

**INNOVATION CHALLENGES ENCOUNTERED BY SMALL AND MEDIUM ENTERPRISES IN  
NAIROBI**

**BY**

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## DECLARATION

This research project is my original work and has not been presented for a degree or masters in any other university. Therefore Duplication, publication and presentation of this research report to any university, college or institution is prohibited.

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This research project has been done under my supervision as a university supervisor and submitted to the faculty with my approval.

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## **DEDICATION**

I wish to dedicate this project to my family for their great love for education that they supported me immensely to see me through this programme, may God bless you and am forever indebted.

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I am very grateful to the Almighty God for His countless blessings which include the gift of life, health, peace, protection, patience and strength from the beginning of this study to the conclusion.

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## ABBREVIATIONS

ABBREVIATION		MEANING
1	ICT	Information and communication technology
2	GDP	Gross domestic product
3	MSE	Micro and Small Enterprise
4	SME	Small medium enterprise
5	OECD	Organization for Economic Cooperation and Development

## **ABSTRACT**

The current business environment exists of tough and unpredictable competitions. All organizations, regardless of their size and scope of operation are faced with tough competition challenges and in order for them to cope with this state of affairs; SMEs are turning to innovation in order to stay afloat. Kenya has a sizeable SME sector that the government is making efforts to grow and develop. Recent studies have looked at the effective factors which are seen to lead to the increase in SME innovativeness and performance. However, there is still a gap in knowledge that this study aims at addressing by attempting to answer the question what innovation challenges do SMEs in Nairobi encounter? This study applied descriptive research design and made a focus of the target population was the 100 small and medium companies in the top 100 medium sized companies' East Africa 2016. Data collection instrument in this study was through use of questionnaires and analyzed through Descriptive statistics such as percentages, means, frequencies and standard deviation. One of the major findings of the study was that the level of innovativeness in the businesses varies from one business to another, where, 41% of the businesses report to have good innovation levels, 32% have average level, 19% are excellent in innovation while 8% are poor. Regardless of the level of innovation, 45% of the businesses still find innovation very challenging, 37% of the businesses find innovation moderately challenging while the remaining 18% find innovation not challenging at all. Another major finding of the study was that are several innovation challenges that affect SMEs in Nairobi. The findings from primary data show that the innovation challenges can be categorized as knowledge based challenges, Resource based Challenges, Technological based Challenges, Legal and Policy based Challenges and Environmental based Challenges. The study therefore recommended that SMEs should partner with other large corporations that offer varying services to jointly invest in common innovative activities as doing so leads to cost reduction while achieving similar goals.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the study

The current business environment exists of tough and unpredictable competitions. According to Poorangi, Khin, Nikoonejad and Kardevani (2013) all organizations, regardless of their size and scope of operation are faced with tough competition challenges and in order for them to cope with this state of affairs, SMEs are turning to innovation in order to stay afloat. According to Farsi and Toghraee (2014), there are implications that come about from failing to innovate which to result to collapse of economies and dropped competitiveness. Senge and Carstedt (2001) assert that innovation is a basic method used by a company so as to attain growth that can be sustained and address the main challenges faced by SMEs in the competitive environment today such as greater cost efficiency and the providing new products to meet the customers' demands. Based on a study by McEvily et al. (2004) whereby he discussed the role of innovation and its importance in driving competitiveness, more profits and greater productivity as the key issue used to unlock the potential of many SMEs. According to Zahra et al. (1999) SMEs ought to identify innovative opportunities that are among available opportunities in business and exploit them for their business good. Innovative opportunities mean a set of different units within processes whereby the actors identify, act upon and ultimately realize new resources and needs in the market so as to try to benefit from their future economic potential.

This study is anchored on the Schumpeter's theory of Innovation Schumpeter (1942) that explains innovation as way to create wealth by the disruption of existing market structures by introducing new ways of performing things and new products and services that allow resources to move from the already existing firms to the new firms thus allowing development of the new companies. Schumpeter asserts in this theory that entrepreneurship is the basis of wealth creation thus making full use of innovation. Knowledge based theory of the firm argues that knowledge-based resources are usually hard to copy and are socially complicated to imitate thereby giving SMEs the only option of being innovative Grant (1996).

Small and medium enterprises contribution to the economy has been acknowledged adequately Perker (2011); Henning (2003); Miller, Besser, Gaskill and Sapp (2003). The vital role this sector play has gained the support of most governments, multilateral agencies as well as nongovernmental organizations worldwide Perker (2011). However, according to Perks and Struwig (2005), survival, success and growth of small business will be achieved when the SME sector is innovative. Also in accordance to the Organization for Economic Co-operation and Development OECD (2004) report, SMEs play a major role in the evolution of developing countries to industrial economy. The report affirms notion that SMEs typically account for more than 90% of all enterprises outside the agricultural sector, they form a main source of income generation and thereby generate a valuable chunk of domestic and export earnings. Based on the report by OECD (2004), SME development emerged as a key instrument in economic growth of Africa. In Nairobi SMEs are hindered by a number of challenges they include poor infrastructure, inadequate capital, inadequate knowledge and skills, limited market access, and rapid changes in technology. Corruption and an unfavorable regulatory environment are other challenges Wanjohi and Mugure (2008). However, Wanjohi, A. (2009) states that the challenges can be minimized if SMEs embrace innovation.

### **1.1.1 The Concept of Innovation**

Different studies have different definition of innovation. Linder et al. (2003) defines innovation as the implementation of new ideas that would in turn create value. However in this study we focus mainly on the adoption of new products and processes that improve competitiveness and general profitability in accordance to the specifications and needs of the customers. According to Kotsemir, and Abroskin (2013) innovation has become the synonym for the development of nations, technological progress and driver of business success. Kotsemir, and Abroskin (2013) refer to the definition of innovation by OECD (2005) is that innovation is the implementation of a new or significantly improved product or service or process, a new marketing method or a new organizational method in business practices or, workplace organization or external relations. However, Tiwari (2008) expands the definition to show that the minimum requirement for an innovation is that the product, process, marketing method or organizational method ought to be significantly improved or new to the firm.

Based on the Oslo Manual (2005), there are four main forms of innovation. Process innovation is the implementation of a new or significantly improved production or delivery method which includes significant changes in techniques; product and service innovation is referred to as the introduction of a good or service that is new or significantly improved with respect to its intended use or its characteristics; marketing innovation is referred to as the implementation of a new marketing method which involves making significant changes in the design of the product or packaging, product promotion or pricing, the product placement, and organizational innovation which is also referred to as the strategic innovation, is the implementation of a new organizational method in the company's business practices, workplace organization or external relations.

Lately, big claims have been made in regards to the importance of innovation to organizations' economic success. Baker (2002) asserts that more innovative companies enjoy a share-price premium over less innovative counterparts. Additionally innovation is a key driver of how the market values companies, which therefore concludes that innovation has increased significantly over the years. Innovation is important for companies across all sectors of the economy such as; high and low technology, manufacturing and services and in slowly as well as in rapidly changing environments.

### **1.1.2 Innovation Challenges**

Innovation is never a smooth process as it requires the right environment with the right people in place in order for the people to remain encouraged and enabled to have ideas and drive innovative agendas Madrid-Guijarro et al. (2009). Most studies have innovation challenges categorized into internal and external challenges Stanislawsky and Olczak (2010). Internal challenges are referred to as the challenges that arise within the company and also the external barriers, which are the challenges that arise from the external environment. Piatier (1984) states that lack government support is a major innovation barrier. Necadova and Scholleová (2011) identified the challenges to innovation as the lack of specialist and skills, high cost for innovation, very long payback periods for investments done, lack of finances, poor or lack of technologically advanced equipments, very high standards and legislation, lack of consumer response, consumers that are resistant to change, high fear of risk, market ignorance and the infrastructure of the business.

The world's economy experiences the effects of rapid globalization and liberalization and also the impact of the ICT revolution. The current ICT age we are living in has brought about a new global economic order that is dominated by knowledge-based economies and information. Most SMEs are facing new challenges to their innovation because of the daily globalization process and the impact caused by the emerging new ICT trends Kefela (2010). According to Hadjimanolis (2003), the main challenge might be that innovation cannot be second-guessed, but a true innovation is decided by the market success, and the customer adoption, which is often hard to predict. Purely technology-driven innovation tends to be very volatile when it comes to customer expectations in the rapidly changing technological environment. So, achieving the right balance, mechanisms, expectations and what the culture takes on innovation add up to what might be the biggest challenge for sustainable innovation.

Stanislawsky and Olczak (2010) asserts that many challenges still lie ahead and form a complex matrix that goes beyond innovation, which include social, economic, political and geographical dynamics. An important underpinning organizational vision is to stay on the course for your stated mission that help the organization reach its goal. It's easy to try and be innovative, but you never want to lose your focus. At the end of the day, trying to stick to organizational mission and innovating is a major challenge. The link between education and innovation for the SMEs has the greatest disconnect as the rate at which technology transfer increases Sab and Smith (2001). Greater innovations are observed only in more affluent countries, where it is found that the level of education is higher, this then suggests that innovation seen in the SMEs is strongly linked to the level of education that is acquired by the personnel in the businesses Pohjola (2000).

### **1.1.3 Small and Medium Enterprises in Nairobi**

Overall economic growth requires a serious consideration of the opportunities and challenges that are faced by SMEs. The discussion here illustrates the potential of SMEs to boost national productivity and transform any economy. Traditionally, small and medium enterprises were considered those enterprises that had the number of employees totaling to less than 500 people. However, Institutions working on SMEs case have made several definitions, keeping into consideration the changes according to economic size of countries Fritsch and Mueller (2008). The definition as per the World Bank of the SMEs is that micro scale has less than 50 employees, the small scale has 50 employees and the medium scale has 50-

200 employees. But in this research we shall define SMEs in accordance to the Private Sector Development Strategy (2008), in Kenya, where a microenterprise has 0 to 10 employees, a small sized enterprise has 11 to 49 employees and a medium sized one has 50 to 100 employees both in informal and formal sectors.

SMEs form a major part of the total enterprises in a country's economy they constitute the basic source of materials, process, ideas and services that the large enterprises are in some cases not able to do or they do not want to do. The operations of SMEs revolve and cut across all sectors of the economy. Small and Medium Sized Enterprises play significant roles in the worldwide economy, they are known to be the driving force that leads to the economic growth and they also have a major effect on the economic activities of a country. SMEs majorly help in employment creation, poverty reduction and also generation of a source of income. In Kenya, SMEs contribute to about 80% of the total employment jobs in Kenya. This sector led to the shift of the GDP from 13.8% in the year 1993 to almost 40% as of the year 2008 Rok (2009).

Developing countries that do not have substantial SME sectors not only have the income and capital concentrated in the larger firms but also have great skilled personnel that is able to bargain for a pay that is much higher in comparison to anywhere else in the economy. This then makes the equilibrium wage in the micro enterprise sector and capital incomes very low and therefore the income is unequally distributed. However, in an economy that has a large SME sector, the extremes in the unequal distribution of both labour income and capital income are avoided Berry (2007)

Despite SMEs being engines for growth in Africa and globally, innovation within SMEs in Kenya and more so in Nairobi is seen to be low and making it difficult for the SMES to cope with the competitive environment especially in the delivery of service Apulu and Latham (2009). SMEs still lag behind due to a number of factors that make it difficult for their development and also the growth in quality services and customer satisfaction as stated by Ihua (2009).



## **1.2 Research Problem**

The business environment is rapidly changing; Stanislawsky and Olczak (2010) research shows that many companies have poor strategies in place to be innovative and respond to the challenges brought about by environmental changes. Organizations need to innovate in order to stay afloat but their employees are not once empowered and as well lack motivation to innovate. According to Comtesse, Hodgkinson and Krug (2002) there are several cultural challenges to innovation, such as averting risk, public complacency and lack of appreciation of high value innovation provincialism and closed networks. Necadova and Scholleová (2011) identified the inability of framework tools for innovation in the school curriculum, limited labour force and lack of an entrepreneurial mindset as the challenges to innovation among the organizations in the Czech Republic. Tiwari and Herstatt (2010) found poor access to financing, legal barriers, poor political vision and growth, the infrastructure and intellectual capital as challenges on the innovation.

Kenya has a sizeable SME sector that the government is making efforts to grow and develop. In the year 2003 the SME sector was estimated to employ about 3.2 million people and contributed to about 18% of the total GDP African Economic Outlook (2005). The Small and Medium sized enterprises have always taken a significant role in the Kenyan economy Muchau (2013). According to Bernadette (2012) in Kenya SMEs constitute the basic source of materials, process, ideas and services that the large enterprises cannot be able to do or they do not want to do. The current constitutional framework and the new Micro and Small Enterprise Act 2012 (MSE Act 2012) provide a window of opportunity through which the evolution of SMEs can be realized through the devolution framework. Based on the future projections of how this sector is expected to grow especially with the implementation of the Economic Recovery Strategy, a study on the innovation challenges facing SMEs in Nairobi is important.

Recent studies have looked at the effective factors which are seen to lead to the increase in SME innovativeness and performance in Asia, Europe and Brazil Mitra (2000); Terziovski (2003); Massa and Testa (2004). In their research, good policies and training of employees will favour innovation in organizations. Agwu and Emeti (2014) looked at the overall issues, challenges and prospects of SMEs in PortHarcourt City-Nigeria, they found that lack of managerial skills, lack and poor financing, insufficient

social structures, lack and poor managerial skills and also heavy taxation were among the major challenges that faces SMEs. Machi and Kyalo (2016) looked at adoption of innovation among SMEs in Nairobi; they arrived at the conclusion that innovation and venturing done within a company influences the company's performance. A study by Bowen, Morara and Mureithi (2009) made a focus on management of business challenges among SMEs in Nairobi-Kenya; they came to the findings that SMEs are challenged by stiff competition amongst other SMEs and also large firms, access to cheap imports, lack of credit facilities, lack of security for their businesses. However, failure and bad performance have been of interest to researchers for many years and has thus become the subject of a lot of analysis to prove the benefits of innovation in the growth of the SMEs Perks and Struwig (2005). However, there is still a gap in knowledge that this study aims at addressing by attempting to answer the question what innovation challenges do SMEs in Nairobi encounter?

### **1.3 Research Objective**

The general objective of the study is to determine the innovation challenges encountered by SMEs in Nairobi.

### **1.4 Value of the Study**

The results of the study will benefit a lot of categories of people and stakeholders that are involved in economic growth and SMEs. The results of the research are aimed to assist them understand in detail the role of innovation. For the entrepreneurs the study will come up with a framework that will be useful in the decision making process by management in the sector. Findings from the study will help the management in establishing more business ideas, improvement of service delivery and embrace technological improvement within the sector. These can help in changing the business models that have been in existence and bring about more innovation. Strategy formulation will be easier for the management of SMEs.

The study findings of this study will be of critical importance to the government and its agencies as it will guide the creation of various policies which are fundamental to the growth of SMEs in Africa according to the research recommendations.

The findings of this study will also be used by the future researchers as a source of reference for the future studies in this field. The study therefore contributes a lot to the body of knowledge and knowledge bank. This will contribute to the accumulation of knowledge and critic for development of knowledge in the emerging issues that the industry faces.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter presents the theories that guide the study, literature on innovation and the associated challenges and a review of the empirical literature is included. The chapter concludes by presenting a conceptual framework.

### **2.2 Theoretical underpinning of the study**

A number of theories in strategy have been devised to explain why and how innovation is applied in organizations to compete in the market. In this regard, Schumpeter's theory of innovation and knowledge based theory of the firm have been discussed to explain innovation within businesses.

#### **2.2.1 Schumpeter's Theory of Innovation**

Schumpeter (1934) pioneered in explaining what role innovation plays in the entrepreneurial process. Schumpeter (1942) refers to innovation as a process of wealth creation which occurs when existing market structures are disrupted when new goods and services are introduced which later cause a shift of resources from the existing firms to the new ones thus allowing the growth of the new firms. According to Schumpeter, entrepreneurs assist the development process of an economy, this is mainly because the people who are creative, innovative with foresight in a given society are the entrepreneurs. He went further and added that when the entrepreneur introduces a new production system or new product, discover a new source of raw materials, open a new market, or introduce a new organization into the industry and according to him then that is when innovation occurs.

Accordingly, Schumpeter calls innovation the specific tool of entrepreneurs, the only way used by entrepreneurs to exploit change as an opportunity to create a different business or a different service. Schumpeter (1942) stressed the role of entrepreneurs as primary agents effecting creative destruction, and emphasized to the entrepreneurs the need to explore fully the sources of innovation, the changes and the symptoms that give an indication to the opportunities for successful innovation; as well as their need to know and apply the principles that lead to successful innovation

A study by Schumpeter (1934) found that entrepreneurs, who are also independent inventors in large corporations, have been noted to create an opportunity for achieving new profits with their innovations. Thereafter, others will imitate when attracted by super-profits creating a wave of investment that would reduce the profit margins earned from innovation. However, before the economy is even able to settle, a new set of innovations will be conceptualized and begin the business cycle over again Schumpeter (1934).

Schumpeter regards innovations as the main cause of economic development. However, this view is far from reality because economic development of a country does not depend on innovations only but also on many economic and social factors. It is along with the monetary factors that innovations bring about economic growth.

### **2.2.2 Knowledge Based Theory of the Firm**

This theory was initiated by Penrose (1959) and later expanded by others Barney (1991), Wernerfelt (1984) and Conner (1991). The knowledge based theory of the firm considers having knowledge as the most strategically significant resource for the firm. The proponents of this theory argue that because resources that are based on knowledge are usually difficult to mimic and are complex at a social level. According to Grant (1996), knowledge is the key driver of innovation and knowledge is among the major determinants of firms' sustained competitive advantage and superior business performance. This knowledge is embedded and carried through several levels of the organization including documents, systems, organizational identity and culture, policies, routines and employees Conner (1991).

According to Grant (1996) in the knowledge based theory of the firm, the basic objective of a firm is to apply the existing knowledge to produce goods and services. A firm gains a competitive advantage by use of knowledge and skills, because a firm is able to innovate new processes and products, or also improve existing ones to be more efficient and or effectively through the use of knowledge and skills Nonaka and Takeuchi (1995). Grant (1996) treats knowledge as a generic resource, and not as having special characteristics. Therefore it implies that the lack of superior knowledge limits the firm's ability to come up with new products and services, thus limiting its competitiveness in the market Alavi and Leidner (2001).

This theory is very significant to this study because as research has demonstrated; intangible resources play an important part in the organization and that they have a positive impact that gives the competitive position of the firm as they truly generate sustained competitive advantage. However, this theory is limited because the proponents of this theory overlooked the other factors that can make a firm competitive other than using knowledge resources. Factors like the type of industry, legislative changes, and other environmental factors affect the competitiveness of a firm.

## **2.3 Types of Innovation Challenges**

Innovation has been perceived as playing a serious role in the long-term survival of organizations Van de Ven (2008). Despite of the outlined benefits, SMEs still face challenges that can stimulate good innovations. These challenges include knowledge challenges, resource challenges, technological challenges, legal and policy challenges and environmental challenges.

### **2.3.1 Knowledge Challenges**

The advancing telecommunication, information technology and the internet have globally changed the business environment. The foundations of economic life and business are built on the availability of knowledge. Availability of good knowledge labourers, knowledge assets and knowledge ventures are the epitome of attention in the development of and growth of businesses. This lack of knowledge assets brings new challenges to entrepreneurship both at the corporate levels and individual level in terms of innovation Liang (2002).

SMEs base their competitiveness generally on low prices. Most SMEs still depend on labour and capital in their operations; this forces them to fail in achieving operational excellence. Their focus is mainly on achieving increased productivity or economy of scale while they neglect value creation from the utilization of knowledge.

SMEs don't have proper knowledge infrastructure, suffer from the commercialization of knowledge and as well unknowledgeable human resources. In this case, lack of university resources to identify, protect and to market intellectual property to the private sector. Therefore, the universities channel out people

with shortage of the skills to bridge the gap in the research and business communities that can lead to innovative ideas.

In order to get passed the issues indicated above, governments have to improve educational systems from theoretical and provide technical education. SMEs should engage in knowledge management tasks such as: getting to know the knowledge necessary by interviewing suppliers, clients or the colleagues. This is so as to determine the available knowledge by sharing the already done and successful projects and best practices; determine the gap in knowledge available and the necessary knowledge; develop knowledge through research, education and training, or through carrying out customer satisfaction surveys; acquire knowledge by employing only the skilled and qualified personnel; purchase of patents and licences, as well as purchase of market research results; lock in knowledge to transform the developed or the purchased knowledge; into a systematic and structural form whereby it is determined and made available to all persons. The knowledge evaluation should be reused as input for the determination of available and necessary knowledge. Evaluation is then done by internal and external audits, project evaluations, taking customers through customer satisfaction surveys or benchmarking.

### **2.3.2 Resource Challenges**

It is good to have limited resources that can make you only pick and/or choose one or two innovative ideas for action and implementation. Majority of big firms fall into this category but on the contrary, many small firms have little resources which they literally can't action or implement any of their innovative ideas. Resources in this case refer to finances, space for conducting the business, human resource, machinery and equipments. In this case SMEs may have so many great ideas that it becomes overwhelming in a way that makes it impossible to even know where to begin. In this case, a lot of innovative ideas seem great at first glance, but upon closer inspection turn out to be completely impractical Wanjohi (2012).

There are few organizational challenges people face when they try to turn an idea into action, and ways individuals might be able to use those challenges to their advantage. SMEs can make their organizations more supportive of innovative employees, more nurturing of ideas and ultimately the recipients of more successful outcomes. Many companies are strapped for cash and resources, especially over the last few

years, and no matter how many great ideas float to the top, not all of them can come to fruition. And it's also tough to keep your eyes on the big strategic goal when you're just trying to survive day to day Wanjohi (2012).

### **2.3.3 Technological Challenges**

Shengbin (2011) in the impact of technology selection on innovation success indicated the innovation challenges that organizations face in terms of technology. Technology has the potential to virtually revolutionize all types of business. Most firms are seeking how to make use of the available intelligent systems in the business processes so as to make them more agile, dynamic, productive and proactive. Presently, there is a large gap between the benefit of technology and what actually gets delivered. Firms still report high development costs despite the presence of technology that should bring them down.

Technology in developing countries is challenged by the lack of enough money, by the nature of their organization still being innovative and by being in a rapidly changing environment. To compete with larger competitors, small organizations must develop advantages of flexibility and speed of response. However, virtually all the research on technology and innovation management has been taken by large firms.

### **2.3.4 Legal and Policy Challenges**

Regulatory framework has been identified as important factor influencing the innovative activities of companies, industries and whole economies. In the case of innovative businesses in general OECD (2012) indicated administrative framework, government regulations and public policies that have an impact on the operations of firms will definitely influence the innovative growth of companies.

In simple terms, in the case barriers are reduced, administrative framework will encourage business entrepreneurship. In contrast, substantial costs and complex registration processes can discourage entrepreneurial activity OECD (2011). Very long and expensive business registration procedures divert a lot of human and financial resources away from productive business activity, just when the company is the most fragile. Rigid regulations sometimes encourage entrepreneurs to carry out their business activities in the informal sector, specifically where the environments has weak legal framework, as it is in the case of less developed economies OECD (2012). The outcome of poor legal framework is that



entrepreneurs are denied of access to opportunities and protections provided by the law, which might be fatal to business expansion.

### **2.3.5 Environmental Challenges**

The external environment has an important role in innovation development. To generate a successful innovation project, enterprises are forced to look for a wide range of expertise and knowledge that is provided by several complementary sources. According to Enkel et al. (2009) enterprises are often forced to collaborate with external environment so as to expand their range of skills and expertise and also seek financial help for their innovation development. However, if organizations don't cooperate with external environment it will reduce innovativeness.

In addition, governments have a vital role in stimulating an enterprise to increase innovation activities. De Jong and Hippel (2009), gives examples where the governments can subsidize Research and Development and tax credits to lower innovation cost. Another way governments can improve the development of innovation is through the use of intellectual property law to grant enterprises who qualify temporary monopolies on their innovation-related knowledge De Jong and Hippel (2009).

Muscio et al. (2010) gives another view of the external environment where demand-side has effect on innovation explored in the recent years. To begin with, SMEs and policy-makers should be concerned with the crucial role of creating demand for innovation. Muscio et al. (2010) in their study, confirmed from other studies that new technological paradigms emanate from a rise in demand for developments that lead to innovation Demand forces alternatives among competing firms that gives direction to the evolutionary process that give brings forth to innovation. However, in the place demand is weak, inventive and innovative activities dry. Secondly, for an enterprise to survive in a globally competitive market, an enterprise has to utilize the opportunities to efficiently serve their markets. Failure to take advantage of the environment forces enterprises to become less involved in innovative activities.

## **2.4 Empirical Review**

Ngugi (2013) carried out a study on how the intellectual capital influences the growth of the small and medium enterprises in Kenya. The study findings revealed that the Intellectual Capital components of

knowledge leads to the development of managerial skills, entrepreneurial skills, and innovativeness of the owner have major positive significance contribution to the growth of SMEs in Nairobi. OECD (2015) clearly stated that skilled and knowledgeable workforce can come up with new ideas and technologies, these new ideas and technologies are then taken to the market, implemented in the workplace, so that they adapt to structural and technological changes across society. The study carried out by Fatoki (2014) in South Africa investigated the entrepreneurial orientation of micro enterprises in the retail sector and the results revealed knowledge dwarfism by micro enterprises leads to shrinkage in introducing new product lines and also at making changes to the product line, but investment in research and development, pro-activeness and risk-taking would strengthen innovation.

Sharma and Bhagwat (2006) that focused on the role of IT on innovation stated that the evolution has drastically changed the way businesses go on with their businesses. In their study, they found that changes in technology have forced SMEs to be somehow innovative in the way they do their businesses. Bresnahan et al. (2002) provided evidence to shows that durable productivity gains have been achieved in enterprises which have made innovations around the evolving and ever changing technology. A study conducted by Sharma and Bhagwat (2006) indicates that availability of appropriate technology in an organization is the bloodline of any business as a stimulant to innovation irrespective of its size.

OECD (2015) research on innovation strategy found that innovation among SMEs is affected by several factors but majorly economic and social policies. In this research it was found that implementation of proper policies and legislation have a great impact on SMEs ability to innovate. Ngugi (2013) insisted that for SMEs to contribute to the economy, they should be innovative. However, in his recommendations, he stated the SME policies should be formulated to address failures made by SMEs to innovate. Policies that encourage innovation and entrepreneurial activity, specifically innovation policies that are often required to tackle a range of innovation barriers OECD (2015). The impact of policies for innovation heavily depends on their governance and implementation, including the trust placed with the government and its commitment to learn from experience OECD (2015).

Ligthelm (2010) primarily aimed at calculating the survival rate of small businesses within the rapidly changing trade environment. In this study, particular emphasis was placed on the role of innovation in

small business survival. The findings suggested that entrepreneurial innovation in small business was the strongest predictors of small enterprises survival. Hence, the ability to adjust or flexibility of the SMEs business model to adapt to changes in economic situations is a fundamental characteristic of entrepreneurial innovation that ultimately directs survival in continuously competitive economic environments Ligthelm (2010). A correct business environment that fosters investment in research and development and in a knowledge-based capital, that facilitates innovative firms to try with new technologies, ideas and business models which help them grow and increase their market share to reach higher levels of production OECD (2015).

Abouzeedan et al. (2013) looked at the unique challenges SMEs face to innovation. In their study, they argue that challenges such as resources scarcity affect the level of SME innovation. Andries and Faems (2013) in their study they indicated licensing out the knowledge to external parties benefits them, however, in their conclusion they stated that it is inappropriate for short-term benefits. Christensen et al. (2005) mentioned that the complexity of interplay between technology entrepreneurs and the incumbents significantly reduces innovation amongst the SMEs. In their study they pinpointed that an open innovation if sometimes found to incur high costs in transaction. A research done by Dodourova and Bevis (2014) using data from the European car industry they found that SMEs do not have strong ties with other organizations and larger incumbents who have superior resources.

In summary, Hanqin and Allison (2007) indicated innovation among SMEs to be largely affected by lack of market information, poor or lack of managerial skills, lack of finances, and poor or insufficient research and development have been identified in theory of innovation challenges as the main ones SMEs are facing Qiang et al., (2006). Small enterprises are as well faced with problems of legal and administrative hindrances, bad governance, poor infrastructure and failure to access credit in their quest for innovation Ongori (2008).

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter looks at the type of methods that were used in conducting the study. It highlights and expounds on the research methods the study employed in conducting the research, methods used for collecting data and how the data was analyzed and reported.

### **3.2 Research Design**

According to Kothari (2004) research survey design is basically to a plan used to collect and utilize data in order to generate desired information with sufficient precision or so that hypothesis or research questions can be tested properly. A research survey was appropriate for this study as the population under study is not large thus using survey was appropriate. Sudman (1996) describes the cross-sectional surveys as snapshots of the populations about which they gather data. This method is very suitable for this study as the collected data allows large cross-sectional studies to be made and at little or no expense. Kothari (2004) still observed that research design is a blueprint which additionally properly facilitates various research operations. These bring about an efficient research as possible which yields maximum information with less budget, effort, and time.

This study applied descriptive research design. This design was used mainly because the study seeks to determine the innovation challenges encountered by SMEs in Nairobi. Descriptive survey research design as described by Lavrakas (2008) is a systematic research method used to collect data from a representative sample of individuals by use of a questionnaire composed of closed-ended and open-ended questions or both. Collecting data by the use of questionnaires is the most commonly used method in non-experimental research design across disciplines when it comes to collecting big survey data from a representative sample of individuals sampled from the targeted population. A descriptive research main goal is to give a description of the state of affairs as it exists in the present. This is achieved by gathering data that describe events and then analyzing the data, tabulating the information in a way that depicts and describes the data.

### **3.3 Population of the Study**

Population is the total sum of elements inferences is to be made as defined by Cooper and Schindler (2006). The population of this study is the over one million registered SMEs in Nairobi County, who are registered under the registrar of companies under the attorney general office in Kenya. However, the focus of the target population was the 100 small and medium companies in the top 100 medium sized companies' East Africa 2016 with head offices in Nairobi as shown in appendix three.

### **3.4 Data Collection**

The data collected was primary data and the data collection instrument in this study was through use of questionnaires. These were used to get specific data from the respondents who were the business owners and the managers. The questionnaire contained a blend of open and closed ended questions in two sections where section A is general information and section B addressed the innovation challenges. The reason for using this instrument is that questionnaires are cheap and easy to administer especially to a population that needs to keep anonymity. In addition they give the respondent time to read.

The questionnaires were distributed by the drop and pick method whereby the researcher approached the respondents personally and request them to fill in the questionnaires and thus collecting the filled questionnaires after some time. The questionnaires were collected after an average of four days. The whole process took a week in total. Before heading for data collection in the field, data collection letter from the university was obtained by the researcher. In addition, the researcher also sought permission from the top management of the targeted company so as to collect data.

### **3.5 Data Analysis**

Collected questionnaires from respondents was screened first and then numbered; thereafter each variable in the questionnaire was assigned a numerical representation and the responses from each respondent was then be coded using a defined coding scheme. The coded data was entered into the SPSS software which was used to quantitatively analyze the data in terms of descriptive statistics. Descriptive statistics such as percentages, means, frequencies and standard deviation was used to analyze the data. Factor analysis was

also done. Factor analysis technique for the data analysis, is a reduction tool where the variables are reduced from the large number to only the significant factors. The researcher used bar graphs and pie charts for data presentation.

## **CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS**

### **4.1 Introduction**

This chapter presents the data analysis and interpretation of the findings. The purpose of this study was to determine the innovation challenges encountered by SMEs in Nairobi. The primary data was collected using a questionnaire.

### **4.2. Response Rate**

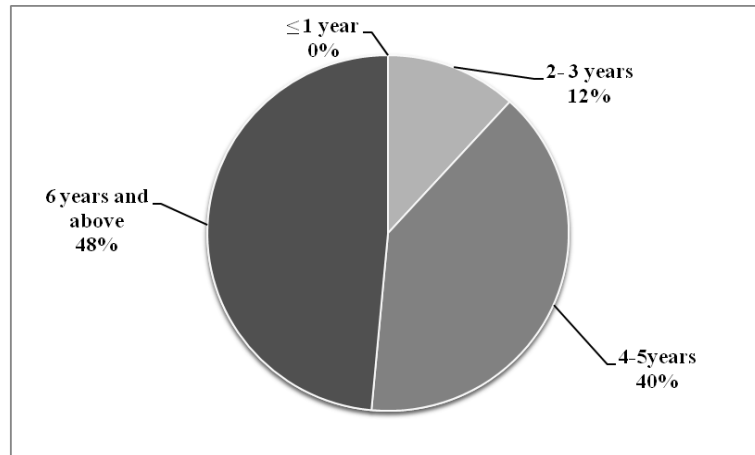
The target population for this study was the registered SMEs in Nairobi County. This study focused on the 100 small and medium companies listed in the top 100 medium sized companies' East Africa 2016. Out of the 100 questionnaires that were distributed 68 of them were filled and returned. The response rate was 68%.

### **4.3. General Information**

This is a representation of the general information data as collected and its interpretation.

### 4.3. Age of the business

**Figure 4.1: Age of the Business**

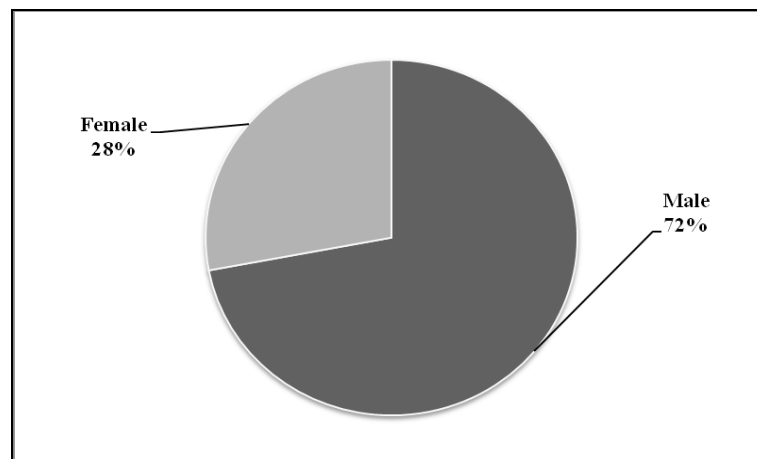


Source: Research Data, 2017

Going with the findings from the primary data, 48% of the businesses have been operational for over 6 years, 40% of the businesses have been in operation for 4 to 5 years while only 12% of the enterprises have been operational between 2-3 years. However, 0% of the businesses have been in operation for 1 and less as shown in figure 4.1 above

### 4.3. Gender of the respondents

**Figure 4.2: Gender of the respondents**



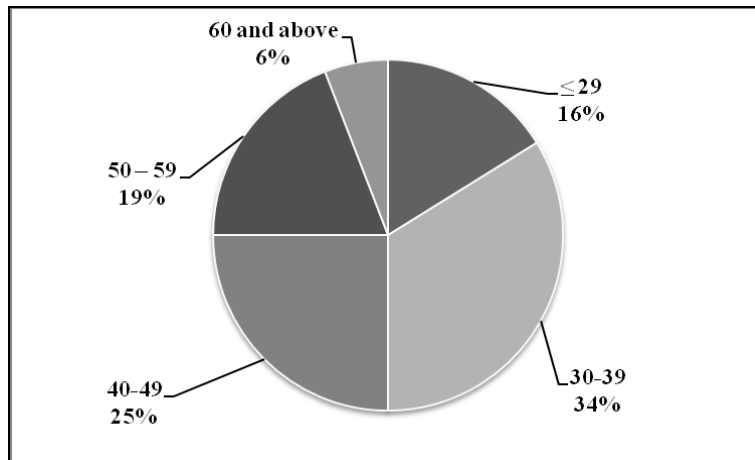
Source: Research Data, 2017



The respondents were represented by 72% men as well as 28% women as shown in the figure 4.2 above.

### 4.3.3 Age of the respondents

Figure 4.3: Age of the respondents

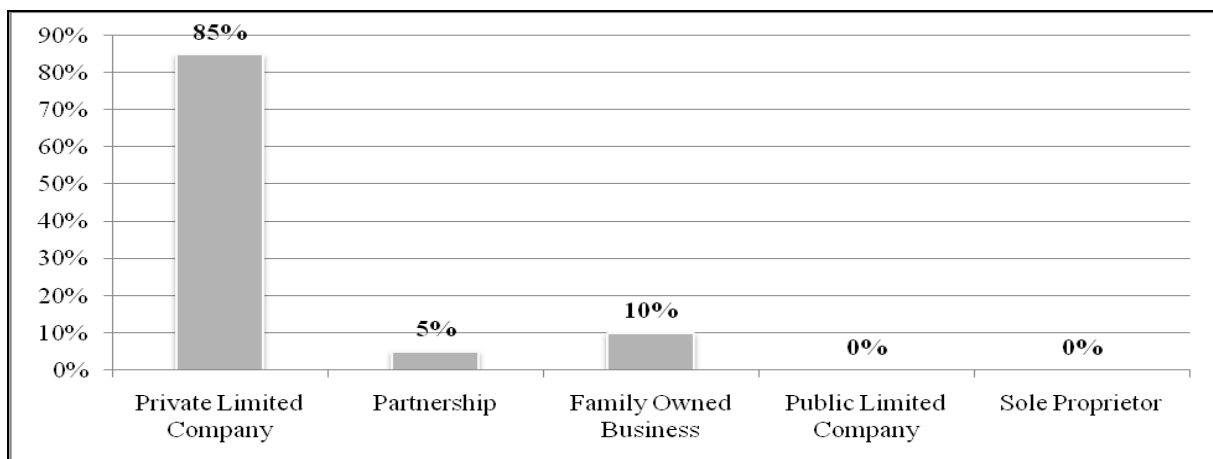


Source: Research Data, 2017

From among the respondents, 34% are aged 30-39 years, 25% are aged between 40-49 years. However, 19% are aged between 50-59 years, 16% are aged 29 years and below but 6% are above 60 years of age as shown in the figure 4.3 above.

### 4.3.4 Nature of Organization

Figure 4.4: Nature of Organization

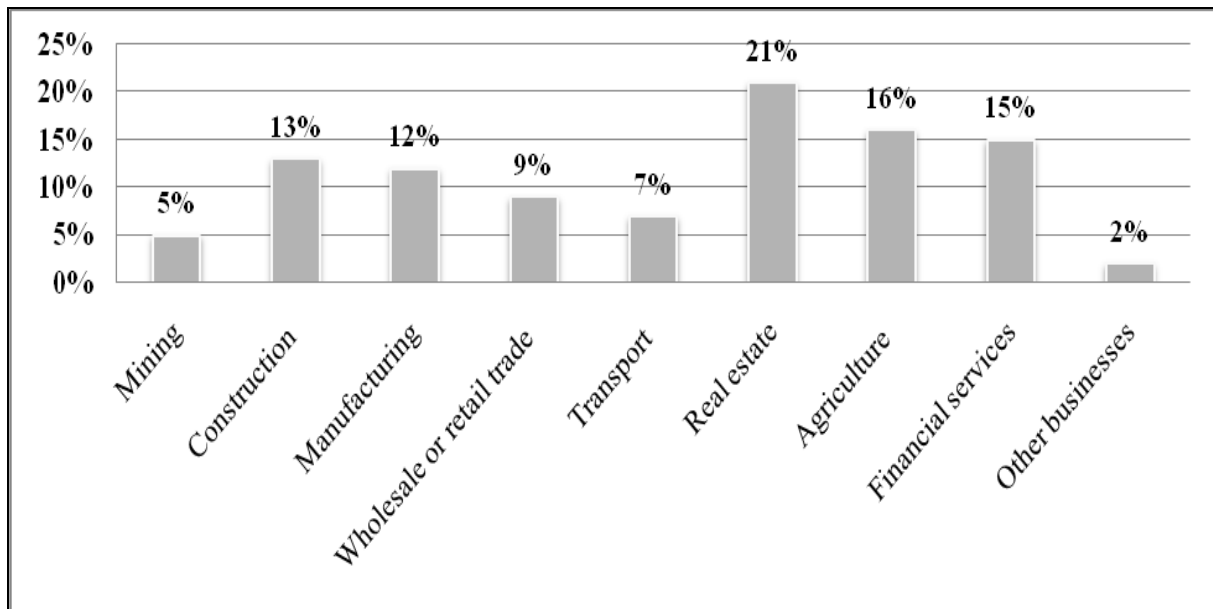


Source: Research Data, 2017

The nature of enterprises involved in this study were 85% private limited company, 10% are represented by the family owned businesses, 5% partnership. The sole proprietor and public limited company had a 0% representation as shown in the figure 4.4 above.

#### 4.3.5 Type of Business

**Figure 4.5: Type of Business**

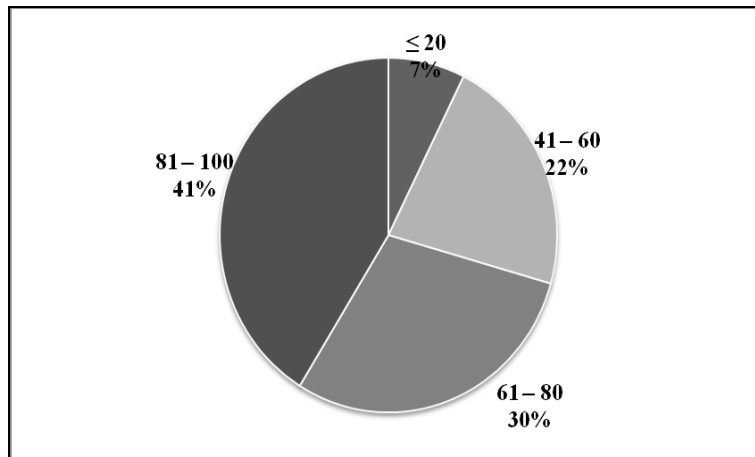


Source: Research Data, 2017

However, the type of businesses include, 21% were in the real estate, 16% in agriculture, 15% in financial services, 13% in construction, 12% in manufacturing (including gas, electricity and water supply), 9% in wholesale or retail trade, 7% represented the business in transport, 5% in mining other business had a 2% representation as shown in Figure 4.5 above.

### 4.3.6 Number of employees

Figure 4.3.6: Number of employees



Source: Research Data, 2017

Additionally as shown in the figure 4.3.6 above, 41% of the respondents have between 81-100 employees, 30% of the respondents have 61-80 employees, 22% of the respondents have 41-60 employees while 7% of the respondents have 20 and less employees.

### 4.4 Innovation Challenges

The general objective of the study was to determine the innovation challenges encountered by SMEs in Nairobi. In order for the objective to be achieved, the study had to interrogate the respondents if their businesses are innovative or not. Going with the primary objectives, all the respondents confirmed that there is some form of innovation in their businesses that aid them in being competitive. However, the level of innovativeness in the businesses vary from one business to another, where, 41% of the businesses report to have good innovation levels, 32% have average level, 19% are excellent in innovation while 8% are poor. Regardless of the level of innovation, 45% of the businesses still find innovation very challenging, 37% of the businesses find innovation moderately challenging while the remaining 18% find innovation not challenging at all.

Based on the primary findings, there are several innovation challenges that affect SMEs in Nairobi. The findings from primary data show that the innovation challenges can be categorized as knowledge based challenges, resource based challenges, technological based challenges, legal and policy based challenges and environmental based challenges.

#### 4.4.1 Innovative Businesses

**Table 4.1 Innovative Businesses**

<b>Is your business innovative</b>	<b>Response</b>
Yes	27
No	41

Source: Research Data, 2017

As shown in table 4.1 above, the respondents who said the businesses are innovative were 27 and 41 respondents said their businesses were not innovative.

#### 4.4.2 Rate of business innovation

**Table 4.2 Rate of business innovation**

<b>Rate of business innovation</b>	<b>Response</b>
Excellent	13
Good	28
Average	22
Poor	5

Source: Research Data, 2017

As shown in the table 4.2 above the respondents who said the businesses had excellent innovation were 13, 28 respondents said the innovation had a good rating, 22 said it was average and 5 rated it as poor.

#### 4.4.3 Rate of innovation challenges

**Table 4.3 Rate of innovation challenges**

<b>Rate of innovation challenges</b>	<b>Response</b>
Very challenging	30
Moderately challenging	26
Not challenging	12

Source: Research Data, 2017

As shown in the table 4.3 above the respondents had a varying rating on how much the innovation challenges affect them. There were 30 respondents, who said the innovation challenges were very challenging, 26 said the challenges were moderately challenging and 12 respondents said the innovation challenges were not challenging.

#### 4.4.4 Knowledge Challenges

**Table 4.4: Knowledge Challenges**

<b>Knowledge Challenges</b>	<b>Mean Score</b>	<b>Standard Deviation</b>
Rapidly advancing technology making it a struggle to keep up with it	2.7059	0.5412
Lack of availability of knowledgeable laborers	1.3824	0.2765
Lack of innovative ideas	1.4706	0.2941
Lack of access to institutions that teach on entrepreneurial skills	2.9853	0.5971
Institutions that pass on the entrepreneurial knowledge are expensive	3.0882	0.6176
Lack of knowledge on how to use the already existing technology eg computers and softwares	2.9559	0.5912
Others (Specify)	3.6765	0.7353
<b>Average Mean</b>	<b>2.0840</b>	

Source: Research Data, 2017

With regards to the knowledge based challenges, lack of availability of knowledgeable laborers was rated by the respondents as the major challenge with a mean of 1.3824 with a standard deviation of 0.2765, followed by lack of innovative ideas with a mean of 1.4706 and a standard deviation of 0.2941. Following is rapidly advancing technology making it a struggle to keep up with it with a mean of 2.7059 and standard deviation of 0.5412, followed by lack of access to institutions that teach on entrepreneurial skills with a mean of 2.9853 and standard deviation of 0.5971, lack of knowledge on how to use the already existing technology eg computers and softwares follows with a mean score of 2.9559 and a standard deviation of 0.6176, then is the institutions that pass on the entrepreneurial knowledge are expensive with a mean of 3.0882 and standard deviation of 0.6176. Finally are the other noted challenges with a mean of 3.6765 and standard deviation of 0.7353. The average mean is 2.0840 as shown in the table 4.4 above.

#### 4.4.5 Resource Challenges

**Table 4.5: Resource Challenges**

<b>Resource Challenges</b>	<b>Mean Score</b>	<b>Standard Deviation</b>
Limited and even lack of financial resources	1.4412	0.2882
Lack of adequate space to run the business	3.1618	0.6324
Inadequate machines and equipment	2.9412	0.5882
Expensive skilled labor	2.0588	0.4118
Expensive machinery and technology	2.3529	0.4706
Lack of adequate business managerial training	2.7353	0.5471
Rapid technology changes making it expensive and hard to keep up	3.2206	0.6441
Lack of budgeting/little resources allocated for Research and Development for SME's	2.8235	0.5647
Others (Specify)	4.1176	0.8235
<b>Average Mean</b>	<b>2.7614</b>	

Source: Research Data, 2017

With regards to resource based challenges, businesses reported, limited and even lack of financial resources as a major resource challenge with a mean score of 1.4412 and a standard deviation of 0.2882, followed by expensive skilled labor at a mean score of 2.0588 and a standard deviation of 0.4118. Expensive machinery and technology was noted to have a mean of 2.3529 and a standard deviation of 0.4706, lack of adequate business managerial training follows with a mean of 2.7353 and standard deviation of and a standard deviation of 0.5471 following closely is lack of budgeting/little resources allocated for Research and Development for SME's with a mean of 2.8235 and a standard deviation of 0.5647. Inadequate machines and equipment has a mean of 2.9412 and a standard deviation of 0.5882 followed by lack of adequate space to run the business which has a mean of 3.1618 and standard deviation of 0.6324. Rapid technology changes making it expensive and hard to keep up comes in as the second least challenge with a mean of 3.2206 and standard deviation of 0.6441. Lastly we have others with a mean of 4.1176 and standard deviation of 0.8235. The average mean is 2.7614 as shown in the table 4.5 above.

#### 4.4.6 Technological Challenges

**Table 4.6: Technological Challenges**

<b>Technological Challenges</b>	<b>Mean Score</b>	<b>Standard Deviation</b>
High cost of technology	1.7647	0.3529
Lack of skills to use the technology	1.9265	0.3853
Rapidly changing technology making it difficult to keep up and use	2.8235	0.5647
Risk of the business data being hacked or stolen from the company computers	3.0441	0.6088
High development cost despite use of technology	1.9559	0.3912
Others (Specify)	3.7500	0.7500
<b>Average Mean</b>	<b>2.5441</b>	

Source: Research Data, 2017

Another type of innovation challenge is based on technology, where the high cost of technology is rated the major challenge with a mean 1.7647 and a standard deviation of 0.3289 followed by lack of skills to use the technology with a mean score of 1.9265 and a standard deviation of 0.3853. High development cost despite use of technology follows with a mean of 1.9559 and standard deviation of 0.3912. Rapidly changing technology making it difficult to keep up and use is rated with a mean of 2.8235 and standard deviation of 0.5647 followed by risk of the business data being hacked or stolen from the company computers is a technology based challenge rated at 3.0441 and a standard deviation of 0.6088. The least challenge is the others with a mean of 3.7500 and standard deviation of 0.7500. The average mean is 2.5441 as shown in the table 4.6 above

#### 4.4.7 Legal and Policy Challenges

**Table 4.7: Legal and Policy Challenges**

<b>Legal and Policy Challenges</b>	<b>Mean Score</b>	<b>Standard Deviation</b>
Poor economic policies that do not support business growth	2.3529	0.4706
Too many business regulations	2.0588	0.4118
Many costs to the county government towards opening and running a business	1.9118	0.3824
Lack of government support	2.6471	0.5294
High taxes and government revenue	1.9559	0.3912
Lack of information in patenting and copyrights	3.1618	0.6324
Corrupt syndicates that hinder development and growth for all businesses	1.4706	0.2941
Others (Specify)	3.9853	0.7971
<b>Average Mean</b>	<b>2.4430</b>	

Source: Research Data, 2017



The other innovation based challenges emanate from legal and policy issues. Here, businesses reported corrupt syndicates that hinder development and growth for all businesses as a major challenge with a mean score of 1.4706 and a standard deviation of 0.2941 followed by many costs to the county government towards opening and running a business which have a mean score of 1.9118, standard deviation of 0.3824, then high taxes and government revenue with a mean of 1.9559 and standard deviation of 0.3912 respectively. However, lack of information in patenting and copyrights as a challenge is not a major challenge rated at a mean score of 3.1618 and a standard deviation of 0.6324. Lastly the others has a mean of 3.9853 and standard deviation of 0.7971. The average mean is calculated as 2.4430. This is as shown in the table 4.7 above.

#### 4.4.8 Environmental Challenges

**Table 4.8: Environmental Challenges**

<b>Environmental Challenges</b>	<b>Mean Score</b>	<b>Standard Deviation</b>
Adhering to the environmental regulations is difficult	1.6618	0.3324
Many environmental policy and regulations that make business operation difficult	2.2206	0.4441
Investors fear of investing because of the political and economic atmosphere	2.7647	0.5529
Lack of innovation drive	3.0441	0.6088
Lack of business networks	1.9559	0.3912
Policy and policy makers that do not support enterprise growth	1.8971	0.3794
Lack of laws that support intellectual property that grant enterprises security	2.1765	0.4353
Others (Specify)	3.9853	0.7971
<b>Average Mean</b>	<b>2.4632</b>	

Source: Research Data, 2017

The other category is based on the environmental challenges, where the respondents indicated adhering to the environmental regulations is difficult as a major innovation challenge with 1.6618 and a standard deviation of 0.3324 followed by policy and policy makers that do not support enterprise growth with a mean score of 1.8971 and standard deviation of 0.3794. Following closely is lack of business networks with a mean of 1.9559 and standard deviation of 0.3912. Lack of laws that support intellectual property that grant enterprises security garnered a mean of 2.1765 and a standard deviation of 0.4353 followed by many environmental policy and regulations that make business operation difficult with a mean of 2.2206 and standard deviation of 0.4441. Investors' fear of investing because of the political and economic atmosphere is not a very major challenge and has a mean of 2.7647 and standard deviation of 0.5529, it is followed by lack of innovation drive which earned a mean of 3.0441 and standard deviation of 0.6088. Lastly the others garnered a mean of 3.9853 and standard deviation of 0.7971. The average score is 2.4632. This is as shown above on table 4.8

#### **4.5 Discussion of Findings**

The study sought to determine the effect of the innovation challenges experienced by SME's in Nairobi. The study specifically investigated the extent to which the knowledge challenges, resource challenges, technological, legal and policy challenges and finally environmental challenges affect the enterprises. The study findings show the challenges that affect the businesses the most and the challenges that do not affect the businesses adversely.

Knowledge challenges were seen to affect the enterprises the most; they had an average mean of 2.0840. The lack of availability of knowledgeable laborers is seen to be the one that affects the businesses the most, with a mean of 1.3824. This supports the knowledge based theory of the firm which considers having knowledge as the most strategically significant resource for the firm. According to Grant (1996), knowledge is the key driver of innovation and knowledge is among the major determinants of firms' sustained competitive advantage and superior business performance. Liang (2002) argued that lack of knowledge assets referring to the skilled labourers, brings new challenges to the entrepreneurial world, this is both at the corporate levels and individual level in terms of innovation.

The resource challenges had an average mean score which was 2.7614. This supports Wanjohi (2012) who argues that there are a lot of innovative ideas that are known and even seem great but upon closer inspection turn out to be completely impractical because of lack of the resources to adequately implement them. Under the resource challenges we have the rapid technology changes making it expensive and hard to keep up having a mean score overall with a mean of 3.2206. In general the resource challenges had the least impact to lack of innovation in the enterprises.

The findings of the study are also supported empirically by the studies conducted. Ngugi (2013) carried out a study on how the intellectual capital influences the growth of the small and medium enterprises in Kenya. The study findings revealed that the Intellectual Capital components of knowledge leads to the development of managerial skills, entrepreneurial skills, and innovativeness of the owner have major positive significance contribution to the growth of SMEs in Nairobi. A study conducted by Sharma and Bhagwat (2006) indicates that availability of appropriate technology in an organization is the bloodline of any business as a stimulant to innovation irrespective of its size. Abouzeedan et al. (2013) looked at the unique challenges SMEs face to innovation. In their study, they argued that challenges such as resources scarcity affect the level of SME innovation.

## **CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMENDATIONS**

### **5.1 Introduction**

This chapter draws a summary of both the primary and secondary findings of the study that were included in the previous chapters of this study. It also includes conclusions and recommendations that are also based on the findings of this study.

### **5.2 Summary of Findings**

The general objective of the study was to determine the innovation challenges encountered by SMEs in Nairobi. The findings of the study show that there are several innovation challenges that affect SMEs in Nairobi, categorized as knowledge based challenges, resource based challenges, technological based challenges, legal and policy based challenges and environmental based challenges.

Lack of availability of knowledgeable laborers is rated by the respondents as the bigger challenge followed by lack of innovative ideas. These findings relate to earlier findings by Liang (2002) which state that the availability of good knowledge laborers, knowledge assets and knowledge ventures are the epitome of attention in the development of and growth of businesses. Liang (2002) concluded his research by indicating that this lack of knowledge assets brings new challenges to entrepreneurship both at the corporate levels and individual level in terms of innovation.

In addition the study found that limited and even lack of financial resources as a major resource based challenge followed by expensive skilled. Equally the study showed that expensive machinery and technology is as well a major resource based challenge as well as lack of adequate business managerial training. However, the finding of a research by Wanjohi (2012) proved that many companies are strapped for cash and resources, especially over the last few years, and no matter how many great ideas float to the top, not all of them can come to fruition. And it's also tough to keep your eyes on the big strategic goal when you're just trying to survive day to day which is the root cause of all the finance based innovation challenges Wanjohi (2012).

Technology in developing countries is challenged by the lack of enough money, by the nature of their organization still being innovative and by being in a rapidly changing environment that is according to the finding in a research done by Shengbin (2011) the findings are similar to the findings in this study which shows that, high cost of technology is rated the major challenge followed by lack of skills to use the technology. To compete with larger competitors, small organizations must develop advantages of flexibility and speed of response Shengbin (2011).

Additional findings of the study show that many costs to the county government towards opening and running a business and high taxes and government revenue. Other findings include adhering to the environmental regulations is difficult as a major innovation challenge. These findings are summarized in a study by De Jong and Hippel (2009) and OECD (2012) who showed that regulatory framework has been identified as important factor influencing the innovative activities of companies, industries and whole economies.

### **5.3 Conclusion**

The study found that innovation challenges affect the level of organizational innovation of the SMEs to greater extent. The study revealed that innovation challenges that influence organization innovation such as product/service innovation, strategy innovation, process innovation, technology innovation, marketing innovation, organizational and people innovation.

The study established that through overcoming innovation challenges, the company was able to increase profits, improve competitiveness, reduce costs, improve customer service, increase customer base, increase production, as well as improve service delivery. The study found that all you need in order to overcome the innovation challenges include but not limited to superior knowledge, enough tangible resources, superior entrepreneurial skills, superior technological advantage, favorable legal and policy and favorable environmental conditions which provides sustained competitive advantage.

The study further revealed that challenges faced in innovation were selection of the project that represents the interest of the community, lack of institution assistance lack of knowledge, and lack of specific legislation on CSR and few interest of the company.

## **5.4 Recommendations**

The study found that innovation challenges really affect SME performance with regards to their innovativeness, thus affecting their competitiveness. The researcher recommends that SMEs should partner with other large corporations that offer varying services to jointly invest in common innovative activities as doing so leads to cost reduction while achieving similar goals. Large corporations can partner with SMEs to spearhead similar innovation objectives.

This study recommends that the industrialization ministry as well as relevant authorities designs a tax framework and policies that will foster innovation as well inspire among the SMEs. This will not only make it easy for future researchers to collect research data, but will also enable shareholders to evaluate the extent to which the firm has invested in promoting their company's competitiveness through innovation.

## **5.5 Suggestions for Further Research**

The researcher suggests that the possible effect of innovation challenges on financial performance be extended to other counties. A study can be conducted to determine if innovation challenges has any effect on the performance of telecommunication industry, private hospitals, insurance companies, micro finance institutions, manufacturing industry, SMEs among others in different counties.

## **5.6 Limitations of the Study**

There are some limitations that were experienced during this study. The first limitation experienced during the study was the respondents' unwillingness to give answers as they feared that they may either be victimized which could cost them their jobs. Thus, to curb this problem the researcher assured them that confidentiality would be maintained. Another limitation was that some questionnaires were not returned on time, to curb this, the researcher had to go to the business and fill in the questionnaire as the business owner and manager responded verbally to the questions addressed in the questionnaire. In addition, some questionnaires were partially filled, the researcher took it upon himself to make phone calls to fill the data that was missing from questionnaires. The study had a limitation of time and resources, the study therefore employed a sample survey instead of a census survey.



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## APPENDICES

### Appendix One: Introduction Letter

The Respondent

Nairobi

Dear respondents,

#### **RE: REQUEST FOR YOUR PARTICIPATION IN MY RESEARCH PROJECT WORK**

I am a postgraduate student at the University of Nairobi pursuing an MSC Entrepreneurship and Innovation Management course. In partial fulfillment of the course requirements, I am undertaking a research on “The Innovation Challenges Encountered By Small And Medium Enterprises In Nairobi County” The information you provide is needed purely for academic research purpose and will therefore be treated with utmost confidentiality. A copy of the final research paper will be submitted to the company for acknowledgement and reference. Your assistance in facilitating the same will be highly appreciated.

Thank you.

Yours faithfully,

Sign .....

Hottensiah Nyokabi Gachara

Msc student: University of Nairobi

Department Signatory

Sign .....

School of Business: University of Nairobi

## Appendix Two: Questionnaire

This questionnaire is designed to carry out a survey on the Innovation Challenges Encountered by Small and Medium Enterprises in Nairobi County. (Use a tick where necessary)

### Section A: General Information

1. Name of the enterprise \_\_\_\_\_

2. Indicate the period your business has been in operation.

≤ 5 years     6-10 years     11-15 year     15- 20years     20years and above

3. Gender a) Male \_\_\_\_\_ b) Female \_\_\_\_\_

4. Indicate your age group

≤ 29             30-39             40-49             50 – 59             60 and above

5. Nature of Organization.

- a) Private Limited Company
- b) Public Limited Company
- c) Partnership
- d) Sole Proprietor
- e) Family Owned Business
- f) Others (please specify) \_\_\_\_\_

6. What type of business are you running?

- a) Mining
- b) Construction
- c) Manufacturing (including electricity, gas and water supply)
- d) Wholesale or retail trade
- e) Transport
- f) Real estate
- g) Agriculture
- h) Financial services
- i) Other businesses

7. Number of employees

≤ 20       21-40       41 – 60       61 – 80       81 – 100

8. Indicate the period you have been in business

≤ 1 year     2- 3 years     4-5years     6 years and above

### Section B: Innovation Challenges

The following questions relate to the innovation issues of your enterprise. (Use a tick where necessary)

1. Is your business innovative? Yes       No.

2. How do you rate your business innovation?

Excellent       Good       Average       Poor

3. How would you rate innovation challenges that you experience in your enterprise?

Very Challenging       Moderately Challenging       Not Challenging

4. How do these types of innovation challenges affect your enterprises and to what extent do you encounter any of the following innovation challenges? **Use the following rating 5 = Very Large Extent, 4 = Large Extent, 3 = Moderate extent, 2 = Less extent, 1 = Not at all**

<b>Knowledge Challenges</b>	5	4	3	2	1
Rapidly advancing technology making it a struggle to keep up with it					
Lack of availability of knowledgeable labourers					
Lack of innovative ideas					

Lack of access to institutions that teach on entrepreneurial skills					
Institutions that pass on the entrepreneurial knowledge are expensive					
Lack of knowledge on how to use the already existing technology eg computers and softwares					
Others (Specify)					
<b>Resource Challenges</b>					
Limited and even lack of financial resources					
Lack of adequate space to run the business					
Inadequate machines and equipment					
Expensive skilled labour					
Expensive machinery and technology					
Lack of adequate business managerial training					
Rapid technology changes making it expensive and hard to keep up					
Lack of budgeting/little resources allocated for Research and Development for SME's					
Others (Specify)					
<b>Technological Challenges</b>					
High cost of technology					

Lack of skills to use the technology					
Rapidly changing technology making it difficult to keep up and use					
Risk of the business data being hacked or stolen from the company computers					
High development cost despite use of technology					
Others (Specify)					
<b>Legal and Policy Challenges</b>					
Poor economic policies that do not support business growth					
Too many business regulations					
Many costs to the county government towards opening and running a business					
Lack of government support					
High taxes and government revenue					
Lack of information in patenting and copyrights					
Corrupt syndicates that hinder development and growth for all businesses					
Others (Specify)					
<b>Environmental Challenges</b>					
Adhering to the environmental regulations is difficult					



Many environmental policy and regulations that make business operation difficult					
Investors fear of investing because of the political and economic atmosphere					
Lack of innovation drive					
Lack of business networks					
Policy and policy makers that do not support enterprise growth					
Lack of laws that support intellectual property that grant enterprises security					
Others (Specify)					

5. In your own view, what needs to be done to reduce these challenges \_\_\_\_\_

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### Appendix Three: Top 100 Medium Sized Companies' East Africa 2016

1	Diamond Property Merchants Ltd	51	Sigma Feeds Ltd
2	Izmir Enterprises Limited	52	Kenya Bus Services Mgt
3	Soloh Worldwide Inter-Enterprises Ltd	53	Emmerdale Ltd
4	Advanta Africa Ltd	54	Mic Global Risks Insurance Brokers Ltd
5	Hipora Business Solutions	55	Total Solutions Limited
6	General Cargo Services Ltd	56	Bluekey Software Solution K Ltd
7	Komal Construction Company Ltd	57	Muranga Forwarders Ltd
8	Allwin Packaging Intl Ltd	58	Impax Business Solutions
9	Tangazoletu Limited	59	Warren Concrete Ltd
10	Northstar Cooling Systems Ltd	60	Sensations Ltd
11	Africa Practice Ea Ltd	61	Kenbro Industries Ltd
12	Polgon Logistics Limited	62	Powerpoint Systems Ea Ltd
13	Manix Ltd	63	Smart Brands Limited
14	Care Chemists	64	Eurocon Tiles Products Ltd
15	Well Told Story	65	Uneek Freight Services Ltd
16	Compulynx Limited	66	Office Dynamics Limited
17	Aar Credit Service Ltd	67	Jogian Interlink Limited
18	Coastal Image Technologies Limited	68	Dataguard Distributors Limited
19	Sheffield Steel Systems Limited	69	Super-Broom Services Ltd
20	Avtech Systems Ltd	70	Kencont Logistics Services Ltd

21	Polucon Services (K) Ltd	71	Millbrook Garment
22	Machines Technologies 2006 Ltd	72	Palmhouse Dairies Ltd
23	Orange Pharma Ltd	73	Educate Yourself Limited
24	Pindoria Holdings Ltd	74	Orbit Engineering Limited
25	Computer Pride Limited	75	Kisima Electromechanicals Ltd
26	Edn George Ea Limited	76	Riley Falcon Security Services Ltd
27	Valley Hospital Limited	77	Bagda's Auto Spares Ltd
28	Mandhir Construction Ltd	78	Vinep Forwarders Limited
29	Patmat Bookshop Ltd	79	Economic Industries Limited
30	Software Technologies Ltd	80	Fayaz Bakers Limited
31	Trident Plumbers Ltd	81	Spenomatic Kenya Ltd
32	Superior Homes Kenya Ltd	82	Maroo Polymers Limited
33	Pathcare Kenya Limited	83	Norda Industries Limited
34	Amex Auto and Industrial Hardware Ltd	84	Skypex Supplies Limited
35	Rushab Petroleum Limited	85	Master Fabricators Ltd
36	Phat! Music and Entertainment Limited	86	Iron Art Limited
37	Nationwide Electrical Industries Ltd	87	Statprint Limited
38	Unique Offers Ltd	88	Ideal Manufacturing Co. Ltd
39	Prafulchandra and Brothers Ltd	89	Oil Seals And Bearing Centre Ltd
40	Specicom Technologies Ltd	90	Varsani Brakelinings Ltd
41	Kisima Drilling (Ea) Ltd	91	Synergy Gases (K) Ltd

42	Executive Healthcare Solutions Limited	92	Rift Valley Machinery Services
43	Logistics Solutions Ltd	93	De Ruiter East Africa Limited
44	Alpha Fine Foods Limited	94	Newline Ltd
45	Classic Mouldings Ltd	95	Rand R Plastics Limited
46	Logistics Link Limited	96	Vivek Investments Ltd
47	Waterman Drilling Africa Ltd	97	Ndugu Transport Company Ltd
48	Specialized Aluminium Renovators Ltd	98	Circuit Business System Ltd
49	Chester Insurance Brokers Ltd	99	Thika Cloth Mills Ltd
50	Kandia Fresh Produce Suppliers Ltd	100	Hotel Waterbuck Ltd