

**EFFECT OF INNOVATION ON FINANCIAL PERFORMANCE OF  
SMALL AND MEDIUM MANUFACTURING ENTERPRISES IN NAIROBI  
COUNTY**

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## DECLARATION

I declare that this project is my original work and has not been presented to any university for award of any other degree.

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This research project has been submitted for examination with my approval as university supervisor.

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Finally, to my dear parents, your love, patience, prayers and continued support and encouragement throughout my entire MBA journey shall forever be cherished. May the almighty God bless you abundantly.

## **DEDICATION**

I dedicate this work to my dear parents who gave me the reason and motivation to pursue further education and to their constant reminder that failure is not an option.

## **LIST OF ABBREVIATIONS**

KRA	Kenya Revenue Authority
ROA	Return on Assets
ROE	Return on Equity
ROS	Return on Sales
R&D	Research and Development
SME	Small and Medium Size Enterprises

## ABSTRACT

The adoption of innovation has been necessitated by the rapid change in technology. The manufacturing SMEs have adopted new strategies of sustaining their growth due to stiff competition. Most manufacturing SMEs have adopted innovation resulting in better performance, new products, growth and profitability (Lehtimaki, 1991). The objective of the study was to determine the effect of innovation on financial performance of small and medium manufacturing enterprises in Nairobi County. The research reviewed theories and empirical studies that explain the relationship between innovation adoption and financial performance. This included Schumpeter theory of innovation, Diffusion of Innovation and Technology Acceptance theory which are theories governing the adoption of innovation in organizations.

The population of the study were the registered manufacturing SMEs in Nairobi County. Primary data was collected using questionnaires. The data collected relate to the level of innovation adopted, effects of innovation on financial performance and the challenges faced during implementation. Data analysis was done using Statistical Package for Social Sciences (SPSS) version 21 where inferential statistics were applied and multiple regressions employed to test the relationship between innovation and the financial performance of manufacturing SMEs in Nairobi County.

The findings revealed a positive relationship ( $R = 0.427$ ). The study also revealed that a combination of use of computers, implementation of online sales through the internet, training and development of employees, level of expertise employed, adoption of technology, introduction of new branches/business and introduction of new products/services contributed to 73% of financial performance. The study concluded that innovation has a positive effect on financial performance. The study also concluded that innovation increased profits for the company; innovation increases the company's market share, increases savings for the company and reduces operating cost of the small and medium manufacturing enterprises. The study recommends that it is vital for businesses to take process innovation to raise the level of quality of the products they produce as this research has revealed that process innovation can greatly enhance the production of quality products which would in the end raise the level of sales and increase the profit margins of the business.

## TABLE OF CONTENTS

DECLARATION .....	ii
ACKNOWLEDGEMENT .....	iii
DEDICATION .....	iv
LIST OF ABBREVIATIONS.....	v
ABSTRACT.....	vi
LIST OF TABLES .....	ix
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1 Background of the Study .....	1
1.1.1 Innovation .....	2
1.1.2 Financial Performance .....	3
1.1.3 Innovation and Financial Performance .....	4
1.1.4 Small and Medium Manufacturing Enterprises .....	5
1.2 Research Problem .....	6
1.3 Research Objective .....	9
1.4 Value of the Study .....	9
<b>CHAPTER TWO .....</b>	<b>11</b>
<b>LITERATURE REVIEW .....</b>	<b>11</b>
2.1 Introduction.....	11
2.2 Theoretical Review .....	11
2.2.1 Schumpeter Theory of Innovation .....	11
2.2.2 Diffusion of Innovation (DOI).....	12
2.2.3 Technology Acceptance Theory .....	14
2.3 Determinants of Financial Performance .....	15
2.3.1 Innovation .....	15
2.3.2 Capital Structure .....	16
2.3.3 Ownership structure .....	16
2.3.4 Firm characteristics and policies.....	17
2.4 Empirical Studies .....	17
2.5 Summary of the Literature Review.....	20
<b>CHAPTER THREE .....</b>	<b>23</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>23</b>
3.1 Introduction.....	23
3.2 Research Design.....	23
3.3 Population .....	24
3.4 Sample.....	24
3.5 Data Collection .....	25
3.6 Data Analysis .....	26
<b>CHAPTER FOUR.....</b>	<b>30</b>
<b>DATA ANALYSIS, RESULTS AND DISCUSSION.....</b>	<b>30</b>
4.1 Introduction.....	30
4.2 Descriptive Analysis .....	30
4.2.1 Gender of Respondents .....	30

4.2.2 Age of Respondents .....	31
4.2.3 Level of Education .....	31
4.2.4 Sources of Capital .....	32
4.2.5 Ownership .....	32
4.2.6 Extent of Innovation .....	32
4.2.7 Effects of Innovation.....	34
4.2.8 Challenges of Innovation .....	35
4.3 Regression Analysis .....	35
4.4 Correlation Analysis .....	36
4.5 Interpretation of findings and Discussions .....	38
<b>CHAPTER FIVE .....</b>	<b>41</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>41</b>
5.1 Introduction.....	41
5.2 Summary of Findings.....	41
5.3 Conclusion .....	43
5.4 Recommendations.....	44
5.5 Limitations of the Study.....	45
5.6 Suggestions for Further Research .....	46
<b>REFERENCES .....</b>	<b>48</b>
<b>APPENDICES .....</b>	<b>54</b>
Appendix I- Questionnaire.....	54
Appendix II: Relationship between Innovation and Financial Performance .....	57

## LIST OF TABLES

Table 3.1: Table of Population.....	24
Table 3.2: Sample .....	25
Table 4.1: Gender of Respondents.....	30
Table 4.2 Age of respondents .....	31
Table 4.3 Level of Education.....	31
Table 4.4 Ownership.....	32
Table 4.5: Extent of Innovation .....	33
Table 4.6: Effects of Innovation .....	34
Table 4.7 Challenges of Innovation.....	35
Table 4.8: Regression Analysis.....	35
Table 4.9 Anova.....	37
Table 4.10 Relationship between Innovation and Financial Performance .....	57

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Small and Medium Enterprises (SMEs) are the main drivers of economic and social development in the African context. They represent a large number of businesses in a country that generate wealth and employment. They are widely considered vital to a country's competitiveness. SMEs are hailed for their pivotal role in promoting grassroots economic and equitable sustainable development (Pelham, 2000). According to Tufano (2003), innovation entails firms developing new products or new production processes to better perform their operations, in which case the new products could be based on the new processes.

The driving force behind the quick transformation of manufacturing industries is influential changes in the economic environment. The challenges posed by new market entrants, increased standards requirements and technological developments require SMEs to increase efficiency levels, strengthen inter-firm linkages and respond in a timely fashion to market changes. At the same time, greater integration into the global economy provides opportunities for SMEs to participate in the international value chain and supply chains networks (Engel et al., 2009). Firms are developing new and innovative products in order to remain relevant within the industry and to be able to maintain their existing market share while attracting new customers.

### **1.1.1 Innovation**

Innovation is the act of creating new products, expanding the market and introducing new features in a product (Tufano, 2003). Innovation is considered as an effective way to improve firm's productivity due to the resource constraint issue facing a firm (Capon, 1990). According to Chaminade and Vang (2006), innovation involves the design, the development and the implementation of innovative instruments and processes, and the formulation of creative solutions to problems in an organization. Lehtimaki (1991) believes that innovation is an essential element for economic progress of a country and competitiveness of an industry. Susman et al. (2006), argues that innovation is one of the most important competitive weapons and generally seen as a firm's core value capability.

Innovation has a considerable impact on corporate performance by producing an improved market position that conveys competitive advantage and superior performance (Coad & Rao, 2008). Innovation is not only related to products and processes, but is also related to marketing and organization. Schumpeter (1934) described different types of innovation as new products, new methods of production, new sources of supply, the exploitation of new markets and new ways to organize business. According to Hoffman et al. (2008), generally accepted innovation performance measures are Research and Development expenditures, the numbers of patented or patentable process and products and the new product announcements to the market. The study measured innovation using new products, Research and Development expenditures and number of patented process and products.

### **1.1.2 Financial Performance**

Financial performance is a subjective measure of how an organization can utilize assets from its primary mode of business and generate revenues (Fullerton & Wembe, 2009). Financial performance is used as a general measure of a firm's overall financial health over a given period and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. There are many different ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales (Capon, 1990).

Profitability offers evidence on the ability of a company to undertake risks and to expand its activity. The financial performance is measured by Return on equity (ROE), Return on Asset (ROA) and the indicator of financial leverage (Capon, 1990). The indicators are submitted to observation along a period in order to detect the tendencies of profitability. The analysis of the modification in various indicators over time shows the changes of the policies and strategies of firms and its business environment (Fullerton & Wembe, 2009). Return on Asset (ROA) measures the ability of the organization's management to generate income by utilizing company assets at their disposal. Net Interest Margin (NIM) is a measure of the difference between the interest income generated by company and the amount of interest paid out to their lenders for example, deposits, relative to the amount of their interest-earning assets (Fullerton & Wembe, 2009). The study measures financial performance of small and medium manufacturing enterprises using their profitability, return on asset and return on equity.

### **1.1.3 Innovation and Financial Performance**

The significance of financial innovation is described by Lehtimäki (1991) as a means leading to a competitive advantage and superior financial performance. Worldwide, SMEs are recognized as engines of development (Reid, 2003). Many countries have put considerable efforts to support them to create and tap their employment opportunities, income and productive capacity. According to Economic Survey of 2012, the SME sector in Kenya contributes 80% of the total employment and 20% of GDP (Republic of Kenya, 2015). According to Tufano (2003), globalization has impacted not just the competitiveness of SMEs, but has also threatened the very survival of some of the weaker ones and forced them to modify their manufacturing and marketing strategies. SME's need to establish strong linkages with Research and Development Institutions in order to carry out technology up gradation in the long term to overcome the rapid technological obsolescence in the globalized economy.

Elements of production or operations performance which include speed, quality, flexibility, and cost efficiency seem to be highly related to the firm performance in administrative, process, and product innovations according to the past literature (Edwards et al., 2001). For instance, according to Coad & Rao (2008), continuing efforts and higher performance in innovations foster organizational learning and increases the speed and quality of the operations. Thus, innovation advancements can easily be incorporated and any design or quality deficiencies are overcome faster resulting in better performance

Companies must offer customers new products and services that meet the customers' needs in a more efficient and effective manner than the ones that they currently sell. With innovation, quality of products could be enhanced, which in turn contributes to firm performance and ultimately to a firm's competitive advantage (Tufano, 2003). According to Becheikh et al. (2006), product innovation offers a potential protection to a firm from market threats and competitors. Susman et al. (2006), proved that product innovation had positive and significant link with financial performance.

#### **1.1.4 Small and Medium Manufacturing Enterprises**

Small and medium manufacturing enterprises in Kenya's manufacturing sector are the enterprises with full-time employees not beyond 100 and have annual sales turnover not exceeding Ksh 150 million. The development of competitive and resilient SMEs forms an integral component of Kenya's initiatives to be globally competitive and a prosperous nation with a high quality of life by 2030 (Republic of Kenya, 2015). This will enable SMEs to move up the value chain and adopt new technologies, particularly information and communication technology (ICT).

Small and Medium Enterprises (SMEs) is an important sub sector for the Kenyan economy like many other developing countries since it employs about 80% of the Kenyan workforce, which is about 7.5million Kenyans of the current total employment (Republic of Kenya, 2015). In Kenya, the manufacturing sector is divided

into 14 sub-sectors. This includes Food and Beverages, Tobacco, Building, Construction and Mining, Chemical and Allied, Energy, Electrical and Electronics, Leather Products and Footwear, Metal and Allied, Paper and Paperboard, Motor Vehicle and Accessories, Pharmaceutical and Medical Equipment, Plastics and Rubber, Textiles and Apparels, Timber, woods Product and Furniture (Manufacturing in Kenya: a Survey of Kenya's Manufacturing Sector 2013- KAM).

Motivated by the increasing competition in global markets, manufacturing companies have started to grasp the importance of innovation. This has been brought about by the swiftly changing technologies and severe global competition that is rapidly eroding the value added on existing products and services. Thus, innovations constitute an indispensable component of the corporate strategies for several reasons such as to apply more productive manufacturing processes, to perform better in the market, to seek positive reputation in customers' perception and as a result to gain sustainable competitive advantage. Large companies in Kenya account for a large proportion of manufacturing sector's output and employment. From the above arguments, it is clear why the manufacturing sector is an important area of study (Lehtimaki, 1991).

## **1.2 Research Problem**

Business innovation has positive effects in raising financial performance. Even though small companies tend to be creative and innovative, they generally lag behind larger firms when it comes to adoption of quality (Oyelaran & McCormick, 2007). Studies by

Edwards et al. (2011), indicate that the adoption of quality by small businesses has been minimal. The initial emphasis for a long time has been measuring the success of a business in relation to mass production. Research has confirmed the strategic benefits of quality programs and better quality is proven to contribute to greater market share and return on investment (Edwards et al. (2011), lower manufacturing costs; improve productivity (Kotey, 2002) and improve the area of strategic performance (Zheng et al., 2007).

The global competition, which became particularly tough after 80's, forced the companies to focus on their business strategies, especially on innovations (Kumar & Chandra, 2001). The growing competition in the market place, the advance of manufacturing technologies and shorter product life cycles has exerted strong impacts on the entire manufacturing industry in Kenya. Under such a dynamic environment, small and medium enterprises (SMEs) have deployed various approaches to reposition their competitive priorities such as cost, quality and delivery so as to achieve the ultimate goal to customer satisfaction (Reid, 2003 ). The manufacturing businesses has come up with a lot of initiatives that oriented to providing better services with the help of new technologies and improving financial performance. Even though manufacturing sector has invested on innovations, the businesses needs to find out if the innovations they have invested in have a positive effect on financial performance (Edwards et al., 2011).

Different scholars have done studies related to business innovation and financial performance. Hult et al. (2003) did a research on effects of innovation on productivity of hospitality industries. They found that due to the tough global competition, both individuals and companies begin to evaluate and to apply their innovation strategies and entrepreneurial abilities with the purpose of gaining competitive advantage. They concluded that innovation has enhanced productivity of hospitality industries. Lumiste and Kilvits (2004) investigated the impact that firm size has on profitability and productivity of a firm. While controlling for other variables that can influence firm performance, he found evidence that larger firms are less productive but more profitable. However, Klomp and Van Leeuwen (2001) carried out a research on relationship between innovation output and employment growth and found a positive relationship between innovation output and sales growth but no evidences of a relationship between the innovation output and employment growth. Researcher Aczel (2000) studied on the role of microfinance in supporting micro entrepreneurial endeavor in Thailand. He concluded that the involvement of microfinance institutions in promotion of micro enterprise and processing industry through the provision of information, knowledge, skills and linking the entrepreneurs to information service providers plays a key role in economies of developed countries as a source of goods and services, income, savings and employment and their overall performance.

Nyabwanga (2011) did a study of the effect of working capital management practices on the financial performance of small-scale enterprises in Kisii South district. He established that majority of the small business owners or managers had just basic

education and over 57% of these business operators hardly attend any business training programmes. One of the least researched yet an important aspect of innovation in manufacturing industry is its role in financial performance which takes various shapes including profitability of an organization. As illustrated above much of the research work has concentrated on other factors affecting SMEs and not the effect of innovation on financial performance. This study sought to answer the following question; what is the effect of innovation on financial performance of small and medium manufacturing enterprises in Nairobi County?

### **1.3 Research Objective**

To determine the effect of innovation on financial performance of small and medium manufacturing enterprises in Nairobi County.

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

The findings of this study will be of help to the Government of Kenya as it seeks to grow the manufacturing sector through innovations and enhance financial performance. One of the key drivers of change in Kenya is information technology and innovations. Through the findings of the study, the government of Kenya will be able to appreciate the various areas of innovation within the manufacturing sector and may opt to provide support by either waiving taxes or introducing other non-monetary incentives.

The findings of this study will help SMEs in manufacturing sectors and other sectors in evaluating the importance of innovation on their performance in terms of bolstering

profitability. Organizations, especially in manufacturing sector, are swiftly becoming more aware of the importance of business innovation. This study adds impetus to knowledge on the link between innovation and performance. Other SMEs in Africa will also learn from this study and understand the innovations that they can replicate in their businesses in order to improve on their performance. The study findings will enlighten them on which innovations have better links to financial performance and hence save on the costs of conducting cost benefit research in their businesses.

The findings of this study will also be helpful to the policy makers because it will shed more light on innovation and financial performance which will assist in formulating innovation strategies. This study will help to identify the gaps in innovation as a performance strategy in SMEs.

To the scholars, the findings of this study will add value to the existing body of knowledge as it recommends ways for improvement of financial performance by leveraging on business innovation. Nevertheless, this study serves as a stepping stone for newer research on business innovation.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter looked at previous studies done on innovation and financial performance. It addressed the theoretical review, determinants of financial performance, empirical review and a summary of the literature review.

#### **2.2 Theoretical Review**

Theories related to innovation and financial performances are reviewed. The study considered Schumpeter theory of innovation, Diffusion of Innovation and Technology Acceptance theory.

##### **2.2.1 Schumpeter Theory of Innovation**

Schumpeter (1934) argued that entrepreneurs, who could be independent inventors or Research and Development engineers in large corporations, created the opportunity for new profits with their innovations. In turn, groups of imitators attracted by super-profits would start a wave of investment that would erode the profit margin for the innovation. Schumpeter (1934) emphasized the role of entrepreneurship and the seeking out of opportunities for value generating activities which would expand and transform the circular flow of income, but it did so with reference to a distinction between invention or discovery on one hand and innovation, commercialization and entrepreneurship on the other.

The separation of invention and innovation marked out the typical nineteenth century institutional model of innovation, in which independent inventors typically fed discoveries as potential inputs to entrepreneurial firms. The author further saw innovations as perpetual gales of creative destruction that were essential forces driving development in a capitalist system. Schumpeter's thinking evolved over his lifetime to the extent that some scholars have differentiated his early thinking where innovation was largely dependent on exceptional individuals/entrepreneurs willing to take on exceptional hazards as an act of will (Schumpeter, 1934).

Schumpeter drew a clear distinction between the entrepreneurs whose innovations create the conditions for profitable new enterprises and the bankers who create credit to finance the construction of the new ventures (Schumpeter, 1939). He emphasized heavily that the special role of credit-creation by bankers was 'the monetary complement of innovations' (Schumpeter, 1939). As independent agents who have no proprietary interest in the new enterprises they finance, bankers are the capitalists who bear all the risks (none is borne by the entrepreneurs). That requires having the special ability to judge the potential for success in financing entrepreneurial activities. Schumpeter emphasized that it is just as important to deny credit to those lacking that potential as it is to supply credit to those having it (Schumpeter, 1939).

### **2.2.2 Diffusion of Innovation (DOI)**

Diffusion of Innovation (DOI) Theory, developed by Rogers in 1962, is one of the oldest social science theories. It originated in communication to explain how, over time, an idea

or product gains momentum and diffuses (or spreads) through a specific population or social system. The result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously. The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible.

Nooteboom (1994) reviewed diffusion of innovations research and its application to social marketing programs. One of the first points they make is that there are different types of adopters in every target audience that, based on hundreds of different studies, usually are represented in certain proportions and have unique motivations for adopting a new behavior. These five adopter segments are innovator, early adapters, early majority, late majority, and laggard. Studying how innovation occurs. Rogers (1995) also argued that it consists of four stages: invention, diffusion, (or communication) through the social system, time, and consequences. The information flows through networks. The nature of networks and the roles opinion leaders play in them determine the likelihood that the innovation will be adopted. Innovation diffusion research has attempted to explain the variables that influence how and why users adopt innovations.

By analyzing Rogers (2003) diffusion of innovation theory through the lens of the Dubin framework, some gaps in the theory emerge (Lundblad and Jennifer, 2003). Organizations are described as a social system, but within organizations, departments or teams can also serve as social systems. Yet the unique issues and elements of

departments or teams within a larger organizational context are not addressed in terms of how these boundaries affect the adoption of innovation. In addition, boundaries are not addressed for instances when diffusion of innovation occurs across organizations, such as between schools of a school district or hospitals and clinics within a health care delivery system (Lundblad and Jennifer, 2003). For diffusion of innovation theory in organizations, the only system state defined by the theory is what type of decision-making process is in place for adopting and implementing innovations, identified as optional, collective, authority and contingent innovation-decisions.

### **2.2.3 Technology Acceptance Theory**

Technology Acceptance Model (TAM) was advanced by Davis (1993) and focused on the technological issues. The model relates the individuals' behavioral intentions and his/her technology use. It is suggested that, the actual behavior of a person is determined by his behavioural intention to use, which is in turn influenced by user's attitude toward and perceived usefulness of the technology. However, attitude and perceived usefulness are both determined by ease of use. From this model, usefulness and user friendliness affect users' attitudes towards any service.

Davis (1993), thus suggest that it is important to value user requirements based on perceived usefulness and the user friendliness of innovation rather than other objective measure. Adopting the TAM model requires the understanding of end-users requirements regarding usefulness and user friendliness (Pedersen, 2002). Wang et al.

(2003), examines the effect of computer self-efficacy on the intention to use internet banking. The results strongly support the extended TAM in predicting the intention of users to adopt innovation. It also demonstrates the significant effect of innovation on behavioral intention through perceived ease of use, perceived usefulness, and perceived credibility (Wang et al., 2003).

## **2.3 Determinants of Financial Performance**

### **2.3.1 Innovation**

Innovation is one of the most important competitive weapons and generally seen as a firm's core value capability. Innovation involved development of new product, improved processes, and technological advancement in a company. Innovation improves the financial performance of a company and can be used to measure a company's financial performance. Innovation is also considered as an effective way to improve firm's productivity due to the resource constraint issue facing a firm (Lumiste & Kilvits, 2004).

Organizations that adopt first mover initiative in innovation result in improved profitability. Process initiative has a positive effect on profitability and efficiency. Innovative performance especially in the form of new product success is linked in the literature to an increase in sales and market shares, since it contributes considerably to the satisfaction of existing customers and gaining of new customers (Reid, 2003). Lehtimäki (1991) describe the importance of innovation as a means of measuring financial performance of an organization

### **2.3.2 Capital Structure**

Every industry requires resources such as land, labor, and capital. All these resources will require a substantial amount of finances to obtain. These finances can either be generated internally (retained earnings) or hired from outside sources (loans and bonds). The decision of selection of the source of finance is based on the cost associated with them and the capital structure of firm. These costs can be monetary or non-monetary. Capital structure is an important factor that determines the performance of a firm. Capital structure refers to the ratio of debt and equity financing. In cases of debt financing, the company has to face certain bankruptcy risk, but there are also some tax and monitoring benefits associated with debt financing (Su and Vo, 2010). It also mitigates the agency conflict by reducing the free cash flow of the firm. There should be an appropriate capital structure that generates the maximum profit for the organization, as too less equity financing increases the control of the owners to a large extent (Abu-Rub, 2012).

### **2.3.3 Ownership structure**

According to agency theory if managers of a firm also have ownership stake they are most likely to maximize shareholder wealth (Dutta, 1999). Managerial risk aversion and constraints on wealth, limit the ownership of managers however ownership can become costly for more diversified managers. A concentrated ownerships and institutional ownerships lead to better control and monitoring of the board of directors and somehow force them to undertake profitable projects to ensure future earnings (Bhagat and Bolton, 2008).

Small shareholdings by public do not support long-term plans, as the owners are mostly interested in the short-term profits and not the overall growth of the company and same is the case for small or no internal ownership. Therefore, the ownership structure should be carefully balanced for a firm to perform well. Number of tradable shares is inversely related to inside ownership as most of the shares owned by insiders are restricted from trading (Lin et al., 2011).

#### **2.3.4 Firm characteristics and policies**

Certain firm characteristics are associated with high performance of firm. These include size, growth rate, dividends, liquidity, and sales. The firms that have better growth rate can afford better machinery, and then gradually the assets and size of the firm will increase. Large firms attract better managers and workers who in turn contribute to the performance of the firm. Although many studies have been conducted on the individual determinants of firm but a very few have modeled all the factors. There is a much larger gap for the developing economies (Maher and Andersson, 1999).

#### **2.4 Empirical Studies**

Studies from the early period of research on innovation have typically reported a positive relationship between innovation and measures of firm performance. Innovation in organizations generally has positive effects in raising financial performance. It is natural that organizations measure their performance in order to direct organization`s resources towards significant organizational goals and in designing strategy. The rapidity of change fostered by global competition and

advancing technology has made adaptive flexibility another characteristic of successful organizations. Manufacturers must have the response capability to take advantage of technological changes through process and product innovation. They must have the capability to respond to changes in the marketplace and to respond to the failure of an executed strategy (Cohen, 1996).

Business today requires better information across a wider scope than the traditional and often linear, financial measures, to achieve understanding of the factors that create the foundation of future success. Crepon et al. (1998) used a four-equation model to relate the innovation decision of firms to their performance. Their findings confirm the positive relationship between innovation activities and productivity at the firm level and provide further evidence on the relationship between size and innovation activities.

Advanced manufacturing technology and other innovation strategies can improve quality throughout the entire manufacturing process in areas such as materials handling, inventory control and production planning and scheduling. Advanced systems lead to quality improvements in the design stage because errors can be discovered earlier in the production process, this provides the opportunity to have the errors corrected before they can get out of hand. This allows adjustments to be made much faster and more accurately than without advanced manufacturing technology, helping to ensure quality in the manufacturing process (Chanaron, 1998).

Tufano (2002) believes that innovation is an essential element for economic progress of a country as well as the competitiveness of an industry. Calantone et al., 2002 adds that the capability in product and business innovation is crucial for a firm to exploit new opportunities and to gain competitive advantage. Once the innovative performance improves, production and marketing performances will also increase and then through their mediation the financial performance will start to improve (Chamide & Vang, 2006).

Shirley and Sushanta (2006) studied the impact of innovation on the banking industry and analyzed both theoretically and empirically how information technology related spending can affect bank profits via competition in financial services that are offered by the banks. Using a panel of 68 US banks for a period of over 20 years to estimate the impact of innovation on profitability of banks, they found out that though innovation might lead to cost saving, higher IT spending can create network effects lowering bank profits. They further contend that the relationship between innovation expenditures and bank's financial performance is conditional to the extent of network effect. They concluded that expenditures are likely to; reduced payroll expenses, increase market share and increase revenue and profit.

Mwangi (2007) carried out a study on factors influencing innovation of companies listed of the Nairobi Securities Exchange. The findings concluded that the laws protecting investors was the major factor influencing financial innovation. The absence of automated trading system as a technical factor was found to have influence on

innovation. In addition, he postulated that financial competition and integration had an influence on financial innovation with increased financial competition amongst financial institutions influencing innovation the most. Innovation adoption by small manufacturers gives them advantages over traditional manufacturing systems, such as lower cost quality improvements, higher productivity and less working capital tied up in inventory (Coad & Rao, 2008).

Innovation plays an important role not only for large firms, but also for SMEs (Edwards et al., 2011). Innovative performance can exert positive effects on firms' production, market, and financial performances in the long-term; however, in the short run, initiated investments and internal resource usages might cause possible losses at first. Adoption of new technologies for innovations involves initial high expenses. Shavinina et al. (2012), emphasized that generally a serious time period may pass to observe positive impacts of innovations on firm performance. For this reason, impacts of innovative performance are firstly associated to the non-financial aspects of corporate performance, such as increased customer satisfaction or production speed, which will lead to higher financial returns later on.

## **2.5 Summary of the Literature Review**

This chapter started by looking at the theoretical framework where it discussed the theories on which the study is found: Schumpeter theory of innovation, diffusion of innovation theory and Technological Acceptance theory. According to Schumpeter theory of innovation, entrepreneurs, who could be independent inventors or Research and

Development engineers in large corporations, created the opportunity for new profits with their innovations. Diffusion of Innovation explains how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Technological Acceptance Theory is an approach explaining the innovation acceptance and perception by users who implement technology. The levels of implementing innovation in manufacturing sector vary depending on how management accepts some innovations. There was need to identify how manufacturing companies had adopted innovation and the impact it had on financial performance.

From the review of relevant literature, it was evident that research in the area of innovation has been done but not in a comprehensive approach. Most literature reviewed indicates that previous researchers only concentrated on a few variables of innovation. Majority of the literature looks at implementing innovation in designing new products and services. Moreover, the studies done looks at impact of innovation in developed countries. Kenya as a developing Country promotes innovations in SMEs. There was need to carry out a study to identify the effect it has on financial performance of SMEs. This study covered additional important variables of innovation that were omitted by previous studies like technological advancement, improved products amongst others. The study also specifically looked at effect of innovation on financial performance. This made the study more comprehensive. From survey of relevant literature, it has been found that there are few studies specific to Kenya on the link of innovation and financial performance of manufacturing companies and they

omitted moderating variables. This study therefore intended to fill these pertinent gaps in literature by studying the effects of innovation on financial performance of small and medium manufacturing enterprises.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter was concerned with the various steps that will facilitate execution of the study while satisfying the study objective. This chapter outlined the research methodologies which were used in the study. It includes research design, target population, description of the sample and sampling procedures, data collection and data analysis procedures.

#### **3.2 Research Design**

Research design is the plan and structure of investigation to obtain answers to research questions. A descriptive study is concerned with determining the frequency with which something occurs or the relationship between variables (Cooper and Schindler, 2003). For the purpose of this study, descriptive research design was used. According to Cozby (2005), descriptive design is used to obtain information concerning the status of the phenomena to describe what exists with respect to variables in a situation, by asking individuals about their perceptions, attitudes, behavior or values. This approach was appropriate for this study since the researcher intended to collect detailed information through descriptions making it useful to identify variables under the study.

### 3.3 Population

The target population in this study comprised registered manufacturing SMEs which file tax returns to KRA. According to KRA (2015) there are currently 3582 SMEs which meet this condition in Nairobi County.

**Table 3.1: Table of Population**

<b>Business Category</b>	<b>Population size</b>
Manufacture of agricultural produce	1186
Manufacture of furniture	692
Manufacture of metal	1080
Manufacture of cosmetics	624
<b>Total</b>	<b>3582</b>

Source: KRA, 2015

### 3.4 Sample

Sample size is a given number of members or cases from the accessible population, which is carefully selected to be a representative of the whole population with the relevant characteristics. The SMEs in the population differ by type (Manufacture of Agricultural Produce, Manufacture of furniture, Manufacture of metal and Manufacture of cosmetics). In order to ensure that the different categories are adequately represented in the sample, stratified sampling was used to ensure that different groups in the population are adequately represented in the sample. These are Manufacture of Agricultural Produce, Manufacture of Furniture, Manufacture of Metal and Manufacture of Cosmetics, (KRA, 2015). The SMEs in Nairobi County were therefore first classified into strata according to whether they are under the manufacture of agricultural produce, manufacture of furniture, manufacture of metal and manufacture

of cosmetics. The list obtained served as the sampling frame from which a representative sample of the population was obtained. The simple random sampling procedure was then used to pick the sample. It was preferred because it allows unbiased sampling and accords the research work more scientific features thereby making the validity of the research findings more concrete. The researcher used sample size determination table for continuous data with margin error of 0.03 developed by Bartlett, Kotrlik & Higgins (2001) to determine the sample size. The estimated population of SMEs in manufacturing sector registered at KRA was 3582. From the table, 83 respondents were selected.

**Table 3.2: Sample**

<b>Business Category</b>	<b>Population size</b>	<b>Multiplier</b>	<b>Sample Size</b>
Manufacture of agricultural produce	1186	0.33	27
Manufacture of furniture	692	0.19	16
Manufacture of metal	1080	0.30	25
Manufacture of cosmetics	624	0.17	15
<b>Total</b>	<b>3582</b>		<b>83</b>

Source: (Researcher, 2015)

### **3.5 Data Collection**

The primary data used in the study was collected using self-administered questionnaire attached as appendix 1 which were given to the managers of manufacturing SMEs because they are best suited to identify the adopted innovations and challenges faced by the companies in relation to business innovation. The instrument was of five point Likert scale format to ensure that respondents are guided well in answering the questions. The

instrument was divided into four sections. Section A contained questions on the respondent characteristics, section B focused on the annual net income and average total sales turn over for the last three years for the manufacturing SME, section C contained questions on extent of innovation adopted in manufacturing sector, section D focused on the effect of innovation on financial performance, while section E contained questions about challenges faced by the companies in relation to innovation. The questionnaire sought data on financial performance, adopted innovation and challenges faced by the companies in relation to business innovation.

### **3.6 Data Analysis**

Data was analyzed using both descriptive and inferential statistics. Frequency, mean, mode and percentages were used for descriptive statistics. Regression analysis was used. Mugenda and Mugenda (1999) define regression analysis as a type of analysis used when a researcher is interested in finding out whether an independent variable predicts a given dependent variable. In this study, the researcher used Statistical Package for Social Sciences (SPSS) Version 21.0 to analyze data. The results were presented in form of tables, figures, charts and graphs.

Standard deviation, range and co-efficient of variation was used to determine the extent of innovation adopted in the small and medium manufacturing enterprises by using the data contained in section C of the questionnaire. Regression analysis was used to test significance and the impact of innovation on financial performance of the small and medium manufacturing enterprises using the information contained in Sections D of the

questionnaire while the innovation challenges experienced by the small and medium manufacturing enterprises was determined using data from section E of the questionnaire.

Further analysis was done using the linear regression model below;

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \varepsilon$$

Where  $Y$  is the financial performance,  $\beta_0$  is constant and  $\varepsilon$  is the error term of the model.

- $X_1$  = Technological Innovation
- $X_2$  = Product Innovation
- $X_3$  = Process Innovation
- $X_4$  = Capital Structure
- $X_5$  = Ownership Structure
- $X_6$  = Firm Characteristics and Policies

Financial performance was measured by Return on Assets. This measured the efficiency of the small and medium manufacturing enterprises in using the assets they have in their possession to generate income. It was calculated as the ratio of the annual net income to average total sales of the small and medium manufacturing enterprises. The higher the value of the return on assets will show that the small and medium manufacturing enterprises are more profitable.

The technological innovation involves adoption and modification of new technological information, skills and access to technical and technology support mechanisms was asked to know extent of technological innovation. It was measured by the rate of use of computers and ICT and technology networks.

Product innovation sought to determine and measure the level of introduction of new products that has been brought about by the innovative strategies that have been adopted and the significant improvements in the functional or user characteristics of existing products that are being manufactured by the small and medium manufacturing enterprises.

Process Innovation was measured by establishing the extent of significant changes in the techniques, equipment and/or production software used by the small and medium manufacturing enterprises in their manufacturing processes was used to measure the extent of process innovation within the small and medium manufacturing enterprises.

Capital structure was measured by analyzing the responses to the questions asked related to sources of capital used by the small and medium manufacturing enterprises. The study sought to identify all the sources of capital employed by the firms used to finance its business operation.

The firm characteristics and policies was measured by analyzing the response on the questions asked on the nature of the business and business policies adopted by the small and medium manufacturing enterprises. The study sought to know the business standards followed by the enterprises, the rules and regulations and the nature of operations undertaken in the business operations within the manufacturing enterprises.

The ownership structure of the small and medium manufacturing enterprises was measured based on the response given on the questions on the stakeholders of the firm. The study sought to identify the type of ownership of the businesses, whether sole proprietorship or by partnership and if a partnership, the number of partners within the enterprises.

The significance of innovation variables as predictors of financial performance was tested using the chi-square test while the significance of each independent variable will be tested at a confidence level of 95%.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter presents the analysis of the data collected from the respondent and discusses the research findings on effects of innovation on financial performance of small and medium manufacturing enterprises in Nairobi County. All completed questionnaires were edited for accuracy, uniformity, consistency and completeness. The response rate of 70 respondents was achieved. This good response has been attributed to the fact that quite a good number of the respondents were knowledgeable to fill the questionnaires themselves. Summaries of data findings together with their possible interpretations have been presented by use of tables, mean, percentages, frequencies, variances, standard deviation and graphs.

#### 4.2 Descriptive Analysis

##### 4.2.1 Gender of Respondents

Respondents were asked to indicate their gender and indicated as shown in Table 4.1:

**Table 4.1: Gender of Respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	38	54.3
Female	32	45.7
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: SPSS Output Data (2015)

From Table 4.1, 54.3% of the respondents were male while 45.7% were female. Majority of the managers of small and medium manufacturing enterprises are male.

#### 4.2.2 Age of Respondents

Respondents were asked to indicate their age and the findings are in table 4.2;

**Table 4.2 Age of respondents**

<b>Age</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Below 25</b>	3	4.3
<b>26-35</b>	8	11.4
<b>36-45</b>	28	40.0
<b>46-55</b>	14	20.0
<b>Above 56</b>	17	24.3
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: (SPSS Output, 2015)

#### 4.2.3 Level of Education

Respondents were asked to indicate their level of education and indicated as in table 4.3;

**Table 4.3 Level of Education**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Masters</b>	9	12.8
<b>Bachelors</b>	26	37.1
<b>Diploma</b>	21	30
<b>Certificate</b>	14	20
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: (SPSS Output, 2015)

Major of the respondents have bachelors (37.1%), 305 of the respondents had diploma, 20% had certificates while 95 were masters holders. This indicates that majority of the respondents were knowledgeable to fill the questionnaires.

#### **4.2.4 Sources of Capital**

The study sourced to identify the sources of capital for the small and medium manufacturing enterprises. Respondents indicated that the main source of capital was savings (64.6%) and borrowings from banks (35.4%).

#### **4.2.5 Ownership**

The respondents were asked to indicate the ownership of the SME and indicated as shown in table 4.4;

**Table 4.4 Ownership**

<b>Ownership</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Sole Proprietorship	37	52.9
Partnership	33	47.1
<b>Total</b>	<b>70</b>	<b>100.0</b>

**Source: (SPSS Output, 2015)**

As evident in table 4.4 above, majority of the manufacturing SMEs ownership were sole proprietorship (52.9%) while partnership were (47.1%)

#### **4.2.6 Extent of Innovation**

The study sought to identify the extent of innovation adopted by manufacturing SMEs. Likert scale was used where: 5= Very high extent 4= High extent 3= moderate extent 2= low extent 1= Very low extent. They indicated as shown in table 4.5;

**Table 4.5: Extent of Innovation**

	<b>Mean</b>	<b>SD</b>
Use of computers	4.87	0.337
Implementation of online sales through the internet	4.86	0.352
Training and development of employees.	4.39	0.490
Level of expertise employed.	4.89	0.320
Adoption of technology	4.46	0.582
Introduction of new branches/business.	3.77	1.230
Introduction of new products/services.	4.46	0.502
Improvement of quality designs of products/services.	4.42	0.589
Improvement of skill-set.	4.93	0.259

Source: (SPSS Output, 2015)

Improvement of skill-set was indicated in the study as the main innovation by the manufacturing SMEs (4.93). The respondents also indicated that the following has been adopted to a very high extent; level of expertise employed (4.89), use of computers (4.87), and implementation of online sales through the internet (4.86). The respondents indicated that training and development of employees (4.39), adoption of technology (4.46), introduction of new branches/business (3.77), introduction of new products/services (4.46), and improvement of quality designs of products/services (4.42) as highly adopted.

#### 4.2.7 Effects of Innovation

Respondents were asked to indicate on the effects of innovation and indicated as shown in table 4.6 below;

**Table 4.6: Effects of Innovation**

	<b>Mean</b>	<b>S.D</b>
Innovation increased profits for the company	4.45	.596
Innovation increases the company's market share	4.27	.703
Innovation increases savings for the company	4.14	.941
Innovation reduces operating cost of the company	4.05	.844
It leads to income increase	3.75	1.185
Sales volume increased	3.71	1.192
Lead to the acquisition of new equipment and machines	3.67	1.235
The income generating potential of the company is influenced positively	3.65	1.263
Innovation stabilizes the business and increases competitive advantage	3.61	1.269

(Source: SPSS Output, 2015)

As evident in table 4.6, majority of the respondents agreed that innovation increased profits for the company (4.45), innovation increases the company's market share (4.27), and innovation increases savings for the company (4.14), innovation reduces operating cost of the company (4.05). They also agreed that innovation leads to income increase (3.75), sales volume increased (3.71), lead to the acquisition of new equipment and machines (3.67), positively influence income generating potential of the company (3.65), and innovation stabilizes the business and increases competitive advantage (3.61).

#### 4.2.8 Challenges of Innovation

Respondents were asked to indicate the challenges facing manufacturing SMEs in adopting innovations. They indicated as shown in table 4.7;

**Table 4.7 Challenges of Innovation**

	<b>Mean</b>	<b>SD</b>
Limited information on new technology advancements.	4.21	0.562
Unpredictable business environment	3.86	0.982
Severe competition.	4.20	0.580
Limited information on new technology advancements	4.17	0.701
Financial issues limit implementation of innovations.	3.93	0.873
Limited experience and skills using new machines.	3.81	0.976

**Source: (SPSS Output, 2015)**

The main challenge facing manufacturing SMEs related to innovation as shown in the study are limited information on new technology advancements (4.21), unpredictable business environment (3.86), and severe competition (4.20). Respondents also agreed that limited information on new technology advancements (4.17), financial issues limit implementation of innovations (3.93), and limited experience and skills using new machines (3.81) are the main challenges facing the manufacturing SMEs.

#### 4.3 Regression Analysis

Regression analysis was done to estimate the relationship between innovation and financial performance. The findings are shown in table 4.8 below;

**Table 4.8: Regression Analysis**

#### **Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df 2	Sig. F Change
1	.653 <sup>a</sup>	.427	.248	.436	.427	2.383	5	73	.085

Source: (SPSS Output, 2015)

Regression analysis revealed a positive relationship (R =0.427). The study also revealed that a combination of use of computers, implementation of online sales through the internet, training and development of employees, level of expertise employed, adoption of technology, introduction of new branches/business and introduction of new products/services contributed to 73% of financial performance. The F value (2.383) changes are significant which implies that the model is fit and robust.

#### 4.4 Correlation Analysis

Correlation analysis was done to relationship between the innovation variable and financial performance. The findings are shown in Appendix III;

$$Y = 6.126 - 0.158X_1 + 0.119X_2 - 0.031X_3 + 0.126X_4 - 0.68X_5 - 0.058X_6 - 0.194X_7 + \varepsilon$$

Where  $Y$  is the level of customer satisfaction, and  $\varepsilon$  is the error term of the model.

- $X_1$  = Use of computers
- $X_2$  = Training and development of employees
- $X_3$  = Implementation of online sales through the internet
- $X_4$  = Level of expertise employed.
- $X_5$  = Adoption of technology
- $X_6$  = Introduction of new branches/business
- $X_7$  = Introduction of new products/services.

Positive effect was reported on use of computers, implementation of online sales through the internet, training and development of employees, level of expertise employed, adoption of technology, introduction of new branches/business, and introduction of new products/services.

ANOVA test was carried out to determine whether level of innovation and financial performance were significant across the network at 95% confident level. The results are indicated in table 4.9

**Table 4.9 Anova**

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.028	7	1.718	6.256	.013(a)
Residual	26.009	8	3.251		
Total	38.037	15			

Source: SPSS Output, 2015)

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. Correlation exist between the response and predictor variables if P-value < 0.05. As shown in table 4.18, P-Value = 0.013 < 0.05 indicated that there is enough evidence to support the alternative hypothesis, that there is a significant linear relationship between innovation and financial performance.

#### **4.5 Interpretation of findings and Discussions**

From the findings of the study, majority of the SMEs have adopted innovation. Training and development of employees, adoption of technology, introduction of new branches/business, introduction of new products/services and improvement of quality designs of products/services were indicted as highly implemented in the small and medium manufacturing enterprises. Majority of the respondents agreed that innovation increased profits for the company, innovation increases the company's market share, increases savings for the company, and reduces operating cost of the company. They also agreed that innovation leads to income increase, sales volume increased, lead to the acquisition of new equipment and machines, positively influence income generating potential of the company and innovation stabilizes the business and increases competitive advantage. The main challenge facing manufacturing SMEs related to innovation as shown in the study are limited information on new technology advancements, unpredictable business environment and severe competition. Respondents also agreed that limited information on new technology advancements, financial issues limit implementation of innovations and limited experience and skills using new machines are the main challenges facing the manufacturing SMEs.

Many related studies have been conducted and it seems evident that there exists a strong relationship between innovation and the growth of SMEs done in firms based in different industries. This agrees with the findings of the study for example Coad and Rao (2008) probed the relationship between innovation and the growth of sales for firms in

high tech sectors. Using a quartile regression approach, they observed that innovation is of a vital importance for selected fast growth firms. If any undertaken innovation is successful, the share of innovated new products is likely to increase in the total sales of the firm. This will enable firms to achieve growth in their sales turnover, investment and employment which would all result to achieving growth of firm size. Becheikh et al. (2006), agreed with the findings and states that innovation is unavoidable for firms which want to develop and maintain a competitive advantage and gain entry in to new markets.

Technology is significant to support and promote SMEs development as it is responsive to local economies and results in distinctive products and services. Initiatives to support indigenous technology should therefore aim to link SMEs with technology experts in order to generate an enabling environment that develops technology capacity. This is likely to result in a great performance of SMEs as it provides differentiated products, services and technical services in accordance with the resources available and the market needs in the context of these SMEs. It is generally recognized that SMEs face unique challenges, which affect their growth and profitability and hence, diminish their ability to contribute effectively to sustainable development (Hill, 1987).

Introduction of new processes or functions enhanced performance or the addition of new features into the existing products (Susman et al, 2006). SME's face unrelenting pressure from powerful customers to lower prices and accept shrinking margins on sales. SMEs are thereby seeking revenue growth from new products and services. Nooteboom (1994) ascertains the fact that although only a small proportion of SMEs engage in

innovative activities, those that do so appear to have a higher yield for their effort especially in number of new patents that are issued, as evident in the findings of the study. Trott (1998) confirms that corporations must be able to adapt and evolve if they wish to survive. This is because competitors will come to the market and introduce new products that will change the basis of competition. The ability to change and adapt therefore is very key to the survival of any business.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter summarizes the major findings of the study. This study sought to find out effects of innovation on financial performance of manufacturing SMEs. In addition, this chapter provides a direction for further studies and gives some recommendations for policy making by the relevant authorities. Questionnaires were used to gather primary data. The questionnaires comprised of both closed and open-ended questions and were strictly administered by the researcher. Both primary and secondary information was used to determine the findings of the study.

#### **5.2 Summary of Findings**

The study inquired on the level of innovation undertaken at manufacturing SMEs and effects on financial performance. The respondents cited that manufacturing industries applies the following innovation practices: use of computers, implementation of online sales through the internet, training and development of employees, level of expertise employed, adoption of technology, introduction of new branches/business and introduction of new products/services. Improvement of skill-set was indicated in the study as the main innovation by the manufacturing SMEs (4.93). Level of expertise employed, use of computers and implementation of online sales through the internet and training and development of employees has also been implemented. The adoption of technology, introduction of new branches/business, introduction of new products/services

and improvement of quality designs of products/services were indicted as highly implemented in the small and medium manufacturing enterprises.

Majority of the respondents agreed that innovation increased profits for the company (4.45), innovation increases the company's market share (4.27) and innovation increases savings for the company (4.14) innovation reduces operating cost of the company (4.05). They also agreed that innovation leads to income increase (3.75), sales volume increased (3.71), lead to the acquisition of new equipment and machines (3.67), positively influence income generating potential of the company (3.65) and innovation stabilizes the business and increases competitive advantage (3.61). The main challenge facing manufacturing SMEs related to innovation as shown in the study are limited information on new technology advancements (4.21), unpredictable business environment (3.86) and severe competition (4.20). Respondents also agreed that limited information on new technology advancements (4.17), financial issues limit implementation of innovations (3.93) and limited experience and skills using new machines (3.81) are the main challenges facing the manufacturing SMEs.

Positive effect was reported on use of computers, implementation of online sales through the internet, training and development of employees, level of expertise employed, adoption of technology, introduction of new branches/business and introduction of new products/services.

Correlation indicated that there is enough evidence to support the alternative hypothesis, that there is a significant linear relationship between innovation and financial

performance. Regression analysis revealed a positive relationship ( $R = 0.427$ ). The study also revealed that a combination of use of computers, implementation of online sales through the internet, training and development of employees, level of expertise employed, adoption of technology, introduction of new branches/business, and introduction of new products/services contributed to 73% of financial performance. The F value (2.383) changes are significant which implies that the model is fit and robust.

### **5.3 Conclusion**

The study concluded that innovation has positive effects on financial performance. As evident from this study, innovation increased profits for the company; innovation increases the company's market share, increases savings for the company and reduces operating cost of the small and medium manufacturing enterprises. They also agreed that innovation leads to income and sales volume increase, acquisition of new equipment and machines, positively influence income generating potential of the company and stabilizes the business and increases competitive advantage. Hence, manufacturing companies should invest more on innovation practices as it improves financial performance.

In general, innovations influence financial performance of the manufacturing SME positively. This has a significant effect on the profitability of the SMEs which also influence their competitive advantage. This is in agreement with the argument of several studies including: Walker (2004); Damanpour (1991); Atuahene-Gima (1996) and Subramanian & Nilakanta (1996). These in their findings indicate that innovations have positive impact on performance indicators. Their findings also

support significance of the transformational effects of innovations on organization performance and operational efficiency. Results from the data collected discovered that innovativeness of SMEs had a positive and significant effect on financial performance.

The findings confirm that an increase in the innovation level results to increased financial performance. Specifically, the study findings give the relevance of the innovation developed in order to improve financial performance. These findings agree with the findings of the study conducted by Mwangi (2013) on innovations and financial performance which illustrated that, innovations had statistically significant influence on income, return on assets, and profitability and customer deposits of commercial banks. This was the case from the findings as the innovativeness of the SMEs have been evaluated to be significantly related to the financial performance of the SME which determines the profitability and asset value.

#### **5.4 Recommendations**

From the findings, the study recommends that manufacturing SMEs should adopt innovation as it increases financial performance. For businesses to realize growth, investment in technology should be made in order to reduce costs and increase the level of sales. Manufacturing SMEs also need to keep designing and redesigning their products to meet changing user needs and product innovation is very crucial in the achievement of this goal. It is also vital for businesses to take process innovation to raise the level of quality of the products they produce as this research has revealed that process innovation can greatly enhance the production of quality products which would in the end raise the level of sales and increase the profit margins of the business.

The study also recommends that government should make the adoption of innovation easy for the small and medium manufacturing enterprises by reducing cost of acquiring new equipment and other innovations. Manufacturing SMEs in Nairobi County, Kenya need access to government centers for research and development as this can be a crucial strategy for the growth and development of businesses. Access to technologies depends largely on government policy and a strong will to implement those policies. Moreover, inputs to innovation processes in SMEs are increasingly perceived to be coordinated with external parties, such as universities and customers which enable them to reduce R&D costs. The also recommends that companies must offer customers new products and services to allow for a more efficient and effective use of products that they currently sell.

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

The respondents were regularly very busy and therefore they required a lot of time in order to fill in the questionnaires. The challenge was overcome by giving the respondents the questionnaires early.

Getting accurate information from the respondents was one of the major challenges since some of the respondents were unwilling to give the information. The challenge was minimized by informing the respondents the importance of the study to the SMEs in order to win their will to respond and offer accurate information.

The location in distance while traversing Nairobi County where manufacturing SMEs are proved tiring coupled with dusty grounds. Effective means of transport were sought by using a private car to access respondents.

The sample selected for the study was small considering the number of population of the small and medium manufacturing enterprises in Nairobi County.

The study considered small and medium manufacturing enterprises in Nairobi County only, hence cannot make a conclusion for the entire SMEs in the Country based on only one county.

### **5.6 Suggestions for Further Research**

The research was carried out when innovation were relatively young and a lot might have been missed in the study due to the duration innovation practices had been in existence. Therefore, the study recommends that further study needs to be undertaken as innovation advances and new innovations practices are adopted and incorporated in companies.

The researcher suggests that this study could be a useful starting point for further academic research. Innovation in manufacturing SMEs is a potential area for further research studies in developing countries of the world. Continued refinement of this study will be valuable to the small and medium manufacturing enterprises as it improves education and increases economic growth.

The study also suggest that further study should be done considering all counties. This study only focused on SMEs in Nairobi Country hence further study on effects of innovation on financial performance need to be done in the other Counties

Due to the limited time that the study had, the study used a small sample as compared to the total number of SMEs in Nairobi County. The study hence suggest that further study be conducted using a large sample size.

The study also suggest that further study be conducted to identify the effects of innovation on financial performance of other SMEs since the study only focused on manufacturing SMEs in Nairobi County.

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## APPENDICES

### Appendix I- Questionnaire

Dear respondent,

This questionnaire is intended to collecting data relating to the effects of innovation on financial performance. Kindly respond to all questions to aid the process. Information collected from this questionnaire will be handled with high confidentiality and will strictly be used for academic purposes only by the researcher.

#### SECTION A: Demographic Information

1. What is your gender?            Male                                Female           

2. How old are you?

Age (years)	Below 25	26-35	36-45	46-55	Above 56
Response					

3. What is your highest level of education?

Masters     Bachelors     Diploma     Certificate     Secondary Level

Others (Please Specify) .....

4. List the sources of capital for your business

i.

ii.

iii.

iv.

5. Please indicate on the ownership of the business

Sole proprietorship

Partnership

Corporation

Partnership (Please Specify how many partners).....

**SECTION B: Income**

Please indicate the annual net income and average total sales over the last three years

<b>Year</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Annual Net Income</b>			
<b>Average Total Sales</b>			

**SECTION C: Extent of Innovation**

Please indicate on the level to which you agree with the following statements.

Use the following scale: 5= Very high level 4= High level 3= moderate level 2= low level

1= Very low level

<b>No.</b>	<b>Extent of Innovation</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>1</b>	Adoption of technology					
<b>2</b>	Introduction of new products/services.					
<b>3</b>	Improvement of skill-set.					
<b>4</b>	Introduction of new branches/business.					
<b>5</b>	Implementation of online sales through the internet.					
<b>6</b>	Training and development of employees.					
<b>7</b>	Level of expertise employed.					
<b>8</b>	Use of computers.					
<b>9</b>	Improvement of quality designs of products/services.					

**SECTION D: Effects of Innovation on Financial Performance**

The following scale will be applicable: 5= strongly agree 4= agree 3= undecided 2= disagree 1= strongly disagree

No.	Effects of Innovation on Financial Performance	1	2	3	4	5
1	The income generating potential of the company is influenced positively					
2	It leads to income increase					
3	Innovation stabilizes the business and increases competitive advantage					
4	Innovation increases savings for the company					
5	Innovation reduces operating cost of the company					
6	Innovation increased profits for the company					
7	Innovation increases the company's market share					
8	Sales volume increased					
9	Lead to the acquisition of new equipment and machines					

**SECTION E: Challenges faced by the Company in Business Innovation**

Use the following scale: 5= strongly agree 4= agree 3= undecided 2= disagree 1= strongly disagree

No.	Challenges faced by the Company in Business Innovation	1	2	3	4	5
1	Limited information on new technology advancements.					
2	Limited experience and skills using new machines.					
3	Unpredictable business environment.					
4	Severe competition.					
5	Financial issues limit implementation of innovations.					

## Appendix II: Relationship between Innovation and Financial Performance

**Table 4.10 Relationship between Innovation and Financial Performance**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.126	1.282		4.779	.000
Use of computers	-.158	.106	-.217	-1.497	.140
Implementation of online sales through the internet	.119	.221	.099	.537	.593
Training and development of employees.	-.031	.294	-.016	-.107	.915
Level of expertise employed.	.126	.136	.272	.923	.359
Adoption of technology	-.068	.204	-.102	-.335	.739
Introduction of new branches/business.	-.058	.104	-.098	-.555	.581
Introduction of new products/services.	-.194	.147	-.232	-1.319	.192

Source: SPSS Output Data (2015)