic

innovation and performance. The study found that innovations of new products improved the performance of the SMEs. It was determined the organizations vision and mission played a critical role in strategic innovation. This study purely focused on strategic innovation while current study is looking at organization, strategic, marketing among other types of innovations.

Ngugi and Karina (2014) studied on the effect of strategic innovation on performance of mobile telecommunication firms in Kenya. This study sought to find out the effect of strategic innovation on the performance of mobile telecommunication firms in Kenya. The study used descriptive research design in data collection and analysis. SPSS version 21 was used to analyze the data. The study found out that strategic innovation has positive effect on organizational performance. Adoption of superior strategies relating to products, services, marketing processes and human resources led superior organization performance. The study was only focusing on one type of innovation while the current study is looking at four types of innovations.

2.4.5 Environmental Factors

Nabintu (2013) conducted a study that sought to establish the factors affecting the performance of small and micro enterprises (SMEs) traders at city park hawkers' market in Nairobi County, Kenya. Among the variables was the moderating role of government policy and regulatory framework. The study applied survey research design on a sample of 47 SMEs Traders. Questionnaires and interviews were used in collecting primary data. The study established that government policy and regulations determined the extent to which SMEs innovated ultimately affecting their performance. The study elaborated that effective policies enhanced adoption of innovation practices which led to an improvement in performance of the SMEs.

Another study by Chen (2016) examined the effectiveness of government policies on technology-based SMEs and entrepreneurship in Beijing, China. The study explored literature through the holistic case study approach. Interviews and questionnaires were used to understand the interaction between policies and technology entrepreneurs. The study variables included influential factors of entrepreneurship,

characteristics of technology-based SMEs, the effectiveness of policies targeted at technology-based SMEs and entrepreneurship and the differences between on-park and off-park technology-based SMEs. The key findings of the study showed that government policies have strong positive effects on the promotion of innovation among SMEs but there are still some negative points when implementing policies, such as uneven filter criteria and supervision system between new and established firms.

Banerjee (2015) conducted a study on the relationship between government policy and the growth of entrepreneurship in the micro, small & medium enterprises of India. The study adopted the descriptive research design and used secondary sources of data collection such as the Internet, websites, books and magazines. The results of the study confirmed the existence of a significant influence of government policies on the performance of MSEs. It was further indicated that favorable government policies determined the extent to which SMEs engaged in innovations.

Zhang and Merchant (2020) conducted a causal analysis of the role of institutions and organizational proficiencies on the innovation capability of Chinese SMEs. Based on a Partial Least Squares analysis of more than 200 firms, the study established that institutional factors, macro- and micro-level institutional factors moderated organizational proficiencies on innovation performance among the SMEs in China.

2.5 Critique of Existing Literature

The reviewed studies demonstrate that the performance potential related to innovation in SMEs comes from three input parameters: technology, R&D, and generation of competitive edge. However, studies of innovation in SMEs are still limited compared to similar studies focusing on larger firms (Zhang & Merchant, 2020). Regarding empirical research, despite some conflicting evidence some studies have advocated for the positive effects of innovation on performance (Lai *et al.*, 2010) and others are contrasting (Babalola, 2009 cited in Qamruzzaman & Jianguo, 2019). Both theory and empirical research especially those writers out of African continent have suggested a positive relationship between innovative activity and the

performance of firms as compared to the few scholars from Kenya. This has an implication for a need in empirical studies of this nature in Kenyan context and particularly in women-owned SMEs in the manufacturing sector.

The issue of innovation and how it relates to firm`s performance and specially SMEs is thus yet to be exhaustively explored. The results from reviewed literature are mixed, inconclusive and difficult to generalize. For example, while (Nurulhasanah, Zulnaidi & Rafisah, 2015) find a positive relationship between innovation and performance, others find otherwise (Lai *et al.*, 2010). However, these studies are substantially not on manufacturing industry (Shisia, Sang, Matoke & Omwario, 2014; Lily & Juma, 2014), and few have been on women-owned enterprises.

2.6 Research Gaps

Previous studies on innovation among SMEs have either presented contextual, conceptual or methodological research gaps. Some studies focused on the same theme but in different contexts of developed or developing economies thus the findings cannot be generalized to Kenya given that the legal and PESTEL environment in which SMEs operate in is different from that of Kenya. A study by Salim and Sulaiman (2011) on Organizational learning, Innovation and Performance was conducted in Malaysia, Nurulhasanah, Zulnaidi and Rafisah (2015) on the theoretical review of technological innovation on SME survival was conducted in India, Atalay, Anafarta and Sarvan (2013) on the relationship between innovation and firm performance was conducted in Turkey, Hassan *et al* (2013) on the effects of innovation types on firm performance focused on Pakistan, Makanyeza and Dzvuke (2015) on the influence of innovation on the performance was conducted in Zimbabwe, Ndesaulwa, and Kikula (2016) on the impact of innovation on performance of small and medium enterprises (SMEs) was conducted in Tanzania while Wahab and Jabar (2016) on organizational innovation strategy towards small medium enterprise performance similarly focused on Malaysia. These studies have provided important insights on the relationship between innovation and performance of SMEs. However, due to varying PESTEL environment of operations, the findings for the studies cannot be generalized to a Kenyan setting.

Some of the local studies, varied from the current study either by context or concept. The study by Mwangi and Namusonge (2014) on the influence of innovation on small and medium enterprise (SME) growth narrowed down to garment manufacturing industries in Nakuru county and not women owned SMEs, Mulei (2015) on the impacts of technical innovations on financial performance of SMEs narrowed down to SMEs in Starehe Constituency, Nairobi County without considering gender as a critical factor, Njenga (2015) on organizational innovation and operational performance of small and medium enterprises narrowed down conceptually to organizational innovation only without a focus on other types of innovation while Walobwa, Ngugi and Chepkulei (2013) on the effect of the type of innovation on the growth of small and medium enterprises in Kenya focused on a rural setting of Kericho. The findings cannot be generalized to an urban setting such as Nairobi since the environments of operations are different.

2.7 Summary of Literature Review

This chapter reviews the relevant literature and the considerable discussion and deconstruction of innovation and performance of SMEs. In this study, innovation is viewed by using technological innovation, marketing innovation, organization innovation and strategic innovation. From the literature, it was established that (Trott, 2008) there are different types of innovation related to new products or services, new production processes, new marketing techniques, and new organizational or managerial structures. Each of these types relies on technology as medium to innovate both through the social networking, free access to information via internet and also machines or technology tools in business operation. A conceptual framework has been proposed to conceptualize or represents the relationships between variables in the study and shows the relationship figuratively.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a systematic description of the methodology which is used to conduct the research. It comprises sections on research design, population, sampling frame, sample and sampling technique, instruments, data collection procedure, pilot test, data processing and measurement of variables.

3.2 Research Philosophy and Research Design

The section gives a description of research philosophy and research design. While Research philosophy relates to the development of knowledge and the nature of that knowledge, research design highlights a framework that guides the collection and analysis of the data.

3.2.1 Research Philosophy

The study was guided by an epistemological research philosophy. Research philosophy relates to the development of knowledge and the nature of that knowledge (Snyder, 2019). There are three epistemological positions: realism, interpretivism and positivism. This study adopted a positivist research paradigm which is an epistemological position. Positivism is characterized by a belief in theory before research and statistical justification of conclusions from empirically testable hypothesis, the core of tenets of social science (Cooper & Schindler, 2011). Epistemological research in the positivist paradigm is how the social world can be investigated as natural science (Yeomans, 2017). Hypotheses were tested by statistical approaches. Mohajan (2018) argued that that since the focus of the positivist paradigm is to discover the truth through empirical investigation, the quality standards under this paradigm are validity and reliability. Positivism is characterized by a belief in theory before research and statistical justification of conclusions from empirically testable hypothesis, the core of tenets of social science (Cooper & Schindler, 2011).

This research philosophy was also adopted in previous studies such as Mwangi and Namusonge (2014) who interrogated the influence of innovation on small and medium enterprise (SME) growth among garment manufacturing industries in Nakuru county ; Mulei (2015) who studied the impacts of technical innovations on financial performance of SMEs in Starehe Constituency, Nairobi County and Njenga (2015) who focused on organizational innovation and operational performance of small and medium enterprises in Nairobi City County.

3.2.2 Research Design

Research design is a framework that guides the collection and analysis of the data and is a detailed plan for how research study is conducted according to the data required in order to investigate the research questions in an economical manner. It is a presentation of the plan, the structure and strategy of investigation, which sought to obtain or answer various questions (Ngozwana, 2018). This study adopted cross-sectional survey design using both quantitative and qualitative approaches. Quantitative approach emphasizes measurement and data is analyzed in a numerical form to give precise description. According to Kogan, Mayhew and Vasarhelyi (2019), quantitative approach also known as the scientific method has traditionally been considered as the traditional mode of inquiry in both research and evaluation. Quantitative approach places emphasis on methodology, procedure and statistical measures to test hypothesis and make predictions.

Qualitative research helps in analyzing information in a systematic way by use of common words or phrases in order to come to some useful conclusions and recommendations on the social settings and the individuals who portray those characteristics (Ngozwana, 2018). Cross-sectional survey design, on the other hand, helped researcher to gather the data just at once; over a period of six months which assisted in answering research questions and hypothesis formulation to establish testing the analysis of the relationship between variables (Mohajan, 2018). This design was appropriate for this study which extensively tested the analysis of the relationships between the independent variable, types of innovation and the dependent variable, performance of small and medium women-owned enterprises.

The research design adopted was also adopted in the study by Walobwa, Ngugi and Chepkulei (2013) who studied on the effect of the type of innovation on the growth of small and medium enterprises in Kenya: a case of garment enterprises in Kericho, Nairobi ; Nyachwaya (2017) who studied on the influence of marketing innovation on the performance of soapstone small and medium enterprises in Kisii, County and Lily and Juma (2014) who studied on the relationship between strategic innovation and performance of Commercial banks in Kenya.

3.3 Target Population

Population is defined as the large collection of all subjects from where a sample is drawn. Kumar (2018) define the target population as a group of individuals, objects or items from which samples are taken for measurement. The target population for this study was the 5,362 registered women owned enterprises registered with the County Government of Nairobi by December 2017.

Table 3.1: Target Population

Sector/Category	Population
Manufacturing	408
Wholesale and retail trade; repair of motor vehicles and motorcycles	1628
Accommodation and food service activities	1454
Financial and insurance activities	984
Administrative and support service activities	459
Other service activities	429
Total	5362

Source: KNBS (2016)

3.4 Sampling Frame

A sampling frame as defined by Flick (2015) is a list of the source material or device from which a sample is drawn. It is a list of all those within a population who can be sampled, households or institutions. A sampling frame may also refer to a list of elements from which the sample is actually drawn and is closely related to the

population (Kumar, 2018). Mackey and Gass (2015) defined a sampling frame as the complete list of all members or units of the population from which each sampling unit was selected. The sampling frame in this study comprised of 5,362 women-owned SMEs registered with the County Government of Nairobi by December 2017.

3.5 Sample and Sampling Technique

The study adopted Stratified random sampling technique. This technique is a probability sampling technique in which the defined target population is divided into groups or strata. Samples are then collected from all of these groups or strata (Cooper & Schindler, 2011). Secondly, proportionate stratified sampling was used to select representative samples of the women entrepreneurs from each of the nine strata.

Proportionate stratified sampling was applied when the proportion of the units randomly selected from each stratum is the same as the proportion of the population (Flick, 2015). Finally, to select the individual respondents, the researcher used simple random sampling technique. Thirdly, to determine the sample size, the following was considered: population size, margin of error (confidence level), and standard deviation. Wamuyu (2016) used a similar approach in determining the sample size. The formula is:

$$n = \frac{NZ^2pq}{\{E^2(N-1)+Z^2pq\}} \dots\dots\dots \text{Equation (1)}$$

Where; n= is the required sample size

N= is the population size (5362)

Z= is the level of confidence of the sample size (set at 95%) thus
Z=1.96

P and q are the population proportions (Each set to 0.5).

E sets the accuracy of the sample proportions (set to 0.05).

$$\text{Therefore, the sample size} = n = \frac{5362 * 1.96 * 1.96 * 0.5 * 0.5}{0.05 * 0.05 (5362 - 1) + 1.96 * 1.96 * 0.0 * 0.5}$$

$$= 358.53$$

Therefore, the sample size was 358. Table 3.2 gives a breakdown of the sample size per sector. This is arrived at through proportionate sampling procedure as computed by the researcher.

Table 3.2: Sample Size

Sector/Category	Population	Sample
Manufacturing	408	27
Wholesale and retail trade; repair of motor vehicles and motorcycles	1628	109
Accommodation and food service activities	1454	97
Financial and insurance activities	984	66
Administrative and support service activities	459	31
Other service activities	429	29
Total	5362	358

Source: KNBS (2016)

3.5 Data Collection Instruments

Data collection instruments are means by which primary data are collected in social research. There are several ways of collecting data which differ considerably in terms of money costs, time and other resources at the disposal of the researcher (Mackey & Gass, 2015). These include questionnaires, observations, interviews and focus groups. This study used a self-administered, closed and open-ended questionnaire to obtain primary data. Secondary data on the performance of the SMEs was also collected guided by a range. This range was calculated by the researcher based on the information provided by the respondents. The choice of a questionnaire to collect data for this study is informed by its practicability, ability to collect information from

a lot of people within a short period and it can also be analyzed more scientifically and objectively than other forms of research. With the use of a questionnaire, the research can be carried out by the researcher or by any number of people with limited affect to its validity and reliability.

Questionnaires were similarly used in the study by Osuga (2016) who established the effects of strategic innovation on the performance of Small and Medium Enterprises in Nairobi County as well as Chen (2016) who examined the effectiveness of government policies on technology-based SMEs and entrepreneurship in Beijing, China.

3.6 Data Collection Procedure

Data collection is the gathering of information to serve or prove some facts. Taherdoost (2016) defines data collection as a way of gathering information for analysis. Questionnaire was self-administered to the respondents and two research assistants who were recruited and trained so that they could be able to get quality results. The target participants were women entrepreneurs who are the managers/owners of their business who filled in the questionnaires. Before administering the questionnaires to them, the researcher took time to explain the purpose of the study to the owners. With their consent, the survey proceeded. Research assistants were used to provide more explanations and clarity in cases where the respondents did not understand.

3.7 Pilot Testing

Pilot test was conducted in order to detect weaknesses in instrumentation and also it provides proxy data for the selection of probability sample. The procedure which was applied in pre-testing the questionnaire was similar to those that were applied during the actual study and also during the collection of data. According to Cooper and Schindler (2011) the number that is used in the pre-test should be small, about 1% to 10% of the entire sample size. In this case, 10% of the sample size, that is 36 respondents participated in the pilot study in accordance with the ratio by Cooper and Schindler (2011). The participants were not included in the main survey.

3.7.1 Reliability of Research Instruments

This study adopted the internal consistency method. According to Bryman (2012), reliability is the consistency of measurement or the stability of measurement over a variety of conditions in which the same results should be obtained. Reliability is the extent to which a given measuring instrument will produce the same result every time it is used. In this study, the internal consistency method was adopted because it is more stable compared to all the other methods (Cooper & Schindler, 2011). Internal consistency was tested using the Cronbach's alpha statistics. Cronbach statistics measures consistency within the instrument and was popularized by Cronbach (1951). Cronbach's alpha (α) is a coefficient (a number between 0 and 1) that is used to rate the internal consistency or homogeneity or the correlation of items in a test. It also assesses how well a set of item measures a given behavior or characteristics within the test.

Drost (2011) argued that for a test to be consistent internally, the estimates of reliability should be purely based on the average intercorrelations among all the single items in a test. Where Cronbach's alpha coefficient is used for reliability test, the value should be above 0.7 (Cronbach, 2004). Cronbach's alpha (α) was computed as follows:

$$\alpha = \frac{k(S^2 - \sum s^2)}{S^2(k-1)}$$

Where: K = number of items in the instrument

S^2 = variance of all scores

s^2 = variance of individual items

The summary of reliability test results is shown in table 3.3. The findings in Table 3.3 showed that the scales for all the independent and dependent variable were reliable as they surpassed the minimum Cronbach's alpha value threshold of 0.7 that is recommended by Dzwigol and Dzwigol-Barosz (2018). Accordingly, none of the

items in the questionnaire were deleted after the pilot study. The questionnaire was adequate to be used in the final survey.

Table 3.3: Summary of the Scale Reliability Results

	N of Items	Cronbach's Alpha	Conclusion
Technological Innovation	13	0.758	Accepted
Marketing Innovation	13	0.742	Accepted
Organizational Innovation	13	0.816	Accepted
Strategic Innovation	13	0.724	Accepted
Environmental Factors	13	0.713	Accepted
Performance of Women SMEs	5	0.719	Accepted

3.7.2 Validity of Research Instruments

Construct validity was adopted in this study. According to Taherdoost (2016), validity refers to the degree to which results which are obtained from the data analysis represent the phenomenon being studied. Validity also refers to the degree to which a research instrument measures what it is actually supposed to measure (Bryman, 2012). Therefore, validity is concerned with the meaningfulness of the research components.

Construct validity on the other hand refers to how well one translated or transformed a concept, idea or behavior (a construct) into a functioning and operating reality, that is, operationalization. Content validity is a qualitative type of validity where the domain of the concept is made clear according to Taherdoost (2016), the analyst judges opine whether the measures represent the domain fully. According to Drost (2012), there are two ways of assessing the content validity, that is, ask several questions about the instrument or test and/or ask the opinion of expert judges in the field.

Validity test was done to ensure that the degree with which a measurement procedure or a questionnaire measures the characteristic it is intended to measure (Kumar, 2018). These include content, construct, and criterion validity (Sessler & Imrey,

2015). Content validity was done by designing the questionnaires according to the study variables and their respective indicators of measurement; construct validity, was done through restricting the questions to the conceptualizations of the variables and ensuring that the indicators of a particular variable fall within the same construct.

3.8 Data Analysis and Presentation

Data analysis involves applying reasoning for the purpose of understanding the gathered data with the purpose of determining patterns that are consistent and summarizing details that are relevant and that have been revealed in the investigation. Data processing on the other hand involves editing, classifying and tabulating data which has been collected so that it is agreeable (Zikmund *et al.*, 2012). Entry of data converts the information gathered through the primary or the secondary methods to a medium for viewing and manipulation.

Quantitative data was collected and analyzed in this study by calculating the response rate with descriptive statistics such as mean, standard deviation, median and proportions using the Statistical Package for Social Sciences (SPSS) version 24 and Microsoft Excel. Regression analysis and correlation analysis was used to carry out inferential data analysis to determine the direction and strength of the relationship between the independent and the dependent variables. Regression models were also fitted. In order to test the influence of innovation on performance of women-owned SMEs, the study employed a hierarchical regression analysis with moderation. In hierarchical multiple regression analysis, the researcher was able to determine the order that the variables are entered into the regression equation (Yeomans, 2017) and it also assessed the effects of a moderating variable (Robinson, Tomek, & Schumacker, 2013). The effect of moderation can either be enhancing, buffer or antagonistic.

Related studies such as Mwangi and Namusonge (2014) who interrogated the influence of innovation on small and medium enterprise (SME) growth among garment manufacturing industries in Nakuru county ; Mulei (2015) who studied the impacts of technical innovations on financial performance of SMEs in Starehe Constituency, Nairobi County and Njenga (2015) who focused on organizational

innovation and operational performance of small and medium enterprises in Nairobi City County adopted correlation and regression analysis procedures in their interrogations.

3.8.1 Diagnostic Tests

This study tested for normality, heteroscedasticity, Multicollinearity autocorrelation and linearity.

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 adopted 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.

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 ($1 / VIF$). Independent variables are considered collinear if the value of VIF exceeds 3. Multicollinearity was also tested in this study.

Homoscedasticity

In a linear regression model, we assume the error term has a normal distribution with mean 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.

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 will be computed using the SPSS version 24.0. 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.

3.8.2 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 (technological innovation, marketing innovation, organisation innovation and strategic innovation) against the dependent variable (performance of women owned SMEs) regression analysis was used. Majority of entrepreneurship scholars are satisfied to estimate the population's characteristics at 5% significance level although this can be varied depending on a number of factors (Bhattacharjee, 2012). In line with what other scholars think, this study adopted an alpha value of 5% and a confidence level of 95%. The decision level was, reject null hypothesis if $P < 0.05$ and fail to reject if $P > 0.05$.

The most commonly used correlation coefficient- Karl Person denoted by ‘r’ was used to test the level correlation between each independent variable and dependent variable. F-test was used to test if the combined effect of technological innovation, marketing innovation, organizational innovation and strategic innovation on performance of women owned SMEs is greater than their individual effects at significance level 0.05 and a P -value derived there from compared with the level of significance in order to make a decision on whether or not to reject the null hypothesis. The decision level was, reject null hypothesis if $P < 0.05$ and fail to reject if $P > 0.05$.

3.8.3 Statistical Measurement Model

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 was:

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

To test the moderating effect, the following model was used

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 M + \beta_6 X_6 M + \beta_7 X_7 M + \beta_8 X_8 M + \varepsilon$$

Where; Y= performance of SMEs

β_0 =constant

β_i is the coefficient for X_i ($i = 1, 2, 3$)

X_1 = Technological innovation

X_2 = Marketing innovation

X_3 = Organization innovation

X_3 = Strategic innovation

M= Moderating variable

ε = error term

The composite of each variable was established from its sub constructs before being used to run the inferential statistics. To derive the composite index for the variables under study, the harmonic mean formula recommended by Bhattacharjee (2012) was adopted as shown.

$$C_i = \frac{\sum f_i w_i}{\sum f_i}$$

Where

C_i = Composite index for Variable

f = Total Number of Respondents

W_i = The Relative weight given to each component in a particular variable.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis, research findings and the discussion. The findings include results on background information on the respondents and their enterprises, the findings of pilot testing, descriptive results which comprise of percentages and frequencies, test of regression assumptions and finally test of hypotheses. Discussion of the findings involves corroborating the study findings and those previous studies discussed under literature review.

4.2 Response Rate

The study administered a total of 358 questionnaires to the selected respondents. A total of 288 questionnaires were dully filled and returned which represented a response rate of 80%. On the other hand, 20% of the questionnaires were either incompletely filled or were never returned altogether. However according to authors such as Smith (2015) and Kumar (2019), a response rate of above 50% is considered adequate; therefore, a response of 80% for this study was considered excellent. This is shown in Figure 4.1.

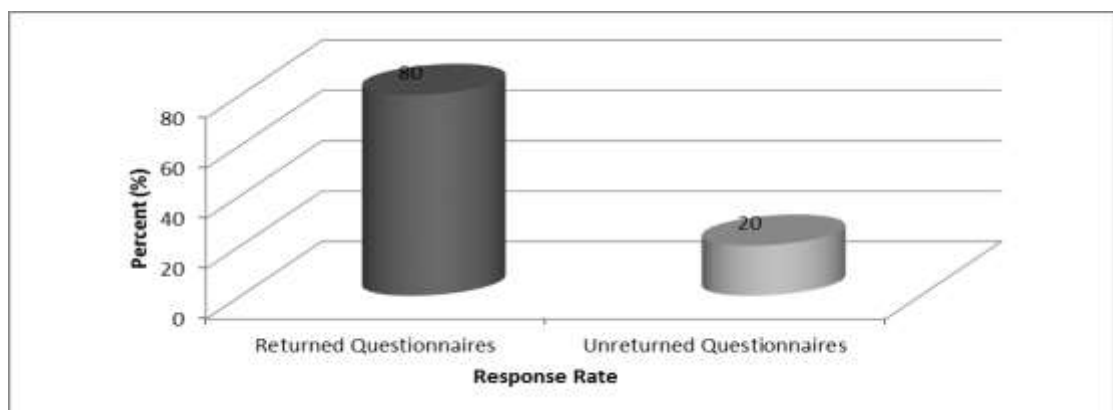


Figure 4.1: Response Rate

4.3 Background Information

The study sought to find the background information of the respondents. These included the respondents sub county, highest level of education and the experience of the respondents, number of employees and number of branches. The results are presented in tables and charts.

4.3.1 Sub-County of the Respondents

The findings presented in this section indicate that majority of the women SMEs owners that participated in this study were from Kamukunji sub-county, followed by Starehe Sub-county then Makadara. Embakasi and Njiru Sub-counties had the least women SME owners. The other counties had representativeness to imply that the study was not biased towards any sub county but focused on the entire size of 17 sub counties in Nairobi City County. The findings imply that majority of the women SME's owners operate within Kamukunji, Starehe and Makadara Sub-counties of Nairobi City County. These findings of this study concur with KNBS (2016) which reported majority of SMEs in Nairobi are located in Eastland's regions especially along the roads. The results are shown in Figure 4.2.

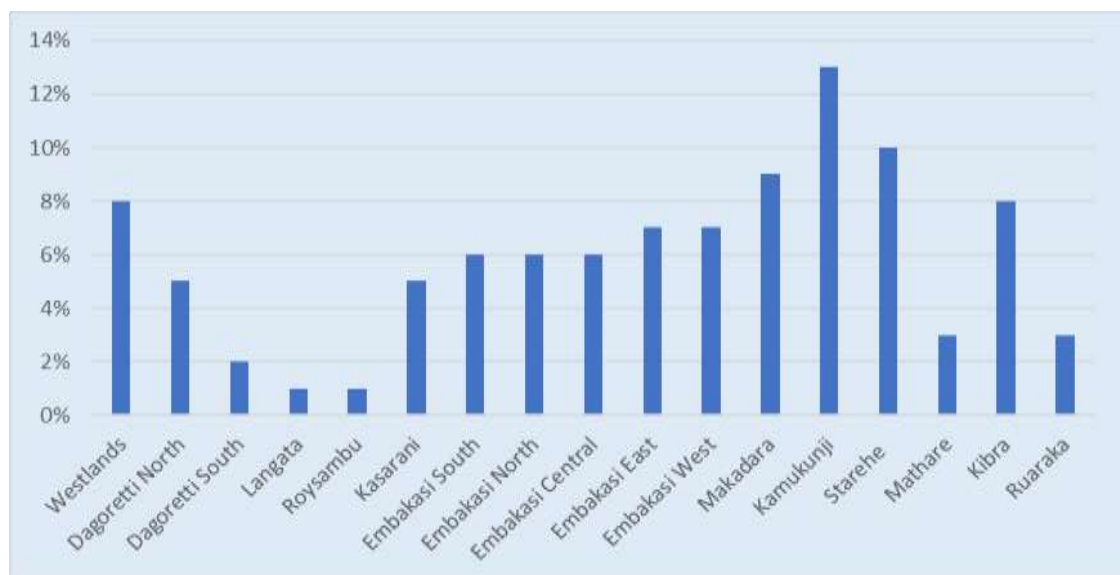


Figure 4.2: Respondent's Sub-Counties

4.3.2 Number of Branches of Women Owned SMEs

The results on the number of branches of women owned SMEs indicates that the minimum branch was 1 while maximum was 5. An average woman SMEs owner had 1 branch as indicated by mean of 1.49. The findings imply that majority of the women SME's owners operated only 1 store which implied lack of profitability or slow growth of women owned SMEs hence slow geographical diversification.

These study findings agree with that of Tlaiss (2015) who found that Women SMEs face difficulty of accessing capital, difficulty of accessing skilled human resources and support networks, having cultural constraints, lacking a supportive legal and policy framework and having difficulties managing time due to family commitments which limit their performance. The results are shown in Table 4.1.

Table 4.1: Numbers of Branches of SMEs

	N	Min	Max	Mean	Std. Deviation
Number of Branches	281	1	5	1.49	0.616
Valid N (listwise)	281				

4.3.3 Years of Operation of the SMEs

The study sought to find out the number of years the respondents had operated their SMEs. The study findings on figure 4.3 revealed that 51.4% had operated their SMEs for between 2 and 5 years, 24.3% had operated their enterprises for between 6-10 years, 18.4% had operated their SMEs for less than 1 year while those who had operated for more than 10 years were 5.9%. The findings imply that majority of the SMEs that participated in the study were less than 5 years which concurs with KNBS (2016) report that showed that average lifespan of SMEs in Kenya is 3 years, majority of the SMEs collapse before their fifth birthday. The results are shown in Figure 4.3.

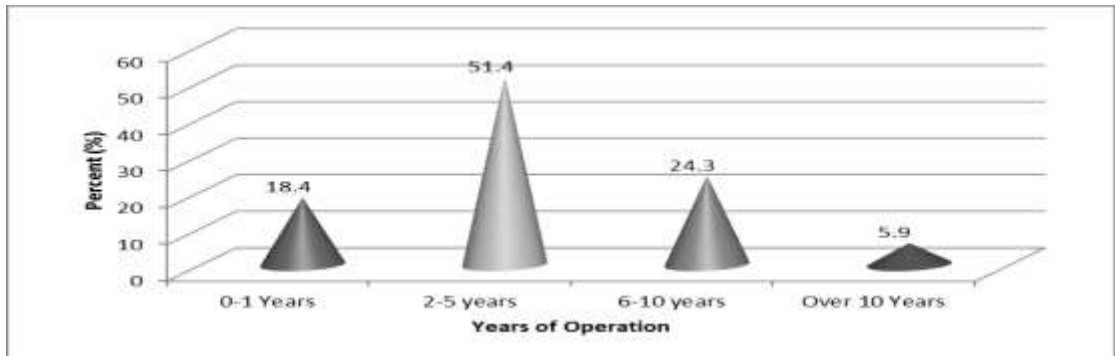


Figure 4.3: Age of the SMEs

4.3.4 Number of Employees in the Women Enterprises

The findings presented in Table 4.2 revealed that slightly more than half (51.4%) of the women SMEs that participated in this study had less than 20 employees, 26.4% had between 21 and 40 employees, 17.7% had between 41 and 60 employees, while those with more than 60 employees were the least at 4.5%. The findings imply that majority of the women owned SMEs that participated in the survey had low number of employees and this finding justified why they had very few numbers of branches. These findings also concur with Tlaiss (2015) who found that numerous challenges faced by women enterprises limit their growth.

Table 4.2: Numbers of Employees in Enterprises

	Frequency	Percent
0-20 Employees	13	51.4
21-40 Employees	148	26.4
41-60 Employees	51	17.7
Above 60 Employees	76	4.5
Total	288	100.0

4.3.5 Level of Education

This study was also interested in the level of education of the respondents. The results in Figure 4.4 indicated that majority of respondents had tertiary level of

education, slightly above 20% had university education, those with secondary and primary education were below 10% respectively. In that case, the research assistants provided assistance and guidance in interpreting the research questions. The findings implied that majority of women who operated SMEs in Nairobi City County were well educated, further the results may imply that high rates employment currently being experienced in Kenya could have driven more well-educated women into self-employment.

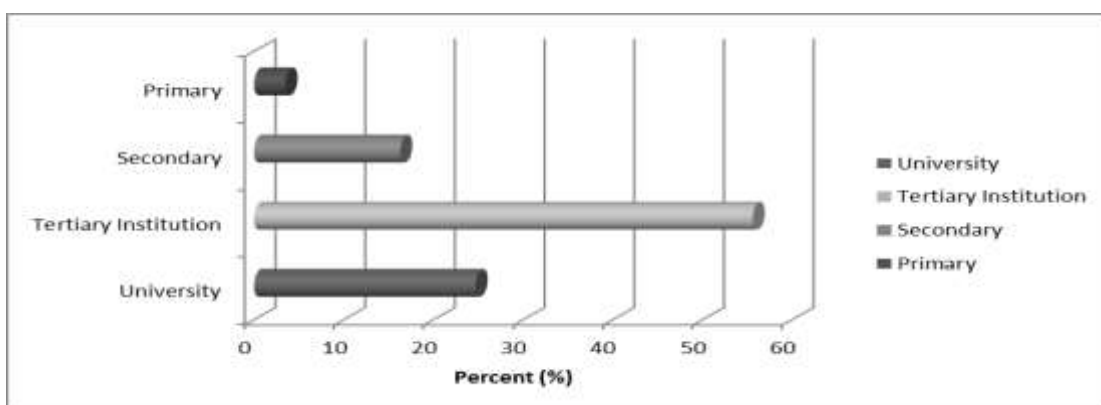


Figure 4.4: Education Levels of Respondents

4.3.6 Sector of the Women Enterprise

Analysis of the sectors of the women owned SMEs that participated in this study indicates that 30% operated in wholesale and retail trade; repair of motor vehicles and motorcycles sector, 27% operated in accommodation and food service activities, 18% operated in financial and insurance activities, 9% operated in administrative and support service activities while 8% operated in manufacturing and other services activities respectively. The finding implied that majority of the women operated SMEs in wholesale and retail trade; repair of motor vehicles and motorcycles sector and operated in accommodation and food service activities. The results are shown in Figure 4.5.

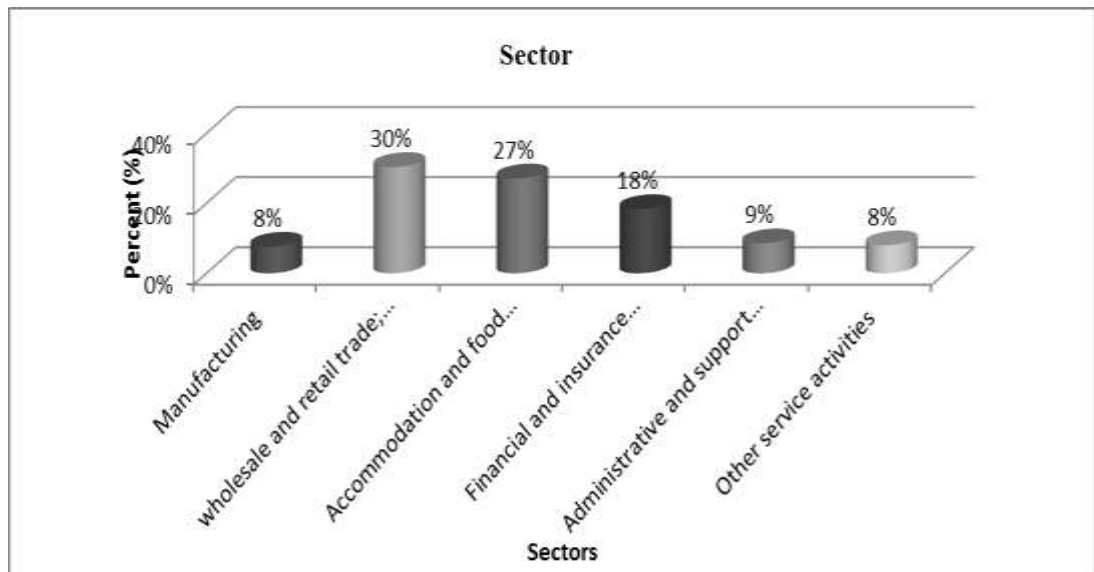


Figure 4.5: Sector of the Women Enterprise

4.4 Pilot Test Results

Pilot test was conducted in order to detect weaknesses in instrumentation and also it provides proxy data for the selection of probability sample. The procedures applied in pre-testing the questionnaire was similar to that applied during the actual study and also during the collection of data. The questionnaire was pilot tested on 36 women owned SMEs that were not included the final survey. The findings on reliability and validity are presented in following subsections.

4.4.1 Reliability Analysis

In this study, Cronbach's Alpha, which is a reliability coefficient, was applied to indicate how well the items in the set were correlated with each other. Bryman (2012) points out that the closer a Cronbach's Alpha is to one (1) the higher the reliability. According to Drost (2011), Cronbach's Alpha of 0.70 or higher indicated that the gathered data is reliable as it has a relatively high internal consistency and can be generalized to reflect opinions of all respondents in the target population. Smith (2015) pointed out that in general 0.70 value is recommended as the minimum acceptable value for Cronbach's Alpha reliability.

The Cronbach's alpha was used in this study to measure the internal consistency of the variables. The findings showed that the scales for all the independent and dependent variable were reliable as they surpassed the minimum Cronbach's alpha value threshold of 0.7 that is recommended by Drost (2011). Accordingly, none of the items in the questionnaire were deleted after the pilot study. The questionnaire was adequate to be used in the final survey. The summary of reliability test results is shown in Table 4.3.

Table 4.3: Summary of reliability results

	N of Items	Cronbach's Alpha	Conclusion
Technological Innovation	13	0.758	Accepted
Marketing Innovation	13	0.742	Accepted
Organizational Innovation	13	0.816	Accepted
Strategic Innovation	13	0.724	Accepted
Environmental Factors	13	0.713	Accepted
Performance of Women SMEs	5	0.719	Accepted

4.4.2 Validity of the Research Instrument

Validity test was done to ensure that the degree with which a measurement procedure or a questionnaire measures the characteristic it is intended to measure (Taherdoost, 2016). These include, content, construct, and criterion validity (Bryman, 2012). Content validity was done by designing the questionnaires according to the study variables and their respective indicators of measurement; construct validity, was done through restricting the questions to the conceptualizations of the variables and ensuring that the indicators of a particular variable fall within the same construct.

4.5 Tests of Regression Assumptions

Regression can only be accurately estimated if the basic assumptions of multiple linear regressions are observed according to (Bryman, 2012). The study performed tests on statistical assumptions, that is, test of regression assumption and statistic

used. This included test of normality, multicollinearity, linearity and test for homoscedasticity to make sure the data used was adequate to conduct inferential analysis. The tests were conducted to make sure that the statistical analysis conducted adhered to regression assumption hence avoid spurious and bias findings.

4.5.1 Factor Analysis

The importance of conducting a factor analysis was to summarize the information contained in a number of original variables into a smaller number of factors without losing much information. The implication of this is that the newly created variables should represent the fundamental constructs, which underlie the original variables factor (Bartholomew, Knott, & Moustaki, 2011). Loadings are an indication of how much a factor explains a variable in factor analysis. Yong and Pearce (2013) stated that the general rule of the thumb applied for acceptable factor loading is 0.32 or above. Murshed and Zhang (2016) noted that only factors with factor loading above 0.4 should be retained for further study. The minimum level 0.40 or 40% was adopted by this study. The results of factor analysis are presented in Table 4.4.

4.5.2 Factor Loading of Technological and Market Innovations

The results show that the factor loadings of technological innovation were ranging from 0.608 to 0.840 and 0.591-0.788 for market innovation. This indicates satisfactory factorability for all items of the variables. This means that the variables fitted well with other variables in their factors (Pallant, 2010). The factor analysis found out that none of the variables was removed because all of them had a coefficient of greater than 0.4 exceeded the criterion of 0.4 (Smith, 2015). Factor loadings of the variance in the variables was accounted for by the extracted factor; that is, it shows the variations from the expected initial value which is one. Factor loading for technological and market innovation is shown in Table 4.4.

Table 4.4: Factor loading of technological innovations.

Technological Innovation	Factors Loadings
My enterprise always strives to combine factors of production resulting from a change in inputs to produce outputs.	0.840
My enterprise always strives to embrace production to enhance better results	0.831
My enterprise embraces technological innovation that enables it to master and implements the design and production of products/services.	0.815
My enterprise always focuses on innovations by adopting technologies with the intention of providing them with market competitive edge.	0.672
My enterprise has embraced technological innovation to enhance and sustain performance compared to rivals.	0.700
Through technological innovation, my enterprise creates a stronger performance.	0.747
Through technological innovation, my enterprise creates more efficiency and lower cost of production and operation system.	0.631
My enterprise employs technology related innovativeness to compete effectively.	0.616
My enterprise is willing to anticipate opportunities and to make extra effort to improve its product through technological innovation.	0.608
My enterprise redefines its external conditions to reduce uncertainty and lessen vulnerability through technological innovation.	0.655
My enterprise usually strives to acquire the newest technology to spur performance.	0.693
My enterprise beliefs in the power of technology to support performance	0.675
My enterprise sets aside finances to support technological innovation	0.729
Marketing Innovation	
My enterprise usually concentrates on ideas that lead to new markets, products or processes.	0.788
In terms of innovation, my enterprise is a highly new market creator.	0.764
In terms of innovation, my enterprise is a highly incremental market builder.	0.721
My enterprise is always innovative in order to maintain the necessary industry standards.	0.722
My enterprise is a first innovation adaptor.	0.666
My enterprise always waits for rivals to set the innovation path.	0.699
My enterprise has to be innovative to compete with rivals with unlimited resources.	0.713
The enterprise endeavor to introduce new marketing concepts.	0.705
The enterprise has strived to look for new markets.	0.636
The enterprise always upholds the spirit of embracing new marketing techniques.	0.702
The enterprise strives to introduce new products in the market.	0.635
The enterprise has invested in innovation of new products.	0.591
The enterprise always upholds the spirit of embracing new products.	0.658

4.5.3 Factor Loading of Organization Innovation

The results show that factor loadings of organization innovation were ranging from 0.562 to 0.714 which indicates satisfactory factorability for all items of the variables. This means that the variables fitted well with other variables in their factors (Pallant, 2010). The factor analysis found out that none of the variables was removed because all of them had a coefficient of greater than 0.4 exceeded the criterion of 0.4. Factor loading for organization innovation is shown in Table 4.5.

Table 4.5: Factor loadings of organizational innovations

Organizational Innovation	Loading
My enterprise always endeavors for competitive advantage that can be obtained from the qualified human resources.	0.649
My enterprise usually competes and performs on the basis of quality and innovation.	0.646
My enterprise organizational innovation has the capability of generating value, products, services, ideas.	0.671
My enterprise endeavor at improving work for employees' motivation to achieve the best productivity goals and performance	0.640
My enterprise endeavor at improving work for employees' capabilities to achieve the best productivity goals and performance	0.670
My enterprise endeavor at improving work for employees' talents to achieve the best productivity goals and performance	0.682
Through organizational innovation my enterprise has introduced new practices of doing business.	0.622
Through organizational innovation my enterprise has introduced new workplace organizing methods.	0.667
Through organizational innovation my enterprise has introduced new decision-making system.	0.666
Through organizational innovation my enterprise has introduced new ways of managing external relations.	0.562
My enterprise endeavor at improving employees' capabilities to achieve the best performance.	0.630
My enterprise invests in enhancing the capabilities of the employees.	0.712
My enterprise strives to gain competitive advantage through enhancing the employee's capabilities to innovate.	0.714

4.5.4 Factor Loading of Strategic Innovation

The results show that the factor loadings of these variables were ranging from 0.611 to 0.808 which indicates satisfactory factorability for all items of the variables. This means that the variables fitted well with other variables in their factors (Pallant, 2010). Factor loading for strategic innovation is shown in Table 4.6.

Table 4.6: Factor loadings of Strategic Innovations

Strategic Innovation	Loadings
My enterprise is continuously engaged in creating strategic alignment with stakeholders to better customer value.	0.737
In coming up with new ways of doing business, customer needs and priorities are considered.	0.694
My enterprise is continuously targeting the products and services that will be significant to future needs of customers.	0.682
My enterprise has a futuristic outlook to estimate the future demands of customers.	0.748
There are many initiatives that have been undertaken to change the business model.	0.755
The enterprise has embraced new methods of distribution of its products and services.	0.672
The enterprise has introduced strategic innovation to enter and create new markets.	0.660
The enterprise has embraced strategic innovation to target specific markets (women and youth enterprises)	0.708
The enterprise has embraced strategic innovation that requires changing or bringing new value propositions, services and production processes.	0.611
The enterprise has introduced strategic innovation for determining what it needs to achieve from the innovation process.	0.757
My enterprise is readily adapted to embrace new innovations.	0.777
My enterprise has the preparedness to competitively innovate when faced with potential rivals.	0.808
My enterprise is prepared to innovate in new products and markets.	0.655
My enterprise gains from financial supports from the government.	0.706

4.5.5 Factor Loading of Environmental Factors and Firm Performance

The results indicate that the factor loadings of environmental factors were ranging from 0.635 to 0.792 and for firm performance were 0.527 to 0.595 which indicates satisfactory factorability for all items of the variables. This means that the variables

fitted well with other variables in their factors (Pallant, 2010). The factor analysis found out that none of the variables was removed because all of them had a coefficient of greater than 0.4 exceeded the criterion of 0.4. Factor loadings show how much of the variance in the variables was accounted for by the extracted factor; that is, it shows the variations from the expected initial value which is one. Factor loading for environmental factors and firm performance is shown in Table 4.7.

Table 4.7: Factor loadings of environmental factors and firm performance

Environmental Factors	Loadings
My enterprise suffers from unfair competitive practices that are widespread in the market.	0.775
The county government has provided a conducive environment for operations.	0.792
The political environment supports the establishment and growth of my enterprise.	0.720
The unpredictable political environment is detrimental to the existence of my enterprise.	0.703
The political climate negatively affects the operation of my enterprise.	0.761
The political climate positively affects the operation of my enterprise.	0.705
There is political will to develop strategies to support the growth of enterprises.	0.689
The existing laws are an impediment to the growth of my enterprise.	0.635
The laws to regulate the operation of my enterprise support innovation of new products and markets.	0.678
The county government legislations usually support the operations of my enterprise.	0.666
The county government legislations are a hindrance to the smooth operations of my enterprise.	0.689
My enterprise has lobbying network that consolidates support from the national and the county governments.	0.742
Firm Performance	
Profitability in the recent past	0.538
Growth in the market share/position in the market	0.573
Sales turnover in last five years	0.562
number of customers in last five years	0.595
Number of full-time employees	0.527
Extraction Method: Principal Component Analysis.	

4.5.6 Test of Normality

It is the best practice in statistical analysis to determine if a data is well-modeled by a normal distribution and compute for randomness in the variable. Ghasemin and Zahediasi (2012) argue that the variables are supposed to be roughly normally distributed especially if the results are to be generalized beyond the sample. The study used Kolmogorov- Simonov and Shapiro test of normality test as shown in Table 4.8. Under the Shapiro test the null hypothesis H_0 : data is normally distributed while the H_a : Data is not normally distributed. Since the p-values for all the variables were greater than 0.05, the null hypotheses for variables were not rejected hence confirming that data was normally distributed and fit for linear regression analysis.

Table 4.8: Test of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Technological Innovation	0.187	283	0.108	0.795	283	0.203
Marketing Innovation	0.079	283	0.091	0.887	283	0.601
Organizational Innovation	0.16	283	0.142	0.856	283	0.172
Strategic Innovation	0.126	283	0.060	0.952	283	0.107
Environmental Factors	0.162	283	0.078	0.902	283	0.302
SME Performance	0.282	283	0.230	0.756	283	0.071

4.5.7 Test of Multicollinearity

Multicollinearity is said to exist between two independent variables when a strong relationship exists between them. Garson (2012) asserts that the rule of thumb is that $VIF > 4.0$ multicollinearity is a problem and other scholar use more lenient cut off of $VIF > 5.0$ when multicollinearity is a problem. However, Mackey and Gass (2015) suggests that this rule of thumb should be assessed in contextual basis taking into account factors that influence the variance of regression coefficient. Accordingly, this study adopted a VIF value of 5 as the threshold.

The findings revealed that technological innovation had a VIF of 1.864, marketing innovation 1.618, organizational innovation 2.121, strategic innovation 1.795 and environmental factors 1.795. These results indicate that the VIF values of the variables were within the threshold of 5. This indicate that there was no significant threat of multicollinearity and therefore, the study used linear regression model because there was no independent variable with a strong linear relationship with any other independent variable(s). The results are presented in Table 4.9.

Table 4.9: Test for multicollinearity

	Collinearity Statistics	
	Tolerance	VIF
Technological Innovation	0.536	1.864
Marketing Innovation	0.618	1.618
Organizational Innovation	0.472	2.121
Strategic Innovation	0.557	1.795
Environmental Factors	0.794	1.259

a Dependent Variable: SME Performance

4.5.8 Linearity Test

Linearity refers to the relationship between variables where the value of the dependent variable is a straight-line function of the independent variable. The study conducted the test of linearity to determine whether the relationship between innovation and performance of women-owned SMEs in Kenya was linear or not. Table 4.10 provides the findings.

Table 4.10: Linearity Test

			Sum of	df	Mean	F	Sig.
Innovation	Between	(Combined)	50.598	10	4.6	18.52	0.000
		Linearity	48.455	1	48.455	195.1	0.000
*performance		from	2.142	10	0.214	0.863	0.571
		Linearity					
		Within Groups	25.083	273	0.248		
		Total	75.681	283			

The results indicate that the deviation from linearity was insignificant given a p -value of 0.571, which was greater than that set for the study i.e., $p < .05$. This implies that there was a linear relationship between innovation and performance of women-owned SMEs in Kenya.

4.5.9 Homoscedastic Test

Heteroscedasticity is a state where the error terms among different values of explanatory variables do not have a constant variance. Running a regression with heteroscedastic values would lead to unbiased parameter estimates but invalid standard errors (Cooper & Schindler, 2011). Breusch-Pagan test as used by Rosopa, Schaffer and Schroeder (2013) to test for homogeneity in a linear regression mode states that null hypothesis was that the error term was homoscedastic, and the alternative hypothesis was that the error term was heteroscedastic. If the null hypothesis was rejected, then it implied that there was presence of heteroscedasticity. The result of the test is shown in Table 4.11, which indicates that the test statistic is 0.9464 (P-value = 0.3985) with the degree of freedom. Since the test-statistic is small with the P-value greater than 0.05, the null hypothesis was accepted and it was concluded that there was homoscedasticity in the data (that is, the data is not heterogeneous in variance), which satisfies the assumption of regression.

Table 4.11: Test of Homoscedasticity

Test – Statistic	Degree of Freedom	P-Value
0.9464	4	0.3985

4.6 Descriptive Statistics

In this section the descriptive findings are presented. The study employed percentages, frequencies, mean and standard deviations in the analysis. The results showed how the respondents responded to various statements in the questionnaires on a scale of strongly disagree (SD) to strongly agree (SA). The presentation of these findings is done per objectives.

4.6.1 Technological Innovation

The first specific objective of this study was to determine the influence of technological innovation on the performance of small and medium women-owned enterprises in Kenya. The respondents rated their level of agreement on the extent to which they have adopted technological innovations on a 5-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The results are presented in Table 4.12.

Table 4.12: Descriptive Results for Technological Innovation

	1	2	3	4	5	Mean	Std Dev
My enterprise always strives to combine factors of production resulting from a change in inputs to produce outputs.	0.0%	0.0%	3.8%	65.2%	31.0%	4.27	0.52
My enterprise always strives to embrace production to enhance better results	0.0%	0.0%	3.8%	67.9%	28.2%	4.24	0.51
My enterprise embraces technological innovation that enables it to master and implements the design and production of products/services.	0.0%	0.0%	12.6%	49.8%	37.6%	4.42	3.02
My enterprise always focuses on innovations by adopting technologies with the intention of providing them with market competitive edge.	0.0%	0.0%	16.7%	34.5%	48.8%	4.32	0.74
My enterprise has embraced the use of online banking to enhance and sustain performance compared to rivals.	0.0%	0.0%	16.1%	43.9%	40.0%	4.24	0.71
Through mobile banking, my enterprise creates a stronger performance.	0.0%	0.0%	20.9%	39.7%	39.4%	4.18	0.76
Through e-bill payments, my enterprise creates more efficiency and lower cost of production and operation system.	0.0%	0.0%	14.0%	48.6%	37.4%	4.23	0.68
My enterprise has adopted agency banking to compete effectively.	0.0%	0.3%	23.3%	45.3%	31.0%	4.07	0.74
My enterprise is willing to anticipate opportunities and to make extra effort to improve its product through innovations in IT	0.0%	0.0%	20.9%	51.2%	27.9%	4.07	0.70
My enterprise has adopted electronic customer relationships management through SMSs follow-ups	0.0%	0.0%	19.2%	56.4%	24.4%	4.05	0.66
My enterprise uses computers to perform accounting work	0.0%	0.0%	18.8%	46.0%	35.2%	4.16	0.72
My enterprise has adopted the use of pay bills for payments and accounts receivables management	0.0%	0.0%	20.6%	38.8%	40.6%	4.20	0.76
My enterprise has adopted the use of electronic bank transfers to reduce costs of transactions	0.0%	0.0%	24.4%	36.9%	38.7%	4.14	0.78
Average						4.20	0.87

The results in Table 4.12 indicates that majority of the respondents, 96.2%, agreed that they have strived to combine factors of production resulting from a change in inputs to produce outputs, 96.1% also agreed that their enterprise always strives to embrace production to enhance better results, 87.4% stated that their enterprise embraces technological innovation that enables it to master and implements the design and production of products/services while 83.3% indicated that their enterprise always focuses on innovations by adopting technologies with the intention of providing them with market competitive edge.

It was also indicated that 83.9% of the respondents indicated their enterprise has embraced the use of online banking to enhance and sustain performance compared to rivals, 79.1% of them further indicated that through mobile banking, their enterprise creates a stronger performance, 86% indicated that through e-bill payments, their enterprise creates more efficiency and lower cost of production and operation system while 76.3% showed that their enterprise has adopted agency banking to compete effectively. The results also demonstrated that 79.1% of the respondents agreed that their enterprise is willing to anticipate opportunities and to make extra effort to improve its product through innovations in IT, 80.8% further agreed that their enterprise has adopted electronic customer relationships management through SMSs follow-ups, 81.2% indicated that their enterprise uses computers to perform accounting work, 79.4% confirmed that their enterprise has adopted the use of pay bills for payments and accounts receivables management and 75.6% of them further agreed that their enterprise has adopted the use of electronic bank transfers to reduce costs of transactions.

The average mean was 4.20 to imply that majority of the respondents agreed that they have implemented technological innovation. A standard deviation value of 0.87 implied that the responses were not widely varied which means the extent of adoption of technological innovations among the SMEs was not widely varied.

The findings imply that technological innovation has been adopted to a high extent among the women owned SMEs in Nairobi County, Kenya. The findings of this study concur with Mwangi and Namusonge (2014) who found that 31 percent of the

respondents agreed that technological innovation was important to the growth of the businesses. Sixty three percent of the respondents agreed that an investment in technology would help a firm to realize higher profits. The findings also agree with Osuga and Namanda (2016) who concluded that technological innovation have a strong positive association with the performance of the SMEs. The findings also agreed with Osuga and Namanda (2016) who concluded that technological innovation have a strong positive association with the performance of the SMEs. Finally, the study results concur with those of Nurulhasanah, Zulnaidi and Rafisah (2015) who established that technological innovation is significantly associated with business performance but its effect towards SME survival is under explored.

In addition, the respondents indicated that some of the technological innovations they have adopted as summarized in Table 4.13 include but not limited to mobile money transactions such as banking, deposits, accounts balance transactions and funds transfer, mobile money bill payments, agency banking, internet banking and the use of SMS to communicate with their customers on arrival of new products and stocks.

Table 4.13: Qualitative Analysis of the Open-Ended Question on Technological Innovation

Question	Summary of the Main Themes
Explain other technological innovations that your enterprise has embraced and influenced the overall performance	<ul style="list-style-type: none"> • Mobile money transactions such as banking, deposits, accounts balance transactions and funds transfer • Mobile money bill payments • Agency banking • Internet banking • Use of SMSs to communicate with their customers on arrival of new products and stocks

4.6.2 Marketing Innovation

The second specific objective of the study was to establish the influence of marketing innovation on performance of small and medium women-owned enterprises in Kenya. The respondents rated their level of agreement on the extent to which they have adopted marketing innovations on a 5-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The results are presented in Table 4.14.

Table 4.14: Descriptive Results for Marketing Innovation

Marketing Innovation	SD	D	N	A	SA	Mean	Std Dev
My enterprise has invested in the use of social media such as Facebook for marketing	0.0%	0.0%	5.3%	66.5%	28.2%	4.23	0.53
My enterprise has invested in the use of social media such as LinkedIn for marketing	0.0%	0.0%	18.4%	59.7%	21.9%	4.04	0.63
My enterprise has invested in the use of social media such as Instagram for marketing	0.0%	0.0%	15.5%	64.7%	19.8%	4.04	0.59
My enterprise has invested in the use of social media such as Twitter for marketing	0.0%	0.0%	20.9%	40.4%	38.7%	4.18	0.75
My enterprise has invested in the use of social media such as WhatsApp groups for marketing	0.0%	0.0%	33.2%	45.9%	20.8%	3.88	0.73
My enterprise has invested in the use of digital apps for marketing	5.7%	7.8%	24.7%	46.3%	15.5%	3.58	1.03
My enterprise has invested in the use of SMs for marketing	0.4%	1.8%	18.7%	59.9%	19.4%	3.96	0.69
My enterprise has invested in the use of optimal search engines to market its products	0.0%	1.1%	21.5%	56.0%	21.5%	3.98	0.69
My enterprise has invested in the use of websites to market its products	0.0%	0.7%	31.7%	51.4%	16.2%	3.83	0.69
My enterprise has invested in online customer complains systems to retain customers	0.0%	0.7%	23.9%	49.3%	26.1%	4.01	0.73
My enterprise has invested in online communications with potential customers through emails	0.0%	0.4%	21.5%	52.1%	26.1%	4.04	0.70
My enterprise has invested in online customer surveys to understand their preferences	0.0%	0.7%	28.2%	44.4%	26.8%	3.97	0.76
My enterprise has invested in the use of digital marketeers to aide in marketing of the products online	0.0%	0.7%	26.4%	37.0%	35.9%	4.08	0.80
Average						3.97	0.72

The results presented in Table 4.14 indicated that majority of the respondents, 94.7% agreed that their enterprise has invested in the use of social media such as Facebook for marketing, 81.6% indicated that their enterprise has invested in the use of social media such as LinkedIn for marketing, 84.5% indicated that their enterprise has invested in the use of social media such as Instagram for marketing, 79.1% indicated that their enterprise has invested in the use of social media such as Twitter for marketing, 66.7% indicated that their enterprise has invested in the use of social media such as WhatsApp groups for marketing and 61.8% agreed that their enterprise has invested in the use of digital apps for marketing.

In addition, it was ascertained that 79.3% of the respondents agreed that their enterprise has invested in the use of SMs for marketing, 77.5% indicated that their enterprise has invested in the use of optimal search engines to market its products, 67.6% agreed that their enterprise has invested in the use of websites to market its products, 75.4% stated that their enterprise has invested in online customer complains systems to retain customers, 78.2% similarly agreed that their enterprise has invested in online communications with potential customers through emails, 71.2% indicated that their enterprise has invested in online customer surveys to understand their preferences while 72.9% were of the pinion that their enterprise has invested in the use of digital marketeers to aide in marketing of the products online.

The average mean was 3.97 to imply that majority of the respondents agreed that they have implemented marketing innovation. A standard deviation value of 0.72 implied that the responses were not widely varied which means the extent of adoption of marketing innovations among the SMEs was not widely varied. There was an agreement generally that the women owned SMEs in Nairobi county have adopted marketing innovations to a high extent. The implication of these findings was that women SMEs owners in Kenya invested in marketing innovations and those women SMEs owners that invested in marketing innovation enhanced the performance of their enterprises.

These findings concur with Walobwa, Ngugi and Chepkulei (2013) who established that all types of innovation were being practiced in the sector and that innovation is

very critical for SMEs to become and remain competitive in the global market. The author further found out that among the types of innovation analyzed, marketing innovation contributed most to the growth of garment SMEs in Jericho market, Nairobi.

These findings concur with Walobwa, Ngugi and Chepkulei (2013) who established that all types of innovation were being practiced in the sector and that innovation is very critical for SMEs to become and remain competitive in the global market. The author further found out that among the types of innovation analyzed, marketing innovation contributed most to the growth of garment SMEs in Jericho market, Nairobi. 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.

In addition, the respondents indicated that some of the marketing innovations they have adopted as summarized in Table 4.15 are generally as captured in descriptive analysis and ranging from social media marketing, websites and use of digital marketers.

Table 4.15: Qualitative Analysis of the Open-Ended Question on Marketing Innovation

Summary of the Main Themes	
Explain other marketing innovations that your enterprise has embraced and influenced the overall performance	<ul style="list-style-type: none"> • Marketing through social media such as Instagram, Facebook, LinkedIn, WhatsApp groups, SMS and Twitter • Marketing using digital apps • Marketing through digital marketers and websites

4.6.3 Organizational Innovation

The third objective of the study was to determine the influence of organization innovation on performance of small and medium women -owned enterprise in Kenya. This section presents the findings on descriptive statistics comprising of

percentages, mean and standard deviation. The respondents rated their level of agreement on the extent to which they have adopted organizational innovations on a 5-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The results are presented in Table 4.16.

Table 4.16: Qualitative Descriptive Results for Organizational Innovation

Organizational Innovation	SD	D	N	A	SA	Mean	Std Dev
My enterprise always endeavors for competitive advantage that can be obtained from the qualified human resources.	0.0%	0.0%	6.6%	68.3%	25.1%	4.18	0.53
My enterprise usually competes and performs on the basis of quality and innovation.	0.0%	0.0%	4.5%	70.7%	24.7%	4.20	0.50
My enterprise organizational innovation has the capability of generating value, products, services, ideas.	0.0%	0.0%	14.3%	68.2%	17.5%	4.03	0.56
My enterprise endeavor at improving work for employees' motivation to achieve the best productivity goals and performance	0.0%	0.0%	18.5%	37.3%	44.3%	4.26	0.75
My enterprise endeavor at improving work for employees' capabilities to achieve the best productivity goals and performance	0.0%	0.0%	26.5%	37.3%	36.2%	4.10	0.79
My enterprise endeavor at improving work for employees' talents to achieve the best productivity goals and performance	0.0%	0.7%	36.4%	42.7%	20.3%	3.83	0.75
Through investment in the use of IT my enterprise has introduced new practices of doing business.	0.0%	0.0%	32.9%	51.7%	15.4%	3.83	0.67
Through investment in the use of IT my enterprise has introduced new workplace organizing methods.	0.0%	0.3%	31.4%	56.1%	12.2%	3.80	0.64
Through organizational innovation my enterprise has introduced new decision-making system.	0.0%	0.0%	25.5%	57.7%	16.8%	3.91	0.65
Through investment in the use of IT my enterprise has introduced new ways of managing external relations.	0.0%	0.0%	20.6%	62.2%	17.1%	3.97	0.61
My enterprise endeavours to improve employees' capabilities to achieve the best performance.	0.0%	0.0%	21.3%	41.8%	36.9%	4.16	0.75
My enterprise invests in developing the capabilities of the employees.	0.0%	0.0%	29.3%	31.0%	39.7%	4.10	0.83
My enterprise strives to gain competitive advantage through enhancing the employee's capabilities to innovate.	0.0%	0.0%	28.6%	29.3%	42.2%	4.14	0.83
Average						4.04	0.68

The results in Table 4.16 indicate that respondents were asked whether their enterprises always endeavor for competitive advantage that can be obtained from the qualified human resources. The findings indicated that 68.3% and 25.1% of the respondents agreed and strongly agreed. The statement had a mean of 4.18 and standard deviation of 0.53 which confirmed that majority of the respondents.

The study further sought to establish whether respondents' enterprise usually competes and performs on the basis of quality and innovation, the results similarly revealed that 70.7% and 24.7% of the respondents agreed and strongly agreed. On whether their enterprise organizational innovation had the capability of generating value, products, services, ideas, the findings indicated that 68.2% and 17.5% of the respondents agreed and strongly agreed. The statement on whether enterprise endeavors at improving work for employees' motivation to achieve the best productivity goals and performance, the finding showed that 37.3% and 44.3% of the respondents agreed and strongly agreed.

The study similarly, sought to establish from the respondents whether their enterprise endeavor at improving work for employees' capabilities to achieve the best productivity goals and performance, the findings indicated that 37.3% and 36.2% agreed and strongly agreed which implied that majority as shown by the mean of 4.10 agreed with the statement. The findings also revealed that majority of the respondents as shown by the mean of 3.83 agreed and strongly agreed that their enterprise endeavor at improving work for employees' talents to achieve the best productivity goals and performance.

Generally, the study findings implied that small and medium women -owned enterprise in Kenya had invested in organization innovation. The findings also concur with Makanyeza and Dzvuke (2015) who found that organizational innovation and product innovation positively predicted the performance of SMEs while marketing innovation and process innovation did not. On the other hand, the study findings disagreed with Ndesaulwa, and Kikula (2016) who found that no consistent results on whether the innovations altogether influence firms' performance.

This research also sought to establish from the respondents whether through investment in the use of IT their enterprise had introduced new practices of doing business, the data obtained revealed that majority (51.7% and 15.4%) of the respondent as shown by the mean 3.83 agreed and strongly agreed with the statement. The results showed that 56.1% and 12.2% of the respondents agreed and strongly agreed that through investment in the use of IT their enterprise had introduced new workplace organizing methods. On whether through investment in the use of IT respondents' enterprise had introduced new decision-making system, the finding showed that 57.7% and 16.8% of the respondents agreed and strongly agreed respectively.

The statement on whether through investment in the use of IT respondents' enterprise had introduced new ways of managing external relations, had a mean response of 3.97 implying that majority of the respondents agreed and strongly agreed. Similarly, the results showed that majority as shown by mean response of 4.16 agreed and strongly agreed that enterprise endeavor at improving employees' capabilities to achieve the best performance. The study sought to establish from the respondents whether their enterprise invests in developing the capabilities of the employees, the findings revealed that majority of the respondents agreed and strongly agreed as shown by the mean response of 4.10.

Finally, the study findings showed that 29.3% and 42.2% of the respondents agreed and strongly agreed that their enterprise strives to gain competitive advantage through developing the employee's capabilities to innovate. The average mean was 4.04 to imply that majority of the respondents agreed that they have implemented organizational innovation. A standard deviation value of 0.68 implied that the responses were not widely varied which means the extent of adoption of organizational innovations among the SMEs was not widely varied.

Generally, the respondents revealed that organization innovation impacted positively on the performance of their enterprises. The study findings disagreed with Ndesaulwa, and Kikula (2016) who found that no consistent results on whether the innovations altogether influence firms' performance. Similarly, the study findings

concur with Hassan *et al* (2013) whose findings also showed that higher performance can be achieved better from increased innovativeness in manufacturing firms.

In addition, the respondents indicated that some of the marketing innovations they have adopted as summarized in Table 4.17 are generally as captured in descriptive analysis and ranging from social media marketing, websites and use of digital marketers.

Table 4.17: Qualitative Analysis of the Open-Ended Question on Organizational Innovation

Question	Summary of the Main Themes
How has organizational innovation enabled your enterprise to embrace new ways of organizing routine activities to enhance performance?	<ul style="list-style-type: none"> Investment in the use of to perform major services such as payrolls, human resource management, accounting and marketing has increased efficiency, reduced costs, enhanced effectiveness, increased security and reduced redundancy. Thus, it has increased performance.

4.6.7 Strategic Innovation

The fourth specific objective of the study was to analyze the influence of strategic innovation on the performance of small and medium women-owned enterprises in Kenya. This section presents the findings on descriptive statistics comprising of percentages, mean and Standard Deviation. It shows how the respondents agreed and disagreed on the statements regarding strategic innovation and firm performance. The results are presented in Table 4.18.

Table 4.18: Descriptive Results for Strategic Innovation

Strategic Innovation	SD	D	N	A	SA	Mean	Std Dev
My enterprise is continuously engaged in creating strategic alignment with stakeholders to better customer value.	0.0%	0.3%	9.8%	59.6%	30.3%	4.20	0.61
In coming up with new ways of doing business, customer needs and priorities are considered.	0.0%	0.3%	3.8%	69.7%	26.1%	4.22	0.52
My enterprise is continuously targeting the products and services that will be significant to future needs of customers.	0.0%	0.0%	6.6%	51.6%	41.8%	4.35	0.60
My enterprise has a futuristic outlook to estimate the future demands of customers.	0.0%	0.0%	18.1%	33.8%	48.1%	4.30	0.76
My enterprises is conducting process reengineering to change the business model.	0.0%	1.0%	41.8%	33.4%	23.7%	3.80	0.81
The enterprise has invested in improvement of distribution channels through technology such as GPS tracking	0.0%	0.0%	32.4%	47.4%	20.2%	3.88	0.72
The enterprise has introduced strategic innovation to enter and create new markets.	0.0%	0.0%	15.3%	65.5%	19.2%	4.04	0.59
The enterprise has embraced strategic innovation to target specific markets (women and youth enterprises)	0.0%	1.0%	23.7%	48.1%	27.2%	4.01	0.74
The enterprise has embraced strategic innovation that requires changing or bringing new value propositions, services and production processes	0.0%	0.3%	15.3%	59.2%	25.1%	4.09	0.64
The enterprise has introduced strategic innovation for determining what it needs to achieve from the innovation process	0.0%	0.0%	17.1%	49.8%	33.1%	4.16	0.69
My enterprise is readily adapted to embrace new innovations	0.0%	0.0%	16.8%	46.3%	36.8%	4.20	0.71
My enterprise has the preparedness to competitively innovate when faced with potential rivals	0.0%	0.0%	4.6%	34.9%	60.6%	4.56	0.58
My enterprise is prepared to innovate in new products and markets	0.0%	0.0%	4.6%	55.6%	39.8%	4.35	0.57
Average						4.17	0.66

The study sought to establish from respondents whether their enterprise continuously engaged in creating strategic alignment with stakeholders to better customer value. The findings showed that 59.6% and 30.3% of the respondents agreed and strongly that their enterprise continuously engaged in creating strategic alignment with

stakeholders to better customer value. The findings further revealed that majority (69.7%) of the respondents agreed that in coming up with new ways of doing business, customer needs and priorities are considered. The statement had a mean of 4.22 which implied that majority of the respondent agreed. On whether, enterprise continuously targeted the products and services that will be significant to future needs of customers, the finding showed that 51.6% agreed while 41.8% strongly agreed implying that majority of the respondents agreed.

The study further sought to establish whether women enterprise had a futuristic outlook to estimate the future demands of customers. The research findings showed that 33.8% and 48.1% agreed and strongly agreed. The study findings also revealed that 33.4% and 23.7% of the respondents agreed and strongly agreed that their enterprises are conducting process reengineering to change the business model. On whether the enterprise has invested in improvement of distribution channels through technology such as GPS tracking, the finding revealed 47.4% agreed while 20.2% strongly agreed. The statement had a mean response of 3.88 and standard deviation of 0.72 implying slight variation in the response. The study also asked the respondents on whether their enterprise had introduced strategic innovation to enter and create new markets, the data obtained by the study revealed that majority of the respondents agreed (65.5%) and strongly agreed (19.2%) with the statement.

These findings implied that majority of the respondents agreed and strongly agreed to have adopted various strategic innovations in their enterprises. According to the respondents' strategic innovations adopted helped their firms to create new markets which improved firm performance. These findings concur with those Lily and Juma (2014) who concluded that indeed there exist a positive relationship between strategic innovation and performance of public universities in Kenya.

Majority of the respondents agreed and strongly agreed as shown by the mean response of 4.10 that their enterprise had embraced strategic innovation to target specific markets. The study finding further revealed that majority of the respondent shown by mean of 4.09 agreed that their enterprise had embraced strategic innovation that requires changing or bringing new value propositions, services and

production processes. The study also sought to establish from the respondents whether their enterprise had introduced strategic innovation for determining what it needs to achieve from the innovation process. The study results revealed that 49.8% and 33.1% of the respondents agreed and strongly agreed.

On whether enterprise readily adapted to embrace new innovations, the research findings showed that 46.3% and 36.8% agreed and strongly agreed. The study further sought to find out from the respondents whether their enterprise had the preparedness to competitively innovate when faced with potential rivals, the statement had a mean response of 4.56 which implied that majority of the respondents agreed and strongly agreed with the statement. Finally, the study sought to find out from the respondents whether their enterprise was prepared to innovate in new products and markets, the findings revealed that 55.6% and 39.8% of the respondents agreed and strongly agreed. The mean response for this statement was 4.35 which implied that respondent agreed and sternly agreed.

The average mean was 4.17 to imply that majority of the respondents agreed that they have implemented strategic innovation. A standard deviation value of 0.66 implied that the responses were not widely varied which means the extent of adoption of strategic innovations among the SMEs was not widely varied.

These findings implied that majority of the respondents agreed and strongly agreed to have adopted various strategic innovations in their enterprises. According to the respondents' strategic innovations adopted helped their firms to create new markets which improved firm performance. These findings concur with those Lily and Juma (2014) who concluded that indeed there exist a positive relationship between strategic innovation and performance of public universities in Kenya. The study findings concur with Shisia, Sang, Matoke and Omwario (2014) who found out that the strategic innovation measures adopted by the bank greatly affects the bank's performance.

In addition, the respondents indicated that some of the marketing innovations they have adopted as summarized in Table 4.19 are generally as captured in descriptive analysis and ranging from social media marketing, websites and use of digital marketers.

Table 4.19: Qualitative Analysis of the Open-Ended Question on Strategic Innovation

Question	Summary of the Main Themes
Mention the measures the enterprise has put in place to deal with the emerging needs of the business world.	<ul style="list-style-type: none"> • Realignment of its service provision models to emerging technology through heavy investment in IT adoption • Conducting market surveys to understand emerging issues in the line of service provision and aligning its processes accordingly • Investment in development of agility capabilities to be able to sense new market trends and adjust swiftly

4.6.8 Environmental Factors

The fifth specific objective of the study was to establish how environmental factors moderates the relationship between innovation types and the performance of small and medium women-owned enterprises in Kenya. This section presents the findings on descriptive statistics comprising of percentages, mean and standard deviation. It shows how the respondents agreed and disagreed on the statements regarding environmental and firm performance. The results are presented in Table 4.20.

Table 4.20: Descriptive Results for Environmental Factors

Environmental Factors	SD	D	N	A	SA	Mean	Std Dev
My enterprise gains from financial supports from the government.	33.0%	27.4%	20.4%	10.9%	8.4%	2.34	1.27
My enterprise suffers from unfair competition that are widespread in the market.	0.4%	14.4%	21.8%	38.9%	24.6%	3.73	1.00
The county government has provided environment conducive for operations.	0.7%	6.7%	42.1%	44.2%	6.3%	3.49	0.74
The political environment supports the establishment and growth of my enterprise.	1.1%	12.0%	38.0%	41.5%	7.4%	3.42	0.83
The unpredictable political environment is detrimental to the existence of my enterprise.	0.0%	1.1%	16.5%	35.1%	47.4%	4.29	0.77
The political climate during elections affect the operation of my enterprise.	0.4%	2.8%	28.8%	33.0%	35.1%	4.00	0.89
The political climate post elections affect the operation of my enterprise.	18.6%	35.1%	41.8%	4.2%	0.4%	2.33	0.84
There is political will to develop strategies to support the growth of enterprises.	0.4%	3.2%	45.6%	38.9%	11.9%	3.59	0.75
The laws to regulate the operation of my enterprise support innovation of new products and markets.	0.4%	9.1%	44.9%	37.2%	8.4%	3.44	0.79
The county government licensing legislations usually support the operations of my enterprise.	1.1%	17.6%	41.5%	35.6%	4.2%	3.24	0.83
The county government legislations are a hindrance to the smooth operations of my enterprise.	3.9%	12.0%	45.2%	27.2%	11.7%	3.31	0.96
My enterprise has lobbying network that consolidates support from the national and the county governments.	4.6%	7.0%	53.0%	29.8%	5.6%	3.25	0.85
Average						3.37	0.88

The study sought to establish from the respondents whether their enterprises gains from financial supports from the government, the findings showed that 33.0% and 27.4% of the respondents strongly disagreed and disagreed. On whether their enterprise suffers from unfair competition that are widespread in the market, the study findings revealed that 38.9% and 24.6% of the respondents agreed and strongly

agreed. On whether, the county government had provided environment conducive for operations, the research findings showed that 44.2% and 6.3% agreed and strongly agreed. Those who disagreed were 6.7% while 42.1% were neutral.

The study further sought to find out from the respondents whether political environment supports the establishment and growth of my enterprise, the study findings showed that 41.5% and 7.4% of the respondents agreed and strongly agreed respectively, 38.0% of the respondents were neutral. The findings further showed that 35.1% and 47.4% of the respondents agreed and strongly agreed that the unpredictable political environment is detrimental to the existence of my enterprise. The findings also showed that the statement on whether political climate post elections affects the operation of my enterprise had a mean response of 4.0 which implied that majority of the respondents agreed. Respondent were asked whether political climate during elections affects the operation of my enterprise, the findings revealed that 35.1% disagreed, 18.6% strongly disagreed while 41.8% were neutral. This implied that respondents felt that political climate impacted negatively on operations of the enterprises.

The study also sought to establish from the respondents whether there was political will to develop strategies to support the growth of enterprises, the statement had a mean of 3.59 which confirmed that majority of the respondents agreed. On whether existing laws were an impediment to the growth of my enterprise, the research findings revealed that 28.4% agreed, 10.5% strongly agreed, 46.0% were neutral while 15.1% disagreed. The study findings concur with Crossan and Apaydin (2010) who found that new technology ventures in SMEs face more complex environmental situations than their counterparts in large firms.

The respondents were also asked whether laws to regulate the operation of their enterprise support innovation of new products and markets, the results revealed that majority of the respondents 37.2% agreed 8.4% strongly while 44.9% were neutral. The statement on whether county government legislations usually support the operations of my enterprise had a mean of 3.24 which implied that some of the respondents agreed while other disagreed.

The study also sought to find out from the respondents whether the county government licensing legislations are a hindrance to the smooth operations of my enterprise, the data obtained revealed that 27.2% agreed, 11.7% strongly agreed, 45.2% were neutral 12.0% disagreed while 3.9% strongly disagreed. The finding implied that some respondents found county legislations a hindrance while others found them favorable for operations. The study finally, sought to find out from the respondents whether their enterprise had lobbying network that consolidates support from the national and the county governments, the obtained by the study revealed that 29.8% agreed, 5.6% strongly agreed while 53.0% were neutral. Those who disagreed and strongly disagreed were the least at 7.0% and 4.6% respectively. The average mean was 3.37 to imply that majority of the respondents neither agreed nor disagreed on the statements on environmental factors. This implies that the environmental factors have been less effective in advancing innovation among the SMEs. A standard deviation value of 0.88 implied that the responses were not widely varied among the respondents.

The study finding concurs with Crossan and Apaydin (2010) who found that new technology ventures in SMEs face more complex environmental situations than their counterparts in large firms. In addition, the respondents indicated that some of the marketing innovations they have adopted as summarized in Table 4.14 are generally as captured in descriptive analysis and ranging from social media marketing, websites and use of digital marketers.

Table 4.21: Qualitative Analysis of Open-ended questions on Environmental Factors

Question	Summary of the Main Themes
Has the existing institutional, legal and regulatory framework affected the innovation ability of your enterprise?	<ul style="list-style-type: none"> • All the respondents agreed that the existing institutional, legal and regulatory environment affects their businesses • The licensing regulation was termed as harsh • The economic environment was termed as harsh and volatile • The political environment was termed as unstable during and after elections • Technological environment was termed as fast paced
a) Yes ()	
b) No ()	
If yes, explain	

4.6.9 SMEs Financial Performance

This section presents the descriptive results of the dependent variable. The study asked the respondents to indicate percentage growth in average pretax profit, return on assets and equity and finally sales turnover. The trend analysis presented in Figure 4.6 revealed on average all the indicators of performance showed a steady growth in between 2013 and 2016 which was followed by a slight drop in 2017. The findings also showed that the increase in growth was not rapid but slow.

This further implied the small and medium size enterprises owned by women in Kenya grew at a slow rate as stipulated by Tlaiss (2015) who found that Women SMEs face difficulty of accessing capital, difficulty of accessing skilled human resources and support networks, having cultural constraints, lacking a supportive legal and policy framework and having difficulties managing time due to family commitments which limit their performance.

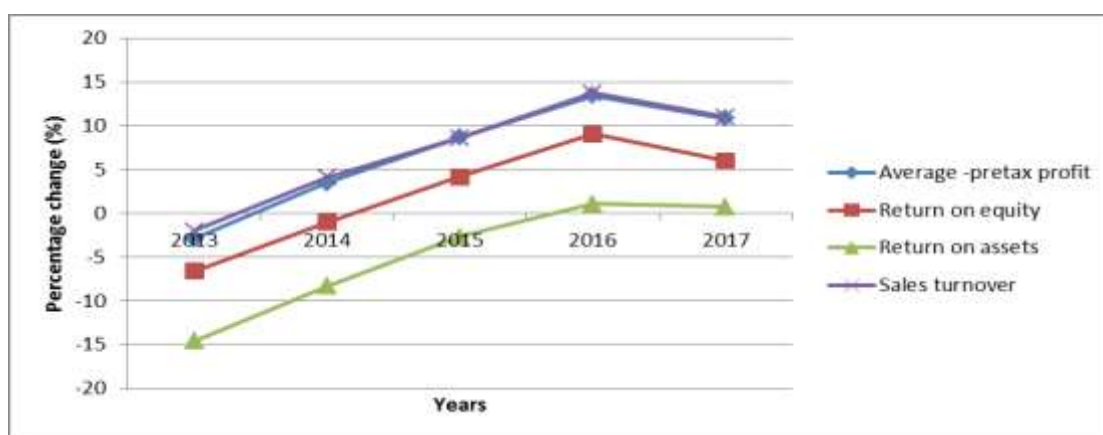


Figure 4.6: Firm Performance

4.6.10 Descriptive Results for Firm Performance

The respondents were further asked to rate their enterprises performance on a scale of much worse to much better. The results indicate that 47.9% and 43.1% of the respondents indicated that their profitability in the recent past has improved. On growth in the market share / position in the market, 46.5% strongly agreed it has improved while 41.3% agreed that it has improved. The statement had a mean of response 4.22 which implied that majority of the respondents agreed. Sales turnover in last five years had a mean of 4.22, number of customers in last five years had a mean of 4.24 and number of full-time employees had a mean 4.27. The findings implied that majority of the respondents indicated that enterprise performance was better and much better. This is shown in Table 4.22.

Table 4.22: Descriptive Results for Firm Performance

Statement	SD	D	N	A	SA	Mean	Std Dev
Profitability in the recent past has improved	2.8%	2.8%	3.5%	47.9%	43.1%	4.26	0.87
Growth in the market share/position in the market has improved	4.2%	4.2%	3.8%	41.3%	46.5%	4.22	0.96
Sales turnover in last five years has improved	4.2%	3.8%	3.8%	42.7%	45.5%	4.22	0.99
Number of customers in last five years	2.8%	3.1%	4.5%	46.5%	43.1%	4.24	0.89
Number of full-time employees has increased	2.4%	3.5%	2.8%	47.6%	43.8%	4.27	0.87

4.6.11 Ranking of Innovations According to the Sectors

This section contains analysis of how the various sectors perform on various types of innovations. The study analyzed the performance of various sector on all the four types of innovations the study focused on. The findings presented revealed that manufacturing sector in Kenya was ahead into of innovations followed by financial and insurance sectors then the other sectors. The results revealed that organizational innovation and strategic innovation were given much priority by firms in manufacturing sector. Technological innovation and strategic innovation led in wholesale and retail sectors some to firms in accommodation and food service activities.

In administrative and support service activities and financial and insurance sectors technological innovation was the leading type of innovation. The findings implied that technological innovation was given more priority by majority of the sectors in Kenya. The use of technology reduces costs of operation and make is easy for small business of access through new markets for their product and services hence leading to high profitability. Some of the technological innovation that have been adopted by small business include use of e-commerce platforms such websites and social media platforms to market their goods and services. The findings are presented in Figure 4.8.

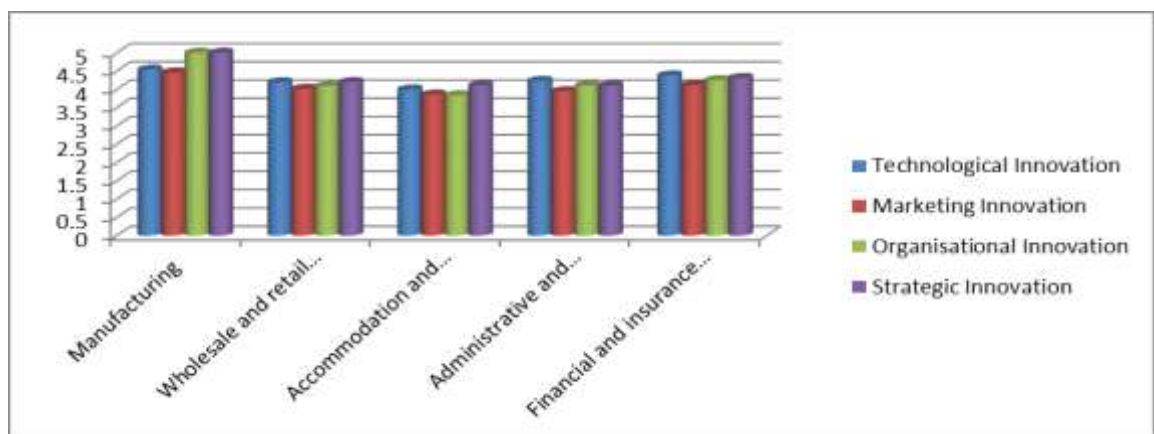


Figure 4.7: Ranking of Innovations per Sector

4.7 Inferential Statistics

This section contains results of inferential statistics which include bivariate correlation and multivariate regression analysis. Correlation tests were conducted to conduct to test the association between independent and dependent variables. According to Kothari (2014) the importance of correlation is to determine the extent to which changes in the value of an attribute is associated with changes in another attribute. According to Kumar (2019) regression is the determination of a statistical relationship between two or more variables. In simple regression, there are two variables, one variable (defined as independent) is the cause of the behavior of another one (defined as dependent variable).

4.7.1 Correlation Analysis between Study Variables

This section presented the findings of bivariate correlation analysis between independent and dependent variables. Correlation analysis tests the strength and nature of the association between independent variables and dependent variable. The findings presented in Table 4.23 revealed technological innovation (X_1) had a strong association with performance of women SMEs in Kenya as shown by $r=0.628$. The correlation was significant as shown by $p=0.000$ which was less than 0.05. The findings agree with Osuga and Namanda (2016) who concluded that technological innovation have a strong positive association with the performance of the SMEs. The study results also concur with those of Nurulhasanah, Zulnaidi and Rafisah (2015) who established that technological innovation is significantly associated with business performance but its effect towards SME survival is under explored. The findings of this study implied that increase in technological innovation would lead to increase in performance of women owned SMEs in Kenya.

The findings further revealed that marketing innovation (X_2) had a strong association with performance of women SMEs in Kenya as shown by $r=0.563$. The correlation was significant as shown by $p=0.000$ which was less than 0.05. These findings concur with Walobwa, Ngugi and Chepkulei (2013) who established that all types of innovation were being practiced in the sector and that innovation is very critical for SMEs to become and remain competitive in the global market.

The findings also revealed that organizational innovation (X_3) had a strong association with performance of women SMEs in Kenya as shown by $r=0.689$. The correlation was significant as shown by $p=0.000$ which was less than 0.05. The findings also concur with Makanyeza and Dzvuke (2015) who found that organizational innovation and product innovation positively predicted the performance of SMEs while marketing innovation and process innovation did not. On the other hand, the study findings disagreed with Ndesaulwa, and Kikula (2016) who found that no consistent results on whether the innovations altogether influence firms' performance.

The findings also revealed that strategic innovation (X_4) had a strong association with performance of women SMEs in Kenya as shown by $r=0.568$. The correlation was significant as shown by $p=0.000$ which was less than 0.05. These findings concur with those Lily and Juma (2014) who concluded that indeed there exist a positive relationship between strategic innovation and performance of public universities in Kenya. The study findings concur with Shisia, Sang, Matoke and Omwario (2014) who found out that the strategic innovation measures adopted by the bank greatly affects the bank's performance.

The correlation findings also revealed a weak association between the moderating variable environmental factors (M) and performance of women SMEs in Kenya as shown by $r=0.394$, the association was also significant as shown by $p=0.000$. The findings implied that improve operating environment was results to increase in performance of women owned SMEs in Kenya. The findings of correlation analysis are presented in Table 4.23.

Table 4.23: Correlation Matrix

		X1	X2	X3	X4	M	Y
X1	Pearson Correlation	1					
X2	Pearson Correlation	.458**	1				
X3	Pearson Correlation	.645**	.497**	1			
X4	Pearson Correlation	.512**	.531**	.579**	1		
M	Pearson Correlation	.222**	.394**	.338**	.368**	1	
Y	Pearson Correlation	.628**	.563**	.689**	.568**	.394**	1
	Sig.	0.000	0.000	0.000	0.000	0.000	
	N	288	285	287	287	285	288

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

X1= Technological Innovation

X4= Strategic Innovation

X2= Marketing Innovation

M=Environmental Factors

X3=Organizational Innovation

Y=women owned SME Performance

4.7.2 Effect of the Independent Variables on Dependent Variable

To test the effect of independent variables on dependent variable, the study employed multivariate regression analysis. According to Kothari (2004), regression is the determination of a statistical relationship between two or more variables. In simple regression, there are two variables, one variable (defined as independent) is the cause of the behavior of another one (defined as dependent variable). Hypotheses testing were done based on the findings of multivariate regression analysis.

4.7.2.1 Model Summary

The results on Table 4.24 revealed $R = 0.766$ and $R^2 = 0.587$. R value implied that there is a strong relationship between all the independent variable combined and performance of women owned SMEs in Kenya. R^2 on the other hand, indicates that explanatory power of the independent variables on dependent variables

was 58.7%. This means that 58.7% of the variation in performance of women owned SMEs in Kenya is explained by technological innovation, marketing innovation, organizational innovation and finally strategic innovation while the remaining 41.3% of the variation in performance of women owned SMEs is unexplained by the variables in the model.

Table 4.24: Model Summary for Multivariate Regression Analysis

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.766	0.587	0.581	0.41374

a. Predictors: (Constant), Strategic Innovation, Technological Innovation, Marketing Innovation, Organizational Innovation

4.7.2.2 ANOVA Results for Multivariate Regression Analysis

The findings on Table 4.25 of ANOVA revealed F-statistics of 99.472 with a p-value of 0.000 which was less than significance level of 0.05. The study hence concluded that the model used to link the independent variables to dependent variable had a good fitness. In this case the alternative hypothesis that the model had good fitness was accepted and concluded that innovations significantly predicated performance of women owned SMEs in Kenya.

Table 4.25: ANOVA Results for Multivariate Regression Analysis

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	68.110	4	17.027	99.472	0.000
	Residual	47.930	280	.171		
	Total	116.040	284			

a. Dependent Variable: SME Performance

b. Predictors: (Constant), Strategic Innovation, Technological Innovation, Marketing Innovation, Organizational Innovation

4.7.2.3 Beta Coefficient Results

The findings indicated existence of a positive significant relationship between technological innovation and SMEs performance ($\beta=0.255$ and $p\text{-value}=0.000$). The implication is that a unit increase in technological innovation led to an increase in SMEs performance by 25.5%. Since the $p\text{-value}$ was less than 0.05, the null hypothesis was rejected and conclusion made that technological innovation had a significant positive relationship with performance of women-owned SMEs.

The second model showed positive significant relationship between marketing innovation and growth of women-owned SMEs ($\beta=0.305$ and $p\text{-value}=0.000$). The implication was that a unit increase in marketing innovation strengthened performance of women-owned SMEs by 30.5%. The third model depicted a significant relationship between organization innovation and performance of women-owned SMEs ($\beta=0.362$ and $p\text{-value}=0.000$). It can then be concluded that a unit increase in organization innovation enhance performance of women-owned SMEs by 36.2%. Finally, the last model showed presence of a positive significant relationship between strategic innovation and growth of women-owned SMEs ($\beta=0.250$ and $p\text{-value}=0.013$). The implication was that a unit increase in strategic innovation strengthened performance of women-owned SMEs by 25%. The results are shown on Table 4.26.

Table 4.26: Beta Coefficient Results for Multivariate Regression Analysis

	B	Std. Error	T	Sig.
(Constant)	0.848	0.328	2.586	0.002
Technological Innovation	0.255	0.057	4.450	0.000
Marketing Innovation	0.305	0.070	4.366	0.000
Organizational Innovation	0.362	0.055	6.552	0.000
Strategic Innovation	0.250	0.100	2.503	0.013

a Dependent Variable: SME Performance

Optimal Model

SMEs Performance = 0.848 + 0.255 (Technological Innovation) + 0.305 (Marketing Innovation) + 0.362 (Organizational Innovation) + 0.250 (Strategic Innovation)

H_{a1}: There is a significant positive influence of technological innovation and performance of small and medium women-owned enterprises in Kenya.

The study sought to test the research hypothesis **H_{a1}**: there is a significant positive influence of technological innovation and performance of small and medium women-owned enterprises in Kenya. The study employed multivariate regression to test the hypothesis.

In the multivariate model, the coefficient for technological innovation was $\beta = 0.255$ was also significantly different from 0 with a p-value= 0.000 which was less than 0.05. This revealed that there is a significant positive relationship between technological innovation and performance of women owned SMEs in Kenya. The study therefore accepted the alternative hypothesis **H_{a1}**: there is a significant positive influence of technological innovation and performance of small and medium women-owned enterprises in Kenya.

The findings agree with Osuga and Namanda (2016) who concluded that technological innovation have a strong positive association with the performance of the SMEs. The study results also concur with those of Nurulhasanah, Zulnaidi and Rafisah (2015) who established that technological innovation is significantly associated with business performance but its effect towards SM E survival is under explored

H_{a2}: There is a significant positive influence of marketing innovation and performance of small and medium women- owned enterprises in Kenya

The second research hypothesis **H_{a2}**: there is a significant positive influence of marketing innovation and performance of small and medium women-owned enterprises in Kenya was tested using multivariate regression at significance level of 0.05. In the multivariate model, the coefficient for marketing innovation was $\beta =$

0.305 was significantly different from 0 with a p-value= 0.000 which was less than 0.05. The study therefore accepted the alternative hypothesis **H_{a2}**: there is a significant positive influence of marketing innovation on performance of small and medium women-owned enterprises in Kenya.

The study therefore concluded that there is a significant positive relationship between marketing innovation and performance of women owned SMEs in Kenya. These findings concur with Walobwa, Ngugi and Chepkulei (2013) who established that all types of innovation were being practiced in the sector and that innovation is very critical for SMEs to become and remain competitive in the global market.

H_{a3}: There is a significant positive influence of organizational innovation and performance of small and medium women-owned enterprise in Kenya.

The third research hypothesis **H_{a3}**: there is a significant positive influence of organizational innovation and performance of small and medium women-owned enterprises in Kenya was also tested using multivariate regression at significance level of 0.05. The coefficient for organizational innovation was $\beta=0.362$ which was significantly different from 0 with a p-value=0.000 which was less than 0.05. The study therefore accepted the alternative hypothesis **H_{a3}**: there is a significant positive influence of organizational innovation on performance of small and medium women-owned enterprises in Kenya.

The findings therefore implied that organizational innovation positively and significantly influenced performance of small and medium women-owned enterprises in Kenya. The findings also concur with Makanyeza and Dzvuke (2015) who found that organizational innovation and product innovation positively predicted the performance of SMEs while marketing innovation and process innovation did not. On the other hand, the study findings disagreed with Ndesaulwa, and Kikula (2016) who found that no consistent results on whether the innovations altogether influence firms' performance.

H_{a4}: There is a significant positive influence of strategic innovation and performance of small and medium women-owned enterprises in Kenya

To test the above hypotheses, the study also employed linear regression analysis. The beta coefficient for strategic innovation was $\beta = 0.362$ which was significantly different from 0 with a p-value= 0.013 which was less than 0.05. The study therefore accepted the alternative hypothesis **H_{a4}**: there is a significant positive influence of organizational innovation on performance of small and medium women-owned enterprises in Kenya and concluded that strategic innovation positively and significantly influenced performance of small and medium women-owned enterprises in Kenya.

The findings implied that adoption of strategic innovations would lead to increase in performance of small and medium women-owned enterprises in Kenya. These findings concur with those Lily and Juma (2014) who concluded that indeed there exist a positive relationship between strategic innovation and performance of public universities in Kenya. The study findings concur with Shisia, Sang, Matoke and Omwario (2014) who found out that the strategic innovation measures adopted by the bank greatly affects the bank's performance.

4.8 Test for Moderating Effect of Environmental Factors

In this section, the moderating effect of environment factors was tested using moderated regression analysis. The moderating effect of environment factors was conducted per variables. The study tested whether environment factors moderated the relationship between technological innovation, marketing innovation, organizational innovation, strategic innovation and performance of small and medium women-owned enterprises in Kenya.

4.8.1 Moderating Effect of Environmental Factors on Technological Innovation and SME performance

This section presents the findings on the moderating effect of environmental factors on the relationship between technological innovation and performance of small and

medium women-owned enterprises in Kenya. The results revealed that R-squared for model between technological innovation and performance of small and medium women-owned enterprises in Kenya was 0.395, with introduction of the moderator (M) R-squared improved to 0.464 which further increased to 0.477 with the introduction of the interaction variable (X1*M). The study concluded that environment factors enhanced the relationship between technological innovation and performance of small and medium women-owned enterprises in Kenya. The results are shown in Table 4.27.

Table 4.27: Model Summary for Moderated Effect of T.I. and Performance

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.628	0.395	0.393	0.49561
2	0.681	0.464	0.461	0.4692
3	0.691	0.477	0.472	0.46439

a Predictors: (Constant), X1

a Predictors: (Constant), X1, M

a Predictors: (Constant), X1*M, X1, M

The model between technological innovation and performance of small and medium women-owned enterprises had $F=186.535$, $p=0.000<0.05$. Second model linking technological innovations (X1), environmental factors (M) and performance of small and medium women-owned enterprises had $F=122.254$, $p=0.000<0.05$ and finally the third model linking technological innovations (X1), environmental factors (M), X1*M and performance of small and medium women-owned enterprise revealed f-statistics =85.491, $p=0.000<0.05$. In this case the alternative hypothesis that the model had good fitness was accepted for all the three models. The finding implied that technological innovation (X1), environmental factors (M), X1*M significantly predicted the performance of small and medium women-owned enterprise. The results are shown in Table 4.28.

Table 4.28: ANOVA Summary for Moderated Effect of Environmental Factors and Performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression					
	n	45.819	1	45.819	186.535	0.000
	Residual	70.25	286	0.246		
	Total	116.069	287			
2	Regression					
	n	53.829	2	26.914	122.254	0.000
	Residual	62.082	282	0.22		
	Total	115.911	284			
3	Regression					
	n	55.311	3	18.437	85.491	0.000
	Residual	60.6	281	0.216		
	Total	115.911	284			

a Dependent Variable: SME Performance

b Predictors: (Constant), X1

b Predictors: (Constant), X1, M

b Predictors: (Constant), X1*M, X1, M

The coefficient of technological innovation in model 1 was 0.687, $p=0.000$, model 2 was 12.753, $p=0.000$, in model 3 was 1.515, $p=0.000$ which were significant at 0.05 significance level. Environmental factors was also significant in both model 2 and model 3 with $\beta=0.299$, $p=0.000$ and $\beta=1.43$, $p=0.001$ respectively. The findings implied that besides being a moderating variable, environmental factors can also be a predictor variable for performance of small and medium women-owned enterprise.

The findings also revealed that the interaction variable X1*M had a coefficient of 0.282, $p=0.009 < 0.05$, implying that environmental factors significantly moderated the relationship between technological innovation and performance of small and medium women-owned enterprise. **H_{a5} (1):** Environmental factors positively influence the relationship between technological innovation and the performance of small and

medium women-owned enterprises in Kenya was accepted. The results are shown in Table 4.29.

Table 4.29: Beta Coefficient for Moderated Effect of Environmental Factors and Performance

Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.387	0.211		6.578	0.000
	X1	0.687	0.05	0.628	13.658	0.000
2	(Constant)	0.598	0.239		2.506	0.013
	X1	0.625	0.049	0.57	12.753	0.000
	M	0.299	0.05	0.268	5.988	0.000
3	(Constant)	2.935	1.368		2.145	0.033
	X1	1.515	0.343	1.382	4.416	0.000
	M	1.43	0.434	1.282	3.292	0.001
	X1*M	0.282	0.108	1.438	2.622	0.009

a Dependent Variable: SME Performance

4.8.2 Moderating Effect of E.F on M.I and SME performance

This section presents the findings on the moderating effect of environmental factors on the relationship between marketing innovation and performance of small and medium women-owned enterprises in Kenya. The results similarly revealed that R-squared for model between marketing innovation and performance of small and medium women-owned enterprises in Kenya was 0.317, with introduction of the moderator (M) R-squared improved to 0.351 which further increased to 0.462 with the introduction of the interaction variable (X2*M). The study concluded that environment factors enhanced the relationship between marketing innovation and performance of small and medium women-owned enterprises in Kenya. The results are shown in Table 4.30.

Table 4.30: Model Summary for Moderated Effect of Environmental Factors on Marketing Innovation and Performance

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.563	0.317	0.314	0.52939
2	0.593	0.351	0.347	0.51817
3	0.679	0.462	0.456	0.47292

a Predictors: (Constant), X2

a Predictors: (Constant), X2, M

a Predictors: (Constant), X2*M, X2, M

The model between marketing innovation and performance of small and medium women-owned enterprises had $F=131.047$, $p=0.000<0.05$. Second model linking marketing innovations (X2), environmental factors (M) and performance of small and medium women-owned enterprises had $F=75.796$, $p=0.000<0.05$ and finally the third model linking marketing innovations (X2), environmental factors (M), X2*M and performance of small and medium women-owned enterprise revealed f-statistics $=79.713$, $p=0.000<0.05$.

All the alternative hypotheses that the models had good fitness were accepted for all the three models. These findings implied that marketing innovation (X2), environmental factors (M), X2*M significantly predicted the performance of small and medium women-owned enterprise. The results are shown in Table 4.31.

Table 4.31: ANOVA Summary of Moderated Effect of Environmental Factors on Marketing Innovation and Performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	36.727	1	36.727	131.047	0.000
	Residual	79.313	283	0.28		
	Total	116.04	284			
2	Regression	40.703	2	20.351	75.796	0.000
	Residual	75.18	280	0.269		
	Total	115.883	282			
3	Regression	53.484	3	17.828	79.713	0.000
	Residual	62.399	279	0.224		
	Total	115.883	282			

a Dependent Variable: SME Performance

b Predictors: (Constant), X2

b Predictors: (Constant), X2, M

b Predictors: (Constant), X2*M, X2, M

The coefficient of marketing innovation in model 1 was 0.827, $p=0.000$, model 2 was 0.71, $p=0.000$, in model 3 was 4.957, $p=0.000$ which were significant at 0.05 significance level. Environmental factors was also significant in both model 2 and model 3 with $\beta=0.229$, $p=0.000$ and $\beta=5.196$, $p=0.001$ respectively. Similarly, the findings implied that besides being a moderating variable, environmental factors can also be a predictor variable for performance of small and medium women-owned enterprise.

The findings revealed that the interaction variable X2*M had a coefficient of 1.243, $p=0.009 < 0.05$, implying that environmental factors significantly moderated the relationship between marketing innovation and performance of small and medium women-owned enterprise. **H_{a5} (2):** Environmental factors positively influence the relationship between marketing innovation and the performance of small and medium women-owned enterprises in Kenya was accepted. The results are shown in Table 4.32.

Table 4.32: Beta Coefficients for Moderated Effect of Environmental Factors on Marketing Innovation and Performance

		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.964	0.288		3.35	0.001
	X2	0.827	0.072	0.563	11.448	0.000
2	(Constant)	0.623	0.295		2.112	0.036
	X2	0.71	0.077	0.481	9.194	0.000
	M	0.229	0.059	0.205	3.906	0.000
3	(Constant)	16.228	2.245		7.227	0.000
	X2	4.957	0.566	3.36	8.755	0.000
	M	5.196	0.659	4.65	7.882	0.000
	X2*M	1.243	0.164	6.184	7.56	0.000

a Dependent Variable: SME Performance

4.8.3 Moderating Effect of E.F on O.I and SME performance

This section presents the findings on the moderating effect of environmental factors on the relationship between organizational innovation and performance of small and medium women-owned enterprises in Kenya. The results revealed that R-squared for model between organizational innovation and performance of small and medium women-owned enterprises in Kenya was 0.474, with introduction of the moderator (M) R-squared was positively enhanced to 0.503 which further increased to 0.534 with the introduction of the interaction variable (X3*M). The study findings implied that environment factors positively enhanced the relationship between organizational innovation and performance of small and medium women-owned enterprises in Kenya. The results are shown in Table 4.33.

Table 4.33: Model Summary for Moderated Effect of Environmental Factors on Organizational Innovation and Performance

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.689	0.474	0.472	0.46276
2	0.709	0.503	0.5	0.45189
3	0.731	0.534	0.529	0.43829

a Predictors: (Constant), X3

a Predictors: (Constant), M, X3

a Predictors: (Constant), X3*M, X3, M

The findings revealed that model between organizational innovation and performance of small and medium women-owned enterprises had $F=257.002$, $p=0.000<0.05$. Second model linking organizational innovation (X3), environmental factors (M) and performance of small and medium women-owned enterprises had $F=142.807$, $p=0.000<0.05$ and finally the third model linking organizational innovations (X3), environmental factors (M), X3*M and performance of small and medium women-owned enterprise revealed f-statistics =107.463, $p=0.000<0.05$. All the alternative hypotheses that the models had good fitness were accepted for all the three models. These findings implied that organizational innovation (X3), environmental factors (M), X3*M significantly predicted the performance of small and medium women-owned enterprise. The results are shown in Table 4.34.

Table 4.34: ANOVA for Moderated Effect of Environmental Factors on Organizational Innovation and Performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	55.036	1	55.036	257.002	0.000
	Residual	61.031	285	0.214		
	Total	116.067	286			
2	Regression	58.324	2	29.162	142.807	0.000
	Residual	57.586	282	0.204		
	Total	115.911	284			
3	Regression	61.931	3	20.644	107.463	0.000
	Residual	53.98	281	0.192		
	Total	115.911	284			

a Dependent Variable: SME Performance

b Predictors: (Constant), X3

b Predictors: (Constant), M, X3

b Predictors: (Constant), M, X3 X3*M

The coefficient of organizational innovation in model 1 was 0.682, $p=0.000$, model 2 was 0.621, $p=0.000$, in model 3 was 1.556, $p=0.000$ which were significant at 0.05 significance level. Environmental factors was also significant in both model 2 and model 3 with $\beta=0.203$, $p=0.000$ and $\beta=0.289$, $p=0.001$ respectively. The study results revealed that the interaction variable X3*M had a coefficient of 0.305, $p=0.009 < 0.05$, implying that environmental factors significantly moderated the relationship between organizational innovation and performance of small and medium women-owned enterprise. **H_{a5} (3):** Environmental factors positively influence the relationship between organizational innovation and the performance of small and medium women-owned enterprises in Kenya was accepted. The results are shown in Table 4.35.

Table 4.35: Beta Coefficients for Moderated Effect of Environmental Factors on Organizational Innovation and Performance

Mode		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.498	0.173		8.645	0.000
	X3	0.682	0.043	0.689	16.031	0.000
2	(Constant)	1.029	0.204		5.036	0.000
	X3	0.621	0.044	0.627	14.048	0.000
	M	0.203	0.05	0.182	4.087	0.000
3	(Constant)	2.734	0.891		3.069	0.002
	X3	1.556	0.22	1.57	7.072	0.000
	M	1.44	0.289	1.29	4.975	0.000
	X3*M	0.305	0.07	1.69	4.333	0.000

4.8.4 Moderating Effect of E.F on S.I and SME performance

This section presents the findings on the moderating effect of environmental factors on the relationship between strategic innovation and performance of women owned SMEs in Kenya. The findings of model summary presented in Table 4.36 indicated that R-squared was 0.323 without the moderating and interaction variable. R-squared changed from 0.323 to 0.362 with the introduction of the moderating variable and later to 0.453 with the introduction of the interaction variable X4*M.

The findings implied that environmental factors (M) significantly and positively enhanced the relationship between strategic innovation and performance of women owned SMEs in Kenya.

Table 4.36: Model Summary for Moderated Effect of Environmental Factors on Strategic Innovation and Performance

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.568	0.323	0.321	0.5251
2	0.602	0.362	0.358	0.51208
3	0.673	0.453	0.447	0.47495

a Predictors: (Constant),X4

a Predictors: (Constant), M, X4

a Predictors: (Constant), X4*M, X4, M

The findings revealed that model between strategic innovation and performance of small and medium women-owned enterprises had F-statistics=135.94, $p=0.000<0.05$. Second model linking strategic innovation (X4), environmental factors (M) and performance of small and medium women-owned enterprises had $F=80.015$, $p=0.000<0.05$ and finally the third model linking strategic innovations (X4), environmental factors (M), interaction variable (X4*M) and performance of small and medium women-owned enterprise revealed f-statistics =77.612, $p=0.000<0.05$. All the alternative hypotheses that the models had good fitness were accepted for all the three models. These findings implied that strategic innovation (X4), environmental factors (M), X4*M significantly predicted the performance of small and medium women-owned enterprise. The results are shown in Table 4.37.

Table 4.37: ANOVA for Moderated Effect of Environmental Factors on Strategic Innovation and Performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	37.483	1	37.483	135.94	0.000
	Residual	78.584	285	0.276		
	Total	116.067	286			
2	Regression	41.964	2	20.982	80.015	0.000
	Residual	73.947	282	0.262		
	Total	115.911	284			
3	Regression	52.523	3	17.508	77.612	0.000
	Residual	63.388	281	0.226		
	Total	115.911	284			

b Predictors: (Constant), X4

b Predictors: (Constant), M, X4

b Predictors: (Constant), X4*M, X4, M

The coefficient of strategic innovation in model 1 was 1.113, $p=0.000$, model 2 was 0.958, $p=0.000$, in model 3 was 4.826, $p=0.000$ which were significant at 0.05 significance level. Environmental factors was also significant in both model 2 and model 3 with $\beta=0.239$, $p=0.000$ and $\beta=5.179$, $p=0.001$ respectively. The findings revealed that the interaction variable X4*M had a coefficient of 1.18, $p=0.009 <0.05$, implying that environmental factors significantly moderated the relationship between

strategic innovation and performance of small and medium women-owned enterprise. **H_{a5} (2)**: Environmental factors positively influence the relationship between strategic innovation and the performance of small and medium women-owned enterprises in Kenya was accepted. The results are shown in Table 4.38.

Table 4.38: Beta Coefficient for Moderated Effect of Environmental Factors on Strategic Innovation and Performance

		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.404	0.399		1.011	0.313
	X4	1.113	0.095	0.568	11.659	0.000
2	(Constant)	0.597	0.393		1.521	0.129
	X4	0.958	0.1	0.489	9.555	0.000
	M	0.239	0.057	0.214	4.189	0.000
3	(Constant)	16.709	2.383		7.012	0.000
	X4	4.826	0.573	2.463	8.423	0.000
	M	5.179	0.724	4.642	7.154	0.000
	X4*M	1.18	0.173	5.48	6.842	0.000

4.8.5 Overall Moderating Effect of E.F on Innovation and SME performance

This section presented the findings on the overall moderated linear regression analysis. In this model all the independent variables (X1, X2, X3, X4), moderating variable (M) and all the interaction variables (X1*M, X2*M, X3*M, X4*M) were included in the same regression analysis.

The findings of overall model summary presented in Table 4.39 indicated that R-squared was 0.587 without the moderating and interaction variables. R-squared changed from 0.587 to 0.597 with the introduction of the moderating variable (M) and later to 0.654 with the introduction of the interaction variables X1*M, X2*M, X3*M, X4*M. The findings implied that environmental factors (M) significantly and positively enhanced the relationship between innovations and performance of women owned SMEs in Kenya.

Table 4.39: Overall Model Summary for Moderated Effect of Environmental Factors

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.766	0.587	0.581	0.41374
2	0.773	0.597	0.59	0.41052
3	0.809	0.654	0.643	0.38323

a Predictors: (Constant), X1,X2,X3,X4

a Predictors: (Constant), M, X1,X2,X3,X4

a Predictors: (Constant), X1, X2, X3, X4, M, X1*M, X2*M, X3*M, X4*M

The findings revealed that model between innovations (X1, X2, X3, X4) and performance of small and medium women-owned enterprises had F-statistics=99.472, $p=0.000<0.05$. Second model linking innovations (X1, X2, X3, X4), environmental factors (M) and performance of small and medium women-owned enterprises had $F=82.126$, $p=0.000<0.05$ and finally the third model linking innovations (X1, X2, X3, X4), environmental factors (M), interaction variables (X1*M, X2*M, X3*M, X4*M) and performance of small and medium women-owned enterprise revealed f-statistics =57.339, $p=0.000<0.05$. All the alternative hypotheses that the models had good fitness were accepted for all the three models. These findings implied that innovations (X1, X2, X3, X4), environmental factors (M), interaction variables (X1*M, X2*M, X3*M, X4*M) significantly predicted the performance of small and medium women-owned enterprise. The results are shown in Table 4.40.

Table 4.40: Overall ANOVA for Moderated Effect of Environmental Factors

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	68.11	4	17.027	99.472	0.000
	Residual	47.93	280	0.171		
	Total	116.04	284			
2	Regression	69.202	5	13.84	82.126	0.000
	Residual	46.681	277	0.169		
	Total	115.883	282			
3	Regression	75.789	9	8.421	57.339	0.000
	Residual	40.094	273	0.147		
	Total	115.883	282			

a Dependent Variable: SME Performance

a Predictors: (Constant), X1,X2,X3,X4

a Predictors: (Constant), M, X1,X2,X3,X4

a Predictors: (Constant), X1, X2, X3, X4, M, X1M, X2M, X3M, X4M

The overall beta coefficient results indicated that, in Model 1 X1 ($\beta=0.255$, $p=0.000$), X2 ($\beta=0.305$, $p=0.000$), X3 ($\beta=0.362$, $p=0.000$), and X4 ($\beta=0.25$, $p=0.000$) had a significant and positive effect on performance of women owned SMEs (Y). Similarly, in Model 2, X1 ($\beta=0.269$, $p=0.000$), X2 ($\beta=0.263$, $p=0.000$), X3 ($\beta=0.341$, $p=0.000$), and X4 ($\beta=0.21$, $p=0.037$), M ($\beta=0.126$, $p=0.009$) had a significant and positive effect on performance of women owned SMEs (Y).

The findings of model 3 further showed that independent variables except X1 and moderating variable had a positive and significant influence on performance of women owned SMEs (Y). The findings further revealed that X1*M ($\beta=0.032$, $p=0.785$), X2*M ($\beta=0.391$, $p=0.025$) X3*M ($\beta=0.158$, $p=0.057$), X4*M ($\beta=0.490$, $p=0.006$). Based on overall moderated regression analysis environmental factors significantly moderated the relationship between marketing and organizational innovations and performance of women owned SMEs in Kenya.

The moderating effect of environmental factors on the relationship between technological innovations and strategic innovation on performance of women owned

SMEs was positive but insignificant. However, based on the change in R-squared the study failed to reject research hypothesis **H_{a5}**: Environmental factors positively influences the relationship between innovation types and the performance of small and medium women-owned enterprises in Kenya in such a way that it strengthens the relationship. The study finding concurs with Crossan and Apaydin (2010) who found that new technology ventures in SMEs face more complex environmental situations than their counterparts in large firms. The results are shown in Table 4.41.

Table 4.41: Overall Beta for Moderated Effect of Environmental Factors

Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	0.848	0.328		2.586	0.002
	X1	0.255	0.057	0.233	4.45	0.000
	X2	0.305	0.070	0.208	4.366	0.000
	X3	0.362	0.055	0.363	6.552	0.000
	X4	0.25	0.100	0.127	2.503	0.013
2	(Constant)	0.608	0.327		1.857	0.064
	X1	0.269	0.057	0.246	4.716	0.000
	X2	0.263	0.072	0.178	3.674	0.000
	X3	0.341	0.055	0.343	6.176	0.000
	X4	0.21	0.1	0.107	2.093	0.037
	M	0.126	0.048	0.113	2.644	0.009
3	(Constant)	14.057	2.487		5.652	0.000
	X1	0.116	0.382	0.106	0.305	0.761
	X2	1.68	0.598	1.139	2.809	0.005
	X3	0.777	0.267	0.78	2.905	0.004
	X4	1.81	0.606	0.924	2.987	0.003
	M	4.253	0.747	3.806	5.693	0.000
	X1*M	0.032	0.118	0.164	0.273	0.785
	X2*M	0.391	0.173	1.943	2.258	0.025
	X3*M	0.158	0.082	0.873	1.915	0.057
X4*M	0.490	0.178	2.271	2.749	0.006	

a Dependent Variable: SME Performance

4.9 Summary of Hypotheses Testing

In this section the summary of all hypotheses testing, methods used and criteria and final conclusions are presented. The study used the findings of Multivariate regression analysis for hypotheses testing and conclusion. According to the data analysis and findings as shown in Table 4.42, the study failed to reject all the research hypotheses and concluded that technological innovation, marketing innovation, organization innovation and strategic innovations significant and positively influences performance of small and medium women-owned enterprises in Kenya. The study also concluded that environmental factors positively influenced the relationship between innovation types and the performance of small and medium women-owned enterprises in Kenya.

Table 4.42: Summary of Hypotheses Testing

Hypothesis	Method and Criteria	conclusions
H_{a1} : <i>There is a significant positive influence of technological innovation and performance of small and medium women-owned enterprises in Kenya</i>	<ul style="list-style-type: none"> Multivariate regression analysis <p>(P < 0.05)</p>	Failed to reject H_{a1}
H_{a2} : <i>There is a significant positive influence of marketing innovation and performance of small and medium women-owned enterprises in Kenya</i>	<ul style="list-style-type: none"> Multivariate regression analysis <p>(P < 0.05)</p>	Failed to reject H_{a2}
H_{a3} : <i>There is a significant positive influence of organization innovation and performance of small and medium women-owned enterprise in Kenya</i>	<ul style="list-style-type: none"> Multivariate regression analysis <p>(P < 0.05)</p>	Failed to reject H_{a3}
H_{a4} : <i>There is a significant positive influence of strategic innovation and performance of small and medium women-owned enterprises in Kenya</i>	<ul style="list-style-type: none"> Multivariate regression analysis <p>(P < 0.05)</p>	Failed to reject H_{a4}
H_{a5} : <i>Environmental factors positively moderates the influence of innovation types on the performance of small and medium women-owned enterprises in Kenya</i>	<ul style="list-style-type: none"> Moderated Multivariate linear regression analysis <p>(change in R-squared)</p>	Failed to reject H_{a5}

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study assessed the innovations that are predominant in women-owned SMEs, and their influence on enterprise performance. This chapter presents the summary of research findings on response rate, the general background information and the statistical analysis of specific objectives/research hypotheses. The summary of the major findings are presented based on the specific research objectives. The conclusions and recommendations relating to specific objectives as well as suggestions for further research are highlighted.

5.2 Summary of the Findings

The objective of this study was to assess the innovations that are predominant in women-owned SMEs, and their influence on enterprise performance. The specific objectives were to determine the influence of technological innovation, to establish the influence of marketing innovation, to assess the influence of organization innovation, to identify the influence of strategic innovation and the moderating effect of environmental factors on the performance of small and medium women-owned enterprises in Kenya. The research design was cross-sectional survey design using both quantitative approaches. The target population for this study was 5,362 registered women owned enterprises registered with the County Government of Nairobi by December 2017 and the sample size was 358 respondents. This study used a self-administered, closed and open-ended questionnaire to obtain primary data. Regression models was fitted in order to test the influence of innovation on performance of women-owned SMEs, the study employed a hierarchical regression analysis with moderation.

5.2.1 Technological Innovation and Performance of Women-Owned SMEs

The first specific objective of this study was to determine the influence of technological innovation on the performance of small and medium women-owned

enterprises in Kenya. The descriptive findings on technological innovation and performance of women owned SMEs revealed that majority of respondents agreed that women operating SMEs in Kenya leveraged on technological innovations which enhanced the performance of their enterprises. These technologies include mobile money technology, internet banking, use of bulk SMS to reach customers in masses. The findings of bivariate correlation and regression analysis revealed that technological innovations positively influenced performance of women owned SMEs. The study findings revealed that there is a significant and positive relationship between technological innovation and performance of women owned SMEs in Kenya. The study therefore failed to reject the alternative hypothesis **H_{a1}**: there is a significant positive influence of technological innovation and performance of small and medium women-owned enterprises in Kenya.

5.2.2 Marketing Innovation and Performance of Women-Owned SMEs

The second specific objective of the study was to establish the influence of marketing innovation on performance of small and medium women-owned enterprises in Kenya. The implication of descriptive findings was that women SMEs owners in Kenya invested in various marketing innovations which enhanced the performance of their enterprises. Dominant innovations included social media apps and sites in marketing, use of influencers and websites, The correlation findings further revealed that marketing innovation had a strong association with performance of women SMEs in Kenya. In the multivariate model, the coefficient for marketing innovation was positive and significant. The study failed to reject the alternative hypothesis **H_{a2}**: there is a significant positive influence of marketing innovation on performance of small and medium women-owned enterprises in Kenya and concluded that there is a significant positive relationship between marketing innovation and performance of women owned SMEs in Kenya.

5.2.3 Organizational Innovation and Performance of Women-Owned SMEs

The third objective of the study was to determine the influence of organization innovation on performance of small and medium women -owned enterprise in Kenya. The findings of descriptive analysis implied that small and medium women -

owned enterprise in Kenya have adopted some organizational innovation to enhance the performance of their enterprises. These innovations include payroll modules, customer care platforms, increased job security for staff, reduced redundancies and on job trainings. The respondents also revealed that organization innovation impacted positively on the performance of their enterprises.

The correlation analysis findings also revealed that organizational innovation (X3) had a strong association with performance of women SMEs in Kenya. The finding of multivariate regression analysis also confirmed that organizational innovations significantly and positively affected performance of women SMEs in Kenya. The study therefore failed to reject the alternative hypothesis **H_{a3}**: there is a significant positive influence of organizational innovation on performance of small and medium women-owned enterprises in Kenya and concluded that that organizational innovation positively and significantly influenced performance of small and medium women-owned enterprises in Kenya.

5.2.4 Strategic Innovation and Performance of Women-Owned SMEs

The fourth specific objective of the study was to analyze the influence of strategic innovation on the performance of small and medium women-owned enterprises in Kenya. The descriptive findings implied that majority of the respondents agreed and strongly agreed to have adopted various strategic innovations in their enterprises. According to the respondents' strategic innovations adopted helped their firms to create new markets which improved firm performance. These innovations includes conducting market surveys to understand emerging issues and aligning the processes accordingly; adoption of strategic plans and investment in IT for efficiency in delivery.

The correlation findings also revealed that strategic innovation had a strong association with performance of women SMEs in Kenya. The study also employed linear regression analysis to test the relationship between strategic innovation and performance of women SMEs in Kenya. The beta coefficient for strategic innovation was positive and significantly. The study therefore accepted the alternative hypothesis **H_{a4}**: there is a significant positive influence of organizational innovation

on performance of small and medium women-owned enterprises in Kenya and concluded that strategic innovation positively and significantly influenced performance of small and medium women-owned enterprises in Kenya.

5.2.5 Moderating Effect of Environmental Factors

The final specific objective of the study was to establish how environmental factors moderates the relationship between innovation types and the performance of small and medium women-owned enterprises in Kenya. Based on the findings of moderated regression analysis environmental factors significantly moderated the relationship between marketing and organizational innovations and performance of women owned SMEs in Kenya. Some of the key issues emerging from the study were; technology environment termed as fast paced, unstable political environment during election and harsh licensing regulations The moderating effect of environmental factors on the relationship between technological innovations and strategic innovation on performance of women owned SMEs was positive but insignificant. However, based on the change in R-squared the study failed to reject research hypothesis **H_{as}**: Environmental factors positively influences the relationship between innovation types and the performance of small and medium women-owned enterprises in Kenya.

5.3 Conclusions

Based on the findings, the study made various conclusions on the relationship between innovation and performance of SMEs. First, the study concluded that in this ever-changing business environment, adoption of various innovations by SMEs is a key component of enhancing their performance. Fast innovations adopter and early imitators stand a better chance in realization high enterprise performance in the market they operate in.

5.3.1 Technological Innovations on Performance of Women Owned SMEs

On the influence of technological innovations on performance of women owned SMEs, the study concluded that technological innovations is the current driving force

of enterprises in the current era. Small and medium size women owned enterprises can leverage on modern technologies such social media platforms to access new markets for their products and services hence improving on performance. The study further concluded that women owned small and medium size enterprises that are able to successfully adopt modern technologies stand a better chance of being successful than those that don't adopt technologies. Therefore, technological innovations are critical components to performance of any small and medium enterprises including those owned by women in developing countries.

5.3.2 Marketing Innovations on Performance of Women Owned SMEs

The study concluded that marketing innovations enhance the performance of small and medium size women owned enterprises. Such innovation allows small enterprises to market their product in a cost-effective way, allow new market penetration and above all give the enterprise a competitive edge over other small firms that are yet to adopt such innovations. The study concluded that small business will achieve market position through adoption of various marketing innovations.

5.3.3 Organization Innovations on Performance of Women Owned SMEs

Organizational innovations were also found to have a positive and significant effect on performance of women owned SMEs in Kenya. The study concluded that organizational innovations that enhance organization efficiency and effectiveness in its internal operations give small and medium size enterprises a competitive edge over other sector players. Small firms with better organizational innovation will always perform better than their competitors in terms of efficiency on firm's operations.

5.3.4 Strategic Innovations on Performance of Women Owned SMEs

The study established a significant influence of strategic innovations on the performance of women owned small and medium size enterprises in Kenya. The study recommended that small firms that strive to modernize their operations and adopt new ways of doing business, addressing customer needs and priorities stand a better chance of recording improved performance. Finally, the study concluded

favorable external environments such proper legislations, political climate conducive for business among others enhance the performance of small and medium size enterprises.

5.4 Recommendations

This section provides the recommendations that study made based on conclusions presented. The recommendations are based on the objectives of the study.

5.4.1 Technological Innovation

The study recommends that in order for women owned small and medium sizes to improve their performance, the enterprises owners should always update or have knowledge of the current innovative technologies in the sector they operate in. Having adequate knowledge on applicable technological innovations may facilitate easy adoption of most significant technological innovations which impacts positively on the performance.

5.4.2 Marketing Innovations

The study recommended that owners of small and medium sizes must be risk takers and proactiveness in adoption of marketing innovations and all other innovations that enhance performance. They should also be quick to learn from other entrepreneurs who have adopted innovations in marketing their products and gained success and experience in order to remain competitive in the current enterprise environment.

5.4.3 Organization Innovation

On the organizational innovations, the study recommended that small business owners must optimizes their operations in terms of adoption of innovations that create a competitive edge in the performance of the organization. Adopting effective organization innovations may create efficiency in dealing with customers and this will make women enterprises more versatile and flexible in serving their customers' needs and preferences. This will ensure that small business owned by women entrepreneurs survive competition from large and well-established enterprises.

5.4.4 Strategic Innovation

The study finally recommended that women-owned enterprises should always be on the lookout for better strategic innovations of conducting business which reduces costs and improves performance. Strategies that enhance the innovation capabilities of women-owned enterprises will improve the capacity of these enterprises to better their performance.

5.5 Recommendations for Further Research

The role played by small and medium size enterprises on the national economy especially in developing countries cannot be ignored by scholars and researcher alike. Women owned small and medium sizes also play a significant role in bridging income parity among genders. Further research need to focus on various factors/determinants of performance of small and medium size enterprises especially those owned by women since there is a huge research gaps in this area. The current study established that 58.7% of the variation in performance of women owned SMEs in Kenya is explained by technological innovation, marketing innovation, organizational innovation and strategic innovation while the remaining 41.3% of the variation in performance of women owned SMEs is unexplained by the variables in the model, therefore further research should focus variables that account for the remaining 41.3% of the variation in performance of women owned small business.

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APPENDICES

Appendix I: Introduction Letter

Dear Respondent,

I am the undersigned, currently undertaking a doctorate degree in entrepreneurship of Jomo Kenyatta University of Agriculture and Technology (JKUAT). I am conducting a study involving collecting data for writing and compiling the final thesis proposal as a partial requirement for the award of the degree. The research entails an assessment influence of innovation on the performance of small and medium women-owned enterprises in Kenya. The information collected will be used solely for academic purposes and will be handled with utmost confidentiality.

Kindly fill in all the items on the questionnaire.

Caroline Kiende Kaua

Appendix II: Questionnaire

PART A: ORGANIZATIONAL DATA

Please provide the following information regarding your organization.

1. Enterprise name
2. Please specify your sector.....
4. No. of branches

5. Indicate the sector your firm operates in

	sector	Tick where appropriate
A	Manufacturing	
B	Wholesale and retail trade; repair of motor vehicles and motorcycles	
C	Accommodation and food service activities	
D	Financial and insurance activities	
E	Administrative and support service activities	
F	Other service activities	

6. How long has your enterprise been in existence?

- a) 0 - 1 ()
- b) 1- 5 ()
- c) 5-10 ()
- d) Over 10 years ()

7. How many employees are there in the enterprise?

- e) 0 - 20 ()
- f) 21- 40 ()
- g) 41-60 ()
- h) Over 60 years ()

a.

8. Please indicate your level of education

- University ()
- Tertiary Institution ()

- Secondary ()
- Primary ()
- None ()

PART B: TECHNOLOGICAL INNOVATION

8. Please indicate the extent to which Technological Innovation has influenced the growth of women enterprises by ticking (√) the extent of agreement or disagreement with the use the scale: Strongly Agree - SA, Agree - A, Neutral - N, Disagree - DA and Strongly Disagree – SD.

Aspects of Technological Innovation	SD	D	N	A	SA
My enterprise always strives to combine factors of production resulting from a change in inputs to produce outputs.					
My enterprise always strives to embrace production to enhance better results					
My enterprise embraces technological innovation that enables it to master and implements the design and production of products/services.					
My enterprise always focuses on innovations by adopting technologies with the intention of providing them with market competitive edge.					
My enterprise has embraced the use of online banking to enhance and sustain performance compared to rivals.					
Through mobile banking, my enterprise creates a stronger performance.					
Through e-bill payments, my enterprise creates more efficiency and lower cost of production and operation system.					
My enterprise has adopted agency banking to compete effectively.					
My enterprise is willing to anticipate opportunities and to make extra effort to improve its product through innovations in IT					
My enterprise has adopted electronic customer relationships management through SMSs follow-ups					
My enterprise uses computers to perform accounting work					
My enterprise has adopted the use of pay bills for payments and accounts receivables management					
My enterprise has adopted the use of electronic bank transfers to reduce costs of transactions					

8. Explain other technological innovations that your enterprise has embraced and influenced the overall performance

.....

PART C: MARKETING INNOVATION

9. Please indicate the extent to which marketing innovation has contributed to the performance of your enterprise by ticking (√) the extent of agreement or disagreement with the use the scale: Strongly Agree - S.A, Agree - A, Neutral - N, Disagree - DA and Strongly Disagree - SD.

Aspects of marketing innovation	SD	D	N	A	SA
My enterprise has invested in the use of social media such as Facebook for marketing					
My enterprise has invested in the use of social media such as LinkedIn for marketing					
My enterprise has invested in the use of social media such as Instagram for marketing					
My enterprise has invested in the use of social media such as Twitter for marketing					
My enterprise has invested in the use of social media such as WhatsApp groups for marketing					
My enterprise has invested in the use of digital apps for marketing					
My enterprise has invested in the use of SMS for marketing					
My enterprise has invested in the use of optimal search engines to market its products					
My enterprise has invested in the use of websites to market its products					
My enterprise has invested in online customer complains systems to retain customers					
My enterprise has invested in online communications with potential customers through emails					
My enterprise has invested in online customer surveys to understand their preferences					
My enterprise has invested in the use of digital marketeers to aide in marketing of the products online					

10. Explain other marketing innovation techniques has your enterprise put in place to enhance performance?

.....

PART D: ORGANIZATION INNOVATION

11. Please indicate the level of agreement on the influence of organization innovation on the performance of your enterprise. By ticking in the spaces provided (√) the extent of agreement or disagreement with the use the scale of 10 Strongly Agree - S.A, Agree - A, Neutral - N, Disagree - DA and Strongly Disagree - SD.

Aspects of organization innovation	SD	D	N	A	SA
My enterprise always endeavors for competitive advantage that can be obtained from the qualified human resources.					
My enterprise usually competes and performs on the basis of quality and innovation.					
My enterprise organizational innovation has the capability of generating value, products, services, ideas.					
My enterprise endeavours at improving work for employees' motivation to achieve the best productivity goals and performance					
My enterprise endeavours at improving work for employees' capabilities to achieve the best productivity goals and performance					
My enterprise endeavours at improving work for employees' talents to achieve the best productivity goals and performance					
Through investment in the use of IT my enterprise has introduced new practices of doing business.					
Through investment in the use of IT my enterprise has introduced new workplace organizing methods.					
Through organizational innovation my enterprise has introduced new decision-making system.					
Through investment in the use of IT my enterprise has introduced new ways of managing external relations.					
My enterprise endeavours to improve employees' capabilities to achieve the best performance.					
My enterprise invests in developing the capabilities of the employees.					
My enterprise strives to gain competitive advantage through developing the employee's capabilities to innovate.					

12. How has organizational innovation enabled your enterprise to embrace new ways of organizing routine activities to enhance performance?

.....

PART E: STRATEGIC INNOVATION

13. Please indicate the level of agreement on the influence of strategic innovation on the performance of your enterprise. By ticking in the spaces provided (√) the extent of agreement or disagreement with the use of the scale of Strongly Agree - S.A, Agree - A, Neutral - N, Disagree - DA and Strongly Disagree - SD.

Influence of strategic innovation	SD	D	N	A	SA
My enterprise is continuously engaged in creating strategic alignment with stakeholders to better customer value.					
In coming up with new ways of doing business, customer needs and priorities are considered.					
My enterprise is continuously targeting the products and services that will be significant to future needs of customers.					
My enterprise has a futuristic outlook to estimate the future demands of customers.					
My enterprises is conducting process reengineering to change the business model.					
The enterprise has invested in improvement of distribution channels through technology such as GPS tracking					
The enterprise has introduced strategic innovation to enter and create new markets.					
The enterprise has embraced strategic innovation to target specific markets (women and youth enterprises)					
The enterprise has embraced strategic innovation that requires changing or bringing new value propositions, services and production processes.					
The enterprise has introduced strategic innovation for determining what it needs to achieve from the innovation process.					
My enterprise is readily adapted to embrace new innovations.					
My enterprise has the preparedness to competitively innovate when faced with potential rivals.					
My enterprise is prepared to innovate in new products and markets.					

14. Mention the measures the enterprise has put in place to deal with the emerging needs of the business world.

.....

 ..

PART F: ENVIRONMENTAL FACTORS

Influence of environmental factors	SD	D	N	A	SA
My enterprise gains from financial supports from the government.					
My enterprise suffers from unfair competition that are widespread in the market.					
The county government has provided a conducive environment for operations.					
The political environment supports the establishment and growth of my enterprise.					
The unpredictable political environment is detrimental to the existence of my enterprise.					
The political climate during elections affect the operation of my enterprise.					
The political climate post elections affect the operation of my enterprise.					
There is political will to develop strategies to support the growth of enterprises.					
The existing laws are an impediment to the growth of my enterprise.					
The laws to regulate the operation of my enterprise support innovation of new products and markets.					
The county government permit legislations usually support the operations of my enterprise.					
The county government legislations usually oppose the operations of my enterprise.					
My enterprise has the political network to gain support from the national and the county governments.					

15. Has the existing institutional, legal and regulatory framework affected the innovation ability of your enterprise?

- a) Yes ()
- b) No ()

If yes, explain

.....
.....
.....

PART G: PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES

16. Kindly indicate the change in the following indicators of performance in your business from the year 2013 to 2016. If an indicator experienced a growth of, say, 20% in a particular year, indicate 120%. If it declined with a certain percentage, for instance, 30% indicate 70%.

a) Average Pretax Profits

	2013	2014	2015	2016
Change (%)				

b) Returns on Equity (Capital)

	2013	2014	2015	2016
Change (%)				

C) Returns on Assets

	2013	2014	2015	2016
Change (%)				

d) Sales Turnover

	2013	2014	2015	2016
Change (%)				

17. Kindly indicated your general opinion on the following measures of the performance in regard to your enterprise.

Firm Performance Indicator	SD	D	N	A	SA
Profitability in the recent past has improved					
Growth in the market share/position in the market has improved					
Sales turnover in last five years has improved					
Number of customers in last five years has improved					
Number of full-time employees has improved					