

**THE EFFECT OF INNOVATION ON THE FINANCIAL PERFORMANCE OF  
SMALL AND MEDIUM ENTERPRISES IN NAIROBI COUNTY, KENYA**

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**DECLARATION**

I declare that this research project is my original work and has not been submitted for an award of a degree in any other university or Institution of Higher Learning for examination/academic purposes.

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## **DEDICATION**

This Research Project is dedicated to my husband and family and all those who gave me moral support.

Thank you.

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## **LIST OF ABBREVIATIONS**

<b>ANOVA</b>	Analysis of Variance
<b>CEO</b>	Chief Executive Officer
<b>DOI</b>	Diffusion of innovation theory
<b>GDP</b>	Gross Domestic Product
<b>ICT</b>	Information Communication technology
<b>IT</b>	Information technology
<b>OECD</b>	Organization for economic co-operation and development
<b>RBV</b>	Resource based view
<b>RTGS</b>	Real time gross settlement systems
<b>SMEs</b>	Small and Medium Enterprises
<b>SPSS</b>	Statistical Package for the Social Science

## **ABSTRACT**

SMEs adopt innovations in order to protect themselves from escalating competition, need to reduce cost and satisfy consumer needs. Thus SMEs adopt innovations in order to improve their overall performance and sustainable competitiveness. Hence the main purpose of the study was to investigate the effect of innovations on the financial performance of SMEs in Nairobi County, Kenya. The specific objectives included establishing how product\service, process and market innovations affect the financial performance of manufacturing SMEs. The researcher used stratified random sampling, to obtain a sample size of 180 registered manufacturing small and medium enterprises within Nairobi County. Questionnaires were used for collecting data which were analyzed using descriptive and regression statistical tools and presented using tables. The study established that there is a significant relationship between product/service innovation, process innovation and market innovation and financial performance of manufacturing SMEs in Nairobi County. The study found out that manufacturing small medium enterprises have introduced more innovative products and services, have developed and implemented new business methods and services which have improved productions and delivery of services and that innovative marketing and promotion campaigns to find new markets have had significant implication on financial performance of SMEs. There is need for the government to foster innovation amongst SMEs through creation of a business environment conducive for entrepreneurship, creation of awareness and implementation of relevant policies. In terms of improving process innovation manufacturing SMEs need to focus on improving their core competences. Manufacturing SMEs need to pursue market innovation strategies that focus on product customization and customer intimacy in delivering their products and services.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the Study**

Small and Medium Enterprises are often the main drivers of economic growth and their survival and success is crucial to economic stability (Lange et al, 2000). However, as the number of SMEs increases so does competition, which might then result in a decrease in prices, low customer base, or both. This in turn erodes existing profits and creates less incentive for people to start SMEs. According to an OECD workshop 2000, SMEs contribute greatly and increasingly to the innovation system by introducing new products and adapting existing products to the needs of customers. In addition, SMEs are very crucial in the growth of economy thus government have aimed at providing a sustainable business environment and policies in place to promote them. Currently the Kenya government has thrived to promote the SMEs by providing funds and reducing the start up costs. SMEs having small structures apply innovative strategies more easily since decision making is easier compared to larger firms. Large firms have advantage of having financial muscle to invest in research and development compared to small medium enterprises. Thus SMEs must establish the right balance to adopt new innovations to ensure more productivity. In addition, clear policies should be put in place to ensure that proper adoption of innovation is emphasized and the impact is achieved. This paper aims at evaluating the effects of innovations on the financial performance of SMEs in Nairobi County, Kenya.

#### **1.1.1 Innovations**

Innovations provide firms a strategic orientation to overcome the problems they encounter while striving to achieve sustainable competitive advantage (e.g. Drucker, 1985; Hitt et al., 2001; Kuratko et al., 2005). Innovation as a term is not only related to products and processes, but is also related to marketing and organization. Schumpeter (1934) described different types of innovation: new products, new methods of production, new sources of supply, the exploitation of

new markets, and new ways to organize business. Drucker (1985) defined innovation as the process of equipping in new, improved capabilities or increased utility. In this research, OECD Oslo Manual (2005), which is the primary international basis of guidelines for defining and assessing innovation activities as well as for compilation and use of related data, has been taken as the fundamental reference source to describe, identify and classify innovations at firm level.

According to Frame and White (2002) define innovation as something new that reduces costs, reduces risks or provides an improved product/service/instrument that better satisfies participants' demands within a financial system. Innovations can emerge due to technological changes, response to increased risk or to new regulations. Innovation is categorized into three groups according to where innovations occur; Process innovation refers to new production processes that allow the provision of new or existing financial products and services. Process innovation is usually aimed at increasing the efficiency in the production process, and it is often associated with technological change.

Product innovations are new products or services created to meet market needs, thus constituting a client-focused kind of innovation. Product innovations help the SMEs to differentiate themselves from their competitors, by providing solutions to unattended needs of the customers. Examples of product innovation in finance are widespread: mobile banking platforms. Market innovation deals with the market mix and market selection in order to meet a customer's buying preference. Continual market innovation needs to be done by a firm using state-of-the-art marketing tools, particularly through the internet, make it possible for other competitors to reach potential customers across the globe at a light speed. In this respect, any market innovation has to be directed at meeting customers' demand and satisfaction.

### **1.1.2 Financial Performance**

Financial performance can be evaluated in terms of growth, survival, success and competitiveness. SMEs have no defined performance measurement method because of the complexity of their structures (Sergio et al, 2006). Performance measurement for SMEs falls into two categories: financial and non financial measures. Financial based metrics include measures such as costs, return on investment, profit margin, and sales growth; non financial based metrics

cover areas such as customers (e.g. satisfaction and retention), internal processes (e.g. lead time, delivery, process time and productivity), and employees' learning and growth (e.g. development and knowledge).

In addition SMEs face challenge in measuring the effectiveness of adopting innovations in their operations because most of the measurements are based on large firms. Sewang et al (2007) established an effective performance measurement strategy can indicate the degree of success of implementing innovations in a firm. In addition established that effectiveness of innovations may not be fully captured in the financial metrics only but also review the non financial aspect. The balance between financial and non-financial measures should be used to establish an overall view of the effects of innovations on SMEs performance. The Balanced Scorecard concept arose from the realization that no single indicator can capture the full complexity of a unit's performance (Amaratunga et al, 2001). With regard to our study, we believe that this framework is more appropriate than a narrower financial approach because innovation effectiveness can be shown not only in financial improvements, but also non-financial indicators such as employee perspectives; internal processes; and/or customer satisfaction improvements (Adams et al, 2006).

The performance metrics used fall into two major categories: financial and non-financial indicators. Finance-based metrics include measures such as costs, return on investment, profit margin, and sales growth; non finance-based metrics cover areas such as customers (e.g. satisfaction and retention), internal processes (e.g. lead time, delivery, process time and productivity), and employees' learning and growth (e.g. development and knowledge). Using both financial and non financial measurements provides a better view for performance improvement. In addition, evaluating both financial and non-financial measures give wholesome view of the potential effects of innovations. According Sewang et al, 2007, those organisations that use financial evaluations will not be capturing all of the innovation's benefits and therefore will have a less positive perception of the overall effectiveness of the innovation.

### **1.1.3 Effect of Innovations on Financial Performance**

The following relates to how the various types of innovations impact on the financial performance of SMEs:

Product innovation can be defined as the creation of a new product from new materials or the alteration of existing products to meet customer satisfaction. Product innovation is one of the important sources of competitive advantage to the firm (Camison and Lopez, 2010). With innovation, quality of products could be enhanced, which in turn it contributes to firm performance and ultimately to a firm's competitive advantage.

Process innovation is the process of reengineering and improving internal operation of business process. This process involves many aspects of a firm's functions, including research, technical design, manufacturing, management and commercial activities. According to Sewang et al (2007), process innovation concerns with the creation of or improvement in techniques and the development in process or system. For instance, innovation in technology, skill, techniques, system and procedure, which is used in the process of transforming input into output. In a production activity, process innovation can be referred to as new or improved techniques, tools, devices, and knowledge in making a product. Crucial to the manufacturing industry, process innovation should be emphasized by a firm as its primary distinctive competence for competitive advantage. Process innovation results to better ways of production which in essence leads to reduction in cost of production. For instance in manufacturing firms using new machines that use lesser energy and reduce wastages may improve the SMEs performance.

Market innovation deals with the market mix and market selection in order to meet a customer's buying preference. Market innovation has role to meet customers demand and satisfaction. In addition market innovation ensures the SMEs are able to tap new markets and ease accessibility of their products and services. This is particularly done through internet, which enables advertise and reach customers across the globe easily. Market innovation affects sales since it leads to increase in market share or growth which results to high revenues. In addition, market innovation might result in reduction of costs (selling and distribution costs).

#### **1.1.4 Small Medium Enterprises in Nairobi County, Kenya**

Small to medium enterprises are considered those enterprises which have fewer than 250 employees. In distinguishing between small and medium sized enterprises, the small enterprise is defined as an enterprise which has fewer than 50 employees. These businesses are often referred to as SMEs and are associated with owner proprietors. According to Carland et al. (1983), an

SME owner is an individual who establishes and manages a business for the principle purpose of furthering personal goals. The business is their primary source of income and will consume a majority of the owner's time and resources. The owners perceive the business as an extension of their identity and are intricately bound with family needs and desires.

The SMEs sector has been recognized worldwide for its role in economic advancement through ways various like; wealth generation, employment creation, and poverty reduction. Small and medium scale enterprises are a fundamental part of the economic fabric in most developing countries, and they play a very important role in furthering growth, innovation and prosperity . The European Union define small and medium enterprises (SMEs) in 1996 and defined the term as an organization employing less than two hundred and fifty employees ( OECD Commission, 2005). SMEs are defined as non- subsidiary, independent firms which employ fewer than a given number of employees, this number varies across national systems, other parameters other than the number of employees are used in categorizing businesses as SMEs, for instance in the European union SMEs must have an annual turnover of 40 million Euros or less and or a balance sheet valuation not exceeding 27 million Euros.

The Kenyan government micro enterprises session paper number two of the year of 2005 defines a SME as an enterprise with between 1 to 50 employees whereas the World Bank defines an SME as one that fits to either of the following million , an asset base of at least Kenya Shillings 4 million and employing between 5 to 150 employees. As per the time of the new millennium SMES accounted for 95% of firms and 60-70% of employment creation in majority countries in the world (OECD,2000). Small and Medium Scale Enterprises are mostly found in the service sector of various economies which in most countries account for two-thirds of employment levels. In Kenya the SME sector contributes an estimated 18% of the GDP as well as creating employment for 80% of the workforce population.

Financial performance refers to how well a firm can use assets from its business and generate revenue. Financial performance aims at evaluating the quantitative and qualitative aspect of a business. Financial performance is important as it evaluates the firm in terms of profit attained, costs incurred and savings made. Financial performance will be measured using business ratios

which include profit ratios, turnover ratios among others. This will help to establish the effects of adopting innovations on the financial performance of SMEs in Nairobi.

## **1.2 Research Problem**

SMEs adopt innovations in order to protect themselves from escalating competition, need to reduce cost and satisfy consumer needs. Thus SMEs adopt innovations in order to improve their overall performance and competitiveness. Innovations have contributed so much to the financial performance of a firm thus its necessary to evaluate the effects. Financial Performance can be evaluated either by financial, non-financial and balanced approach. SMEs are unique thus adoption of innovations will differ according to its operation and financing. Financial performance is a clear measure to evaluate the impact of adopting innovations to SMEs operations. Due to their unique characteristics no clear way of measuring financial performance has been established (Adli, 2011) thus incorporate measures used in large institutions. Due to this complexity in nature, to get benefits of adopting innovations incorporate both financial and non-financial measures (balanced approach).

Over the period studies conducted on the impact of innovations on the performance of the firms have been increasing. Bozic and Sonja (2005) in their studies have established that SMEs that adopt innovations led to increased performance of the firm thus more revenue. Research studies have established the impact of innovations on SMEs the following were considered as innovation effects: increased market share, improved product quality, reduced material costs per unit of product, improved ecological, safety and health aspects and compliance with legal regulations and standards. Research has shown that firms that adopt innovations achieve sustainable competitive advantage and improved performance over their competitors.

Markets are dynamic thus SMEs have to embrace new ways of doing business to ensure sustainable existence. The markets are dynamic due to changing consumer behavior and needs, globalization and new markets entrants. SMEs have contributed so much to the economy by providing income and employment opportunities. SMEs are unique in their characteristics and way of operations. Most SMEs are family owned therefore is responsible of making decisions on



adopting innovations will be subjective. Adoption of innovations will actually depend on how the manager will embrace innovations in the firm. Karanja et al (2013) researched on effect of innovations on growth of SMEs in Jericho, Nairobi County and found that adopting innovations contributed to growth of firm. Studies done on innovation mostly focused on the effect of innovation in financial institutions in Kenya (Mwangi 2007, Gitonga 2003). In addition research was undertaken by Karanja et al 2013, who established that innovativeness influenced on the growth of Kenya SMEs. Moreover Gakure and Patrick (2013) conducted a research to evaluate the effects of bank innovations on the profitability of commercial banks in Kenya, their established that banking innovations attributed to banks profitability.

Studies focused mainly on the financial measures without incorporating the non financial measures in assessing the effects of innovations on SMEs performance. Focusing on financial measures only give a narrow view on the impact of innovations on the performance of SMEs. According to Sewang et al (2011) researched effectiveness of innovation on the financial performance of SMEs using a balanced approach they found out that incorporating both financial and non-financial measures give a broader view of the effects of innovations. This study aims at evaluating the effects of innovations on the financial performance of SMEs in Nairobi County, Kenya taking into consideration both the financial and non-financial metrics. This study will aim to address the research gap by providing answers to the question; what is the effect of innovations on the financial performance of SMEs in Nairobi County, Kenya?

### **1.3 Research Objectives**

#### **1.3.1 General Objective**

The main objective of the study is to evaluate the effect of innovations on the financial performance of SMEs in Nairobi County, Kenya.

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

Growing interest on impact of innovations on the financial performance has been focused on financial institutions and thus this paper focuses on SMEs. The study will add to the knowledge of past researches on effects of innovations on SMEs that have focused mostly on growth (Ndua

and Bwisa 2013, Wanjau et al 2009 and Karanja 2013). This study will focus on the effects of innovations on the performance of SMEs in Nairobi.

The study will contribute to the broadening of our understanding of the impact of innovation and use in SMEs especially from a firm, sector and developing country perspective. It also avails knowledge that is of use to owner-managers, researchers and policy-makers by providing insights on the effects of innovations and how SMEs should adopt them. Additionally, it provides current and up to date assessment of the effects of innovations on SMEs in Nairobi, Kenya.

In addition, the study would provide information to subject scholars with regard to the relationship between innovations and financial performance of the SMEs. In addition, researchers would be able to gain additional knowledge from the study given that it is focusing on a several SMEs that operate within Nairobi County. Future researchers and academic institutions, especially those of higher learning can use the findings of this research as a source of future reference and also to identify further research gaps to be undertaken in the future.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This gives an overview on the various theories on innovations adoption and empirical review that will be used in the course of the study. The chapter will give an overview on the various studies undertaken and their results.

#### **2.2 Theoretical Review**

##### **2.2.1 Diffusion of Innovation Theory**

The Diffusion of Innovation Theory (DOI) approach has its primary focus on how potential adopters perceive an innovation in terms of relative advantage/disadvantage; hence some of the factors of the DOI approach help form a framework: innovativeness, complexity, compatibility and relative advantage. Furthermore, firms that intensely use a particular technology are often prime candidates for early adoption of the next generation of that technology. The diffusion of innovations approach in this study is important to understanding the dynamics at play in relation to adoption and use of innovations in SMEs. There are discourses focusing on adoption by organisations and also by individuals. These two types of adoption both play a role when investigating the diffusion and adoption of innovations by SMEs. After all, in SMEs many of the primary decisions are made by the owner-manager. The organizational decision to adopt technology becomes intertwined with personal perceptions and attitudes of the owner-manager towards that technology. Diffusion in SMEs is largely by way of interpersonal/inter-firm networks.

##### **2.2.2 Resource-Based Theory**

Barney (2011) argues that the resource based theory approach has evolved from a nascent, upstart perspective to one of the most prominent and powerful theories for describing, explaining, and predicting organizational relationships. The resource-based view (RBV) of the firm as one of the research approaches has been widely used by a variety of researchers (Melville et al, 2004). In its original form, resource based view emphasizes on the internal resources of the firm as the source of performance and competitive advantage, rather than the external environment. However, findings from our empirical study reveal that these capabilities

(innovations, expertise, firm networks, supply chain involvement etc.) could also be generated from the external context of the firm necessitated by the developments in technology. Hence, in view of this explanation, the following factors can be viewed as forming bundles of firm assets important to the firm and for inclusion in the framework: resources and capabilities, top management support, cost of innovation, human capital and networks and supply chain.

### **2.2.3 Technology Acceptance Model**

The most widely employed model of IT adoption and use is the technology acceptance model (TAM) that has been shown to be highly predictive of IT adoption and use. TAM was designed to explain computer usage through two cognitions: perceived usefulness and attitude as determinants of intention. Hart (2010) stated the need for TAM to be integrated with other IT approaches that incorporate decision-makers' social and idiosyncratic characteristics. Though these approaches contributed to ICT/SME literature and influenced the formation of our framework, they also harbor some shortcomings. TAM is criticized for not accounting for the influence and personal control factors on behavior, including the lack of consideration to other factors such as external influences from the environmental attributes, suppliers, customers and competitors. On the other hand, DOI fails to take into account a firm's resources or social support to adopt new ICT. Regarding RBV approach, it mainly focuses on the internal aspects of the firm; however, SMEs make use of their external context; their supply chain and reliance on external expertise, factors not currently addressed by the RBV.

### **2.3 Determinants of Financial Performance of SME's**

Small and medium sized enterprises (SMEs) play an important role in the development of the economy. Thus it's necessary to evaluate the performance of SMEs to ensure value for the cost incurred. SME performance can be determined in terms of growth, survival, success and competitiveness. SMEs in their nature are small thus have no well defined performance measurement methods can be used. For effective evaluation of SMEs the determinants of performance should be well established. The determinants of performance of SMEs include:

### **2.3.1 Strategy**

Individual SMEs and their management may be distinguished by their strategies and their emphasis on the policy instruments available to them. A human capital strategy would be identified if a firm had adopted a training plan, although in each case what counted as a plan could differ markedly. A separate budget would perhaps be a better indicator of commitment, but the significance would vary with the size of the firm's turnover. This means an organization's policies to enhance customer satisfaction by meeting their requirements and fulfilling regulatory obligations. This shows business strategy an SME undertakes will determine its performance level.

### **2.3.2 Innovation**

Hughes (1997) asserted that SMEs that succeeded in growing were more likely to have introduced product or process innovation. They were also more likely to have developed networks of collaborative partnerships and faced up to management development and reorganization needs as growth proceeded. Several studies have been conducted that show SMEs which adopt innovations in their operations recorded improved performance. This is because by adopting innovations resulted to improved products, reduction of cost and increase in market share. Study conducted on Garment SMEs in Kenya showed that performance of the firm improved upon adopting innovation activities.

It is most often viewed at a product or process level, where product innovation satisfies a customer's needs and process innovation improves efficiency and effectiveness of the organization (Christensen, 2007). Innovation links to creativity and the creation of new ideas, and involves taking those new ideas and turning them into reality through invention, research and new product development (West et al, 2006). The product may range from basic health support, inter-personal communications, equipment or accessories of specific nature, or supply driven items, as such targeting electronic and communication products, fashion industries, household items, constructions, or items of creative in nature (Clark, 2008). SMEs often introduce new ideas, products and processes in order to survive and grow in the market (De Jong, 2006). The capacity to innovate is a strategic tool for those firms that want to maintain their competitive position in the marketplace (De Jong et al, 2004). Innovation contributes to increase

in sales revenue, market share, efficiency, customers' loyalty and firm profitability (Laforet, 2006.)

According to Traill (1997), a firm's market innovation plays an important role in its competitiveness in industry as it guarantees that any firm keeps up with the changing customer needs in the market. Therefore, SMEs innovation activities support improvement in firm competitiveness and profitability. Market oriented firms will have a greater capacity to innovate, and will be more successful in responding to environmental needs that lead to competitive advantage and superior performance (Atuahene-Gima, 1996; Appiah-Adu, 1998).

### **2.3.3 Legal Form**

In addition, the legal form of an SME will affect its performance in terms of growth and profitability. For instance a partnership is arguably the most risky because each partner in management is liable for the mistakes of the other, but may have little control over them compared to the sole trader. A subsidiary might be less risky because of the support that a large organization can provide. But headquarters may be as concerned with profitability as the market and command relations in large organizations can be even more arbitrary. Limited liability reduces the downside risk borne by the owner-manager, providing some protection for personal property. The more risk-averse entrepreneur would favor this type of protection. Moreover advantages of a large firm is their get to enjoy the economies of scale like discounts suppliers willing to extend credit.

### **2.3.4 Business Environment**

In terms of business environment, focus on legislation which explains the policies and regulations in place those SMEs must adhere to. Thus, taxation, employment legislation and other government regulation will influence the operations of SMEs. Changes in such legislation will either improve or hinder performance outcome of SMEs. Exempting smaller enterprises from reporting requirements, for instance, should reduce average firm size. SMEs typically cannot provide the administrative support of large firms because they lack the turnover over which these fixed costs can be efficiently spread. They must buy in services and/or undertake tasks with less specialized staff. An example of these is value added tax compliance costs.

In addition, greater regulatory costs disproportionately force smaller firms out of business because large firms are less likely to see taxes as problematic as low growth SMEs.

Government SME policy is also a feature of the SME business environment.

### **2.3.5 Individual Characteristics of the Firm**

Policy-makers' growth or employment objectives are not necessarily shared by SME management, subject to market disciplines and personal preferences. In a competitive environment, management is obliged to maximize profits in order to survive, which may not be consistent with growth or employment maximization. Sometimes this explains why SMEs are SMEs: they have found profitable niche markets, or management does not want the extra strain involved in expansion. Much may depend on managerial time horizons and the willingness to trade-off future for present profits. This time preference rate might well be reflected in different policies by the age of management. With time and an increasing awareness of finitude, management may be more inclined to discount the future more heavily, choosing immediate gains rather than future growth.

Another reason for different objectives is that when competitive pressures are weak, management may prefer to take profits without making the investment that will both enhance future competitiveness and increase future output. Small firms grow faster than large although there is some recent evidence for service firms and some sectors of manufacturing consistent with the law. Survivor bias may explain the finding that small firms grow faster; those that closed. Conversely, the average size of a firm will be smaller the more costly the transactions within the firm. Mostly in SMEs the decision maker is often the owner thus his/her characteristics and attitudes play an important role in the success of the firm. It will depend on the level of education, age and experience of the decision maker. For instance if the manager is techno savvy the firm is luckily to adopt current innovations trends.

## **2.4 Empirical Review**

According Rozic and Sonja (2005) conducted a research on the effects of innovation activities in SMEs in the Republic of Croatia. The research aimed to establish the relationship between the determinants factors of innovations and effects of adopting innovations. The determinants factors of SMEs included ownership structure, proportion of highly educated employees, market

orientations and implementation of strategic changes. The effects of adopting innovations include increased market share, improved product quality, reduced material cost per unit, and improved ecological, safety and health impact and compliance with legal regulations. The research was conducted on 498 SMEs both in manufacturing and service enterprises. The research methodology was carried using mail survey between 2001 and 2003. The data was analyzed using multiple linear regression models with dependent variables representing innovative effects and independent variables relating to determinants factors of innovation. The findings were careful implementation of the determinants led to improved innovative effects.

According Sewang et al (2011) carried out research on effects of innovations on SMEs using the balanced approach. The research was conducted in Australia and Thai SMEs. The balanced approach utilized both financial and non-financial metrics to capture full potential benefits of implementing innovations. The research was conducted on 144 SMEs in both countries. The effects of innovations were determined using the following metrics customer satisfaction, sales revenue and growth, return on investment, product/service quality and profit margin. The research was conducted using a questionnaire that was sent to all managers. The established SMEs that took a balanced approach were more likely to perceive benefits of implemented innovations compared to using financial measures only.

Gitau (2011) carried out research on relationship between financial innovation and financial performance of commercial banks in Kenya. The study was conducted over a period of 5 years from January 2006 to December 2010 and adopted a quasi-experimental research design. The research was collected using questionnaires while secondary data using financial results and publications. The study was conducted on 44 commercial banks in Kenya as per CBK report 2010. Financial innovations were categorized into process, product and institutional innovations. The independent variable was financial innovation which was comprised of process, product and institutional innovation while dependent variable will be represented financial performance. The study found out commercial banks adopted financial innovations reported better financial results.

In addition, Nyathira (2012) carried out research to assess the effects of financial innovations on financial performance of commercial banks over a period of four years. The causal research



design was used to carry out the study. The population of the study was 43 commercial banks. Secondary data was used from published central bank annual reports. Data was analyzed using SPSS and regression model used to establish relationship between variables. The independent variable was financial innovation which was comprised of automated clearing house annual throughput and annual value of RTGS transfers while dependent variable was annual consolidated profit after tax. The study results showed that financial innovations contribute to profitability in the banking sector.

According to Walobwa et al, (2013) carried out a research aimed at investigating the effect between the different types of innovations adopted on growth of SMEs. Innovation was categorized into technology, marketing, administration and strategic innovations. The research aimed at evaluating each type of innovation and how it attributed to the growth of the garment SMEs. The study undertook descriptive design. The sample size was 31 garment SMEs in Jericho market Nairobi. Questionnaires were administered and data was analyzed using SPSS. Regression model was used to obtain an equation which described the dependent variable in terms of independent variables. The dependent variable represents enterprise growth and independent variables represent different types of innovation. The study found that technological, administrative, marketing and strategic innovation contributed to 56% of variations in growths of SMEs. In addition they established that market innovation contributes most to growth of SMEs but it was less emphasized.

Kirori and Achieng (2013) conducted a research to assess the readiness by SMEs and financial institutions to establish an integrated ICT framework to address challenges. Financial institutions in Kenya have developed ways to bridge the widening gap between SMEs and ease of access to financial services. The study established SMEs are performing below standard due to poor banking habits and management of funds. The effort to end this was to introduce mobile based remote services such as checking of account balances, inter account transfers and timely payment of utility bills. The research was aligned to Rodgers innovation diffusion theory that defines key factors that influence an individual to adopt innovation are relative advantage, compatibility, complexity, trialability and observability. The research singled out relative advantage as the key factor that drives innovation. The research sampled 5 banks and 30 SMEs randomly selected in

Nairobi area. The data was collected using questionnaires and analyzed using frequency distribution. Relative advantage represented the dependent variable while independent variables comprised of convenience, improved financial discipline, cost saving and common platform for deposits and financial settlement. The findings established banking and micro-finance sectors in Kenya work together to develop appropriate ICT that ease the burden of SMEs managing their revenues and expenditure.

A research conducted by Gakure and Ngumi (2013) on the effects of bank innovations on commercial banks profitability. The effect of bank innovations was measured on a likert scale questionnaire and profit before tax was measured in Kenya shillings earnings of commercial banks. The study used descriptive survey research design. Target population for research was 44 commercial banks but a sample of 20 was undertaken. The study used multiple linear regression analysis to test the stastical significance of the various independent variables on the dependent variable. The independent variables included automated teller machines, debit and credit cards, point of sale terminals, mobile banking, internet banking and electronic fund transfers while dependent variable represent profit before tax. The data was collected between May and August 2012 using questionnaires for primary data and data collection sheet for secondary data. The findings showed most profitable banks in Kenya are the fast movers in adoption of new technologies. In addition, analysis produced coefficient of determination of 47.8% which shows percentage variations in profitability which is explained by bank innovations.

Nzove (2013) conducted a research to examine the effects of financial innovation on growth of SMEs in Nairobi. The study sought to establish the effect of product innovation, service innovations, new organizational forms and new production process on growth of SMEs. The study adopted descriptive survey design focused on 11 banks and 478 SMEs within Nairobi. Data was collected using questionnaire and analyzed using stastical inferences and SPSS. The study used multiple linear regression analysis to test the stastical significance of the various independent variables on the dependent variable. the independent variable included product innovations, service innovations, new organisational forms and new production processes while dependent variable represent growth of SMEs. The regression analysis revealed that service innovations had the highest influence on growth of SMEs.

## **2.5 Summary of Literature Review**

As previous research studies have based their evaluation on using financial information especially quantitative information at expense of qualitative information. According to the above empirical studies, it's evident that evaluations on effects of innovations have been based on financial metrics. Most of the studies split the types of innovations and evaluate each separately and its impact on SME performance. The theories show that SMEs should adopt innovations to improve growth, profitability, survival and competitive advantage. This study will conduct a balanced approach that incorporates both financial and non-financial measures. Researches that have focused on balanced approach of evaluating effects of innovations on the performance of SMEs were done abroad. The study will focus on effects of innovation on the financial performance of SMEs. Performance will be evaluated using the balanced approach for SMEs based in Nairobi County, Kenya. The balanced approach is based on establishment of cause-effect relationship between key strategic indicators through four perspectives: customer, internal business, learning and growth, and financial. The Balanced approach has been suggested by Sewang et al 2011 to be the best way to evaluate effects of innovations on the performance of SMEs in Nairobi County.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter describes procedures and methods which were used in the study in order to satisfy the objectives. These include: the research design, target population, data collection methods and data analysis.

#### **3.2 Research Design**

The study adopted a descriptive research design. A descriptive research design determines and reports the way things are (Mugenda & Mugenda, 2003). The design also has enough provision for protection of bias and maximized reliability (Kothari, 2008). Descriptive design uses a preplanned design for analysis (Mugenda and Mugenda, 2003). In this study, inferential statistics and measures of central, dispersion and distribution will be applied. Descriptive research is a method of collecting information by interviewing or administering a questionnaire to a sample of individual (Orodho, 2003). The research will focus on the performance of SMEs over a three (3) year period from 2011 to 2013.

#### **3.3 Population**

The target population for the study was 1050 manufacturing SMEs, registered in Nairobi County that would be in various strata: light manufacturing, commercial and trade, services, with specific attention to the owners and staff of the small and medium enterprises. Light manufacturing SMEs will include steel, aluminum industries, commercial and trade comprise detergents, plastic bottles and plastic water companies and services comprises of printing among others.

#### **3.4 Sample**

The study employed stratified random sampling, with a target of 200 manufacturing registered small and medium enterprises within Nairobi County. The number represented 18% of the total number of registered SMEs within Nairobi County which is 1050 (NCC, 2013) SME Register Nairobi. Mugenda & Mugenda (2003) argues that if well chosen, samples of between 10% and 30% of a population can often give good reliability.

**Table 3.1 Target population and sample size**

Type of SMEs	Target Population	Sample Size	Sample size
Light Manufacturing	480	20%	84
Commercial and Trade manufacturing	170	10%	17
Services	400	20%	80
<b>Total</b>	<b>1050</b>		<b>180</b>

**Source: NCC (2013)**

### **3.5 Data Collection**

Data collection will involve self-administered questionnaires as the main instrument for data collection. Primary data will be collected from the owners of the manufacturing SMEs in Nairobi County using the questionnaires. The questionnaire to be used is divided into three sections with section A meant to get the general information about the SME including the area of operation, age, size and profitability trends. Section B is intended to gather information on the effect of innovation within the firm whereas section C is to get data on the impact of innovations on the financial performance of the firms

#### **3.5.1 Data Validity and Reliability**

Reliability refers to the extent to which findings can be replicated by another researcher (Saunders, 2009). To test the internal consistency of the items listed on the instrument used, the Cronbach's alpha coefficient was computed. Cronbach's alpha is a statistic coefficient (a value between 0 and 1) that is used to rate the reliability of an instrument such as a questionnaire. This method randomly splits the data set into two and a score for each participant calculated from each half of the scale. The advantage with using Cronbach's alpha is that the data is split into every possible way and the correlation coefficient for each split computed. The average of these coefficients is the value equivalent to this alpha (Cronbach, 1951).

### **3.6 Data Analysis**

Data collected will be analyzed using descriptive statistics (frequencies and percentages) and inferential statistics. The descriptive statistical tools helped in describing the data and determining the respondents' degree of agreement with the various statements under each factor.

Data analysis will be done using statistical tools SPSS and Microsoft Excel. The findings will be presented using tables and charts, percentages, means and other central tendencies. For this study, the researcher will be interested in establishing the effects of innovations on the performance of SMEs in Nairobi County, Kenya.

### **3.6.1 Analytical Model**

In addition, multiple linear regression model will be used to analyze the independent variables represent types of innovations and dependent variable represent profit. The following analytical model will be used in analyzing the relationship between the dependent and independent variables:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y- Is the SMEs financial performance as a dependent variable measured by ROA

$\beta_1$  – is the co-efficient of product innovations

$\beta_2$  – is the co-efficient of process innovations

$\beta_3$  – is the coefficient of market innovations

$X_1$  – value of product innovation

$X_2$  – value of process innovation

$X_3$  - value of market innovation

$\varepsilon$  = error or random term

$\alpha$ - constant

### **3.6.2 Operationalization of the Study**

#### **Independent Variables**

The independent variable in this study was divided into product innovation, process innovation and market innovation. Product innovation included three items, namely the introduction of new product/service, technological newness in product and product/service differentiation. Process innovation comprised of application of new technology and new combination of materials in production. Market innovation consists of application of online transaction, innovative marketing and promotion and ability to find new markets. All these items were adapted from Rosli and Sidek (2013).

**Dependent variable**

The dependent variable to be used is return on assets (ROA). Return on assets measures the efficiency of business in using assets to generate net income.

$$\text{ROA} = \frac{\text{Annual Net Income}}{\text{Average Total Assets}}$$

Annual net income is the after tax income while average total assets is calculated by dividing the sum total of assets at the beginning and end of the financial year by 2.

**3.6.3 Test of Significance**

The test of significance to be used in this study is Regression Analysis. The linear regression analysis will show the relationship between the dependent variable which is performance and independent variable which is the various types of innovations. The coefficient of determination  $R^2$  and correlation coefficient  $r$  will show the degree of association between effects of adopting innovations and performance of manufacturing SMEs in Nairobi County. The results of the linear regression  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$  will indicate whether there is a strong relationship between the variables under study using the results of  $r^2$  and  $R$ . The findings will then be generalized to the population of interest. ANOVA as a statistical tool will also be used in determining the variance among the grouped data for statistical significance in determining the impact of the independent variables on the dependent variable in a regression analysis.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter presents the analysis of study findings on the effect of innovation on the financial performance of small and medium enterprises in Nairobi County, Kenya. The analysis was based on the study's specific objectives of influence of process, product/service, and marketing innovation on the financial performance of SMEs.

#### 4.2 Descriptive Statistics

Descriptive statistics is used to describe the basic features of the data in a study. It provides summary about the sample and measures used. It entails used of central tendency, percentages and tables as shown follows:

##### 4.2.1 Response Rate

Out of the 180 issued questionnaires, 166 questionnaires representing 92.2% of the total questionnaires distributed were returned fully completed, while 14 questionnaires were not returned representing 7.8% of the total questions distributed to the respondents. It can be inferred that the response rate was good. According to Mugenda and Mugenda (2003) a response rate of 70% and over is excellent for analysis and reporting on the opinion of the entire population.

**Table 4.1: Response Rate**

<b>Response</b>	<b>Frequency</b>	<b>Percentage %</b>
Filled in questionnaires	166	92.2
Unreturned questionnaires	14	7.8
<b>Total</b>	<b>180</b>	<b>100</b>

**Source: Research Findings**



#### 4.2.2 Demographic Characteristics

The study on table 4.2 below shows the demographic characteristics of the respondents. Based on the study majority (45.8%), (53.0%), and (28.3%) of the respondents indicated respectively that their businesses were sole proprietorship in the service industry, and had employed 11-49 employees.

**Table 4.2 Demographic Characteristics**

<b>Demographic factors</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percentage %</b>
Type of business	Sole Proprietor	76	45.8
	Partnership	61	36.7
	Limited liability Company	29	17.5
Industry of business	Light manufacturing	36	21.7
	Commercial and Trade	42	25.3
	Service firms	88	53.0
Number of employees	10 or less employees	47	28.3
	11-49 employees	44	26.5
	50-99 employees	39	23.5
	Above 100 employees	36	21.7

**Source: Research Findings**

### 4.2.3 Net Income and Total Assets

#### Annual Net Income

Results of the analysis on table 4.3 below show the total annual income of SMEs for the last three years. Based on the study majority (31.9%) of the SMEs have a total annual income of between 500,000-1000, 000 Kenya Shillings while the least (4.2%) number of SMEs had a total annual income of above 100,001,000 Kenya Shillings

**Table 4.3. The Annual Net Income in 000 for the Last 3 Years**

Net Income (000) Categories	Frequency	Percentage %
100-2000	53	31.9
2010- 4000	41	24.7
4001-6000	32	19.3
6001-10000	20	12.0
50001-100000	13	7.8
Above 100001	7	4.2

**Source: Research Findings**

#### Annual Total Assets

The findings of the study on table 4.4 below shows the annual total assets of the SMEs. Results of the analysis indicate that majority (28.3%), of the SMEs have a total annual assets of between 500,000-1000, 000 Kenya Shillings while the least (21.7%) number of SMEs had a total annual assets of above 21,000,000 Kenya Shillings

**Table 4.4.Total asset for the last 3 years in the SMEs**

Net Income in (000) Categories	Frequency	Percentage %
500-1000	47	28.3
1010- 10000	44	26.5
10001-20000	39	23.5
Above 21000	36	21.7

**Source: Research Findings**

#### **4.2.4 Innovation**

The study on table 4.5 below sought to examine the effect of product/service innovations on the financial performance of small and medium enterprises. The results of the study indicated that majority (Mean = 2.48 and S.D = .254) of the respondents agreed that in comparison with competitors, the enterprise has introduced more innovative products and services new products and services, while the least Mean = 2.07 and S.D. = 1.065) number of respondents agreed that the enterprise new products and services are often perceived the best by customers

**Table 4.5 Effect of Product/Service Innovations**

	<b>(n=166)</b>		
	<b>N</b>	<b>Mean</b>	<b>S.D.</b>
In new product and service introduction, our company is often first-to-market	166	2.55	.158
New products and services are often perceived the best by customers	166	2.07	.065
New products and services in our company often take us up against new competitors	166	2.46	.110
In comparison with competitors, our company has introduced more innovative products and services during past 3 years	166	2.48	.254
We manage to cope with market demands and develop new products quickly	166	2.25	.141
We continuously improve old products and raise quality of new products	166	2.48	.143

**Source: Research Findings**

Table 4.6 shows to what extent the implementation of process innovations has impacted on the financial performance of small and medium enterprises in Nairobi. Results of the study indicated that most of the respondents agreed (Mean = 2.44; S.D =1.167) that new business methods and services are always worth if they improve productions and delivery, while the lowest (Mean =2.22 and S.D. = .181) number of respondents agreed that the firm rewards employees in terms of their productivity.

**Table 4.6 Effect of Process Innovations**

	<b>(n=166)</b>		
	<b>N</b>	<b>Mean</b>	<b>S.D.</b>
Development of new channels for products and services offered by the enterprise is an on-going process	166	2.41	.246
New business methods and services are always worth if they improve productions and service delivery	166	2.44	.167
The firm rewards employees in terms of their productivity	166	2.22	.181
The firm conducts internal training of to employees upon introduction of new machinery, processes	166	2.42	.113
Employees attend seminars, workshops, conferences with intention to acquire or improve their skills.	166	2.33	.202

**Source: Research Findings**

The study shown on table 4.7 below sought to determine how the financial performance of small and medium enterprises in Nairobi is affected by market innovations. The findings of the study show that most (mean = 2.40 and S.D=.283) of the respondents agreed that the firm manages to deliver special products flexibly according to customers' orders, while the least (mean =2.16 and S.D. = .129) number of respondents agreed that the firm introduces new marketing approaches (online marketing, business).

**Tale 4.7 Effect of Market Innovations**

	<b>(n=166)</b>		
	<b>N</b>	<b>Mean</b>	<b>S.D.</b>
In marketing innovations our company is better than competitors	166	2.34	.196
We deal with customers' suggestions or complaints urgently and with utmost care	166	2.20	.123
Introduction of new marketing approaches( online marketing, business etc)	166	2.16	.129
We continuously modify design of our products and rapidly enter new emerging markets	166	2.32	.201
Our firm manages to deliver special products flexibly according to customers' orders	166	2.40	.283

**Source: Research Findings**

### 4.3 Inferential Statistics

Inferential statistics involves generalizing from a sample to make estimates and inferences to the wider population. This is explained using regression analysis, analysis of variance (ANOVA) :

#### 4.3.1 Regression Analysis

The results shown on table 4.8 below sought to establish if there is a relationship between SMEs financial performance measured by ROA and product innovation, process innovation, and market innovation. The degree to which product innovation, process innovation, and market innovation is related to ROA is expressed in the positive correlation coefficient ( $r$ ) = 0.653 and coefficient of determination, ( $r^2$ ) = 0.427 and adjusted  $r$  of .365 as shown on table 4.8 below.

The results of ( $r^2$ ) imply that the variations in product innovation, process innovation, and market innovation explain 42.7% percent of the variation in the SMEs Return on Asset. On the other hand, the Adjusted R-square statistic in the Model Summary Table 4.8 below shows that

36.5% (Adj R-square=.365) of the variance in the SMEs return on assets can be explained by the variations in product innovation, process innovation, and market innovation.

**Table 4.8 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	df	sig
1	.653 <sup>a</sup>	.427	.365	.694	5	.002

a. Dependent Variable: SMEs financial performance

**Source: Research Findings**

### 4.3.2 Analysis of Variances (ANOVA)

The findings on table 4.9 below shows Analysis of variance which was used to test the significance of the regression model as pertains to differences in means of the dependent and independent variables. The ANOVA test produced an F-value of 3.950 which is significant at  $p=0.001$ . Thus the regression model is statistically significant in predicting how product innovation, process innovation, and market innovation affect financial performance of SMEs.

**Table 4.9 ANOVA<sup>b</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10.030	3	3.343	3.950	.001a
	Residual	13.470	28	.481		
	Total	23.500	31			

a. Dependent Variable: SMEs Financial Performance

### Source: Research Findings

The findings on table 4.10 below are based on the following regression model:

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

Where;

Y= ROA

X1= Product Innovation

X2= Process Innovation

X3= Market Innovation

$\beta_0$ -  $\beta_3$  = coefficient of the variables.

e = error term



The study sought to establish the extent to which Product Innovation (PI), Process Innovation (PRI), and Market Innovation (MI) predict SMEs Return on Assets (ROA)

Hence the regression model became:

$$ROA = \beta_0 + \beta_1 PI + \beta_2 PRI + \beta_3 MI + \varepsilon$$

The results of the study were:

$$ROA = 1.713 + 1.399 PI + 1.419 PRI + 1.413 MI + \varepsilon$$

Therefore Table 4.10 below shows that product innovation, process innovation, and market innovation have positive coefficients, implying that these independent variables positively predict SMEs ROA. Therefore taking all independent variables (product innovation, process innovation, and market innovation) constant at zero (0); ROA of SMEs will be at 1.713. Therefore a unit increase in product innovation, process innovation and market innovation will lead to 1.399, 1.419 and 1.413 unit increases in SMEs ROA respectively

The results of the study further indicate that p-value of = (0.024) for product innovation, (0.001) for process innovation, (.003) for market innovation are smaller than the significance level of 0.05. The implications of these results are that there is a significant relationship between product innovation, process innovation, and market innovation and SMEs ROA.

**Table 4.10: Coefficients**

Variables	Coefficients <sup>a</sup>			t	Sig
	B	Standard Error	beta		
(Constant)	1.713	.673	.000	2.544	.000
Product Innovation	1.399	.582	.284	2.404	.024
Process Innovation,	1.419	.708	.327	2.001	.001
Market Innovation	1.413	.673	.306	2.099	.003

a. Dependent Variable: SMEs financial performance

#### Source: Research Findings

#### 4.4 Interpretation of the Findings

The results of the study indicated that there is a positive significant relationship between product innovation and financial performance of SMEs as reflected by positive coefficient of (1.399) and probability value of = (0.024). The results of the study agrees with those of Laforet (2006) who established that innovation contributes to increase in sales revenue, market share, efficiency, customers' loyalty and firm profitability. In addition the findings also revealed that in comparison with competitors, the enterprises have introduced more innovative products and services new products and services. The findings of the study adds to the findings of Baker (2002) who established that product/service innovation was oriented toward improving the features and functionality of existing products and services or creating wholly new products and/or service and in this way SMEs can reinforce their competitiveness and increase their profitability.

The results of the study had positive coefficient of 1.399 which indicates that introduction of new product/ service, technological newness in product and product/service differentiation affect financial performance of SMEs. This implies that financial performance will improve by 1.399 on product innovation. These findings supports the study by De Jong (2006) who found that SMEs often

introduce new ideas, products and processes in order to survive and grow in the market and that the capacity to innovate is a strategic tool for SMEs to maintain their competitive position in the marketplace

The study findings show that there is a significant relationship between process innovation and financial performance of SMEs as evidenced by positive coefficient of B of (1.419) and probability value of (0.001). This means that financial performance will improve with coefficient of 1.419 in case the SMEs invest in process innovation. The findings of the study indicated that the application of new technology and new combination of materials in production has a significant implication on the performance of the SMEs. The results are in line with the observations of Sewang (2011) and Wagner (2005) that SMEs who introduce process innovation to enhance the capability of their production processes or their supply chain operations (increase reliability or reduce cost) so as to ensure that they remain competitive in the marketplace and profitable.

The results show that there is a significant relationship between market innovation and financial performance of SMEs in Nairobi County as evidenced by the positive coefficient of B of (1.413) and probability value of (.003). The findings confirms the views of Traill(1997) that a firm's market innovation plays an important role in its competitiveness in industry as it guarantees that any firm keeps up with the changing customer needs in the market. Therefore, SMEs marketing innovation activities support improvement in firm competitiveness and profitability. The findings of the study also indicate that the application of online transaction, innovative marketing and promotion campaigns to find new markets have a significant implication on financial performance of SMEs. The results are in line with the views of Rozic (2005) and Appiah-Adu (1998) that held that higher level of firm market innovation has a positive effect on enterprise market activities, supporting improvement in firm competitiveness and profitability. Market oriented firms will have a greater capacity to innovate, and will be more successful in responding to environmental needs that lead to competitive advantage and superior performance.

The results of the study showed positive coefficient of determination ( $r^2$ ) of 0.42 imply that product, process and market innovation explain the variations of 42.7% in the SMEs return on assets. Thus when independent variables are zero the return on assets of SMEs will be 1.713, an

increase unit in product innovation, process innovation and market innovation will lead to 1.349, 1.419 and 1.413 unit increases in ROA respectively. In addition, the results of the study indicate probability values of 0.024 for product innovation, 0.001 for process innovation and 0.003 for market innovation which is less than significance level of 0.05 set. In conclusion the results of the study show a positive significant relationship between product innovation, process innovation and market innovation on SMEs return of assets.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

The purpose of this chapter was to present summary, draw conclusions and recommendations on the findings of the main objective of the study which was to analyze the effect of innovation on the financial performance of small and medium enterprises in Nairobi County, Kenya. The analysis was based on the study's specific objectives of influence of process, product/service, and marketing innovation on the financial performance of SMEs.

#### 5.2 Summary

The study targeted a sample of 180 manufacturing SMEs in Nairobi County; they were issued with questionnaires only 166 responded. This represented a response rate of 92.2% which is higher and can be used to represent the general population in Nairobi County. The study focused on product, process and market innovation on the effects of return on assets of SMEs.

The study established that there is a significant relationship between product/service innovation and financial performance of SMEs in Nairobi County. From the research for SMEs to remain they have to introduce new products/services which represent a mean of 2.55. Besides, the introduction of new product/ service, technological newness in product and product/service differentiation (improve old products/ services to compliment customers' needs) this has resulted to positive influence on the financial performance of SMEs. This can be seen from the regression analysis in which a unit increase in product innovation will lead to 1.399 unit increases in SMEs ROA.

The study found out that there is a positive significant relationship between process innovation and financial performance of SMEs in Nairobi County as SMEs have developed and implemented new business methods and services which have improved productions and delivery of services of most SMEs. The SMEs have applied new technology and new combination of materials in production which have enhanced process innovation which has resulted to improved the performance of the SMEs. This can be seen from the research that improved business process and introduction of superior materials was worthwhile for SMEs in order to maintain

sustainable competitiveness. Moreover, regression analysis shows a positive significance on investing on process innovation since contributes to 1.419 increase in SMEs return on asset.

The study established that SMEs who implemented market innovation boost of increased sales thus result to high revenues. The study also established that SMEs should respond to customer complaints in time, introduce new market approaches (online marketing) and offer special delivery packages. This has significantly influenced the relationship between market innovation and financial performance of SMEs in Nairobi County. According to regression analysis a unit increase in market innovation will lead to 1.413 unit increase in SMEs return on asset.

### **5.3 Conclusion**

Product/service innovation affect financial performance of SMEs in Nairobi County as the introduction of new product/ service, technological newness in product and product/service differentiation has influences financial performance of SMEs. In comparison with competitors, the enterprises have introduced more innovative products and services.

Process innovation affects financial performance among SMEs in Nairobi County consequently SMEs have developed and implemented new business methods and services which have improved productions and delivery of services of most SMEs. The SMEs have applied new technology and new combination of materials in production which have enhanced process innovation which in turn has improved the performance of the SMEs.

Market innovation from the research has significant implication on financial performance of SMEs in Nairobi County. Indeed most SMEs have managed to deliver special products flexibly according to customers' orders and that the application of online transaction, innovative marketing and promotion campaigns to find new markets this has a positive significant implication on financial performance of SMEs.

In conclusion the study conducted shows that innovations are crucial to the performance of SMEs. The analysis produced a coefficient of determination of 42.7% which shows percentage of variations on financial performance can be explained by innovations. The regression analysis showed that the independent variables have positive coefficients 1.399 for product innovation, 1.419 for process innovation and 1.413 for market innovation implying positively predict SMEs

return of asset. The implication shows that process innovation has the highest coefficient of 1.419 but this should be the case since the study focused on manufacturing SMEs.

#### **5.4 Recommendation for Policy**

In order for the SMEs to successfully achieve high product and service innovation both the government and enterprise management need to create a business environment conducive for entrepreneurship and enterprise creation in which innovative firms have scope to expand their product innovation there is also need for the government to develop and implement a broad range of mutually reinforcing and supportive policies that promote best practice policies which support company innovation such as those affecting patent, labour markets, taxes, competition, financial markets and business registration laws. Support the emergence and maintenance of innovative business through spinouts or collaborative development, promoting product development partnerships and attracting similar actors to come forward for creating a positive ambiance for product and service innovation, while at the same time improving the availability of market information and strengthening co-operation among firms, for instance in the fields of market intelligence, design and branding

There is need for the government to enhance SME awareness and knowledge of all elements of the intellectual property system through greater interaction between intellectual property offices, SME support institutions, and business associations, national and regional governments. These elements include patents, trademarks, industrial designs, utility models, trade secrets, copyright and related rights, plant varieties and non original databases. Strengthen the integration of intellectual property issues in programmes and policy initiatives aimed at fostering innovation in SMEs. In terms of improving process innovation SMEs need to focus on improving their core competences. Furthermore, they need to cooperate with external partners to recompense for other competences and resources, especially in case of new product development.

SMEs need to pursue market innovation strategies that focus on product customization and customer intimacy in delivering their products and services while at the same time cultivating relationships with a small number of captive customers. This market intimacy will help SMEs make up for lack of resources for market intelligence as the customers will be able to offer them information on their current need, any changes in market competition

### **5.5 Limitations of the Study**

The conclusions drawn from this survey cannot be generalized to all sectors of the Kenyan economy as the survey companies are drawn from a limited number of sectors. Thus the results for SMEs in Nairobi County may not be conclusive because of relatively small sample size.

This research, based on case studies of SMEs in Nairobi County, highlights many features of product/service, process and marketing innovation. A wide survey, on product/service, process as well as marketing innovation, involving SMEs from all sectors of the economy and regions of the country, will be more illuminating in explaining the totality of product/service, process and marketing business innovation in Kenya.

There were some respondents who were unwilling to provide full information for fear of being reprimanded by their managers for giving out information that they consider confidential. However the researcher assured the respondents of the confidentiality of the information that they provide and sought authority from the management to undertake research..

In order to assure manageability of the collected data, the research study only used questionnaires that relied on self-report responses, however the problem with using such questionnaires is that they are based on the assumption that participants responded to the questions in an honest and accurate manner. Nevertheless, it is not always the case that participants answer in an honest manner. This is because participants often give answers that they believe to be desirable

### **5.6 Suggestions for Further Studies**

Future research in this area need to incorporate establishment of national and regional government policies that promote innovation among the SMEs, besides widening the scope and sample size of the study and other aspects relating to product, process, marketing and even development innovations

The present study has relied largely on primary data and is therefore not enriched by the secondary which would have enabled the study to provide a more in depth view of the subject matter. Therefore, secondary data need to be also included in future to complement primary data and to provide wider perspective to the present study.



The study has not exhaustively or comprehensive examined the effects of innovation on financial performance of SMEs as it only examined product, process and marketing innovations and even development innovations hence there is need for future research to widen the study by including more study variables

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**APPENDIX I**  
**QUESTIONNAIRE**

**SECTION A: GENERAL INFORMATION**

1. What form of business have you registered?  
 Sole Proprietor ( ) Partnership ( ) Limited liability Company ( )
  
2. Industry of business?  
 Light manufacturing ( ) Commercial and Trade ( ) Service SMES ( )
  
3. How long has the business be in operation?  
 .....
  
4. How many employees have been employed?  
 10 or less employees ( )  
  
 11-49 employees ( )  
  
 50-99 employees ( )  
  
 Above 100 employees ( )
  
5. What is the annual net income and total assets for the last 3 years in the SMEs?

	Year 1	Year 2	Year 3
Net Income (Kshs.)			
Assets at the beginning of the year (Kshs.)			
Assets at the end of the year (Kshs.)			

**SECTION B: INNOVATION**

**Please estimate to what extent the following statements relate to the various types of innovations apply to your SME.**

**B.I. PRODUCT/SERVICE INNOVATIONS**

*Please tick one choice for each of the following statements.*

*(1 = strongly disagree, 2 = disagree, 3 = nor disagree nor agree, 4 =agree, 5 = strongly agree; X = do not know)*

	1	2	3	4	5	X
In new product and service introduction, our company is often first-to-market						
New products and services are often perceived the best by customers						
New products and services in our company often take us up against new competitors						
In comparison with competitors, our company has introduced more innovative products and services during past 3 years						
We manage to cope with market demands and develop new products quickly						
We continuously improve old products and raise quality of new products						

## B.II. PROCESS INNOVATIONS

Please tick one choice for each of the following statements.

(1 = strongly disagree, 2 = disagree, 3 = nor disagree nor agree, 4 =agree, 5 = strongly agree;

X = do not know)

	1	2	3	4	5	X
Development of new channels for products and services offered by our corporation is an on-going process						
New business methods and services are always worth if they improve productions ( new machinery, new process among others)						
The firm rewards employees in terms of their productivity						
The firm conducts internal training of to employees upon introduction of new machinery, processes						
Employees attend seminars, workshops, conferences with intention to acquire or improve their skills.						



**B.III MARKET INNOVATIONS**

*Please tick one choice for each of the following statements.*

*(1 = strongly disagree, 2 = disagree, 3 = nor disagree nor agree, 4 =agree, 5 = strongly agree;  
X = do not know)*

	1	2	3	4	5	X
In marketing innovations (entering new markets, new pricing methods, new distribution methods, etc.) our company is better than competitors.						
We deal with customers' suggestions or complaints urgently and with utmost care.						
Introduction of new marketing approaches( online marketing, ebusiness etc)						
We continuously modify design of our products and rapidly enter new emerging markets						
Our firm manages to deliver special products flexibly according to customers' orders						

**APPENDIX II**  
**Letter of Authorization**

**APPENDIX III**  
**CATEGORY OF SMES IN NAIROBI COUNTY**

<b>SME Category</b>	<b>Population</b>
Medium General trade, wholesale, retail & stores	4,155
Transport, storage and communication	3,877
Accommodation and catering	615
Agriculture, forestry and natural resources	3,110
Professional and technical services	2,354
Private Education, health and entertainment	4,015
Industrial plants, factories & workshop	1,050
<b>TOTAL</b>	<b>19,176</b>

**Source: Nairobi City County December 2013**