DETERMINANTS OF GROWTH IN SMALL AND MEDIUM ENTERPRISES IN KENYA

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Determinants of Growth in Small and Medium Enterprises in Kenya

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DECLARATION

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

Signature……..Date……

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This thesis has been submitted for examination with our approval as the University Supervisors

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DEDICATION

To my family who have been such an encouragement even when I felt like quiting. God bless you. And to my late parents who started me in the education process.

ACKNOWLEDGEMENT

I would like to thank and give glory to the Lord God Almighty for His wonderful grace upon my life. He gave me good health as I continued working on this thesis. To this far, I say glory to His Holy name. Secondly, I would like to thank my supervisors; Professor Elegwa Mukulu, the lead supervisor and Dr. Esther Mungai for their invaluable input in the writing of this thesis. Last and not the least I would like to thank my family for being patient when I was not available for them because of this work.

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LIST OF ACRONYMS AND ABBREVIATIONS

ADSL	Analogue to Digital Subscriber Lines
AJBMR	Australian Journal of Business Management and Research
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
ASTM	American Society for Testing and Materials
BJEFMS	British Journal of Economics, Finance and Management Sciences
CMA	Capital Markets Authority of Kenya
ECSIP	European Competitiveness and Sustainable Industrial Policy
EIM	Enterprise Information Management
GDP	Gross Domestic Product
ICT	Information and Communications Technology
ICBE-RF	Investment Climate and Business Environment Research Fund
ICECRS	International Consortium of Education Research and Culture Studies
IFAD	International Fund for Agriculture and Development.
IFC	International Finance Corporation
IITA	International Institute of Tropical Agriculture
IOSR	International Organization of Scientific Research
IPFERP	Industrial Policy Framework and Economic Recovery Program
JSBE	Journal of Small Business and Entrepreneurship

KIPPRA	Kenya Institute for Public Policy Research and Analysis
KNBS	Kenya National Bureau of Statistics
KENPRO	Kenya Projects Organization
KPMG	Klynveld Peat Marwick And Goerdeler
MSES	Micro and Small Enterprises
MSME	Micro Small and Medium Enterprises
NIST	National Institute of Standards and Technology
NITC	National Institute of Technology Calcut
NRC	National Research Council - USA.
OECD	Organization for Economic Development and Cooperation
ODI	Overseas Development Institute
ROK	Republic of Kenya
SEDCO	Small Enterprises Development Corporation
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for the Social Sciences
SWAC	Sahel and West Africa Club
UCLA	University of California, Los Angeles
UNIDO	United Nations International Development Organization
UOIDAES	University of Ibadan Department of Agricultural Extension Services

URT	United Republic of Tanzania
USAID	United States Agency for International Development
USITC	United States International Trade Commission
TUK	Technical University of Kenya
TWAS	The Academy for Sciences for the Developing World
ZIMPREST	Zimbabwe Program for Economic and Social Transformation.

DEFINITION OF TERMS

Automation Is the application of mechanical, electrical and /or computer technology to reduce the level of human participation in task performance (Kandray, 2010).

Access to Market information This is the ability to get information about prices and other relevant information about the sector in which the enterprise is perating (Schwartz, 2012)

Conceptual Framework It is a mechanism for aligning literature review, research design and methodology. It is a process as well as a product that guides researchers as they work through common research challenges (Ravitch & Riggan, 2012).

Entrepreneu is an individual who brings about change through new technological processes, products and ideas. He organizes and assumes the risks of a business (Broughton, 2016).

Environmental Opportunities These are elements, factors or forces in an organization's environment that directly or indirectly affect its chances of success or failure (Ciment, 2015)

Efficiency It is the basic reduction in the amount of wasted resources that could be used to produce the desired product. It can also be stated as the given time measured by comparing observed and optimum cost, revenue and profit subject to any appropriate constraints on quantities and prices (Capald & Idowu, 2017).

Manufacturing –based Quality **This is** the degree to which a product conforms to technical standards.This uses objective measures such as tolerances and performance. Any deviation from specifications implies reduction in quality (Nikolaidis, 2013).

Small and Medium Enterprises The definition of SMEs differ from Country to country. For Kenya,Enterprises with 5 to 49 employees referred to as small scale enterprises, those with 50 to 99 employees referred to as medium enterprises with those with a 100 or more being referred to as large enterprises (Idea Group Inc., 2013).

Telecommunication Networks Telecommunication networks are transmission systems enabling information to be transmitted in analogue or digital form between various different sites by means of electromagnetic or optical signals. The information may consist of audio or video data or some other type of data (Lannone, 2017).

Volume of production This is the amount or number of items produced within a given time period by a machine or a system (Frank, 2015).

ABSTRACT

Small and Medium Enterprises (SMEs) form the bulk of enterprises in Kenya. These small and medium enterprises contribute 80 percent of total employment in Kenya and generate 92 percent of all new jobs in the country. Small and medium enterprises in Kenya have a population of over 7.5 million. They contribute 40 percent to the Gross Domestic Product (GDP) of the country. Research has shown that in most countries, small and medium enterprises generate by far more employment opportunities than big companies or the public sector. Employment is a major source of livelihood in many countries of the world. Due to lack of employment in the rural areas, many people migrate to urban centres in search of work. This constrains resources such as housing, schools, creates insecurity and springing up of slums. Growth of SMEs is therefore of paramount importance as this would make the enterprises open branches in rural areas and thus cubing rural to urban migration. Small and medium enterprises in many countries have grown from micro enterprises to even large organizations at the same time generating a big number of jobs. Some of these enterprises open branches in the rural areas where they employ a number of workers from their neighbourhoods. Migrating to urban centres therefore becomes unnecessary. This growth to any country eases the pressure on the resources in the urban centres in different fronts. Studies have shown a number of factors that determine growth of SMEs in many countries of the world. This stud y sought to establish factors that determine the growth of small and medium enterprises in Nairobi City County whose growth and expansion to rural areas could check the rural to urban migration. Growth of SMEs has a number of factors that influence it but little has been written on the determinants of the growth of the manufacturing SMEs in Nairobi City County. The study sought to establish access to market information, quality of produced goods by SMEs, volume of produced goods and efficiency in production of the goods as important determinants of SMEs' growth. The study used exploratory approach and a descriptive survey which was carried out using questionnaires as the research instrument. This research instrument was served to owner managers of different SMEs in the manufacturing sector who operated in Nairobi City County. The subsectors of interest were those manufacturing metal items, wooden furniture, textiles and leather goods. The study investigated how the four factors: access to market information, quality of goods produced, volume of goods produced, efficiency in production of goods and use of electrical power as a moderator influenced growth of SMEs in Nairobi City County and by extension Kenya. Analysis of the data collected was done using a statistical software. From this study, it was found that the four variables influenced growth of SMEs in Nairobi but are not the only ones. The results obtained showed that they influence growth up to 68 percent, meaning there are other factors that contribute the remaining 32 percent. It was concluded that the four variables form the bulk of the factors that determine SMEs' growth in Nairobi City County. It is recommended that further studies be carried out to establish the factors that contribute the 32 percent of SMEs' growth in the County. This information can be used by policy makers in the government to develop SMEs, generate more jobs and alleviate poverty.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The definition of Small and Medium Enterprises (SMEs) differs from country to country. In Kenya, enterprises are classified into a number of groups: those with less than 5 employees are referred to as micro enterprises, those with 5 to 49 as small scale enterprises, those with 50 to 99 employees are referred as medium enterprises with those with a 100 or more being referred to as large enterprises (Tambunan, 2019). Another method of classifying enterprises in Kenya is by how much their annual turnover is. According to World Bank (2010), enterprises are classified according to their annual turnover as follows: those with turnover less than Ksh. 500,000 are referred to as micro enterprises. Those with turnover between Ksh. 500,000 and Ksh. 5 million are referred to as small enterprises while those with turnover between Ksh. 5 million and Ksh. 800 million are referred to as medium enterprises.

Small and medium enterprises play a crucial role in the development of most countries in the world. In a lot of cases, SMEs come to be as a result of reduction in job security in big firms and the public sector, increase in education levels and innovation. Small and medium enterprises come up when an economy of a country is not doing well because of shrinking of employment in the public sector (Masocha, Zindiye & Chiliya, 2012). When the economy of a country is doing well SMEs survive better because factors like credit is easier to access and governments can improve other factors of production such as infrastructure, states International Finance Corporation (IFC), (2011). Although there are other factors that play important roles in the survival of SMEs and if not addressed can cause their failure, the SMEs that survive with a strong economy are more than those that fail Organization for Economic Development and Cooperation (OECD), (2010).

United States of America (USA) and United Kingdom (UK) represent the developed countries as Sally and Mildred (2012) state. Cities began to grow with

industrialization and people living in the rural areas were looked upon by their counterparts in the cities as living stunted lives. In the rural, life was communal while in the cities it was individualistic and people could have things of their own. With SMEs coming up, the governments decided to lend a helping hand and created organizations to help the SMEs. Countries such as Germany, New Zealand, Iceland, to mention a few, developed programmes to support SMEs. Indeed, a number of them such as Germany, Iceland, New Zealand and Japan dedicated 50 percent of their entire public support program to SMEs (Ezell & Atkinson, 2011). In the developed countries, even in the rural areas, lifestyle became very close to the urban. Post industrialization in the developed world, life has changed for the better.

In the developing world, Kenya included, life in the urban centres and in the rural is very distinct. In the urban areas, although SMEs do not get the support their counterparts get in the developed countries yet there are more chances of an SME growing in the urban centre than in the rural areas (Staicu, 2017). This is because in the urban centres there are buyers for most of the products a SME would manufacture unlike in the rural areas. Growth of Smes in the urban centres is much more possible because of infrastructure (KIPPRA, 2010). Growth of SMEs in developed countries has impacted life in the rural areas overtime and lifestyle changed and become more and more of urban as people stopped relying on primary industries such as agriculture, sociology etc (Shucksmith, M., *et al*, 2012)

The flexibility of SMEs in their operations is another factor that makes entrepreneurship and by extension SMEs to flourish globally. In Kenya, these enterprises generate approximately two thirds of all jobs generated in a year (Jokorvic, 2014). Small and medium enterprises account for half of the turnover in Kenya's business sector. According to Sagwe, Gicharu and Mahea (2011) small and medium enterprises contribute a lot as far as job creation in any country is concerned. The trio further argue that small and medium enterprises generate many more jobs in any country than the government or the large firms. Small and medium enterprises in Kenya however face numerous challenges (Kinyua, 2014). These include lack of infrastructure, access to credit, competition among themselves as well as from large

firms, competition from outside the country through cheap imports and insecurity (Dana, Ratten & Honyenuga, 2018).

The importance of developed physical infrastructure in Kenya cannot be overlooked. The Kenya government acknowledges that it contributes greatly to the development and growth of SMEs (World Bank, 2016). Beside infrastructure, there are additional reasons for lack of growth in SMEs. These include: lack of resources, limited motivation, focus on local markets, lack of business ideas and lastly lack of business support initiatives. Enhancement of quality of products by an enterprise reduces waste of materials and avoids reworking which saves time. This gives an SME a better posture in the market (Onuka & Ajayi, 2012). Addressing of the deficiencies cited by Onuka and Ajayi, (2012) in this paragraph encourages entrepreneurial activities in a country.

Entrepreneurial initiatives in both urban and rural areas play a big role in the development as well as growth of small and medium enterprises in Kenya. Kenya's vision 2030 has its roots in entrepreneurship initiative. To achieve her vision 2030 goals, Kenya is set to ensure improvement of physical infrastructure among other factors of production (ROK, 2012).

Kenya's manufacturing sector is a source of employment for a lot of the country's growing labour force (Wanjau, Gakure & Kahiri, 2013). The trio add that this sector in the year 2012 employed 2.7 million Kenyans and further add that this sector is growing at a rate higher than any other in the country. Production of goods and services calls for heightened energy demands. These if met would contribute to better quality of life (KIPPRA, 2010). Places like Athi River, Ngong, Embu, and many others today have factories because of the infrastructure that has been built.

1.2 Statement of the Problem

Small and Medium Enterprises employ the largest part of any country's population Kenya included (Kok & Wit 2013, Woldie & Thomas, 2018). These enterprises are the real engine for economic growth (Jibrillar, 2013). Growth of these SMEs can generate employment if they can grow and expand to the rural areas. Studies show

that access to market information, good quality of products made by SMEs, the volume they produce and the efficiency with which they produce the products can lead to growth of the SMEs. Relevant studies do not show any of the scholars who studied the influence of the four variables together on the growth of SMEs in Kenya. Kotler (2015) underscores the importance of market information on the growth of an enterprise with Wanjau, Gakure, Kahiri and Magutu (2013) stating that SMEs that have adopted quality initiatives have registered growth. Bose,Uddin and Mondal (2013) have stated the importance of high volumes of production as an advantage as it lowers the price of the products. Chaffey and Smith (2017) underscores the need of efficiency in doing jobs. In this study, the influence of the four variables on the growth of SMEs in Kenya is studied together.

Lack of market information, poor quality of the goods produced by the SMEs, the volume of production and efficiency of production affects the growth of SMEs. Research shows that due to lack of growth, SMEs are only concentrated in urban centers and therefore people have been moving from rural to urban centers where these enterprises are as well as infrastructure in search for work (Aldiko, (2015). According to Aldiko (2015), many of the migrants are young adults looking for work and training. Potts (2013), asserts that urban migration in East and Central Africa is on the rise causing inadequacy of resources in the urban centers, sanitary issues, insecurity, poor education and even housing problems giving rise to slums. It is estimated that by the year 2050, Africa's population will have doubled and the urban centres will have received immigrants to the tune of 950 million (OECD & SWAC, 2020). A common parameter in the development and growth of slums is poverty. To mitigate the effects of poverty, growth of SMEs has been a key element in poverty eradication world over (FAO, 2016).

This study looks at the influence of access to market information, quality of produced goods, volume of produced goods and the efficiency in production on growth of small and medium enterprises in Kenya. Previous studies had not considered the influence of the four variables combined.

1.3 Objectives of the Study

1.3.1 General Objective

To establish the determinants of growth in small and medium enterprises in Kenya.

1.3.2 Specific Objectives

(1) To determine the influence of access to market information on growth of small and medium enterprises in Kenya.

(2) To establish the influence quality of produced goods on the growth of small and medium enterprises in Kenya.

(3) To establish the influence of volume of produced goods on the growth of small and medium enterprises in Kenya.

(4) To determine the influence of production efficiency on the growth of small and medium enterprises in Kenya.

(5) To determine the moderating effect of electrical power in the relationship between determinants of growth and the growth of SMEs in Kenya.

1.4 Statistical Hypothesis

The following null hypotheses were tested to ascertain how each of the variables listed in the specific objectives influences the response variable.

H_{01}: Access to market information has no significant influence on the growth of SMEs in Kenya

H_{02}: Quality of goods produced has no significant influence on the growth of SMES in Kenya.

H_{03}: Volume of goods produced has no significant influence on the growth SMEs in Kenya.

H_{04}: Efficiency in production of goods by SMEs in Kenya has no significant influence on their growth.

H_{05} Use of electrical Power has no significant influence on the relationship between the study's growth determinant variables and the growth of SMEs in Kenya.

1.5 Justification for the Study

Small and medium enterprises being the backbone of many economies of the world deserve adequate attention to enable them grow even more in the developing countries. Their contribution in Kenya's economy cannot be ignored. Policy makers should address access to market information for SMEs, the quality of their products should be monitored to ensure they are competitive, they should be given capacity to meet the market demands and lastly they should be efficient as this will help them meet the deadlines of their clients. These SMEs, given the attention and the help they need will generate more employment for the citizens and particularly in rural areas. This will in turn check the rural to urban migration which has kept the rural areas undeveloped and caused many problems in the urban centers.

1.6 Scope of the Study

This study involved collection of data in different parts of Nairobi City County. It targeted 316 SMEs that operate in Nairobi Central Business District and its environs that are registered with the Nairobi County Licensing Office and are involved in the manufacture of metal items, textile and garments, leather goods and wooden furniture. It sought to establish how the growth of small and medium enterprises is influenced by access to market information, quality of the goods they produce, volume of goods they produce and the efficiency with which they produce the goods.

1.7 Limitations of the Study

The study concentrated in Nairobi City County as it has most of the SMEs that are involved in manufacturing. Nairobi City County is one geographical area but the results can be extrapolated to include the rest of the country since it is not possible to do the research to include all SMEs in the country and in all sectors of the economy.

The four variables are not the only predictors that contribute to the growth of SMEs but the researcher could not at the time extend his research to other areas.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a brief review of the literature relating to the study of enterprise growth. The chapter discusses enterprise growth theories advanced by various scholars which provide guidance in producing a conceptual framework. A critique of literature from past similar studies and an empirical review of enterprise growth including a summary are also presented in this chapter before finally pointing out research gaps that make this study necessary.

2.2 Theoretical Framework

Enterprises usually start from a business idea by an entrepreneur. This idea is developed through numerous stages to an enterprise that can now be grown to become even a big business. To get to the level the entrepreneur envisions, resources are needed. Growth of SMEs is determined by a number of factors that include infrastructure, access to credit and management skills (Bose,Uddin & Mondal, 2013). According to Allen (2014), the factors that affect growth of an enterprise are market and industry factors, management factors and scale factors. Gellings (2015) adds that introduction of electricity increases productivity per worker and improves quality of life. The sections following lay out enterprise growth models advanced by a number of scholars who include: Greiner (1972), Churchill and Lewis (1883), Garnsey (1998), Tyebjee,Bruno and McIntyre (1983) and Gunaratne and Weerawardena (2005).

2.2.1 Greiners Enterprise Growth Model

Kumar (2016) defines two terms often used to describe the processes through which enterprises go as they grow from one level to another. These are evolution and revolution. He defines evolution as prolonged times of uninterrupted growth in an organization and revolution as times of troubles in an organization's life.

Organizations' future have a lot to do with their past. An organization can make a mistake today that can affect its profits and subsequent growth tomorrow. Thus organizations should from time to time ask themselves where they are, where they have been and possibly why they are where they are because whatever the answers they give themselves to these questions have a lot to do with their future. It is important that an organization understands its developmental challenges, if they do not, they are likely to get stuck in their current state or altogether fail (Asgary & Maccani, 2019).

According to Kumar (2016), enterprises must have strategies if they have to grow. They must have strategies for the growth and how to execute them. The Managers in the companies must study the market and know the opportunities that do exist in any particular market. Once a manager gets to know the opportunities that there be in the market, he can then develop strategies and form structures to take advantage of the opportunities or meet any challenges that there may be in the market. One of the issues the managers have to deal with is access to market intelligence. For these organizations to get market intelligence, they must be connected to information sources and particularly telecommunication networks (Cravens, Meunier-FitzHugh & Piercy 2012). Through market intelligence, a firm is able to compete with its rivals since it can get information that makes it get certain insights into the market. As firms grow, competition too grows along with them and therefore, they must get ways of outdoing the competition. This they do by abandoning the traditional methods of the newspaper or print media and getting to the internet (Kumar, 2016). This broadens their reach for market information. Greiner (1986) lists five dimensions that are essential for the development of a model of an organizational growth. These are age of organization, size of organization, stages of evolution, stages of revolution and the growth rate of the industry in which the enterprise is in. All these are elements that interact as growth of an enterprise occurs. In the growth phases of an enterprise, each of these dimensions has an effect on its growth. For every phase, there is the type of management in place and the challenges the firm experiences at the time.

For a growing enterprise, the size continues to change with time. From Figure 2.1, when an enterprise' sales volumes increase with time, revenue also increases and this does force the structures to change as there arises demand for other positions such as for an accountant, human resource manager and many more. During the times of evolution, an organization can grow at almost a constant rate. But this is not without challenges as internal management issues do arise as well as external. From the external environment of the enterprise, the market dictates certain actions that an enterprise should take. This may be in terms of adjusting the volume, quality and efficiency in their production processes. For growth, volume of sales is necessary and therefore automation is required which cannot be done without the use of electricity. Greiner's model helps the entrepreneur to know when he is at a bounder line between two phases of growth and possibly the action to take. It helps the management to change to the appropriate structure.

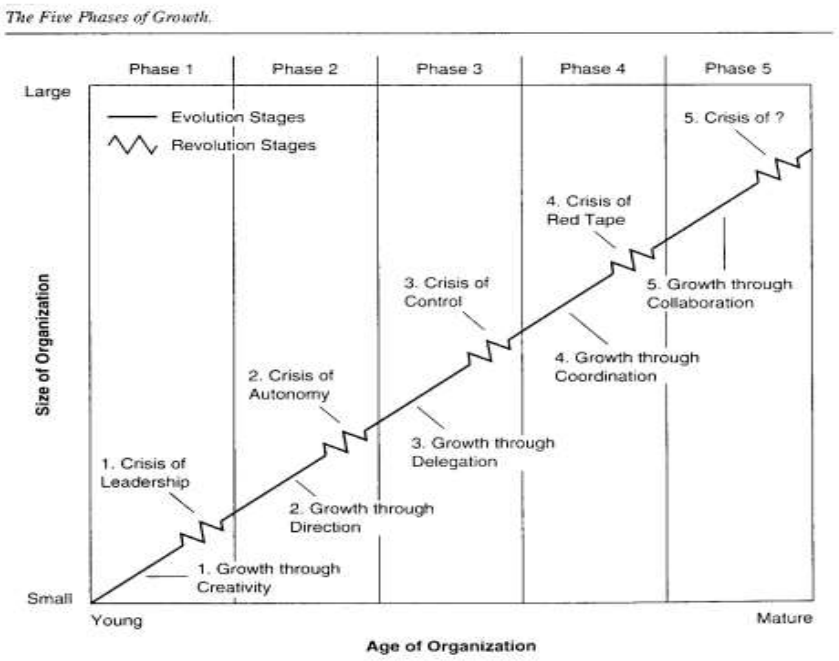

Figure 2.1: Five Phases of Enterprise Growth

Source: *Larry E. Greiner (1986)*

According to Greiner's model shown in Figure2.1, the management practices change with time from one phase to the other. This is because of the changes in growth that occur facilitated by new technologies, additional personnel and revenue from more efficient systems. These changes in technology affect volume of production, efficiency and also the cost of production. Enterprises particularly at inception require production at low price per unit. These, the owner manager must ensure market information is available in time to be able to know about positioning of the product in the market. Without the necessary technology which in our present day is linked to use of electricity, it is difficult to compete in the market place.

The Greiner's theory (see Figure 2.1), shows the various phases of an enterprise growth and acts as a background against which to gauge the growth. To increase production levels, automation .can be bought and production time of certain volumes shortened. This works better if electrical power use is introduced in the production system. If an enterprise before connection to electricity is say in phase 2 and then after connection, say, six months later, the operations increase and more people have been employed, the managers may not be able to perform certain functions themselves but would have to delegate responsibilities. If according to the Greiner's theory Figure 2.1, the enterprise will have grown and now is in phase 3, the management will have to prepare for the inevitable crises of control in the enterprise. Greiner's model for a start will help an enterprise to know whether it has succeeded or failed by either growing or declining sales and this will further help it to plan for the future however, more will need to be done as Greiner's model falls short of some important information about enterprise growth (Mura, 2018).

Greiner's theory is about managing change in enterprise growth. As an enterprise grows, it passes through the different stages of growth Greiner stated in his theory. If the enterprise is to survive and grow, the management has to be aware of these different stages. This means, for success of the enterprise in the market to be realised, the manager of an enterprise must delegate when delegation is necesary and apply control of resources as well as collaboration and coordination at the right time. Greiner's model helps us in this study to understand the different stages of enterprise growth and how to manage change in the enterprise as it grows.

2.2.2 Churchill and Lewis Enterprise Growth Model

Greiner (1986) starts discussion of his enterprise growth model by dividing enterprise growth into five phases which he calls growth through creativity, growth through direction, growth through delegation, growth through coordination and lastly growth through collaboration. Churchill and Lewis (1983) look at the stages differently. They call the first stage the existence stage, the second, the survival stage, the third, the success stage which they divide into two sub stages; the disengagement sub stage called sub stage III-D and sub stage III- G or the growth stage. Stage IV is Take-off stage and stage V is resource maturity. For both of these growth models, that is Greiner's and Churchill and Lewis's, there are what the scholars called evolutions and revolutions between successive stages. A lot of what Churchill and Lewis (1983) wrote was borrowed from the works of Greiner (1972).

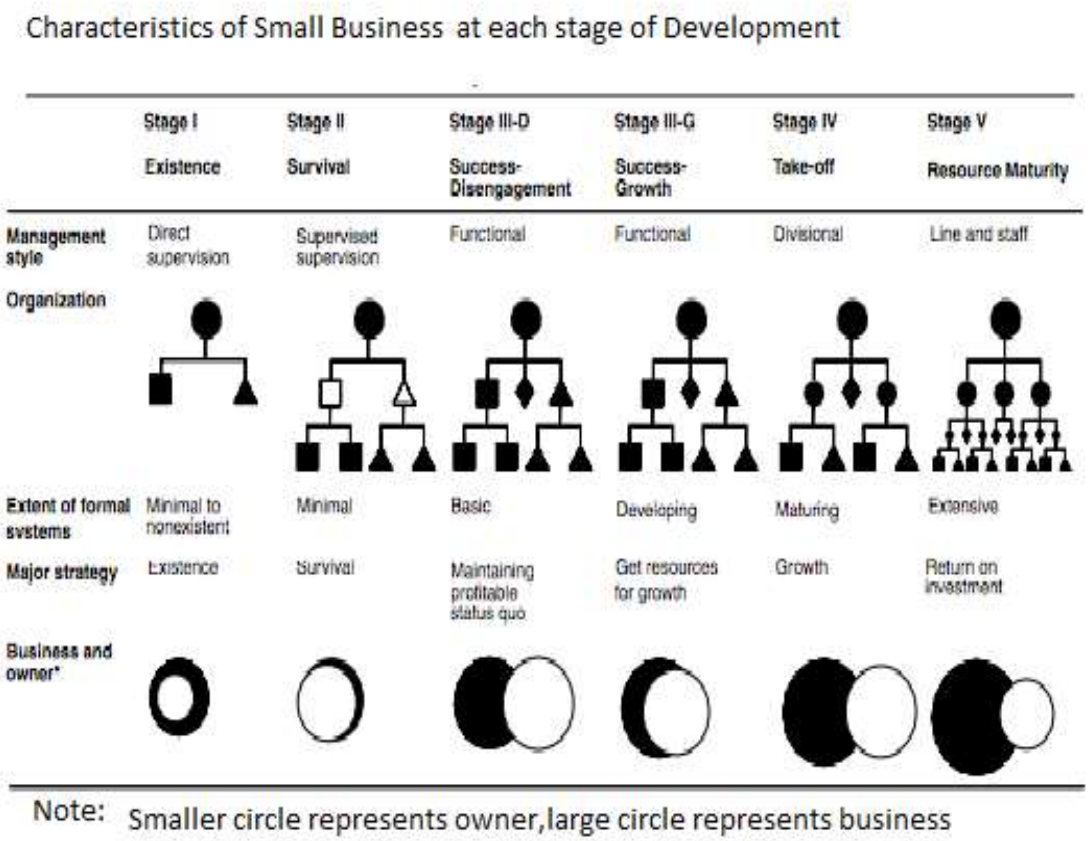

Figure 2.2: Characteristics of a small business at different stages

Source: Churchill and Lewis (1983).

Figure 2.2 shows Churchill and Lewis' model of the five stages of small business growth. This model is about how important strategy is in enterprise growth and the need for changing management style at every stage during its development. It shows that the entrepreneur must go improving their personal skills as the enterprise grows (GCU, 2016). They must move from their operational abilities in skill to strategic management skills. This again means, they must be knowledgeable to the extent that they can employ methods that require higher level skills (GCU, 2016). This model again tells the entrepreneur where they are in growth.

At the initial stages, as the owner and the company are one and the same thing, the owner works hard to get customers and to satisfy them (Kumar, 2016). The business may get enough money to fund its existence and move on to stage two. On the other hand, things can also become difficulty and the owner be forced to close as the business places high demand on the owner's time and finances (Aaltio & Eskelinen, 2016).

At the time the business gets to the second stage, called the survival stage, systems are not in place. The entrepreneur must provide leadership that will guide the enterprise to the next stage. This means the entrepreneur must set up the systems and hire more people to help with the work demands. The enterprise now with the employees can run alone without the input from the entrepreneur. At this point, the enterprise is financially healthy. This is a position the company can stay in as long as the status quo is maintained in the environment (Kumar, 2016). However, things can change in the environment which could destroy the enterprise's competitive edge. This can come either through a change in the market environment or if ineffective management takes over the company.

If none of the two factors come in, the entrepreneur then can disengage from the 'at every point control of the company' and even move to start a branch of the firm elsewhere. Figure 2.2 further shows the characteristics of a small business in different stages of growth. This figure shows also briefly the administrative requirements at different stages.

Although Greiner's model has been used by many researchers when examining businesses, it has areas where it fails to address certain points such as the very early stages of a company, that is, where it started and its growth. Another area where it fails is in that there is an assumption that all companies must pass through all these stages. It also fails in that it looks only on the volume of sales and ignores other factors such as rate of change in technology, complexity in product line and even value addition in its products (Mura, 2018). At age zero, the size of an organization is not at zero point as some authors put it. An enterprise owns some assets at this zero age and has already employed a number of workers. In Figure 2.3, Churchill and Lewis recognize these facts and hence their model shows an enterprise whose starting point is not at zero but higher up in the y-scale. It recognizes also the growth rate affected by change in technology. This again shows that with change in technology, an enterprise can take less time to reach maturity. This model similar to Greiner's, helps the entrepreneur to know where they are and is futuristic. The owner manager can buy automation and change capacity and quality. Unlike Greiner's model which assumes start of business at zero time with zero growth, Churchill and Lewis model shows that the enterprise already has some resources and so already has some growth. That is, it has assets and human resource. In reality, for a start and survival of a business in Nairobi, the enterprise must have some resources at the starting point.

Churchill and Lewis model in this study helps the entrepreneur in understanding that it is not possible to start an enterprise from zero level but must gather resources as may be necessary. This may be in terms of premises from which to operate and even human capital. Small and medium enterprises in Nairobi must ensure that starting capital is available if the enterprise is to take off. The other area in which this model is relevant to SMEs in Nairobi is in crafting strategies for growth and survival. According to Kumar (2016), the entrepreneur must change with times from their operational skills to strategic management skills. These strategic management skills come handy especially because of competition.

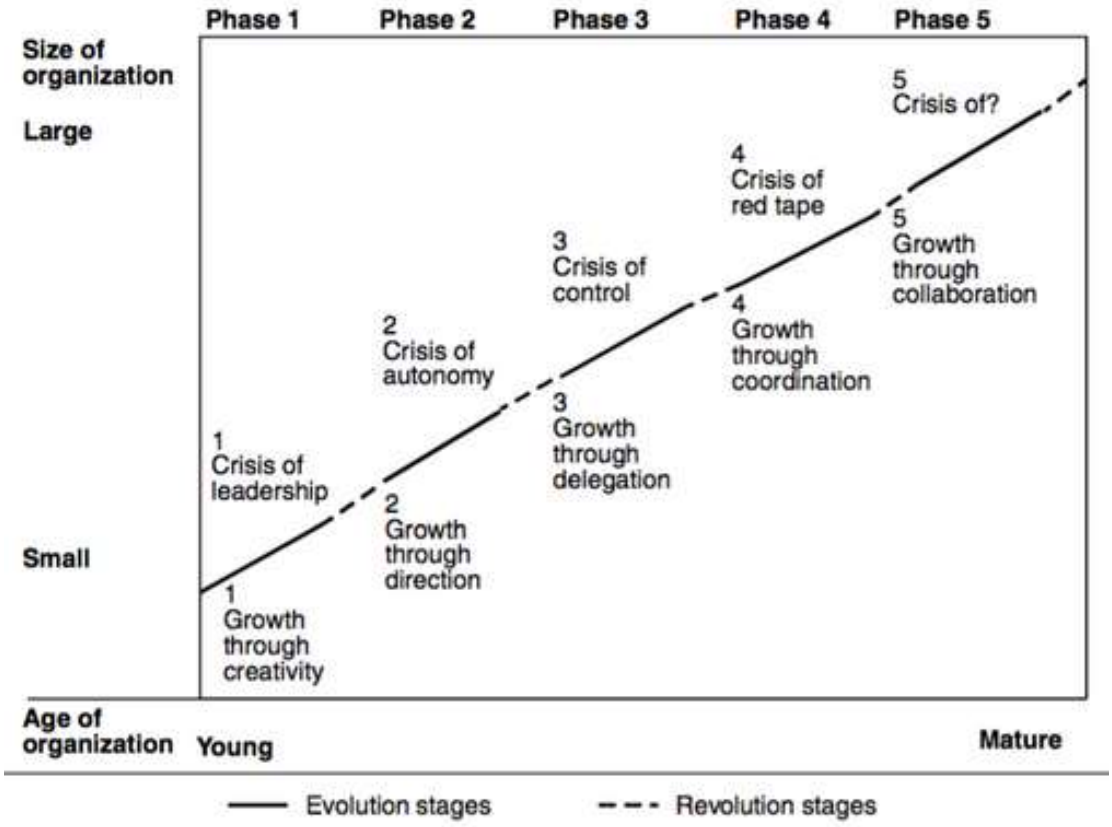

Figure 2.3: Enterprise growth phases

Source: Churchill and Lewis (1983)

2.2.3 Garnsey Enterprise Growth Model

Garnsey (1998) advanced a resource-based view of enterprise growth. She stated that access, mobilization of resources and deployment of these is key to the generation of strategic resources for the growth of an enterprise. This theory has it that, if an enterprise has to grow, it is important that it develops or makes use of any available valuable environmental opportunities and resources. The theory further states that if a resource is rare to the extent that the competitors cannot reach it, then it is a competitive advantage to the enterprise that has it. Again if a resource cannot be easily copied or not substitutable with other resources, then an enterprise can have a competitive advantage in the market place Porter (2017).

The firm, as Penrose (2019) describes it, is an administrative unit with boundaries and has a lot of activities within itself. She further says that growth of a firm is an evolutionary process which involves gathering of skills that are unique to a particular enterprise. She emphasizes the importance of the tangible and intangible resources that are supplied by a team or founders that have necessary relevant experience to steer the enterprise at each stage of growth. As an organization changes from use of traditional methods of travelling to far places to get business information to modern methods of information access, costs of accumulation of information as well of the purchase price of the same drops. This gives advantages to organizations that use resources such as internet access (Baumane-Vitolina, & Cals 2013).

Meru (2012) says that incubation a process that involves knowledge transfer is necessary for resource generation and is important as it is a necessary ingredient that causes the founders of an enterprise to network and be able to match the resources to the available opportunities in the market place. Strategic alliances and partnerships is another away an enterprise can secure resources that would be required for growth (Shah, Nazir & Zaman, 2013). The trio further say resources for firm growth can also be generated through access and mobilization of whatever resources are available. Growth reversal can often happen due to failure in synchronizing sufficient resources.

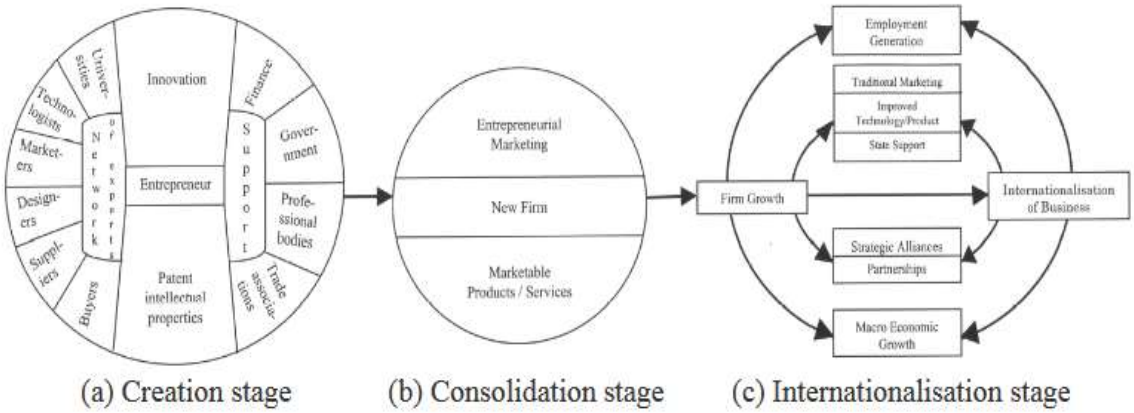

Figure 2.4: Internationalization of innovations through entrepreneurial activity

Source: Gunaratne and Weerawardena (2005).

Gunaratne and Weerawardena (2005) add to the Garnsey (1998) model by showing the linkages that are necessary for the growth of an enterprise. They state that at the creation stage, the entrepreneur should link with the parties shown on the circle representing the creation stage. At the consolidation stage and the internationalization stage, they should link up with the respective external parties shown in the respective circles to ensure success in their growth to the final levels. Often times, enterprises go global because of tax incentives, subsidies, better services to their international customers and grants that foreign governments usually offer to attract business in their countries (Gitman et al, 2018).

Other necessary linkages at the initial stage and consolidation stage are with government, professional bodies and trade associations. Figure 2.5 shows a graph of Garnsey's enterprise growth model indicating early stages of an enterprise' life. It shows critical problems that must be dealt with if the firm is to grow (Garnsey, 1998). Electric power as a resource, if accessed and mobilized along with other resources, more finances can be generated and growth of the enterprise realized. It is important for any enterprise desirous to grow to also have a presence in the global scene. The use of Internet as a resource to advertise and sell using e-commerce is a big leap for SMEs in Nairobi. A good number of them today have a picture of being so big although in reality they are small. This is because by the use of these resources, they can participate in the global market (Kenneth, Rebecca & Eunice, 2012). The entrepreneur must also innovate and protect their innovation through intellectual property laws.

For enterprises in Nairobi, the use of any available resources is beneficial given a good number of them lack capital (Ndemo et al, 2017). In growing an enterprise using the resource-based view in Nairobi, the enterprise must link itself with the right parties. Thus, they can form strategic alliances and get resources that may be rare in the immediate environment and therefore get an edge over the competition. Innovation is important for entrepreneurial growth and therefore an enterprise forming a network with universities, technologists, marketers, designers, buyers and suppliers stands to gain.

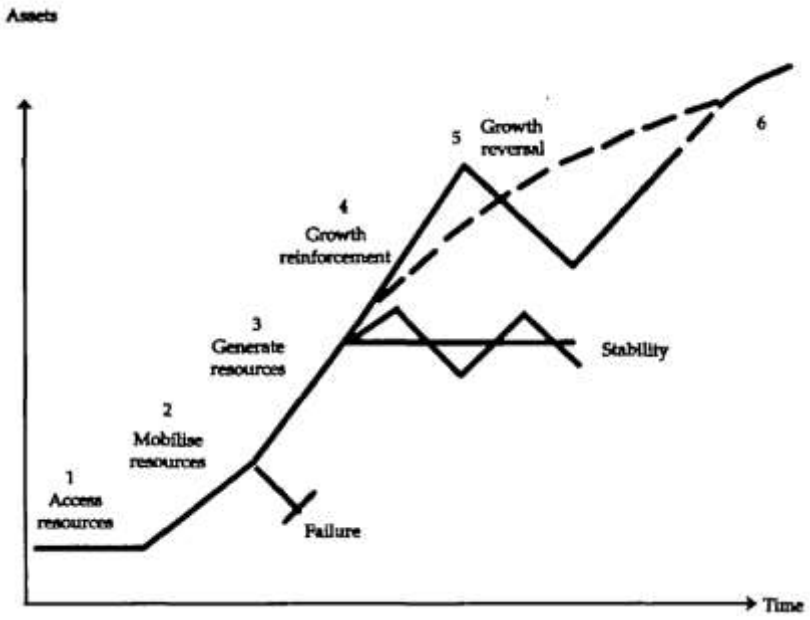

Figure 2.5: Growth paths, illustrating steady growth,early failure, stability with oscillation and a phase of growth reversal.

Source: E. Garnsey (1998)

2.2.4 Tyebjee, Bruno, McIntyre Growth Model.

Tyebjee, Bruno and McIntyre (1983) model deals with entrepreneurial marketing and especially for a manufacturing concern. In entrepreneurial marketing an enterprise goes through four stages. Table 2.1 shows how a marketing organization grows from very humble level to high levels where it has divisions. As a firm grows, it faces different organizational challenges in its marketing. The top management eventually find themselves unable to give the needed attention to the marketing of the firm products. This is due to the many issues within the firm as well as networking that they have to handle (Wasserman, 2012). These include monitoring of cash flow as well as setting up production schedules in the firm. For the marketing of an emerging firm to succeed, the top level management must begin by selling their firm products to friends and acquaintances which is the core of entrepreneurial marketing (Wasserman, 2012).

Entrepreneurial marketing which is so common with enterprises in Nairobi relies heavily on networks of personal relationships. This is an outstanding feature of entrepreneurial marketing model put forward by Tyebjee, Bruno & McIntyre (1983) and is illustrated in Table 2.1. Their model illustrates the problems encountered by small business owners as they try to organize their enterprises for marketing of their products. This model is important to enterprises in Nairobi as it shows the problems and the probable causes or diagnoses of the problems mostly encountered by enterprises as they grow and gives suggestions or prescriptions to help solve the problems. The table further shows the progressive stages of the marketing organization to a full grown marketing organization within the enterprise.

Table 2.1: The Evolution of a Marketing Organization

Problem	Diagnosis	Prescription
Top management suddenly finds itself unable to provide needed attention to marketing	Stage 1 business is ready for transition to stage 2	Hire sales manager. Continue to hold top management responsible for product planning and pricing and for providing sales support in initial contact with new customers.
There are too many products or markets for top management to coordinate all business functions for each.	Stage 2 company is ready for transition to stage 3.	Hire product managers and give them support in sales, advertising and market intelligence. Delegate all marketing responsibility to product managers. Put top management in charge of strategic planning.
Growth opportunities are limited in current product-market scope.	Stage 3 business is ready for transition to stage 4.	Decentralize marketing activities to divisional level. Establish a corporate marketing group that: Reviews division marketing plans Furnishes specialized skills in planning and research Manages corporate level marketing communication

Source: Harvard Business Review (1983).

Table 2.2 shows the stages the marketing function in an organization goes through before it becomes a division that has its departments. The divisional head ensures quality in production. This model teaches an entrepreneur in Nairobi that for growth of enterprises in Nairobi, they must have: a marketing strategy, they must be organized, they must have clear cut marketing goals and know what the critical

success factors are in the industry. Table 2.2 adopted from Harvard Business Review (1983) shows the details in the evolution of a marketing function in an organization. These are necessary to adhere to for success of an enterprise in Nairobi City County.

Table 2.2: Evolution of the Marketing Function in an Organization

	Stage 1	Stage 2	Stage 3	Stage 4
	Entrepreneurial Marketing	Opportunistic Marketing	Responsive Marketing	Diversified Marketing
Marketing Strategy	Market Niche	Market Penetration	Product-market Development	New Business Development
Marketing Organization	Informal, Flexible	Sales Management	Product-Market Management	Corporate and Divisional Levels
Marketing Goals	Credibility in the Market Place	Sales Volume	Customer Satisfaction	Product Life cycle and Portfolio Management
Critical Success Factors	A Little Help From Your Friends	Production Economics	Functional Coordination	Entrepreneurship and Innovation

Source: Harvard Business Review (1983).

A modern way used in doing business is the use of electronic Commerce (Ndemo, *et al*. ,2017). E-commerce on the other hand simplifies the way business is done. Monitoring cash flow in the business with branches in different places is made easy through electronic means. Buyers and sellers are able to meet over the internet and they are able to transact business without travelling (Ndemo, *et al*.2017). Technology has in great ways changed the way business is conducted world over. Thus through the use of electric power, instead of travelling to mitigate the problems highlighted by Tyebjee, Bruno, McIntyre Growth Model, one can solve them from a home station.

Entrepreneurial marketing is an important activity in SMEs especially in the early stages of an enterprise. There being a lot of influence in the market brought about by cheap foreign imports, SMEs in Nairobi have to start their selling by marketing their products and services to their acquaintances before they are known by the market

(Kenneth, Rebecca & Eunice, 2012). As SMEs in Nairobi and Kenya at large seek to grow, the tables adopted by Tyebjee, Bruno and McIntyre (1983) are very important as they help diagnose problems that often come to be as organizations grow from one level to another.

2.3 The Conceptual Framework

This is a statement that may be shown in a figure form or by explanation. It is a tool that is used by researchers to predict outcomes of a study. In other words it is the way ideas are organized to achieve a research project's purpose (Ravitch & Riggan, 2012). This study seeks to establish the link between the concepts (variables) and the predicted outcome. This in turn will be linked to any existing relevant knowledge. In this study, the purpose of the framework is to help the reader to easily see the link between the concepts and the predicted outcome; the growth of SMEs. In this study, the independent variables are: access to market information, quality of products, volume of the products produced, efficiency of production and use of electrical power. The dependent variable is the growth of SMEs. The manipulation or changes in these variables are predicted to have an influence in the dependent variable. Figure 2.6 illustrates the predicted relationship under study.

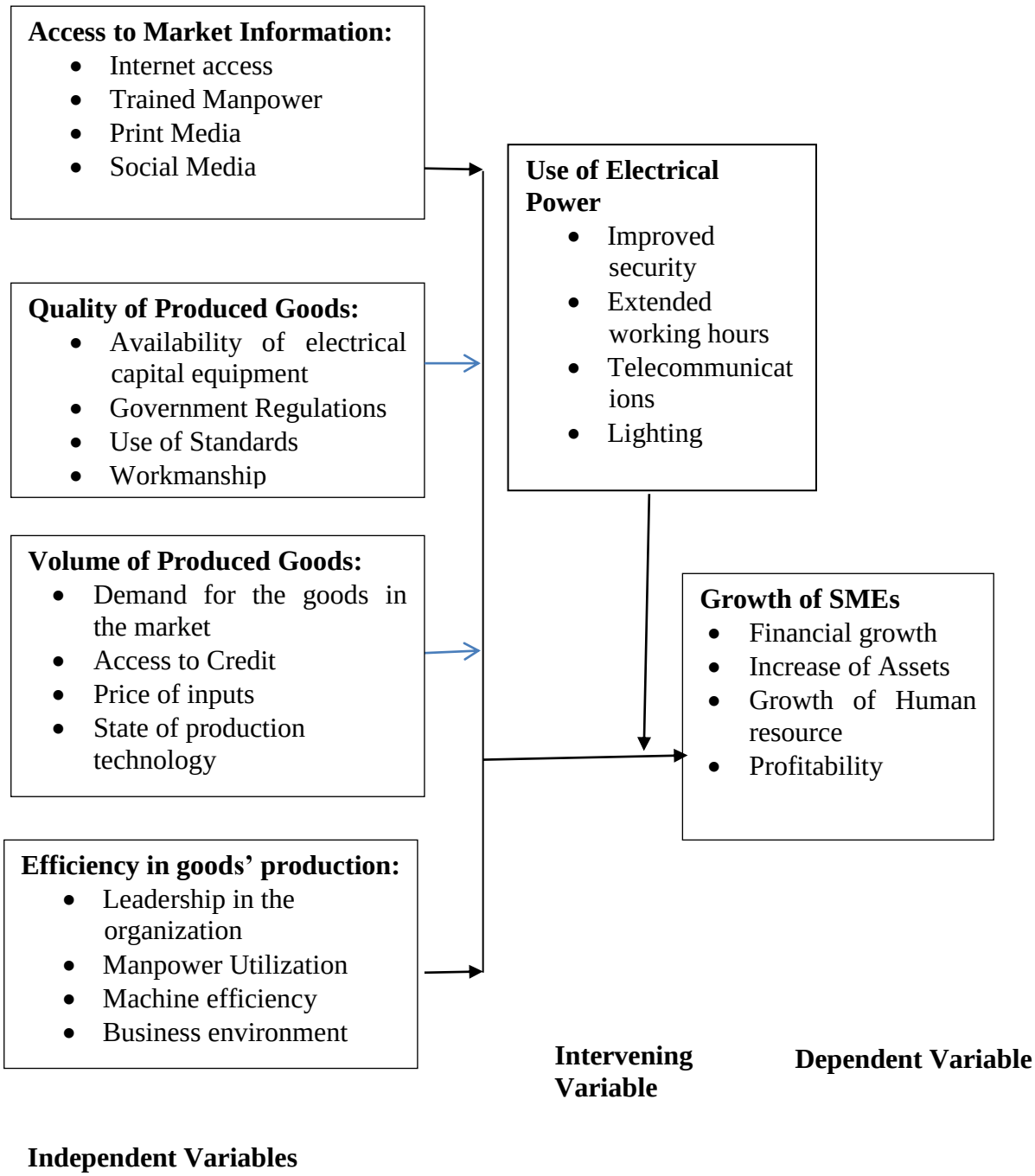

Figure 2.6: Conceptual Framework

2.3.1 Access to Market Information and Growth of SMEs

Successful business growth strategies depend on among others productivity and market access strategies (Kumar, 2016). Market information is a very important factor in the growth of SMEs in Kenya although there are challenges associated with accessing it. In the past, information collection involved electronic means as well as physical means (Ndemo, 2017). Physical mails and telexs were sent to different places taking a lot of time and money.

There are various market information theories that exist but for this study, only few will be considered. For an enterprise to be successful in the market, they must get up-to-date information of the market and its dynamics. Kotler (2015) points out a few theories of market access. Through access to market information, enterprises get to know the attractiveness of the market and this allows them to weigh themselves as to whether they can meet the demands of a particular market or not. Usually, a financially weak enterprise will not do well in an attractive market neither a strong enterprise in an unattractive market (Kotler, 2015). There exists market opportunities where you have buyer needs and this means profits can easily be gotten. An enterprise can meet the challenges posed by unfavourable trends by way of invoking product differentiation and thereby create a market niche for itself (Kotler, 2015).

Studies show internet access to be possible where there is electric power installed. Use of electricity plays a big part in the area of communication in Kenya. During the era of telex and circuit switched networks, it was very expensive and difficult to get market information. A firm in Kenya that wanted to get information on the stock market either locally or from across the borders paid quite a big cost. Places where telex and facsimile equipment was available were scattered in big towns where electricity was available. These towns comprised mainly district or provincial headquarters (Worid Bank, 2010). For successful investment in the stock exchange, an enterprise must be able to get market information as soon as it becomes available. This enables the management to make the right investment decisions at the right time. Small and medium enterprises must be able to get the best prices in the market if they are to win tenders that may have been advertised by either the government or

some large organization. Telex and facsimile machines were used by governments and big firms because they were not affordable to small firms and this limited their access to market information.

With the coming of the Internet which again was installed in places powered by the national grid, access to market information became easier (Coopersmith, 2010). According to World Bank (2010), this would not have been possible until the Kenya Government provided the infrastructure to many more towns in the country side. Today since many towns are connected to the electric national grid, it is possible to get prices from manufacturers overseas and at minimal expense.

In this era of cell phones, optic fibre and Analogue to Digital Subscriber Lines (ADSL), the cost of communication has come down and it is possible to get market information almost in real-time. This has greatly improved the way SMEs do business. Mwakaje, (2010) underscores the importance of market access in the article about the role played by information and communications technology in creating access to market information. Frequent power cuts and power rationing however, affects both the performance of the ICT sector and indeed the entire economy of a country. Electric power use is the second most important factor affecting farmers' access to ICT and hence market information (Mwakaje, 2010).

Having mentioned that internet thrives in an environment of uninterrupted power supply, it also "kills" distance. It makes even a small enterprise look big in the market because it can be seen all over the world (Worth, 2010). Small and medium enterprises can now establish their presence in the internet and look global. Transportation and technology have shrunk the world into a global village. Much as internet has done away with distances and difficulty in getting information, logistical approach to marketing is important as Cicek (2020) argues.

Any enterprise whether engaged in manufacturing or service delivery depends on the sales of its products. If an enterprise has sales below the annual increase in sales it cannot sustain itself and the shareholders must put in more funds into the enterprise for it to continue surviving (Amy, 2020). It therefore follows that sales must first grow for the enterprise to be financially healthy. Thus the personnel charged with

marketing the products of the enterprise must be well trained on how to access the market information.

In accessing market information, training of manpower is very important. This is because getting this information has become more and more electronic to the extent that if one does not know how to get to the internet and get relevant market information, they are likely not to get the necessary edge in the market place. This means whether it is in a manufacturing or service industry, training is of paramount importance (ILO, 2010). The availability of electric power to facilitate access to the internet is important. Taking even a closer look at what the use of electric power has done in the market place, it can be seen that the use of electric power in powering electronic commerce equipment has revolutionized the way business is conducted in the market place. It has brought changes in the way a business relates with the consumers let alone the catalytic role and interactivity between small and big firms. The small firms can now conduct business just as big firms Cicek (2020).

Internet usage is cheap and convenient but not to all users of different information. However, there are certain issues about the users that must be taken to account. These are: level of education, distance between the user and the location of the source of information, sex, age and level of income (Mtega, 2016). According to Mtega, (2016), market information is very important and all types of information is required for success in enterprise growth to be achieved. This can be achieved through any media be it electronic media, print or radio.

2.3.2 Quality of Produced Goods and Growth of SMEs

Quality to many has different meanings. Quality to some means zero defects or is a measure of excellence, conformance to requirements free from deficiencies and significant variations. This can be achieved through strict adherence to measurable and verifiable standards. Others describe quality as fitness for use. Conforming to these definitions does achieve consistent output that satisfies specific customer or user requirements (Rooney, 2017).

Electric power, a very useful part of infrastructure plays a catalytic role in production and marketing of products in SMEs. In this section, a review of how the use of electricity affects quality of the products from SMEs is done. Quality, which can be defined as the distinctive attribute of a product plays a big part in attracting buyers of SMEs' products. The pressure from the market demands that any manufacturer must bring to the market goods that will meet customer demands and hence bring in customer satisfaction (Wanjau, Gakure, Kahiri, & Magutu, 2013). This cannot be done without equipment that can give measurements with high degree of precision. This kind of equipment is electronic which operates mainly on electricity. Such equipment include: oscilloscopes, logic analyzers, spectrum analyzers, computerized equipment and other precision measuring equipment.

Although Kenya has high deposits of iron ore in various parts of the country such as Ikutha, Meru, Lolgorien, Samburu, Embu, Taita and Funyula districts, there cannot be exploitation without the use of electrical power (ROK, 2010). Besides, machine tools required for work on iron and steel require a high degree of precision. Manufacture of these high precision machine tools is not possible without electrical power. Thus power as mediating variable is of supreme importance.

For SMEs who deal with perishables, refrigeration is of uttermost importance. From low capacity refrigerators to cold rooms, grid electricity is needed. Taking a case of a hotel without refrigeration equipment, storage of food would be difficult and as such food would go bad meaning the quality would be bad. Additionally, Kenyan consumers are increasingly demanding for products that are of as good quality as those from foreign countries who have electricity and even automated production methods (ROK, 2010). In recognition of the need of quality products, the Kenya government has developed a national quality, standards and anti-counterfeit policy. This body ensures that goods imported into Kenya must meet certain quality standards (ROK, 2010).

National grid electric power is a catalyst to SME development and growth as states Bose, Uddin, and Mondal (2013). They further argue that introduction of grid power causes investors to invest in various types of workshops. Joints produced through arc

welding are by far stronger than those which would be produced through bracing and again it's cheaper to use electricity than gas. Thus use of electricity produces better quality work than what would be produced using industrial gas.

Capital equipment forms the base of manufacturing infrastructure in Kenya. ROK (2010) argues that beside physical infrastructure, the manufacturing industry contributes very little to the country's economic development because of its high dependence on manufacturing machine imports. For example, in the year 2009, the contribution of the industrial sector to the GDP was only 9.5% (ROK (2010). Machine tools are driven by electric power and they perform a lot of functions in the manufacturing industry. Machine tools and their accessories form a very critical part of the manufacturing sector and contribute greatly to the economic development of any country. With machine tools use, uniformity and quality of the products is ensured (ROK, 2010).

Government regulations can be a blessing to small enterprises as well as a block to their growth (Maunganidze, 2013). Small enterprises in Zimbabwe operate under an umbrella body called Small Enterprise Development Corporation (SEDCO). This organization under the Ministry of Small and Medium Enterprise Development of the Zimbabwe government lends out money on condition that they repay. Often times the borrowers default and their securities or collateral has to be sold. Their failure to repay according to Maunganidze, (2013) may not have necessarily been because of mismanagement on their part but may have been because of bad business environment. This brings the enterprise down because the government through the SEDCO may not understand the underlying reasons for the defaulting on the loan.

In Zimbabwe, the government has a number of policies on SMEs. They have beside SEDCO other organizations like Zimbabwe Program for Economic and Social Transformation (ZIMPREST), Industry Policy Framework and Economic Recovery Program all working toward the development and growth of the SME sector. These organizations try to better the operating environment for these enterprises through supporting legal framework which includes access to finance as well as tax relief (Masocha, Chiliya & Zindiye, 2012).

Quality is a feature in industrial products that is of great value to consumers. By use of standards, measurements of how close to the ideal can be ascertained. In a manufacturing concern, components for making different items are placed in bins where they are later picked from during assembling. With many manufacturing SMEs, and particularly in developing countries, the picking of component parts for assembling is done manually (Rosenfeld, 2012). However, with the use of electricity, jigs and fixtures are used and this presents a lot of advantages as items can now be produced that are uniform and made with a high degree of accuracy to meet the standards dictated by the market (NITC, 2012).

Workmanship, which may be defined as the level of skill with which a job is done or a product is made is a very important factor in producing quality goods and services. When jigs and fixtures are employed in the electric manufacturing machines, workmanship is not as important as it is in manual machines because machines' level of accuracy is too high as compared to manual ones (Carrlane, 2015). According to Carrlane (2015), the work is held in position by the jigs and at the same time the jigs guide the work. This makes it possible to mass produce with a lot of uniformity of the parts. Since these machines are driven by electricity, speed can be adjusted to various levels and hence control the volume of units produced. This will however be discussed in detail in the next section.

2.3.3 Volume of Produced Goods and Growth of SMEs

In production, the cost of production reduces as mass production comes in. This is referred to as economics of scale. In order for an enterprise to grow, it is important to reduce the cost of production per unit. This lowers the cost per unit and by extension make the goods competitive in the market (Benstone, 2010).

Production of goods using labour intensive methods such as is used by most SMEs in Kenya is not only expensive but takes a lot of time to produce a given volume. To produce volume of goods or services that would spur growth in a SME after the sales, some form of automation is required. Jigs and fixtures fall handy for the intended mass production. When large numbers of uniform products is needed, jigs

and fixtures is the way to go. The use of electricity in manufacturing concerns where jigs and fixtures are employed enables production of uniform items, high volumes due to high speeds and even low skills because once the machines are set, they continue operating with few intervals of checking (NITC, 2012).

Most often when an enterprise is producing good quality stuff, demand for their products rises to a level where they have to work harder to meet the market demand. The use of electricity in operating the machines that employ jigs is of paramount importance. Activities such as threshing, storage, milking and storage of the milk is done with the use of electricity which if done commercially can amount to making SMEs become bigger as they sell the products. To produce high volumes of work or goods, it is not easily achieved without automation which employs use of electric power (Bose, Uddin, & Mondal, 2013). Economics of scale, a concept of producing in large quantities hence lowering the production cost per unit is one of the key ingredients in lowering prices of goods and services and thus attracting buyers. Installation of electricity in many countries is an expensive undertaking for SMEs. A lot of firms use fossil fuels which make it even more expensive. Industrial energy efficiency is of high importance to SMEs as it lowers the cost of electricity with the effect of increasing productivity (Elaswad & Shahudul, 2013).

Beside access to energy, access to credit is another factor that affects volume of production. According to UoIDAES (2012), credit is an important ingredient in the production process without which production is not possible. Governments realizing the need for access to credit have set up intermediaries such as commercial banks through which they can channel the funds to small firms, states UoIDAES (2012). Access to finance is of such importance to the extent that without capital to invest in any business, there is no production which can be realized. Thus electricity as important as it is is not the only important ingredient in production (World Bank, 2012). According to Ahiawodzi and Adade, (2012), lack of equity financing and debt as well as capital act as constraints to the growth and development of SMEs in Ghana. This means that use of electricity is not the only factor that affects the growth of SMEs. Countries like Ghana who recognize the part in development played by SMEs have created channels through which SMEs can access credit. However, the

interest rates charged are too high for the SMEs to survive under (Ahiawodzi & Adade, 2012). In addition to access to finance, Ahiawodzi and Adade (2012) state that there are other issues such as lack of managerial skills, up to date equipment and technology, regulatory issues as well as access to international markets which hinder the growth of SMEs.

Demand for goods in the market place can cause the volume of production to either soar or plummet. If the demand in the market is low, there may not be much need to produce more of the products but if the demand is high, then more of the products will need to be produced since the consumers are already aware of who is producing the items. This is market pull (Tesar, 2013). On the other hand, an entrepreneur may want to introduce a product that the market is not familiar with.

If the market is sensitized about a product through promotions and personal selling, many customers may go out for the product and this would require the manufacturer or the organization offering the service to raise the capacity of production of services or goods to meet the demand. Among the factors that affect volume of production in SMEs is the cost of the inputs. According to Koshy and Prasad (2021), the factors that affect cost of production are the volumes of input and the price of input. If the volume of the input required is increased, the cost of production also goes up. It is a variable cost and depending on the volume of production, the cost will go up.

If a SME fabricates metal doors for example, the cost of electricity as well as material will affect the cost of production. In farming, the cost of animal feed, which is an input to producing say, beef or chicken meat cannot be ignored when considering the cost of producing beef or chicken since it is an input to the process. Refrigeration too can be considered as a part of the costs incurred in production of these animal products. The state of technology used in production affects all areas of production be it quality, volume or even cost. The use of electricity largely affects the type of technology to be used. Robots, which are used in areas where there is radioactivity, high temperatures great depths under water or where heavy materials are to be lifted are a great plus to production (Business case studies, 2015).

2.3.4 Efficiency in Goods' Production and Growth of SMEs

Efficiency in general terms can be said to be the ratio of output to the input. This usually is multiplied by a 100 to show it in percentage form. Another way it is described in is how fast and with precision a job is done (Chaffey & Smith, 2017). Power in the East African region is very expensive much as it improves production efficiency (Rosnes & Shkaratan, 2011). In Kenya, the high cost of electricity affects production of textiles to the extent that they cannot compete in the international market. This is because the cost of electricity coupled with the cost of transportation makes Kenyan textiles even more expensive and uncompetitive in the market (Eberhard, *et al.* 2016). Few companies who use on site generators are not able to produce to the international standard levels of production due to the costs associated with production (Eberhard, *et al.* 2016).

The United States International Trade Commission findings are that use of electricity plays a big part in production. In Africa and in Kenya particularly where a number of products are processed, electricity outage or interruption interferes with processes at different levels. Production of clean water in coffee factories for example involves electric motors. Coffee beans have to be washed using this clean water. During the washing of the beans, electricity supply should be consistent. If there is any interruption of the supply, this value addition process becomes more expensive and quality of the product as well as efficiency to produce clean water for the washing is affected. The main markets for the Kenyan coffee include European Union, United States of America, Algeria and Japan. These consumers would rather buy from Brazil than from Kenya because it is cheaper there as Brazil has more reliable electricity (Eberhard, *et al.* 2016). Countries like Burkina Faso, Togo, Cote d'Ivoire and Ghana who produce shea butter for sale to their customers; the United States of America and the European Union face certain challenges because of the high cost of electricity. This often acts as a block to investment in machinery for higher efficiency production of shea butter (Rosnes & Shkaratan, 2011).

In Nigeria, rubber production cost is 40 per cent higher than the other world rubber producers because of the frequent power outages and the high cost of power.

Countries that need to cool their products before selling them to international customers too face a challenge in storage of their products. For example, fruit products such as pineapples and bananas need refrigeration by using reliable electric power. This is usually the case with such countries which produce bananas and pineapples. The capital costs of the refrigeration equipment plus cost of electricity is prohibitive (Eberhard, *et al.* 2016).

Leadership is another factor that affects efficiency in production. Northouse (2017) defines leadership as a process in which an individual rallies a group of people to the achievement of a common goal. Leadership in any organization plays a crucial role in its sustainability and growth (Mwangi *et al*, 2013). There are certain aspects in which leaders of successful organizations differ from other people (Mwangi et al, 2013). Leaders have aspects such as the great desire to lead without being hungry for power. They have traits which stand out even in their style of leadership. Leaders of successful business enterprises are people who lead with self- confidence, honesty and integrity (Mwangi et al, 2013).

The leadership that is required in SMEs must have certain qualities such as being visionary. It should also be risk taking beside having other traits such as futuristic thinking, flexibility and full of determination to achieve the desired goals (Deans, Benwell & Ghandour, 2015). Firms using electricity also require good leadership, an argument Arham, Boucher and Muenjohn (2013) confirm. They argue that for successful entrepreneurial ventures, the entrepreneurs must have good leadership practices as good leadership enhances entrepreneurial venture success. According to Northouse (2017), the top management of a SME can greatly influence development and implementation of new products. Thus better quality and higher volumes of production are possible in an organization through the intervention of the top management.

Use of electrical power is not the only factor that affects production levels or quality levels of production. According to Mwangi et al (2013), efficiency of industrial production lines is very important. Indeed, without this factor being taken care of,

production can be greatly affected. Manpower utilization is an important factor in production efficiency. In production, there are different groups of people involved.

There are those who operate the machinery; operators and there are those who support the process of production; staff. There are times production levels are not achieved because the support staff have failed in their roles. All these people must have adequate level of training to perform their duties (Northouse (2017). According to Pomffyva, (2018), humans are very important in the production process because they are the ones who operate or feed the machines with the right instructions for proper operation.

Machine efficiency is of paramount importance in production. If care is not taken by the management to ensure preventive maintenance is carried out routinely, production can drop and the items produced may not meet the required standards or the volume of production may drop due to down times (Lincoln, 2013). He argues that humans have certain limitations that make them not able to cope with certain tasks in the production lines especially where large volumes and accuracy in production is required. This calls for the introduction of new technologies in the production lines. Depending on whether machines are working alone or humans are involved at some point, the system can be termed either semi-automated or fully automated (Bolz, 2011). Where full automation is employed, machines can work for a long time producing large volumes of work with good accuracy. If this is owned by an SME and is run well, the SME will produce high volumes and given that there is good market, they can sell, make profits and ultimately grow.

Business environment in which an enterprise is operating cannot be overlooked as it affects the way business is conducted. Bouazza, Ardjouman and Abada (2015) list internal and external factors affecting growth of small enterprises in a study carried out in Algeria. They state that with well-educated workforce and also innovative, efficiency of production in an enterprise is boosted. Infrastructure too plays a big part in the growth of SMEs. Without good infrastructure, deliveries of required work may not be easily achieved (Bouazza, Ardjouman and Abada, 2015).

2.3.5 Use of Electrical Power and Growth of SMEs

The introduction of electrical energy, a part of infrastructure in Kenya's urban and rural areas has led to development of SMEs and job creation showing energy to be a vital component of economic growth as well as improvement of quality of life (Shucksmith, *et al*. (2012). Research conducted by Kenya's Institute of Public Policy Research and Analysis, (KIPPRA, 2010) shows that the use of energy plays a big part in the economy of many countries of the world. The study also reveals that countries whose citizens enjoy a fair quality of life have adequate supply of energy. Energy is expensive and most SMEs especially in the developing world cannot afford it. Their growth is inched to their governments' intervention in providing electrical energy without which growth would not be realized (KIPPRA, 2010).

Energy demand has been seen to have a direct relationship with economic growth world over (Shucksmith, *et al*. (2012). In the developing world, the source of energy is either burning firewood or fossil fuels which often produce methane loaded smoke and again is expensive to get it to be used in certain applications. Most of the energy available in third world countries is not clean hence a great challenge of accessing clean, low–carbon energy (Wilkins, 2010). According to Wilkins (2010), the cost of reliable and affordable energy in the developing world is one big challenge let alone the challenge of producing this energy without interfering with the environment. This has often times caused climate change as well as introducing poor air quality (Wilkins, 2010). Among other sources of energy, which include: coal, natural gas, nuclear, solar, oil, water, hydrogen, wind and biomass, electricity serves as a primary resource for development (KIPPRA, 2010). It is however quite an expensive undertaking to distribute electricity to areas of low productivity. Electricity use is quite central in spurring enterprise growth especially when put to its proper use Gellings (2015). Introduction of electricity in any area extends working hours whether at home or in market places Zachariadis and Hadjikyriakou (2016). This also causes improved security, and enables development of small enterprises and changes people's life styles for the better. In many countries introduction of electric power changed life style for many a citizen. These include countries like china, United States of America, Costa Rica and many more (Barnes, 2010).

A study on micro enterprises operating in the Kenyan coastal area of Mpeketoni documented the changes in production levels on introduction of electric power. A comparison of a baseline research report for Mpeketoni area before electricity installation and a report after the installation of electricity shows there was an effect on the enterprise' production volumes as well as quality of the products. From his study report, electricity's industrial use reduces poverty levels as it improves human resource development (Manzano, Chalifour & Kotze, 2016).

The introduction of electric energy infrastructure in the area changed the households from using charcoal, wood and kerosene to modern energy; electricity. When people have been trained on the use of electricity, some start woodwork workshops, metal fabrications and many other activities. The study of enterprises in Mpeketoni did not include SMEs in the area neither did it tackle the issue of growth of the enterprises. However, the volume of goods produced with and without the use of electric power in the two scenarios was different. With electricity, the volumes were higher which meant the revenues were higher too with commodity demand and price remaining constant. This also improved the quality of the goods (Manzano, Chalifour & Kotze, 2016)

The availability of electricity in Europe after World War II played a big part too in the industrialization of Europe as a continent (Barnes, 2010). Electricity supply plays a big part in the growth of SMEs to the extent that when there is an outage or an area is not served, production is not possible or the volume, quality and efficiency are affected. This shows why electricity in this study is used as a moderating variable. In fact, when there is an outage, massive loses in small and medium enterprises are incurred (World Bank, 2011). Among the factors that influence growth are roads, electricity and telecommunications. World Bank (2011) places productivity as the main thing if growth is to be achieved. Electricity is a key intervening component in productivity.

In Kenya, like in East and Central Asia, production has often been affected whenever energy supply has been interrupted and in particular electricity (World Bank, 2011; Rosnes & Shkaratan, 2011). Small enterprises and particularly SMEs have been

found to be more affected by these outages more than the bigger firms because the big firms do use alternative sources of power such as electric generators whenever there is power outage and therefore mitigate the effect of the outages. These electricity outages have been found to affect the manufacturing as well as the service industries, states World Bank (2011). During the time power is off, the volume and quality of goods produced is different and this affects the enterprises' revenue and by extension the growth of the enterprises.

Among the factors that foster growth in SMEs is infrastructure (Rosnes & Shkaratan, 2011). A research report published by AJBMR (2012) shows that the high rate of unemployment in Nigeria is as a result of unreliable electricity supply to the industrial sector. Access to electric power has far reaching effects in the development of any country (UNIDO, 2010). The investment a country makes in the energy infrastructure explains why some countries are rich while others are poor. Indeed, the degree at which a country creates wealth depends largely on the level of its investment in the energy infrastructure (UNIDO, 2010). Poor countries have lagged behind in growth and development because of poor or lack of energy infrastructure. Without electricity, SMEs involved in manufacturing produce small quantities which mainly are of poor quality (UNIDO, 2010).

Renny (2011) and Onuonga *et al* (2011) argue that the use of electricity is so important for both SME and MSE development and growth to the extent that its availability or unavailability affects decisions that are made on where and how investment is to be made. Onuonga et al (2011) state that the manufacturing sector contributes 10 percent of Kenya's GDP and is the third largest consumer of energy in general and in particular, it is the largest electricity consumer in the country. Kenya Institute for Public Policy Research and Analysis (KIPPRA, 2010) has it that India, a country with very large population has an economy with a growth rate of 10 percent because their tariff is very low; (5.38US cents per kW) which has greatly encouraged household as well as industrial development. Besides unavailability, the cost of electrical energy in Kenya is high compared to such countries like India. If the current consumption of energy is maintained, the Kenya Government expects the manufacturing sector to continue growing at the current rate of 8% and continue

contributing the 10% of the GDP (KIPPRA, 2010). A good number of hospitals lie in the class of SMEs. Electricity used to run medical equipment and also used in educational institutions produces healthier workers as well as trained workers which translates to higher production as well as growth in the firm (UNIDO, 2010).

Street lighting and indoor lighting in the workshops has made it possible for the workers to continue with their work even when darkness has fallen. In homes too, lighting has been of great help as it has made people move from using kerosene lamps which have poisonous smoke to using modern energy; electricity. This too has made the telecommunication sector to flourish because any type of equipment can now be run using electricity (Coopersmith, 2010).

In Kenya's Vision 2030 sessional paper, the Kenya Government acknowledges that energy infrastructure is one of the items it has had to work on to get Kenya to the middle level income country xit is as was envisioned in the sessional paper (ROK, 2012). The Kenya Government states that energy is one of the constraints to telecommunication and hence development and growth of the Kenyan economy (ROK, 2012). The use of electricity contributes greatly to quality products made by SMEs, higher volumes of production, access to market information and even efficiency in carrying out production (Coopersmith, 2010; Wanjau et al, 2013; NITC, 2012). Although there are a number of issues the Kenya Government highlighted in the sessional papers, yet they do not give the use of electricity the emphasis it deserves (ROK, 2012).

2.4 Growth of SMEs

Small and medium enterprises in a country play a very key role in its economic development. They generate many more jobs in a country than the government and large firms. They however have numerous impediments to growth particularly at their initial stages (Kumar, 2016). The small and medium enterprises which survive the challenges there are in the initial stages are the ones which grow and graduate to large organizations (Davidson, Achtenhagen, & Naldi 2010). There are several factors that influence the growth of SMEs. These include infrastructure, access to finance, technological capacity, legal and regulatory framework, owner manager

capacity and marketing skills among others. Growth in SMEs is said to occur when the enterprise finances have increased mainly as a result of sales and the SMEs are now able to hire many more people (Davidson, Achtenhagen, & Naldi, 2010).

An enterprise is said to have grown financially when its turnover per a predetermined period exceeds the level it has been. An enterprise with a turn over per year between Ksh. 500,000 and Ksh. 5 million may grow and have a turnover of over Ksh. 5 million, this would mean a change from small to a medium enterprise category (World Bank, 2010).

Companies as they grow acquire assets. These assets may be material or financial. Growth of a SME has a relationship with its sales volume. In order for a SME to increase its sales volume, volume of production must be increased and this cannot be done without acquisition of machinery for the production (Anyanga & Nyamita, 2016). The pair argues that growth of a SME can be measured by looking at their financial Metric and how satisfied their customers are with the quality of their products. With this growth, they acquire more and more material assets.

Small and medium enterprises in Kenya and Africa as a whole rarely survive to beyond their third birthday. This is because factors such as limited or no access to finance cripples their growth (Woldie, Leighton & Adesua, 2018). These enterprises suffer certain setbacks to their growth occasioned by lack of finances. In many countries of the world, financial institutions charge SMEs higher interest rates on loans and demand high value collaterals for the loans because they are seen as high risk borrowers. This acts as an impediment to their growth (Bouazza, Ardjouman & Abada, 2015). According to Kumar (2016), the volume of sales translates to revenue and this too involves more personnel. The sales these SMEs make act as indicators of how well the company is doing (Bouazza, Ardjouman & Abada, 2015). Thus increase in total sales volume, production volume, use of raw materials, power and more personnel are indicators of growth (Yeboah, 2015). Profits too have an effect on growth of a company. According to a research conducted by Michalowicz (2017) for manufacturing concerns, the gross profit is the difference between the net sales and the cost of goods sold. This means, all the revenue from the sales minus the cost

of production, transport (if any to the market) and any other cost to the producer amounts to the profit made from the sales.

2.5 Empirical Review

Enterprises do grow from one category to another as they get more finances and hire more workers.Tambunan, (2019) states that as organizations graduate from the level of the number of employees they have in a certain category and employ a higher number placing them in a different category, this indicates they have financially and according to their needs grown beyond the threshold of the category they have been in. Thus, they have made more money and so they now are able to employ more people, hence growth.

Growth is seen to occur in an organization when it employs one more person in its ranks or when it acquires more assets (Kumar, 2012; World Bank, 2010). The same arguments are advanced by Kiraka, Kobia and Katwalo (2013) and Mungai and Ogot (2012) when they state that business growth is the expansion of the trade the business is involved in. They further state that growth of SMEs involves expansion of systems, resources and structures of a business. They argue that business can be grown internally, externally or even through the combination of both internal and external. Kumar (2012) argues that with internal growth, also called organic or generic growth, the entrepreneur by way of innovation gets resources together to come up with a new product or service with a better value distinct from the different resources that have been combined. External growth according to Kumar (2012) is exhibited when a SME practices either of the following growth strategies such as horizontal integration or vertical integration.

An example of horizontal integration was exhibited in Trans-nzoia, Kenya through a research conducted by Friesen and Palmer in the year 2002. These researchers showed that maize farmers acquired at least two shops for the retail of maize seeds. These shops, selling the same produce operated at the same business level. As the farmer opened more and more maize seeds retail businesses at this retail level, they grew horizontally and this is termed expansion by horizontal integration (Masouras, 2015). Horizontal integration is said to occur when a company starts manufacturing

or marketing the same type of products at the same level with its competitors. It can also be said to occur when enterprises which are at the same level merge possibly to increase their market share (Masouras, 2015).

The other expansion strategy is vertical integration. Vertical integration is a form of expansion which is said to happen when a firm acquires others that are either above or below in the value chain. That is, the ones above are suppliers while the ones below are consumers or buyers (Tantau & Fratila, 2017). For example, a firm may acquire its suppliers or customers. Acquisition of suppliers is termed backward integration while acquisition of customers is termed forward integration. A firm may do this for various reasons including control of the supply of materials or components. This may limit the competitors from accessing components or materials for the manufacture of certain components.

The growth of SMEs is measured using a number of indicators such as the profits a firm makes within a given time period and the assets it manages to put under its name in ownership (World Bank, 2014). Gain in market share, profits made over the particular period and the level of output from the firm are other indicators of enterprise growth. Small and Medium Enterprises have been known to raise people's standard of living through creation of stable incomes as well as jobs. Small and medium enterprises play a big role in the Kenyan economy as well as in many countries in the world whether developed or developing (World Bank, 2014). Indeed growth indicators within SMEs include sales and employment generation levels (Sarwoko & Frisdiantara, 2016).

Increasing the number of employees and sales in a firm is a measure of business activities in the firm and therefore growth. This means that the growth of any particular SME will be measured against the number of jobs generated over a predetermined period and the positive change in sales over the said period (Sarwoko & Frisdiantara, 2016). Among the factors that foster growth in SMEs are roads, education, railroads, intellectual property rights and electrical energy (Jokorvic, 2014).

Kamunge, Njeru and Tirimba (2014) in their study of the factors that affect the success of SMEs in Kenya again do list infrastructure as a crucial factor in the growth and survival of SMEs. Bose,Uddin and Mondal (2013) in their study of the impact of electricity access to rural SMEs in Bangladesh showed that there was favourable differences in production costs, profits as well as other effects in the day to day lives of the citizens. Good leadership has been seen to influence performance of an enterprise. A good leader can rallies a people and for this case workers to produce (Mwangi et al, 2013).

Access to market information has greatly been influenced by electricity, part of infrastructure. Use of electrical power has been shown to affect development of SME in Kenya by way of increasing productivity and by extension growth in Kenyan SMEs. Eberhard *et al.* (2016) documented the results of a research he carried out in Kenya's coast region showing that income of households increased by between 20 percent and 70 percent (depending on the product produced) as a result of the use of electrical power. The profits too doubled for a number of products sold.

Dana, Ratten and Honyenuga (2018) in their book about entrepreneurship in Africa point lack of physical infrastructure as a major challenge to growth. They point out e-commerce as one of the areas in which Africa can become very competitive as they can use it as a selling tool. This needless to say, cannot happen without the use of electric power. Tambunan (2019) underscores the importance of infrastructure and particularly electric power in communication and access to information.

Apart from the fitness for use, a product must also meet product legal standards. The product liability issues must be observed and this makes the product to be more marketable in the market and beat competition (Sulistiyowati, Saidi & Qudus, 2017). Research has it that SMEs that have adopted quality improvement initiative have been found to register growth better than those which have not (Wanjau, Gakure, Kahiri, & Magutu, 2013). World economies have not reached a point where they do not need any more supplies from SMEs. On the contrary, they need much more but at a price they can afford. This can be brought about by mass production of any item

the SMEs are producing. This would bring down the price to a level most people can afford (Bose, Uddin, & Mondal, 2013).

Among the factors that impact growth of SMEs are access to market information, quality of produced goods, volume of produced goods and efficiency in production. Market information is an important component of SMEs' growth. Small and medium enterprises as they do business, it is imperative that they get adequate information on the needs of their customers. Lack of market information is attributed to the failure of many businesses. This lack makes most African countries not be able to grow (Ongaki & Otundo, 2015). The Ugandan government at some stage dedicated a radio station to reach its citizenry but soon they realized that the intended audience was not using the facility. Today internet and mobile phones are now used for the same purpose (Wafullah, 2018). In many African countries, marketing information systems do not perform well or they even do not exist because the funding is poor and again the government agencies do not collect reliable market data (Wafullah, 2018).

For SMEs to grow, they must make as many sales of their products as possible. This means they must produce so much of their products. A customer to get value for money looks for quality and quantity. Quality, however, has different meaning though. To some, quality looks at how fit the item is for use by customers while to others it is how the item conforms to certain set standards. In all, good quality gives competitive advantage, saves time and materials as no reworking is needed as this would be expensive and time consuming (Hossain, 2012). After receiving marketing information, the proprietors of the enterprises usually would get to working to produce goods of the quality their clients would like.

World Bank (2011) places productivity as the main thing if growth is to be achieved. Improvement of infrastructure in Kenya's urban and rural areas has often led to development of SMEs and job creation showing infrastructure to be a vital component of economic growth as well as improvement of quality of life (Eberhart *et al*, 2016). Poor countries have lagged behind in growth and development because of poor or lack of energy infrastructure. Without electricity, SMEs involved in

manufacturing produce small quantities which mainly are of poor quality (UNIDO, 2010).

Onuonga *et al* (2011) state that the manufacturing sector contributes 10% of Kenya's GDP. If the current consumption of energy is maintained, the Kenya Government expects the manufacturing sector to continue growing at the current rate of 8% and continue contributing the 10% of the GDP (KIPPRA, 2010). According to ROK (2012), Kenya's Vision 2030 sessional paper, the Kenya Government acknowledges that energy infrastructure is one of the items it had to work on to get Kenya to the middle level income country it is now. The Kenya Government states that lack of energy is one of the constraints to telecommunication and hence development and growth of the Kenyan economy ROK (2012). Infrastructure and electricity in particular, contributes greatly to quality products made by SMEs, higher volumes of production, access to market information and even efficiency in carrying out production (Coopersmith, 2010; Wanjau *et al*, 2013); NITC, (2012). This study sought to establish that access to market information, quality, volume, and efficiency as determinants of growth in the manufacturing subsector of SMEs in Nairobi.

2.6 Critique of the Existing Literature

The literature reviewed about enterprise growth is mainly from developed countries. The growth theories are all from western writers. Small and medium enterprises in the developed countries do not face the same challenges as the SMEs in developing countries. Countries who are members of Organization for Economic Development Cooperation (OECD) have a kitty for assisting even start-up whereas in developing countries like Kenya do not have the benefit as those in the OECD member countries (OECD, 2017). This makes the growth of these enterprises either so slow or none at all which may even mean death to the enterprise. This agrees with what Kotler (2015).

Kotler (2015) underscores the importance of market information for SMEs' growth. He states that market information allows SMEs to know about availability of market opportunities and the state of the market. It allows the SME to know where markets for their products exists and how strong the markets are. Sourcing of market

information in the developing countries is a challenge as electric power which is necessary for the operation of communication equipment is not everywhere and this makes their operation rather difficult and costly. For SMEs which are in areas where the national grid is, communication is easier.

Literature reviewed on quality showed that quality does not mean the same to the western countries as it does to the eastern countries. Western countries concentrate on standards while the eastern countries talk of fitness for use (Finnegan & Horton (2017). Review of literature on growth of SMEs shows that the SMEs that have adopted quality initiatives have been able to register higher growth than those who have not (Wanjau, Gakure,Kahiri,and Magutu, 2013). This agrees with the findings by Kumar (2012). The findings by Kumar (2012) indicate that quality initiatives promotes a SME by a good percentage over the ones that have not adopted quality initiatives.

Sales volume by SMEs determines how much revenue a SME gets. If the volumes are produced at low price per unit, the SME may be able to make good profit unlike when the price per unit is high. However, whatever volume a SME would like to produce, they must be careful and ensure that the volumes are economical (Koshy & Prasad, 2021). This agrees with Benstone (2010) who states that higher volume of production lowers the cost per unit, attracts higher revenue because of higher number of customers, all other perdictors held constant.

Efficiency and leadership are vital for a successful enterprise growth. For efficiency, the right equipment must be used. These in most cases involves use of electrical machines in production. Use of electricity impacts development and growth of SMEs in a big way according to Bose (2013). Bose (2013) further states that use of electricity does stimulate economic productivity as well as improvement of quality of life. This agrees with Eberhard,*et. al.* (2016).

On the other hand, Maunganidze (2013) sees finance as more important in the development and growth of SME than the use of energy. Due to lack of finances, the SMEs in Zimbabwe have been greatly affected. The banks in Zimbabwe have not helped this sector to the extent that the Zimbabwe government has had to intervene

by selling treasury bonds worth US$50 billion in order to be able to save the sector from collapse. Although a lot of literature has been written in praise of electricity use as so important in the growth of SMEs, other factors have been ignored. Manpower training is as important as people cannot perform as required without proper training (Gana, Jamri & Ibrahim, 2012).

2.7 Summary of Literature Review

The theoretical framework discusses different enterprise growth models. These are the Greiner model, Churchil and Lewis model, Garnsey Model and Tyebjee, Bruno and McIntyre models. They all show different stages of enterprise growth. For the Greiner model, he assumes that an enterprise can start at zero point with no investment at all into the enterprise while it is not true. An enterprise must have stationary, premises and even workers and all these call for resources. Churchil and Lewis model is more realistic in that at zero time, they show that the entrep[reneur must have some capital to start with. Garnsey too in Figure 2.5 is also realistic in that his starting point is not zero but at a point where he indicates the entrepreneur should have some capital. Tybjee et al it is clear that an entrepreneur must prepare for the different stages of an enterprise growth. Indeed, if the entrepreneur has to succeed, he has to be ready without prejudice to change with the changes pointed out by the different stages of the business growth. He must create linkages with the relevant bodies and where necessary form strategic alliances. The literature review on the growth of SMEs shows that there is an important role played by each of the four factors: access to market information, quality of goods produced, volume of goods produced and the efficiency in production of goods. The entrepreneur must prepare the ground for every one of these four factors. The intervening variable; use of electrical power plays a role of a catalyst. With the use of electrical power, each of the four factors now works well to achieve the goal; growth of the enterprise.

2.8 Research Gaps

As stated earlier in this study, there exists a number of gaps that call for research. From the literature review, it was noted that none of the writers has addressed: access to market information, the quality of goods produced, the volume of goods produced

and the efficiency in production of goods as determinants of the growth of SMEs in Nairobi City County neither has any tabulated the effects of the use of electricity as a moderator on the four predictors on the growth of SMEs in Nairobi City County. None of the writers has given any analysis of the influence of the four predictors on the growth of SMEs in Nairobi City County by themselves or with the use of electrical power as a moderator. This study therefore sought to establish the extent to which access to market information, quality of goods produced, volume of goods produced and efficiency in production influenced the growth of SMEs in Nairobi City County.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the methodology used in this research. It discusses the research design used, the population, the sampling frame, the sample and sampling technique, the sample size, the instrument used, data collection procedure, primary data, secondary data, pilot test and lastly it discusses data processing and analysis.

3.2 Research Design

There are several research designs such as correlational, survey, observational and exploratory just to mention a few. This study used survey design. A survey design is a type of field study. It involves collection of data from a sample of elements drawn from a well-defined population by use of a questionnaire (Andres, 2012). The survey design was chosen because it has a number of advantages over the others (Gravetter & Forzano, 2015). Survey design offered efficiency, versatility and it is well suited in generalization as is required in most research reports. The design is also very good for generalization when cross-population is required. It can be implemented with a large sample or an entire population such as in census survey efficiently and cost effectively. Survey design also fits well where consistency of relationships across different subgroups is of concern (Privitera, 2014).

3.3 Target Population

The total number of objects for which a researcher intends to do a research on and from which a sampling frame may be drawn (Daniel, 2012). This research targeted manufacturing SMEs who manufactured textile items, wooden furniture, metal items and leather goods within Nairobi City County. In this study, manufacturing SMEs which operated within Nairobi's central business district and its environs were targeted. These formed the target population of our study (Daniel, 2012). According to data obtained from Nairobi County Licensing Office (2016), there are 556 licensed SMEs involved in manufacturing, selling and repair activities of metal items, leather

goods, textile items and wooden furniture. A stratified sampling was done to only pick those enterprises that are involved in the four sub sectors and leave out the ones involved in trading and repair activities (Ruirie, 2012). Ruirie (2012), further stated that this stratified random sampling technique was used because it allows a researcher to obtain a sample population that best represents the entire population being studied.

3.4 Sampling Frame

A sampling frame comprises a list of members, a directory of members or an index of cases from a target population from which a sample can be taken (Daniel, 2012). The sampling frame in this study was all SMEs drawn from the four subsectors within the Nairobi County which had SMEs involved in manufacturing of metal items, textile items, leather goods, and wooden furniture. These were found to be 316 from all the registered SMEs in The Nairobi City County. The choice of the sampling frame was guided by the main objective of the study which was to investigate and document the determinants of the growth of small and medium enterprises in Nairobi City County. This sampling frame was chosen because majority of the elements may or may not use electrical power for their operations.

3.5 Sample and Sampling Technique

A sample is a portion or part of the population of interest for which observations may be made that represents the entire population (Holmes, Illowsky & Dean, 2018). From the sample, inferences and extrapolations may be made. There are a number of sampling techniques such as simple random sampling, purposive sampling and stratified sampling to mention a few.

Among the SMEs, there are those that were trading, others were manufacturers while the rest were in the services industry. Thus there were three strata in this sector. Stratified sampling was first used since the units were not all involved in the same business activities. From the three strata, the manufacturing stratum was chosen. Stratified sampling was again be used to pick the SMEs involved in the manufacture of metal items, manufacture of leather goods, manufacture of textiles and garments

and manufacture of wooden furniture. Within this new strata, simple random sampling was employed to pick the elements for further investigation on growth issues because of its strength in lack of bias (Andres, 2012). Simple random sampling gave every element a chance to be picked. The strata were chosen because a number of the elements could operate with or without the use of electricity (or fossil fuel, hydro or geothermal generators' electricity). This would show whether there was any change in sales, production volume, quality and efficiency when electricity was used. The study sought to establish the influence the variables; access to market information, quality of produced goods, volume of produced goods and efficiency in production of goods have in the growth of SMEs in Nairobi City County with electric power as the mediating variable.

3.6 Sample Size

Information obtained directly from Nairobi City County Licensing Office listed the number of licensed SMEs involved in the four activities; manufacture of metal items, manufacture of leather goods, manufacture of textiles and garments and manufacture of wooden furniture in Nairobi County as 316 while the total number of licensed SMEs who dealt in these materials (metal items, wooden furniture leather goods and textiles) in the county was 556. By use of Slovin's formula (Ryan, 2013), a sample size from the target population of the SMEs in Nairobi County was calculated as follows:

Sample size $n = N/1+Ne^2$

Where n= Sample size

N= Target population size

e = Margin of error (Tejada & Punzalan, 2012).

Using this formula, $n= 316/1+ 316(0.05)^2 = 177$.

Thus, the sample size to be used was 177 with precision of ±5%, confidence level, 95% and a p value of 0.05. From this calculation, the sample size was 177. Using this

formula, the sample size for a population of 2500 is 345 using the same confidence level. This falls between 333 and 353 using standard tables which compares well (Ryan, 2013).

Table 3.1: Population and Sample Size

Sub- sector	**Population**	**Sample size**
wooden furniture		
N	41	23
Metal Items		
N	65	36
Textiles		
N	147	82
Leather Goods		
N	64	36
Total	**316**	**177**

3.7 Data Collection Instruments

This study used the questionnaire to collect data. Questionnaires are research tools that are used to reveal people's experiences, thoughts, attitudes and orientations to future happenings (Andres, 2012). The questionnaire which was used had both the open-ended questions and closed-ended questions. A look at previous studies by Andres (2012) and Mogeni (2016) helped the researcher to develop the questionnaire. The questionnaire items used in this study had been adopted and modified for suitability from a study by Andres, (2012) and Mogeni (2016). The use of questionnaire enabled quick collection of a lot of information. Questionnaires are more objective than interviews and the responses are collected in a standardized way. With the use of the questionnaire, it is possible to collect information from a large group. The main respondents were the owner managers, managers and senior managers of the enterprises. The study used open-ended questions, closed ended and others used likert scale. These enabled respondents to give their opinions and extra information.

3.7.1 Data Collection Procedure

The study used both primary and secondary sources of data. The primary data was collected by the researcher and two research assistants using questionnaires while the secondary was obtained from organizations such as Kenya's Central Bureau of Statistics and Nairobi City County licensing office. A method of drop and pick later was adopted as this gave the respondent enough time to respond to the questions in the questionnaire.

3.7.2 Primary Data

The primary data was collected by the researcher by use of a questionnaire. There were times when the researcher would be in a location and just observed the behaviour of the enterprise owners. If they were using electricity for example and power went off, they would not continue with their activities at the same rate as when power was on. This meant, they could not produce at the rate they were producing before power went off. The data was collected within Nairobi County.

3.7.3 Secondary Data

This is data already collected by government agencies and individuals. A government agency such as Kenya power Company Limited has data on electricity consumption by various consumers. Individuals too have records of how much of electricity they have been consuming over time. Kenya Bureau of Statistics is another government agency that provided data. Nairobi City County Licensing Office provided the names of the licensed SMEs within the county. This data together with the primary data was analyzed to give both patterns and conclusions.

3.8 Pilot Test

For a pilot test, questionnaires were supplied to 18 SMEs, a 10 percent of the sample size (Daniel , 2012) to ascertain whether the questionnaire was understandable and whether it served as an adequate instrument to collect the information the researcher intended to use to draw the necessary conclusions. This was important as it helped to

ensure the important information in this study was captured in the questionnaire. After this test, a revision was made on the questionnaire where necessary before the administration to the sample population.

3.8.1 Validity of Data Collection Instrument

Validity of a measure is the degree to which a variable measures what it is supposed to measure. In other words, it is the extent to which a concept is correctly measured with the instrument used (Heale & Twycross, 2015). In the pilot test, the instrument, the questionnaire, was taken to the respondents. This helped the researcher to know whether the instrument measures what was expected to be obtained from the pilot test.

3.8.2 Reliability of Data Collection Instrument

Reliability is a measure of consistency. If a test is carried out on the same respondents and then repeated under similar circumstances, the results should be the same (Heale & Twycross, 2015). There are a number of methods of measuring internal consistency such as item –to-total correlation, split –half reliability and Kuder-Richardson. In this reliability of data collection instrument test, Cronbach's α coefficient was used (Heale & Twycross, 2015). The value of cronbach's α should be between 0 and 1. For reliability to be acceptable, it has to be anything more than 0.7 (Heale & Twycross, 2015). If not, the instrument may be rejected for inconsistency. Ursachi, Horodnic and Zait (2015) puts the minimum at 0.6. However, an average value of 0.3 to 0.5 may be considered in certain cases. They add. Cronbach's alpha method is suitable for this measurement of reliability because it can be used on questions which have more than two responses.

The formula that was used for calculating Cronbach's α or Kuder-Richardson's KR_{20} is given by:

$$KR_{20} = \frac{(K)\,(S^2 - \sum s^2)}{(S^2)(K-1)}$$

Where:

KR_{20}=Reliability coefficient of internal consistency

K= Number of items used to measure concept

S^2 = Variance of all scores

s^2 = variance of individual items

From Table 4.1, Cronbach's α values obtained were as follows: Access to market information 0.756, quality of goods produced 0.943, volume of produced goods 0.794, Efficiency in production of goods 0.793, Use of electrical power 0.613 and growth of SMEs 1.00. From the scores obtained for each of the predictors, intervening variable and the dependent variable, the internal reliability of the instrument was reasonable and therefore acceptable for all.

3.9 Data Analysis and Presentation

The data collected was in raw form and in two formats. Qualitative and quantitative. Quantitative data collected was coded and entered into a computer with a statistical software for analysis. Analysis was done with the aid of a statistical software (SPSS version 22). The data was analyzed using both descriptive and inferential statistics. In descriptive statistics, charts and tables are used while in inferential statistics, multiple regression is used and no charts.

3.9.1 Quantitative data analysis

Quantitative data was analyzed using both descriptive and inferential statistics. Data was collected using likert scale in the questionnaire and this data was organized, analyzed and made into information through statistical software; SPSS. For the dependent variable, numerical and graphic methods were used to present this data in a convenient way (Andres, 2012). This helped in the measurement of the dependent variable. Pearson's F-test was used and where the p-value was greater than 0.05, the hypothesis was not to be rejected meaning the independent variable had significant effect on the dependent variable.

3.9.2 Qualitative Data Analysis

Qualitative data analysis was used to get the feelings and suggestions and any opinion the respondents may have on the different issues. A likert scale was used to measure the depth of their feelings.

3.9.3 The Statistical Model

Descriptive statistics are methods that are used in organizing, summarizing and presenting data in a way such that information can be drawn from it (Andres, 2012). Descriptive statistics included use of frequencies and percentages to analyze demographic and organizational data. Inferential statistics such as correlation and regression were used to study the relationships between the independent predictors and dependent variable. Correlation tested the strength and direction of relationship of the factors while regression was used to test the effect of the independent variables on the dependent variable. As the predictor variables were many, multiple regression was used. This study used the multiple regression model:

$$Y= \beta_0+\beta_1X1+\beta_2X2+ \beta_3X3 +\beta_4X4 +\beta_{1m}X_1M+\beta_{2m}X_2M +\beta_{3m}X_3M +\beta_{4m}X_4M +\varepsilon$$

Where Y= Growth

β_0 = Constant

β_i = Coefficient of regression for X (1, 2, 3, 4)

XiM= Product term with each of the independent variables (X_1, X_2, X_3)

e = error term

X1= Access to market information

X2= Quality of products

X3= Volume of products

X4= Efficiency of production

M= Use of electrical power

ε = Error term

All the quantitative data findings was presented in tables, figures and graphs. Qualitative data collected was arranged into systematic and meaningful statements according to the emerging themes. Table 3.2 shows the hypotheses, their objectives, the type of analyses carried out and how the conclusions were drawn from the findings by examining the p values in every hypothesis.

Table 3.2: Study Hypotheses

Objectives	Hypothesis	Type of Analysis	Interpretation
• To determine how access to market information influences growth of small and medium enterprises in Kenya.	• H1: Access to market information has no significant influence on the growth of SMEs in Kenya.	Pearson correlation Linear regression analysis	If p value < 0.05 reject the hypothesis. If p value is > 0.05 fail to reject the null hypothesis.
• To establish how the quality of produced goods influences the growth of small and medium enterprises in Kenya.	• H2: Quality of goods produced has no significant influence on the growth of SMEs in Kenya.	Pearson correlation Linear regression analysis	If p value < 0.05 reject the hypothesis. If p value is > 0.05 fail to reject the null hypothesis.
• To establish how the volume of produced goods influences the growth of small and medium enterprises in Kenya.	• H3: Volume of goods produced has no significant influence on the growth of SMEs in Kenya.	Pearson correlation Linear regression analysis	If p value < 0.05 reject the hypothesis. If p value is > 0.05 fail to reject the null hypothesis.
• To determine how production efficiency influences growth of SMEs in Kenya. • To determine the effect of the use of electrical power on the relationship between the growth determining(independent) variables and the growth of SMEs in Kenya (dependent) variable.	• H4: Efficiency in production of goods by SMEs in Kenya has no significant influence on their growth. • H5:Use of electrical power has no significant influence on the relationship between the study's growth determinant variables and the growth of SMEs in Kenya.	Pearson correlation Pearson correlation moderated multiple regretion analysis.	If p value < 0.05 reject the hypothesis. If p value is > 0.05 fail to reject the null hypothesis. If p value < 0.05 reject the hypothesis. If p value is > 0.05 fail to reject the null hypothesis.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter provides the results of the study carried out to test the conceptual model and the research hypotheses. It looks at the response rate of the respondents, the validity and reliability of the survey constructs used in the research. The chapter collates the general organization's data of the respondents and descriptive analyses of the variables under study. Lastly, it presents results of the statistical analyses carried out to test the research hypotheses as well as discussions and meanings of the results.

4.2 Response Rate

Response rate is defined as the percentage of individuals who responded to a survey administered to them to the total number of individuals served with the questionnair. This would mean if four individuals out of ten responded to a survey, then the response rate for the survey was 40 percent. According to Saldivar (2012), the response rate for questionnaires administered in-person such as the ones in this study, 80 to 85 percent is rated as good and beyond 85 percent very good. The respondents served were 177. The response rate in this study was 158 out of 177. Thus the returned questionnaires represents 89 % of the questionnaires administered to the respondents which is rated very good according to Saldivar (2012). After data cleaning however, the number of valid respondents fell to 141 (80%), which is still acceptable (Saldivar, 2012).

4.3 Reliability of Data Collection Instrument

Reliability is a measure of consistency of a measuring instrument. If a test is carried out on respondents and the same test is repeated on the same respondents under the same circumstances, the results should be the same (Heale & Twycross, 2015). This would mean the results are showing reliability of the measuring instrument. According to Heale and Twycross (2015), any value above 0.7 in Cronbach's scale is

acceptable although Bajpal (2011) puts minimum value at 0.6. Table 4.1 shows the Cronbach's reliability coefficient values for the study.

Table 4.1: Reliability Coefficients of the Study Variable

SME Growth Determinant	Number of Items	Reliability (Cronbach's coefficient)	Comment
Access to Market Information	15	0.756	Acceptable
Quality of Products	13	0.943	Acceptable
Volume of produced goods	14	0.794	Acceptable
Efficiency of Production	9	0.793	Acceptable
Use of Electrical Power	6	0.613	Acceptable
Growth of SMEs	4	1.00	Acceptable

4.4 Validity of Data Collection Instrument

Validity is the degree to which an instrument measures what it is supposed to measure. It defines the relationship between the concept and the indicator (Bocarnea, Reynolds & Baker, 2012).

The research instrument was tested through discussions with experts at the questionnaire formulation stage to ensure that the instrument captured what it was supposed to test and hence validity ensured. The validity of the instrument was also ensured by connecting it to the theory and empirical review of data from similar researches. The instrument was further subjected to a pilot test with 18 respondents. This represented 10 percent of the total number of the respondents served with the questionnaires. Through this test, the researcher was able to clarify any areas that were not clear to the respondents. Before the final copies of the questionnaires were printed for distribution, all necessary corrections were made to ensure the instrument was clear to the respondents and that the instrument met the intentions for which it was made.

4.5 Data Presentation for Analysis

Before the collected data could be analyzed it was cleaned, new necessary variables were created and formatting was done. This was to ensure no missing values' case is used in the analysis, no duplication of cases, cases which met exclusion criteria for the study were excluded and values which were impossible or incorrect for certain variables were done away with (Pallant, 2016). Coding was done to shorten otherwise would be long names. Creation of new variables was necessary as the main variables of the study whether independent or dependent were as a result of smaller variables as shown in Figure 2.6. After the data cleaning preparation process, it emerged that some cases did not meet the set criteria and so they were removed from the list leaving only 141 cases.

4.6 Multicollinearity

Multicollinearity is said to occur when there are high correlations between independent variables. Correlations between any two independent variables should be as close to zero as possible meaning they should have very weak relationship (Bruce & Bruce, 2017). Thus the value of one independent variable should not be used to calculate the value of another. The values obtained for the variables: Access to market information, 0.082, Quality of goods produced, 0.116, Volume of produced goods, 0.059, efficiency of production, 0.001, are all very close to 0, meaning they are not closely related and therefore none of them can be used in place of the other.

4.7 Descriptive Analysis

The purpose of this study was to investigate the influence of: access to market information, quality of goods produced, volume of goods produced and efficiency in production of goods with use of electrical power as a moderating variable on the growth of SMEs in Nairobi City County. In this section, descriptive analysis of the variables is presented. These are presented in terms of frequencies, percentages, graph, tables and charts.

4.7.1 Legal forms

The companies represented by the respondents operate under various legal forms. The respondents in the questionnaires gave the following information concerning the legal forms of their companies: Partnerships 45(31.9%), Sole owned 92 (65.2%), Limited Liability Companies 3(2.1%), those who did not say 1(0.7%). Figure 4.1 shows this information.

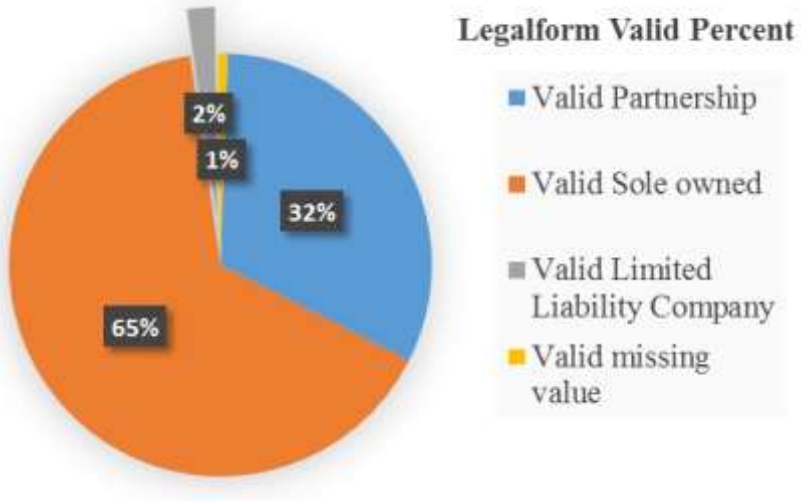

Figure 4.1: Legal Form of the Sample Respondent Companies.

4.7.2 Age of the Study Sample

The instrument administered to respondents requested for an indication of the organization's age. The respondents gave the information as follows: those whose age was between 0-5 years of age were 33 (24%), those 6-10 years old 46 (33%), those whose age was between 11-20 years 40 (28%), those over twenty years in operation 16 (11%) with those who did not give the age of their organizations being 6 (4%).This information is shown in Figure 4.2.

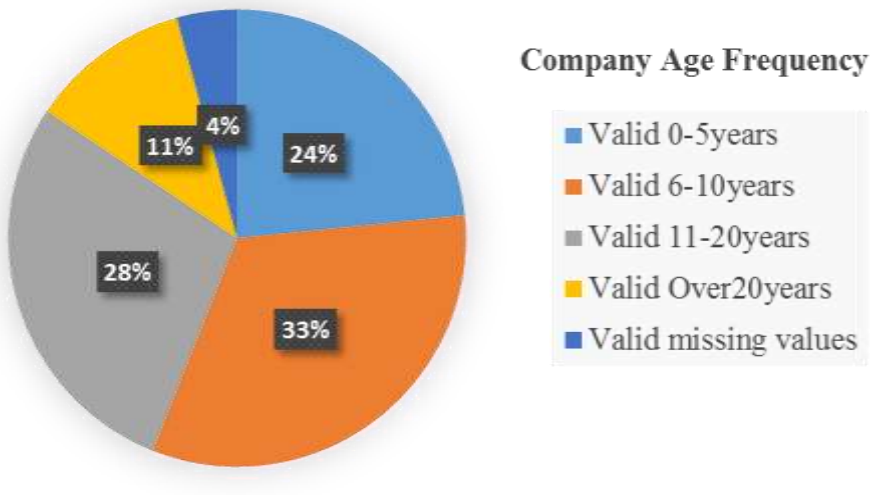

Figure 4.2: Study Sample Age Frequency Chart

4.7.3 Size of Study Sample

A company's size is described by the number of people it employs. In this study, the respondents were requested to indicate how many people their companies employed. The study sought information from companies who employed above 5 people and not more than 100. The results received were as follows: those that employed 5-10 employees 41 (29%), 11-20 employees 44(31%), 21-50 employees 33(24%), 51-75 employees 17 (12%) and those which did not indicate 6 (4%). These results are presented in a pie chart in Figure 4.3.

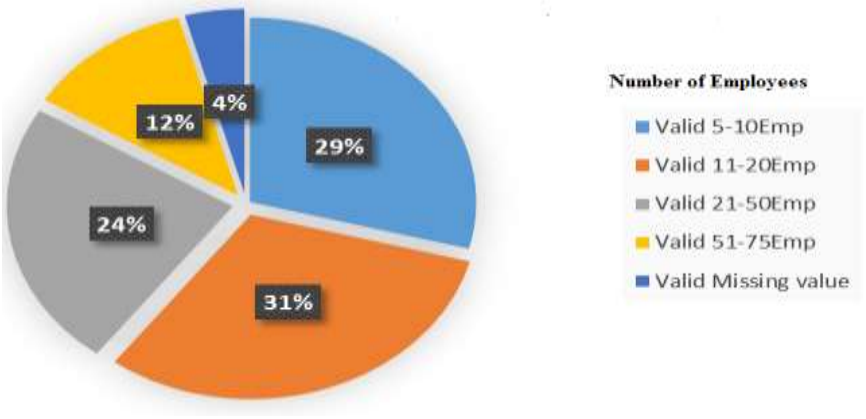

Figure 4.3: Number of Employees

4.7.4 Sub-sectors Involved in the Study

This study was carried out on four manufacturing sub-sectors. These are metal and allied, wooden furniture, textile products and leather and footwear. The respondents had been asked to indicate the sub-sector they belonged to in the questionnaire. Their responses were that those who did not indicate their sub-sector were 1(0.7%), those from leather and footwear were 28 (19.9%), those from textile products were 67 (47.5%), Wooden furniture 22 (15.6%), Metal and allied 23(16.3%).

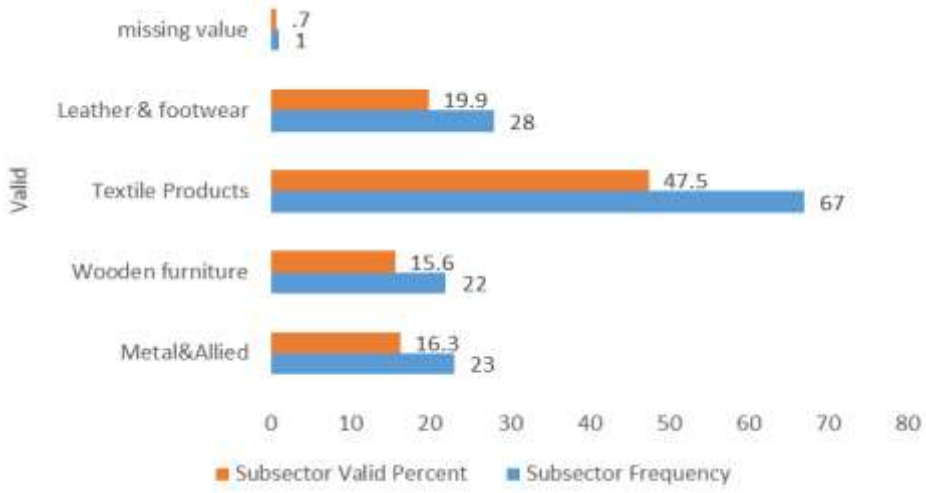

Figure 4.4: Sub-sector data for the manufacturing SMEs

4.7.5 Methods of Access to Marketing Information

There are various methods of access to marketing information. These include: telephone, fax, word of mouth and many others. Table 4.2 shows these different methods of access.

Table 4.2: Methods of Access to Marketing Information

	Social. media	phome	Fax	Newspapers	Word of mouth	Electronic Media	Internet	Email
Percentages of the extent to which mode of access is used (%)								
Never Used	37.6	9.2	77.3	61.0	21.3	69.5	42.6	44.0
Used at least once in six months	14.9	.7	11.3	12.1	1.4	12.1	12.8	12.1
Once in 3months	8.5	4.3	.7	9.9	9.2	7.8	7.1	5.7
Often used	19.1	2.1	2.1	5.7	0.0	1.4	12.1	12.1
Used most of the time	19.9	83.7	8.5	11.3	68.1	9.2	25.5	26.2

In this study, the respondents were asked to indicate the method of access to marketing information in order of most used to never used. The response was as follows: 37.6 % said that they never use social media to get marketing information while 19.9 percent said it is the method they mostly use to get marketing information. From Table 4.2, the most used method of accessing market information among SMEs is telephone 83.7%, followed by word of mouth 68.1% with e mail and internet 26.2 % and 25.5 % respectively. Some methods are used but not so often. For example, social media is used only once in six months by 14.9 % of SMEs to access market information.

4.8 Effect of Various Growth Determinants on the Growth of SMEs

4.8.1 Access to Market Information

Research on access to market information was carried out among different respondents. On a five-point likert scale, respondents were asked to indicate the extent to which they agreed with different statements about access to market information. Those who strongly agreed were 61 % and those who agreed form 91.5 % meaning Internet is a very important tool for a SME growth. The mean of 4.42 shows that most SMEs make use of Internet with a standard deviation of 0.972 showing a deviation that is not so big. Those who strongly disagreed (5%) and those

who disagree form a very small percentage compared to those who generally agree. Those who strongly agreed and those who agree that use of Internet has made business very easy form 54.2 % with those strongly disagreeing forming 30 %. With these extreme responses, the standard deviation went up to 1.7 being the highest about the variable. These responses are shown in Table 4.3.

Those who strongly agree that with well-trained manpower, business grows and those who strongly disagree have equal numbers but those who agree are more than those who disagree. This works out to 52.5 % against 38.3 % with a mean of 3.14 and a standard deviation of 1.641. This is because of the small difference between the strongly agreeing and strongly disagreeing respondents. Respondents were asked to state the value of electric power in terms of getting market information. Those who strongly agreed that electric power has been quite an asset in getting market information were 41.8 % with those agreeing being 42.6 %. The mean was 4.19 and the standard deviation was 0.902. This means that most SMEs use electricity and it plays a big part in their business growth. This agrees with KiPPRA (2010) which states that for growth of any economy, energy plays a big role. The standard deviation being 0.902 shows that it is not far from what was expected.

Marketing information machines are necessary in getting marketing information. Respondents were asked how these machines help them in getting marketing information. As shown in Table 4.3, 75.1 percent agreed that they get marketing information in a timely manner through the use of these machines. Thus 34 % strongly agreeing while 41.1 % agreed. The mean was 3.99 with standard deviation being 0.975. This means most of SMEs use telecommunication machines in their businesses to access information.

Participation in exhibitions to create business networks was one of the statements for respondents to respond to. Those who strongly agreed were 18.4 % with 34 % agreeing while those who disagreed were 26.2 % with only 9.2 % strongly disagreeing. With the 52.4 % agreeing to participate in exhibitions, it means that this participation helps to grow a market for SMEs' products. This means once the network for the SMEs' products is established, SMEs can sell their products, make

money and grow. Sometimes they may expand and open new branches so as to get nearer to their customers.

Respondents were requested to state the extent they agreed to joining their appropriate SME associations to improve access to market information and hence grow their organizations. Among the respondents, 33.3 % strongly agreed, 38.3 % agreed with 10.6 % and 5 % disagreeing and 5 % strongly disagreeing respectively. The mean calculated gave 3.84 and standard deviation of 1.148. This dispersion was not big and therefore the data values can be considered good. These responses are shown on Table 4.3.

Table 4.3: Access to Market Information

Access To Market Information	% SA	A	N	D	SD	Mean	S.D
Access to marketing information is very key to my business growth.	61	30.5	2.8	0.7	5	4.42	0.972
Use of Internet to access marketing information has made doing business very easy.	37.1	17.1	8.6	7.1	30	3.24	1.7
With well-trained manpower in using Internet the business has been growing.	29.8	22.7	9.2	8.5	29.8	3.14	1.641
Electric power has been quite an asset in our getting market information.	41.8	42.6	11.3	1.4	2.8	4.19	.902
With market information machines, we get market information in a timely manner.	34	41.1	17.7	4.3	2.8	3.99	.975
Participation in exhibitions created a network that boosts sales for the enterprise which in turn leads to growth of the enterprise.	18.4	34	12.1	26.2	9.2	3.26	1.285
Membership to the appropriate SME associations would improve access to market demands and contribute to enterprise growth.	33.3	38.3	12.8	10.6	5	3.84	1.148

SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree

According to the results of the study, 57 % of the enterprises in Nairobi grew because they had access to market information. Enterprises which have market information as a part of their core business end up selling more of their products. Consequently, they are able to receive more revenue (Kotler, 2015). Some of this revenue is ploughed back into the enterprise and is used in expanding the business. Most of the enterprises in Nairobi City County have access to market information

and this explains why they have registered growth and occupied 57 percent of the sampled enterprises within a space of less than 10 years.

4.8.2 Quality of Products

Respondents were given various statements for them to state in a likert scale of 1-5 to what extent they agreed with the given statements. On following strict guidelines in making their products, 55.3 % strongly agreed, 38.3 % agreed while those who were neutral, disagreeable and strongly disagreed each was 2.1 %. The mean was 4.43 with a standard deviation of 0.821 showing the dispersion from the mean to be small. On compliance with industrial set standards 44 % strongly agreed that their products complied with industrial set standards, 46.1 % agreed, neutral were 8.5 %, 0 disagreed and strongly disagreed were 1.4 percent. The mean and standard deviation were 4.31 and 0.748 respectively. This shows altogether, those who agreed were 90.1 % meaning compliance to industrial standards is an important factor to consider in manufacturing enterprises. This agrees with Wanjau, Gakure,Kahiri,and Magutu, 2013) who stated that enterprises that adopted quality initiatives ended up making more profits than those who did not.

Type of hired personnel in the manufacturing workshops was the other issue of interest. The respondents on a likert scale of 1-5 was asked to state the extent to which they agreed with hiring qualified personnel. Those who strongly agreed were 39 %, those who agreed were 43.3 %, and the mean and standard deviation were 4.16 and 0.872 respectively. Respondents on quality measures had 36.2 % strongly agree that they employ quality control measures on every product while 45.6 % agreed. The products made by most enterprises do not need reworking. The cumulative score of those who agreed or strongly agreed was 79.4 %. Strict manufacturing standards increased sales as seen through the 65.3 % agreeing of the respondents. Good quality products raised the enterprise finances and this too created products that have long life. This is seen in the 56 % and 85.8 % in Table 4.4. The study respondents stated that electric power use, high quality inputs and development of higher value added products created happy customers. This is supported by the respective percentage scores of 86 %, 94.3 %, 69.5 % and 63.1 % from Table 4.4. The means are between

3.71-4.35 with standard deviation between 0.718 and 0.959. This shows that the means are not scattered far from the expected line.

The majority of the respondents agreed that the strict manufacturing standards they have adhered to and long life of their products have caused the sales to increase and this has translated to higher revenues to the companies. For instance, Sandstorm Africa Ltd in the leather sub-sector has grown to open branches in four locations in Nairobi City County. When the demand of the products manufactured by the SMEs increases, the enterprises have to hire more personnel to help them cope with the demand of their products in both production and sales. This has resulted in expansion of the companies. According to 56 % of the respondents, their company finances have increased. This is illustrated in Table 4.4.

Table 4.4: Quality of goods Produced

	SA	% A	N	D	SD	MEAN	S.D
We follow strict guideline to make our products	55.3	38.3	2.1	2.1	2.1	4.43	.821
Our products must comply with the industrial set Standards	44	46.1	8.5	0	1.4	4.31	0.748
We hire qualified personnel in our workshops	39	43.3	14.2	1.4	2.1	4.16	0.872
We employ quality control measures on every product.	36.2	45.4	14.9	0.7	2.1	4.17	.941
Our products are made in a way such that reworking we do not do any reworking on them.	32.6	46.8	16.3	2.1	2.1	4.06	.876
Our strict standards has increased our sales and we have employed more people to cope with the demand.	27.7	37.6	28.4	4.3	2.1	3.84	.951
Company finances have increased.	23.4	32.6	36.9	5.7	1.4	3.71	.938
Our customers say our products last long and have been worked on nicely.	39	46.8	12.1	1.4	0.7	4.22	0.766
Electricity use has helped us improve the quality of our products	42.6	44	6.4	4.3	2.8	4.19	0.94
We ensure the inputs we use are of high quality.	44.7	49.6	3.5	0.7	1.4	4.35	0.718
Our customers are now always happy with our products.	42.6	52.5	2.8	0.7	1.4	4.34	0.705
Our customers say our products are durable compared to those of our competitors.	39.7	29.8	27	1.4	2.1	4.04	0.959
Development of higher value-added products improved the competitiveness of the enterprise in the market	15.6	47.5	30.5	2.8	3.5	3.69	0.896

SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree

4.8.3 Volume of the goods produced

The researcher in this study sought to know the determinants of the volume of goods produced for the success of SMEs in Kenya and particularly Nairobi. Questionnaires with likert scale in the scale of 1-5 statements were served to respondents for them to respond as appropriate to their situation. Those who either strongly agreed or agreed that they always met the demand of their customers in the market were 92.9 % while those who either strongly agreed or agreed that access to credit was a hindrance to them in meeting their market obligations were 65.2 % with those strongly agreeing or agreeing that the price of inputs is a problem to them being 75.1 %.

The technology employed in production is also a determinant of how much of the goods would be produced by the SMEs. From Table 4.5, 68.8 % agreed that production technology employed plays a big part in determining how much of the volume of production is going to be while 52.4 % agreed that without state of the art machines, it is not possible to meet market demands. With state of the art machines, where automation is also invoked, 66.7 % agreed that it is possible to meet market demands and on the part of automation, 59.5 % agreed that it is necessary if market demands are to be met. With adoption of state of the art technology, 56 % agreed that they are able to sell more with 55.6 % agreeing that their company assets have increased with this higher volume of production. Banks have been asking for very high value collateral and this has slowed down SMEs level of production as they have to raise the money themselves. From Table 4.5, 77.3 % agreed that the banks ask for high value collaterals which are difficult to get and this slows their growth while 80.1 % agreed that lowering the price of inputs would boost their production with 28.4 % agreeing that their selling prices determines the volume of their sales. With the state of the art technology, low price of inputs and availability of credit, enterprises are able to produce larger volumes of goods to meet market demands, make more money through sales and be able to grow and open more branches. This agrees with Bose, Uddin and Mondal , (2013) who stated that economics of scale lowers the cost of produced goods and this makes the goods to be competitive in the market.

Table 4.5: Volume of the goods produced

	SA	A	N	D	SD	MEAN	S.D
We always meet the demand for our products in the market.	52.5	40.4	5	1.4	0.7	4.43	0.719
Access to credit makes us unable to meet the demand for our goods in the market	31.9	33.3	13.5	19.9	1.4	3.74	1.149
Price of inputs makes us unable to meet the market demand for our products	26.2	48.9	11.3	13.5	0	3.88	0.592
The production technology in our company affects the volume of our output.	25.5	43.3	16.3	12.1	2.8	3.77	1.053
The production technologies we use does not cope with the volume of work we have.	19.1	33.3	18.4	20.6	8.5	3.34	1.241
With state of the art machines we are able to meet the market demand.	36.9	29.8	19.9	10.6	2.8	3.87	1.114
With the adoption of the use of electrical power, automation has been made possible and our volumes of production have increased.	26.2	33.3	27.7	8.5	4.3	3.69	1.083
We are now able to sell more and make more money.	31.2	24.8	30.5	11.3	1.4	3.77	1.155
The company's physical assets have increased as a result of increased volume of produced goods and hence sales.	22.0	33.3	34	9.2	1.4	3.65	0.971
Our banks ask for very high value collateral whenever we want to borrow to increase our volume of production and this pulls us backwards.	44.7	32.6	12.8	7.8	1.4	4.16	1.084
Lower price for the inputs boosts our production levels.	25.5	54.6	6.4	10.6	2.1	3.95	1.058
Our selling prices determines the volume of our sales.	0.7	27.7	63.1	5.7	2.8	4.20	0.767

SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree

With the companies making more money and having increase in assets leads to enterprise growth and therefore it can be noted that higher volumes of production leads to higher revenues to the enterprise resulting in growth of the enterprise.

4.8.4 Efficiency of goods production

This study was set to determine how efficiency in goods production influences the growth of SMEs in Kenya. A number of statements were given to respondents to state in a likert 1-5 scale how much they agreed with the statements. Leadership is

what matters and this 98.6 % agreed with while there was 40.5 % who said that even with good leadership they could still not meet their targets suggesting there are still other factors that contribute to the meeting of the targets beside leadership. According to the findings, 85.1 % agreed that they usually meet their deadlines while 94.3 % agreed that they religiously utilize the manpower they have with 71 % agreeing that with state of the art machines they meet their goals. In order to utilize manpower good leadership is required. This is in line with Mwangi *et al,* (2013) who asserted that leaders of successful organizations are people who are not greedy of power but have a vision and can rally people to a common goal. On minimizing waste 72.4 % agreed that they have been minimizing waste with 63.6 % agreeing that the machines they have can do a lot of work compared to the little power they consume. On connecting electricity, 83 % agreed that electricity is such a valuable input while 41.8 % agreed that inefficient technology is the reason for low productivity.

From Table 4.6, the mean range is 3.04-4.79 while the standard deviation ranges from 0.439 to 1.414. This shows that the smaller the standard deviation, the closer the observation is to the true mean. This shows that good leadership is important for efficiency to be achieved. However, the results on Table 4.6 also show that there are other factors that affect efficiency. These include: utilization of trained human resource, reduction of waste of materials and electric power which is achieved through the use of state of the art machines. This makes the enterprise revenue to increase enabling the enterprise to acquire more assets and expand. Efficiency helps the enterprise in reducing waste and creating goodwill. This results in new customers being referred to the company and in turn bringing more revenue to the company. This increase in revenue may reach a point where the enterprise management may consider expanding their operations to other areas.

Table 4.6: Efficiency of Production

Leadership and Manpower and Machine Utilization	SA	%	N	D	SD	MEAN	S.D
Leadership is what matters in this company	80.9	17.7	1.4	0	0	4.79	0.439
Even with good leadership we never meet our production targets.	27.7	12.8	18.4	29.1	12.1	3.15	1.414
We usually meet our deadlines.	36.2	48.9	11.3	2.1	1.4	4.16	0.816
We have been religiously utilizing the manpower we have.	39	55.3	4.3	1.4	0	4.32	0.625
With state of the art machines we have been meeting our goals.	34	37.6	17	6.4	4.3	3.95	1.155
We have been able to minimize waste of our raw materials.	29.1	43.3	18.4	7.1	2.1	3.9	0.973
The machines we use consume very little power but the volume of work the do is enormous.	20	43.6	16.4	15	5	3.59	1.119
Connection to electric power has helped us to get things done in a timely manner.	46.8	36.2	7.1	7.1	2.8	4.17	1.028
We have had low productivity due to using inefficient technology	9.9	31.9	17	34.8	6.4	3.04	1.152

SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree

4.8.5 Use of Electrical power

The influence of the use of electricity was incorporated in this study as an intervening variable. Respondents were requested to give their views on its influence on the growth of their businesses with the other variables in place. Those who agreed that connecting electricity has helped their business grow were 91.5 % with those who agreed that it made automation possible being 63.8 % while 94.4 % agreed that connecting electricity to their premises extended working hours thus agreeing (Manzano, Chalifour & Kotze, 2016) who stated that the presence of electricity in an area extends working hours and can double production. Businesses developed as a result of connecting electricity to many areas in Nairobi City County. The mean and standard deviations are in the ranges 3.89-4.65 for mean and 0.918-1.363 for standard deviation. The high standard deviations are mainly for variables where the number of neutral respondents is highest.

Table 4.7: Use of Electrical Power

Use of Electrical power	%					MEAN	S.D
	SA	A	N	D	SD		
Connecting electricity has helped my business grow	70.2	21.3	2.1	1.4	5	4.5	0.990
With the use of electricity, we have automated our production.	39	24.8	22.7	7.1	6.4	3.83	1.207
Electricity has made it possible to extent working hours	58.9	35.5	0	0.7	5	4.43	0.943
Electricity has made more enterprises to come up in our neighbourhood.	80.9	13.5	0.7	0	5	4.65	0.918
With electrical power we are able to do things like metal fabrication, flour milling and many more that was not possible before.	44.7	29.8	7.1	6.4	12.1	3.89	1.363

SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree

Use of electrical power helps to run machines and produce goods at a faster rate than possible without it. Enterprises that are connected to electricity are able to use fewer people and yet produce more goods. With automation, little of human input is required in production. With electrical power, enterprises have been able to automate their production, thus producing more, selling more and making more money. They can do this for more hours, even into the night, because of the presence of lights. They can also diversify operations such that they can produce different products at the same time. As they worked for longer hours, the volume of production increased and this translated to meeting market demands and therefore, more revenue. More revenue could now cause expansion of the company to other production lines or to opening of branches.

4.8.6 Growth of SMEs

Growth of SMEs was the subject of research in this study. It was to be the resultant after all variables acting together were considered. Like any other variable, it too had its own sub variables. Since the easing of access to market information, 66.7 % agreed they have been able to expand their operations to other areas while 83.7 % agreed that they have been able to buy more assets on introduction of the use of electrical power with 66.7 % agreeing that their company has generated more money through higher sales and hired more personnel (See Table 4.8). The dispersion on the standard deviation is small as well as between the means. Access to market

information, quality of produced goods, volume of produced goods and efficiency in production of goods with use of electrical power as an intervening variable caused expansion of operations to other areas, acquisition of more assets by the manufacturing companies, increase of finances through sales to the companies as well as creation of more positions of employment. These sum up as growth of SMEs involved in the manufacturing of the goods.

Table 4.8: Growth of SMEs

Growth of SMEs	%					MEAN	S.D
	SA	A	N	D	SD		
Since access to market information was eased, we have been able to expand our operations to other areas.	35.5	31.2	17.7	11.3	4.3	3.82	1.161
Our company now has been able to buy more assets since the introduction of electricity,	27	56.7	6.4	5.7	4.3	3.96	0.974
With the access to market information, higher sales volumes , the company has made more finances and hired more personnel	35.5	31.2	19.9	9.2	4.3	3.84	1.136

SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree

4.9 Inferential Statistics

So far this study has described the study variables using descriptive statistics. The researcher sought to establish the kind of influence if any, each of the independent variables has on the dependent variable. The researcher also sought to establish the kind of relationship there is between the independent variable(s) and the dependent variable and how strong. Besides establishing the type of relationship there is between the independent and the dependent variables, the inferential statistics were used to test the hypotheses if they were to be accepted or rejected. The null hypothesis would be accepted if above the 5 % level of significance and rejected if below.

The F-test, a ratio of variation between sample means and variation within the samples is used in this study. The ratio F between-group variability to the within-group variability follows an F-distribution when the null hypothesis is true. When the F value obtained from this study for any variable, is placed in the F distribution, it helps in determining the consistence of the results obtained with the null hypothesis probability (Andres, 2012). Andres (2012) further states that the higher the F value, the more reason for the rejection of the hypothesis. The probability of observing an F-statistic in the F distribution that is at least as high as the value that a study obtains allows the researcher to know how common or rare the F-value is under the assumption that the null hypothesis is true. If the probability, otherwise called the p-value, is low enough, it can be concluded that the data is inconsistent with the null hypothesis. Thus, the evidence in the sample data is strong enough to reject the null hypothesis for the entire population. T-test is not used in this test because the standard deviations involved are not known.

Growth of SMEs is the dependent variable while access to market information, quality of produced goods, volume of produced goods, efficiency of production and use of electrical power (mediating variable) were the independent variables. This relationship was established through the use of bivariate or Pearsons correlation coefficients. Multicollinearity and Pearson's product moment (r) were run to establish any relationship there may be between the variables of interest. Correlation coefficient usually lies between -1 and +1. With a +r, the regression line has a positive slope while with a –r, the regression line has a negative slope. These can be seen in Table 4.9.

From Table 4.9, the findings obtained for: access to market information ($r = 0.587$, $p = 0.000$), Quality of produced goods ($r = 0.691$, $p = 0.000$), volume of produced goods ($r = 0.612$, $p = 0.000$), efficiency in production (0.633, $p=0.000$) and use of electrical power ($r = 0.823$, $p = 0.000$) the mediating variable; all indicate positive correlation and p- values of less than 0.001. This means that an increase in any of the variables increases SME growth. Further, this means that each of these independent variables has significant influence on the growth of SMEs in Kenya.

Table 4.9: Bivariate Linear Relationship Between Study Variables

		X1	X2	X3	X4	M	Y
X1	Pearson Correlation	1	.720**	.614**	.669**	.636**	.587**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	141	141	141	141	141	141
X2	Pearson Correlation	.720**	1	.787**	.814**	.770**	.691**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	141	141	141	141	141	141
X3	Pearson Correlation	.614**	.787**	1	.830**	.680**	.612**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	141	141	141	141	141	141
X4	Pearson Correlation	.669**	.814**	.830**	1	.710**	.633**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	141	141	141	141	141	141
Y	Pearson Correlation	.587**	.691**	.612**	.633**	.823**	1
M	Pearson Correlation	.636**	.770**	.680**	.710**	1	.823**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	141	141	141	141	141	141
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	141	141	141	141	141	141

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

Key X1=Access to market information, X2=Quality of produced goods, X3=Volume of Produced goods, X4 = efficiency in production of goods, M= Moderating variable and Y= Growth of SMEs

4.10 Effect of the Independent Variables on the Dependent Variable

From the conceptual framework in Figure 2.6, there are several predictor variables that affect the outcome, the dependent variable. To be able to predict the outcome, multiple regression was used. Multiple regression is defined as a statistical method dealing with the formulation of a mathematical model to show the relationship in a case where the independent variables are two or more (Kothari, 2004). The case at hand has four predictors and one moderating variable. The different hypotheses were tested as to whether they were valid. The effect of the moderating variable M on different variables and ultimately on the growth of SMEs was tested by use of multiple regression analysis. Table 4.10 has parameters that show the contribution a

predictor (Xi) makes toward the output (Y), the growth of a SME. For all predictor variables and the moderator, there are model summary, ANOVA and regression weight sections to fully describe the model and the proposed hypotheses. The following are the results obtained after running a test of the hypotheses on SPSS:

Hypothesis One: Access to market information has no significant influence on the growth of SMEs in Kenya.

4.10.1 Access to Market Information and SME Growth Model Summary

Among the parameters in Table 4.10, is R Square which is a coefficient of determination for this predictor. R square is a measure of the model goodness of fit which typically summarizes the discrepancy between the observed values and the values expected from the model under study (Bocarnea, Reynolds & Baker, 2012). From Table 4.10, R Square is 0.345. This shows that 34.5 % of the growth a SME achieved can be traced to the SME's ability to access market information for its goods while adjusted R Square of 34 % gives a more sure estimate for the population and this agrees with Gordon (2015) who states that when the number of observations is much greater than that of the predictors, then the value of R square and adjusted R square tends to be closer. This further means that an increase in access of market information will translate to an increase in firm growth as the correlation coefficient 0.587 is positive and the p value is 0.000 which is less than 0.001. Since the p value is less than 0.001, it means there is a positive relationship between access to market information and growth of SMEs. The standard error of estimate, 0.75974 shows on average how far the results from independent variables deviates from the line of best fit. As firms have access to market information, they have information on pricing, location of markets, quantities required as well as other product details. This makes the firms to manufacture what the market needs and therefore they are able to take to the market what the market needs and consequently sell and make money. This causes the firm to grow and even expand to other geographical areas.

Table 4.10: Access to Market Information Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.587a	.345	.340	.75974

a Predictors: (Constant), Access to Market Information (X1)

4.10.2 Access to Market Information and SME Growth ANOVA

From Table 4.11, the results of the analysis of regression (ANOVA) are shown. These are F (149.302, 0.000). Since this result shows p= 0.000 and p= 0.05 is the maximum for an independent variable not to have a significant influence on the dependent variable (with 95% confidence level) and hence rejection of the hypothesis, the hypothesis is rejected and there is a positive relationship between access to market information and the growth of an enterprise. From a F-distribution, a value of 149.302 which F has in this model, lies in the rejection region of the null hypothesis (Bruce & Bruce, 2017). Hence it is rejected. This means if an enterprise has access to market information, it can know where to sell its products or buy inputs at a better price and therefore make more money and grow.

Table 4.11: Access to Market Information and SME Growth ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	76.369	1	76.369	149.302	.000[b]
	Residual	79.795	156	.512		
	Total	156.164	157			

a. Dependent Variable: Growth of SMEs(Y)
b. Predictors: (Constant), Access_to_Market Infomation(X1)

4.10.3 Access to Market Information and Growth of SMEs-Regression Weights

The statistical hypothesis put forward in this study stated that access to market information has no significant influence on the growth of SMEs in Kenya but when

asked about access to market information and their business growth, 91.5 % of the respondents comprised of those who strongly agreed and those who agreed that market information was critical to their business' growth. When asked about the relationship between their business growth and membership to SMEs' associations (where they get market information), 71.6 % of the respondents comprised of those who strongly agreed and those who agreed that membership to the SMEs associations contributed to business growth. Use of Internet and network through exhibitions add to access to market information and the respondents who strongly agreed and those who agreed formed more than 50 % of the total number of companies sampled. Additionally, by regression methods, the findings of this study showed that access to market information is positively related to the growth of SMEs (see Table 4.3 for the percentage) and Table 4.12 (where B=.760 and p=0.000). This means that for every unit of access to market information, the enterprise grows by index 0.760. Access to market information as the findings show plays a big part in the growth of SMEs. As SMEs network, they are able to get more and more ideas and information that helps them improve their businesses. Enterprises that have access to business development organizations get information through the relevant associations and this helps them improve on management of their enterprises and are now able to grow them.

Table 4.12: Access to Market Information and Growth of SMEs-Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**T**	**Sig.**
1	(Constant)	1.031	.236		4.367	.000
	Independent variable (X1)	.760	.062	.699	12.219	.000

a. Dependent Variable: Growth of SMEs (Y)

1. **Discussion of Findings on the Relationship Between Access to Market Information and Growth of a SME in Kenya.**

From the Regression analysis on Table 4.12, Pearson's product moment coefficient (R = 0.587, p = 0.000) shows the value of R being positive. This means that a unit

change in the access to market information would result in a positive change of 0.760 in the dependent variable (SME growth) Y. This is that, access to market information has a positive influence in the growth of small and medium enterprises in Kenya. If the value of R was negative, it would be concluded that access to market information was negatively related and therefore there would be a negative growth for any increase in access to market information. The p-value in this study of the relationship between access to market information and enterprise growth was less than 0.05. This means with the p-value less than 0.05, the hypothesis is rejected and the alternative hypothesis accepted. Access to market information therefore has influence on the growth of SMEs in Kenya. This agrees with Bunyasi, Bwisa and Namusonge (2014) where they state that access to business information has significant effect on the growth of SMEs in Kenya. When an enterprise has access to market information, it also gets to know who its competitors are and the prices at which they are selling their goods. This helps it to work on how to reduce their production cost and other variables so that they can compete in the market effectively.

Hypothesis Two: Quality of Goods Produced has no Significant Influence on the Growth of SMEs in Kenya.

4.10.4 Quality of Produced Goods and SME Growth Model Summary

From Table 4.13, the coefficient of determination, R Square accounts for 47.7 % of the firms' growth. It is a measure of the firm's strength of association with all the independent variables while 47.4 % accounts for variance in the dependent variable. The remaining percentage can be explained by other factors that are not in the model. A R of 0.691 shows there is a positive correlation between the quality of produced goods and the growth of the enterprise. A standard error of the estimate of 0.67848 is a measure of the average deviation of the independent variables from the line of best fit. When quality of goods produced by an enterprise rises, customers start seeing attributes of the goods such as longevity, good performance, easy to use properties and this attracts more customers to buying thje products. This brings more revenue to the company and growth results.

Table 4.13: Quality of Produced Goods and SME Growth Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.691[a]	.477	.474	.67848

a. Predictors: (Constant), Quality of Produced goods(X2)

4.10.5 Quality of Produced Goods and SME Growth ANOVA

The results for the analysis of variance (ANOVA) for the regression coefficient of the quality of produced good's model under study produced the results as shown in Table 4.14. The results showed (F=127.025, p=0.000) as the data set is small and normally distributed. This showed that quality of the goods produced has positive growth effects on SMEs in Kenya.

Table 4.14: Quality of Produced Goods and SME Growth ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	58.474	1	58.474	127.025	.000[b]
	Residual	63.986	139	.460		
	Total	122.460	140			

a. Dependent Variable: Growth of SMEs(X2)
b. Predictors: (Constant), Quality of Products (Y)

4.10.6 Quality of Produced Goods and Growth of SMEs- Regression Weights

Regression results in this study show that there is a positive significant correlation between the quality of produced goods and growth of SMEs. This can be seen in Table 4.15 where β is shown to have a value of 0.691. This means, for every unit change in value of quality of produced goods, the dependent value (Y) changes by index 0.691. As the p-value is 0.000, the hypothesis put forward stating that the quality of goods produced has no significant influence on the growth of SMEs in Kenya is not true and is therefore rejected. This means that is firms improve the quality of their products, they will get more buyers of their products and this will result in higher revenues making the firms to grow and may be open new branches.

Table 4.15: Quality of Produced Goods and Growth of SMEs- Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.072	.360		-.198	.843
	Quality of Products (X2)	.975	.086	.691	11.271	.000

a. Dependent Variable: Growth of SMEs(Y)

2. Discussion of Findings on the Relationship Between Quality of produced Goods and Growth of a SME in Kenya.

The Regression analysis on Table 4.15 shows that quality of produced goods had a positive influence in the growth of small and medium enterprises in Kenya. From this table, a unit change in the quality of produced goods resulted in a change of 0.975 in the dependent variable (Y). It also follows from Pearson's product moment coefficient ($R = 0.691$, $p = 0.000$) that there is a positive correlation between quality of produced goods and growth of SMEs in Kenya. Enterprises that adopt production of quality goods win more customers to themselves and this translates to more revenue and growth. This agrees with Wanjau, Gakure and Kahiri (2013) who undertook a research in Nairobi and its environs and found that 72 % of SMEs had adopted quality initiatives among whom were 45 % in the agricultural sector. They further stated that the SMEs who adopted quality initiatives had reaped the benefits through added revenue. Quality as perceived involves size of the product, how long it can serve its purpose and even aesthetics. An enterprise that manufactures products that last long, aesthetically good and serve their purpose wins more customers, grows revenue base and grows also in size. Quality, however demands that the firm must have highly trained manpower to achieve the quality level of produced goods that can sell well and stand out in the market.

Hypothesis Three: Volume of Goods Produced has no Significant Influence on the Growth of SMEs in Kenya.

4.10.7 Volume of Produced Goods and SME Growth Model Summary

From Table 4.16, R Square, the coefficient of determination, shows that 37.4 % of the growth of an enterprise can be explained by the volume of produced goods, 37 % can be explained by volume of produced goods in exclusion of the constant variable while R= 0.612 shows that there is a positive relationship between the volume of produced goods and the growth of enterprises in Kenya. This means that as the volume of goods sold increases, revenues increases and this raises the firm's financial position. Due to more finances, the firm may decide to buy more assets and expand.

Table 4.16: Volume of Produced Goods and SME Growth Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612[a]	.374	.370	.74253

a. Predictors: (Constant), Volume of produced goods (X3)

4.10.8 The Volume of Produced Goods ANOVA

The results for the analysis of variance (ANOVA) for the regression coefficient of the volume of produced good's model under study produced the results as shown in Table 4.17. The results showed (F=83.108, p=0.000). For the F-test value, the data set is small and normally distributed. This shows higher volumes would produce growth as more sales translate to more revenue. With more revenue, an enterprise can expand and have more branches.

Table 4.17: The Volume of Produced Goods ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.822	1	45.822	83.108	.000[b]
	Residual	76.638	139	.551		
	Total	122.460	140			

a. Dependent Variable: Growth of SMEs(Y)
b. Predictors: (Constant), Volume of produced goods(X3)

4.10.9 The Volume of Produced Goods- Regression Weights

The results of Regression in this study show that there is a positive significant correlation between the Volume of produced goods and growth of SMEs. This can be seen in Table 4.18 where β is shown to have a value of 0.612 (taking the standardized coefficient). This means, for every unit change in value of quality of produced goods, the dependent value (Y) changes by index 0.612. As the p-value is 0.000, the hypothesis put forward stating that the volume of goods produced has no significant influence on the growth of SMEs in Kenya is not true and is therefore rejected. This means that the volume of produced goods through sales brings more revenue which can be used by the enterprise for expansion.

Table 4.18: The Volume of Produced Goods- Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.109	.425		.257	.797
	Volume of produced goods (X3)	1.071	.118	.612	9.116	.000

a. Dependent Variable: Growth of SME (Y)

3. Discussion of Findings on the Relationship Between Volume of Produced Goods and Growth of SMEs in Kenya.

From Table 4.16, the model summary shows R= 1.071. This means that higher volumes of production translates to more sales assuming the market is there for the commodity. When sales increase, a firm receives more revenue. A positive

relationship exists between the volume of goods produced and growth of the enterprise when more goods produced translate to higher sales and hence higher revenue. This increase in revenue enables the firm to buy assets, open new branches and therefore grow. From the statistics on Table 4.16, for every unit of volume of produced goods, the corresponding increase in the growth Y of the SME is 1.071. The hypothesis put forward stated that the volume of goods produced has no significant influence on the growth of SMEs in Kenya. From Table 4.18, the value of β is 1.071 and p-value is less than 0.005. From Table 3.2, with a confidence level of 95 percent, if the p-value obtained is less than 0.05, the null hypothesis is rejected and if the p-value is greater than 0.05, the null hypothesis is not rejected. For our case here, the p-value is less than 0.05 and therefore the null hypothesis is rejected and it is noted that the volume of produced goods has influence in the growth of an enterprise. This means when an enterprise produces more goods and sells them, it gets more money and this translates to growth of the enterprise. Without the capacity to produce in large quantities and therefore lower per unit cost, it becomes difficult to compete in the market place. This requires resources which Wang (2016) and Yeboah (2015) acknowledge in their articles on the growth of SMEs in developing countries. Resources such as electric power are required to help in producing goods en mass and therefore meet the market demand.

Hypothesis Four: Efficiency in Production of Goods by SMEs in Kenya has no Significant Influence on their Growth.

4.10.10 Efficiency in Production of Goods and SME Growth - Model Summary

Table 4.19 shows R Square, the coefficient of determination, as the parameter explaining that, 40 % of the growth of an enterprise can be attributed to efficiency in production of goods, 39.6 % can be explained by efficiency in production of goods in exclusion of the constant variable while R 0.396, the adjusted R Square, shows that there is a positive relationship between the efficiency in production of goods and the growth of enterprises in Kenya. If jobs in an enterprise are done fast and with precision, customers will love to deal with that enterprise and this will translate to more jobs, more revenue and ultimately growth of the enterprise. This agrees with

Coelli, Rao and Battese (1998). Efficiency saves power, time and materials as reworking is minimal.

Table 4.19: Efficiency in Production of Goods and SME Growth Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.633[a]	.400	.396	.72687

a. Predictors: (Constant), Efficiency of Production(X4)

4.10.11 Efficiency in Production of Goods and SME Growth ANOVA

The results for the analysis of variance (ANOVA) for the regression coefficient of efficiency in production of goods under this study produced the results as shown in Table 4.20. The results showed (F=92.782, p=0.000).For the F-test value, the data set is small and normally distributed. Since p value is 0.000, it means there exists a relationship between the efficiency in production of goods and SME growth. As firms become more and more efficient in their production activities, they end up in supplying their customers in time and this encourages the customers to place orders with the same firm which supplied them on time. Thus efficiency is important in production.

Table 4.20: Efficiency in Production of Goods and SME Growth ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.020	1	49.020	92.782	.000[b]
	Residual	73.439	139	.528		
	Total	122.460	140			

a. Dependent Variable: Y
b. Predictors: (Constant), X4

4.10.12 Efficiency in Production of Goods and SME Growth Regression Weights

The results of Regression in this study show that there is a positive significant correlation between the efficiency in production of goods and growth of SMEs. This can be seen in Table 4.21 where β is shown to have a value of 0.633. This means, for

every unit change in value of efficiency in production of goods, the dependent value (Y) changes by index 0.633 in a positive manner. The value of Pearson's coefficient (p-value is 0.000) is less than 0.05. For all p-values of p less than 0.05 (See Table 3.2), the hypotheses are rejected and for all values of p more than 0.05, the hypotheses are not rejected. As the value of p is 0.000, less than 0.05, hypothesis put forward stating that efficiency in production of goods by SMEs in Kenya has no significant influence on their growth is not accepted and is therefore rejected. Efficiency in production causes a firm to have a goodwill among its customers. Out of the goodwill, more and more customers are able to place orders with the firm and this helps the firm to make more revenue. This can help a firm to buy more assets, expand and employ more people to help in its operations.

Table 4.21: Efficiency in Production of Goods and SME Growth Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.207	.392		.528	.599
	Efficiency of Production (X4)	.958	.099	.633	9.632	.000

a. Dependent Variable: Growth of SME (Y)

4. Discussion of Findings on the Relationship Between Efficiency in Production of Goods and Growth of a SME in Kenya.

This study sought to establish the influence efficiency has in the growth of SMEs in Kenya. In Table 4.19 where R is 0.633 it is noted that as efficiency in production of goods increases, the growth of SMEs in Kenya also increases. The p-value of the model is 0.000 which is lower than 0.005, the significance level. This does not meet the set conditions for acceptance of the hypothesis and is therefore rejected and the alternative hypothesis which states that efficiency of production has a significant influence in the growth of SMEs in Kenya accepted. As customers get their jobs done in a timely manner, they refer others to the firm and this translates to more sales, more revenue and at this point the firm can decide to expand and open more

branches. This agrees with Longenecker *et al* (2017) who states that efficiency promotes growth in manufacturing enterprises. This means that SMEs who adopt efficiency in production end up in getting more customers, saving energy, saving materials, having less workers yet producing the same volume of goods.

4.11 The Optimal Model

This model having several predictors, multiple regression was applied to establish their contribution in the growth of SMEs in Kenya. At a glance, from Table 4.22, 50.6 percent of the SME growth can be explained by the four predictors which are: access to market information (X1), quality of produced goods (X2), volume of produced goods (X3) and efficiency in goods production (X4). From this table 4.22, R= 0.712 showing that there is positive relationship between the predictors and the dependent variable(Y). The adjusted R, (R = 0.492), explained the contribution of the four predictors without the constant. This confirmed the perception that the researcher had concerning the influence of these variables on the growth of SMEs.

Table 4.22: The Optimal Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.712[a]	.506	.492	.66671

a. Predictors: (Constant), Efficiency of Production(X4), Access to market information(X1), Volume of produced goods (X3), Quality of Products (X2)

4.11.1 The Optimum Model ANOVA

Table 4.23 shows the information on the significance of the optimum model. At the 5 percent level of significance, p = 0.000 meaning that the hypothesis is rejected in favour of the alternative. Access to market information, quality of produced goods, volume of produced goods and efficiency in production of goods have all individually been seen to have significant influence in the growth of SMEs in Kenya. When analyzed all of them as a group of predictors, the results are that the hypothesis that they have no significant influence in the growth of SMEs in Kenya was rejected because the Pearson's coefficient is less than 0.005. This means that the influence of the four predictors is significant to the growth of SMEs in Kenya. That

is, as a group of predictors, they have significant influence on the growth of SMEs in Kenya.

Table 4.23: Optimum Model ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.007	4	15.502	34.874	.000[b]
	Residual	60.453	136	.445		
	Total	122.460	140			

a. Dependent Variable: Growth of SMES (Y)
b. Predictors: (Constant), Efficiency of Production (X4), Access to Marketing information (X1), Volume of produced goods (X3), Quality of Products (X2)

4.11.2 Optimum Model Regression Weights

A look at Table 4.24 shows the regression coefficients β as follows: X1 (β=0.198, p-value = 0.079), X2 (β = 0.572, p-value = 0.001), X3 (β = 0.180, p-value= 0.373), X4 (β =0.170, p-value = 0.367). All these show that it is only X2 (quality of the produced goods) that has a significant influence on the growth of an enterprise. The other predictors are shown to have a significant influence. It follows that it is only the null hypothesis on quality which is rejected the rest are accepted. This means, in the combined analysis, quality stands out as a very important attribute of any product that is produced by SMEs in Kenya.

Table 4.24: Optimum Model Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.405	.393		-1.030	.305
	Access to market information (X1)	.198	.112	.157	1.768	.079
	Quality of Products (X2)	.572	.169	.406	3.387	.001
	Volume of produced goods(X3)	.180	.202	.103	.894	.373
	Efficiency of Production (X4)	.170	.188	.112	.904	.367

a. Dependent Variable: Growth of SMEs (Y)

5. Discussion of the Optimum Model.

This study sought to establish access to market information, quality of the goods produced, volume of goods produced by the SME and the efficiency of the production of goods are the factors that influence the growth of SMEs in Kenya. From table 4.24, X1 (β=0.198, p-value = 0.079), X2 (β = 0.572, p-value = 0.001), X3 (β = 0.180, p-value= 0.373), X4 (β =0.170, p-value = 0.367), the p-values for the predictors show that the hypothesis on quality is rejected as the p-value is less than 0.005. This means quality has a significant influence on the growth of SMEs. This agrees with Wang (2016) in his World Bank study report carried out on SMEs in 119 developing countries of the world. The report established that the major impediments to SMEs' growth in the world were access to finance, size of enterprise, age, growth rate and ownership. Finance to most SMEs is a big problem as without finances to buy inputs, machinery pay for premises, production becomes difficult to be realized. There are also issues to do with the size of an organization. The small organizations may not afford certain costs such as taxes to be allowed to operate, say, as a telecommunications' service provider. This may hinder the enterprise from expanding to do such a business. The age of an enterprise too may limit its growth. If the business is so young, it may still be dealing with the elementary problems of

growth such as mobilization of resources, strangle to survive and so on instead of dealing with growth and more advanced growth issues. Growth rate and ownership may also influence the overall growth of SMEs. If the growth rate is so small, acquisition of more assets may be difficult and also a wrangle of who owns the enterprise sometimes does affect its growth as commitment may not reign on the part of the managers.

Quality is defined by Escobar (2015) as “fitness for use”. This means that without being fit for use, then the item cannot be produced as it would be worthless. Quality is then very useful for SME growth. It involves products that would last long, aesthetically good, done well so that no reworking is necessary and the cost within reach of the available market. If a product meets the criteria above, it is likely to hit the market with a storm, generate revenue for the company and the company may now be able to expand and open branches and employ more people to assist in its operations.

Hypothesis Five: Use of Electrical Power has no Significant Influence on the Relationship Between Access to Market Information and the Growth of SMEs in Kenya.

4.13 Regression Results for the Moderating Effect of the Use of Electrical Power on the Various Growth Determinants.

4.13.1 Regression Results for the Moderating Effect of the Use of Electrical Power on Access to Market Information and Growth of SMEs in Kenya. Model Summary

Model 1 in Table 4.25 shows that 34.5 % of SME growth Y is attributed to the access to market information while 34 % is attributed to access to market information but without the constant. The remaining percentage is explained by factors not in the model. Standard error of estimate of 0.75974 show how far this measurement deviated from the line of best fit.

Model 2 in Table 4.25 shows model 1 with the moderating variable applied to it. Both models show positive relationship between access to market information as well as access to market information model moderated. With the moderator effect applied, 68.4 % can be explained by Access to market information meaning that the moderator plays a big role in the growth of SMEs. Access to market information remains significant even with the moderator (p= 0.000). This means even with electrical power as a moderator access to market information has significant influence in the growth of SMEs in Kenya.

Table 4.25: Regression Results for the Moderating Effect of the Use of Electrical Power on Access to Market Information and Growth of SMEs in Kenya. Model Summary.

					Change Statistics				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	R Square Change	F Change	df1	df2	Sig. F Change
1	.587[a]	.345	.340	.75974	.345	73.162	1	139	.000
2	.827[b]	.684	.680	.52913	.340	148.563	1	138	.000

a. Predictors: (Constant), Access to market information (X1)

b. Predictors: (Constant), X1, Use of Electrical power(M)

a) Regression Results for the Moderating Effect of the Use of Electrical Power on Access to Market Information and Growth of SMEs in Kenya. ANOVA.

Table 4.26, shows the values obtained on applying a moderating variable to measure the effect of the moderating variable on the growth of SMEs. The value of F for the growth changed from a large positive number to an even larger number with the p-value remaining significant at 0.000 below the significant level of 0.05. The F test was found to be large enough together with a small p-value to allow for the rejection of the hypothesis and accept the alternate hypothesis. This indicates importance of

access to market information as well as the moderator, the use of electrical power to the growth of SMEs in Kenya.

Table 4.26: Regression Results for the Moderating Effect of the Use of Electrical Power on Access to Market Information and Growth of SMEs in Kenya. ANOVA.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.229	1	42.229	73.162	.000[b]
	Residual	80.231	139	.577		
	Total	122.460	140			
2	Regression	83.823	2	41.912	149.698	.000[c]
	Residual	38.637	138	.280		
	Total	122.460	140			

a. Dependent Variable: Growth of SMEs (Y)

b. Predictors: (Constant), Access to marketing information (X1).

c. Predictors: (Constant), Access to marketing Information (X1), Use of Electrical power (M).

b) Regression Results for the Moderating Effect of the Use of Electrical Power on Access to Market Information and Growth of SMEs in Kenya. Regression Weights

A look at Table 4.28 shows that there is a significant relationship between the moderated access to market information and growth of SMEs. This can be seen from this that β= 0.741 and p-value =0.000. This means the moderator strengthens this positive relationship. On the second model, the value of p = 0.085 this means acceptance of the hypothesis that use of electrical power has no significant effect on the growth of SMEs. This is in line with Longeneker, Petty, Palich and Hoy (2017) where they do not mention electricity anywhere as a contributor to enterprise growth but finances. For the kind of products involved in this study, one can use electricity or not and yet produce the goods. Here electricity has a catalytic power in the production process.

Table 4.27: Regression Results for the Moderating Effect of the Use of Electrical Power on Access to Market Information and Growth of SMEs in Kenya. Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.380	.306		4.510	.000
	X1	.741	.087	.587	8.554	.000
2	(Constant)	-.925	.285		-3.247	.001
	X1	.136	.078	.108	1.736	.085
	M	1.060	.087	.755	12.189	.000

a. Dependent Variable: Y

6. Discussion of the Findings of the Moderating effect of the Use of Electrical Power on the Access to Market Information and Growth of SMEs.

From Table 4.25, the results of the findings of the moderating effects of the use of electric power on the access to market information and growth of SMEs showed that the coefficient of determination was (R squared= .345) meaning 34.5 % of the dependent variable can be accounted for by access to market information. From this same table, it can be seen that there was a positive correlation between access to market information and growth of SME (R= 0.587). This meant that under moderation by electrical power, a unit of access to market information would produce an increase of a SME growth by 0.587. In Model 2, the table shows that the contribution of access to market information the independent variable rose from 34.5 % to 68.4 % on applying the moderator. The model remained significant with F=149.698 and a p-value of 0.000. Overall, there was improved positive correlation between the independent and dependent variables. The hypothesis for this variable, access to market information was rejected as the p-value was found to be 0.000. This means that access to market information combined with electrical power as a moderator has a significant influence of the growth of SMEs in Kenya. With electrical power moderating, the contribution is almost twice as big as when access to market information is applied alone.

4.13.2 Regression Results for the Moderating Effect of the Use of Electrical Power on Quality of goods Produced and Growth of SMEs in Kenya. Model Summary

Model 1 in Table 4.28 shows that 47.7 % of SME growth Y is attributed to the quality of produced goods while 47.4 % is attributed to quality of produced goods but without the constant. The remaining percentage is explained by factors not in the model. Standard error of estimate of 0.67848 show how far this measurement deviated from the line of best fit.

Model 2 in the same Table 4.28 shows model 1 with the moderating variable applied to it. Both models show positive relationship between the quality of goods produced with and without the moderator. With the moderator effect applied, 68.6 % can now be explained by quality of goods produced meaning that the moderator plays a significant role in the growth of SMEs. Quality of goods produced remains significant even with the moderator applied as the p-value of (p= 0.000) remains. It is noted that the moderator plays a very important role in raising the quality of products which in turn raises sales, then revenue.

Table 4.28: Regression Results for the Moderating Effect of the Use of Electrical Power on Quality of goods Produced and Growth of SMEs in Kenya. Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.691[a]	.477	.474	.67848	.477	127.025	1	139	.000
2	.828[b]	.686	.681	.52809	.208	91.436	1	138	.000

a. Predictors: (Constant), X2
b. Predictors: (Constant), X2, M

a) Regression Results for the Moderating Effect of the Use of Electrical Power on Quality of goods Produced and Growth of SMEs in Kenya. ANOVA

Table 4.29, shows the values obtained on applying a moderating variable to measure the effect of the moderating variable on the growth of SMEs. The value of (F= 127.025, p- value = 0.000) for the growth changed to larger number (F= 150.554, p-value =0.000). With the p-value remaining at p= 0.000, still lower than the 0.05 significant level, the null hypothesis was rejected and the alternate accepted meaning electrical power helped raise the quality of the products raising sales and consequently revenue. This revenue could now be ploughed back to the SME and cause expansion and purchase of assets.

Table 4.29: Regression Results for the Moderating Effect of the Use of Electrical Power on Quality of goods Produced and Growth of SMEs in Kenya. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.474	1	58.474	127.025	.000[b]
	Residual	63.986	139	.460		
	Total	122.460	140			
2	Regression	83.974	2	41.987	150.554	.000[c]
	Residual	38.486	138	.279		
	Total	122.460	140			

a. Dependent Variable: Y

b. Predictors: (Constant), X2

c. Predictors: (Constant),X2, M

b) Regression Results for the Moderating Effect of the Use of Electrical Power on Quality of Goods Produced and Growth of SMEs in Kenya. Regression Weights

A look at Table 4.30 shows that there is a significant relationship between the quality of goods produced and growth of SMEs. This can be seen from the fact that β= .0.975 and p-value =0.000 for model 1. On the second model, the value of p = 0.061 this means acceptance of the hypothesis that use of electrical power has no

significant effect on the growth of SMEs. This is in line with Longeneker, Petty, Palich and Hoy (2017) where they do not mention electricity anywhere as a contributor to enterprise growth but finances. When quality is considered alone it is seen to have a significant influence but when with electricity, it has no significant influence. This is because in using electricity, the main effect is speed in production otherwise the same product may be produced at the same quality.

Table 4.30: Regression Results for the Moderating Effect of the Use of Electrical Power on Quality of Goods Produced and Growth of SMEs in Kenya. Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-.072	.360		-.198	.843
	X2	.975	.086	.691	11.271	.000
2	(Constant)	-1.041	.298		-3.491	.001
	X2	.199	.105	.141	1.888	.061
	M	1.004	.105	.715	9.562	.000

a. Dependent Variable: Y

7. Discussion of the Findings of the Moderating effect of the Use of Electrical Power on the Quality in Production of goods and Growth of SMEs.

From Table 4.28, the results of the findings of the moderating effects of the use of electric power on the quality in production of goods and growth of SMEs showed that the coefficient of determination was (R squared= .0.477) meaning 47.7 % of the dependent variable can be accounted for by quality in production of goods. From this same table, it can be seen that there was a positive correlation between quality in production of goods and growth of SME (R= 0.691). In Model 2, the table shows that the contribution of quality in production of goods, the independent variable, rose from 47.7 % to 68.6 % on applying the moderator. The model remained significant with F=91.436 and a p-value of 0.000. Overall, there was improved positive correlation between the independent and dependent variables. The hypothesis for this variable, efficiency in production of goods was rejected as the p-value was found to

be 0.000. It is here noted that electrical power use has significant influence on the growth of SMEs in Kenya.

4.13.3 Regression Results for the Moderating Effect of the Use of Electrical Power on Volume of Goods Produced and Growth of SMEs in Kenya. Model Summary.

Table 4.31 shows two models, one for the volume of goods produced without a moderator and another with goods produced with moderator. From this table R for model 1 is 0.612 while for the other is 0.826. Both of these models show that both models have a positive relationship with the dependent variable Y. The moderator helps the growth as can be seen that R square changes from 0.374 to 0.683 meaning that with a moderator, a bigger percentage is accounted for by the volume of produced goods with use of electrical power as a moderator. This enhances the volume of produced goods which sales are made, then more revenue can result growing the enterprise.

Table 4.31: Regression Results for the Moderating Effect of the Use of Electrical Power on Volume of Volume of Goods Produced and Growth of SMEs in Kenya. Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612[a]	.374	.370	.74253
2	.826[b]	.683	.678	.53072

a. Predictors: (Constant), X3

b. Predictors: (Constant), X3, M

(a) **Regression Results for the Moderating Effect of the Use of Electrical Power on Volume of Goods Produced and Growth of SMEs in Kenya. ANOVA**

Table 4.32, shows the values obtained on applying a moderating variable to measure the effect of the moderating variable on the volume of produced goods and the growth of SMEs.

The value of (F=83.108, p- value = 0.000) for the growth changed to larger number (F= 148.386, p-value =0.000). With the p-value remaining at p= 0.000, still lower than the 0.05 significant level, the null hypothesis was rejected and the alternative accepted. This meant that use of electrical power enhances the volume of production and this is in line with Kirubi, (2006) findings. Assuming the market is there for the products, the sales and hence revenue increases meaning the firm can now do more to grow.

Table 4.32: Regression Results for the Moderating Effect of the Use of Electrical Power on Volume of Goods Produced and Growth of SMEs in Kenya. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.822	1	45.822	83.108	.000[b]
	Residual	76.638	139	.551		
	Total	122.460	140			
2	Regression	83.590	2	41.795	148.386	.000[c]
	Residual	38.870	138	.282		
	Total	122.460	140			

a. Dependent Variable: Y

b. Predictors: (Constant), X3,

c. Predictors: (Constant), X3,M

a) Regression Results for the Moderating Effect of the Use of Electrical Power on Volume of Goods Produced and Growth of SMEs in Kenya. Regression Weights

In model 1 of Table 4.33, β=1.071 and the p- value is 0.000. In this model the hypothesis is rejected meaning the volume of goods produced has significant influence on the growth of SMEs. In model 2, the p-value is 0.143 and is greater than 0.005. This means there is an insignificant positive relationship between the volume

of goods produced and the growth of SMEs. The combined effect the volume of goods produced and use of electrical power does not necessarily influence the growth of an enterprise by necessarily big margins. This agrees with Davidson, Achtenhagen and Naldi (2010) who state that firm growth depends on not only on the volume of goods produced but on financial and demand factors. This means that without demand, even if the volume of goods produced is big, there may be no growth to the enterprise. Model 2 was accepted to emphasize that other factors such as finances and demand factors are important to achieve growth. This means, the volume of produced goods in this case combined with the moderating variable only, has no significant influence in the growth of the firm. Hence acceptance of the hypothesis.

Table 4.33: Regression Results for the Moderating Effect of the Use of Electrical Power on Volume of Goods Produced and Growth of SMEs in Kenya. Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.109	.425		.257	.797
	Volume of produced goods (X3)	1.071	.118	.612	9.116	.000
2	(Constant)	-1.076	.320		-3.359	.001
	Volume of produced goods(X3)	.169	.115	.096	1.473	.143
	Use of Electrical power(M)	1.064	.092	.758	11.580	.000

a. Dependent Variable: Growth of SMEs

8. Discussion of the Findings of the Moderating effect of the Use of Electrical Power on the Volume of Produced Goods and Growth of SMEs.

From table 4.31, the results of the findings of the moderating effects of the use of electric power on the volume of produced goods and growth of SMEs showed that the coefficient of determination was (R squared=0.374) meaning 37.4 % of the dependent variable can be accounted for by volume of produced goods. From this same table, it can be seen that there was a positive correlation between the volume of produced goods and growth of SME (R= 0.612). In Model 2, the table shows that the

contribution of volume of produced goods, the independent variable, rose from 37.4 % to 68.3 % on applying the moderating variable. The model remained significant with F=148.386 and a p-value of 0.000. Overall, there was improved positive correlation between the independent and dependent variable. The hypothesis for this variable, volume of produced goods was rejected as the p-value was found to be 0.000. This meant that the volume of produced goods have significant influence on the growth of the enterprise. On the second model where a moderating variable is introduced, the p-value rises to 0.143 showing acceptance of the hypothesis. This is because growth of an enterprise does not depend on the volume of produced goods alone but also on whether there is demand for the products in the market.

4.13.4 Regression Results for the Moderating Effect of the Use of Electrical Power on Efficiency in Production of Goods and Growth of SMEs in Kenya.

Table 4.34 shows a model summary of the effect of the use of electrical power on efficiency in production of goods and growth of SMEs in Kenya. Looking at R for both models, it shows that they have a positive relationship to the growth of SMEs. For model1, 40 % of the growth can be traced to the efficiency and the constants alone while in the second model this percentage improves to 68.2 %. This means that the moderator enhanced efficiency in the production of goods. The line of best fit also improves from 0.72687 to 0.53099. The percentage does not get to 100 % because there are other factors that also have a contribution to the growth of a firm beside efficiency. If these predictors are known and captured into the system, then the 100 % can be achieved.

Table 4.34: Regression Results for the Moderating Effect of the Use of Electrical Power on Efficiency in Production of Goods and Growth of SMEs in Kenya. Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.633[a]	.400	.396	.72687
2	.826[b]	.682	.678	.53099

a. Predictors: (Constant),X4

b. Predictors: (Constant), X4, M

a) **Regression Results for the Moderating Effect of the Use of Electrical Power on Efficiency in Production of Goods and Growth of SMEs in Kenya. ANOVA**

Table 4.35 shows the ANOVA parameters of the regression model of the moderating effect of the use of electrical power on efficiency in production of goods on the growth of SMEs in Kenya. For model 1, (F= 92.782 and p-value=0.000) means the hypothesis put forward on efficiency and growth of SMEs was rejected because the p-value is less than 0.05. Model 2 shows the value of F and p-value modified to read (F= 148.162 and p-value =0.000. This still shows that the p-value remained at 0.000 although the value of F changed but this does not allow us to accept the model since the p-value is still 0.000. This means efficiency is important and firms must operate above a certain minimum efficiency level otherwise they will be put out of business by their competitors who may be operating above the minimum level (Castellani et al., 2018).

Table 4.35: Regression Results for the Moderating Effect of the Use of Electrical Power on Efficiency in Production of Goods and Growth of SMEs in Kenya. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.020	1	49.020	92.782	.000[b]
	Residual	73.439	139	.528		
	Total	122.460	140			
2	Regression	83.550	2	41.775	148.162	.000[c]
	Residual	38.910	138	.282		
	Total	122.460	140			

a. Dependent Variable: Y

b. Predictors: (Constant), X4

c. Predictors: (Constant),X4, M

b) Regression Results for the Moderating Effect of the Use of Electrical Power on Efficiency in Production of Goods and Growth of SMEs in Kenya. Regression Weights

From table 4.36, the β values for model 1 and model 2 point to a positive relationship between efficiency and growth of SMEs in Kenya. For model 1, the hypothesis is rejected but for model 2, the p-value is 0.157 which is greater than the significance level 0.05. This means, with the moderating variable, the hypothesis is accepted. This agrees with (Castellani *et al.*, 2018) where they argue that there are firms that can attain the minimum efficiency in their expansion even if they are not efficient in their production. Overall efficiency has to be maintained if a firm is to succeed.

Table 4.36: Regression Results for the Moderating Effect of the Use of Electrical Power on Efficiency in Production of Goods and Growth of SMEs in Kenya. Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.207	.392		.528	.599
	X4	.958	.099	.633	9.632	.000
2	(Constant)	-1.026	.307		-3.336	.001
	X4	.147	.103	.097	1.423	.157
	M	1.059	.096	.754	11.066	.000

a. Dependent Variable: Y

9. Discussion of the Findings of the Moderating effect of the Use of Electrical Power on the Efficiency in Production of Goods and Growth of SMEs.

From table 4.34, the results of the findings of the moderating effects of the use of electric power on efficiency in production of goods and growth of SMEs showed that the coefficient of determination was (R squared=0.400) meaning 40 % of the dependent variable can be accounted for by the efficiency in production of goods. From this same table, it can be seen that there was a positive correlation between efficiency in production of goods and growth of SME (R= 0.633). In Model 2, the table shows that the contribution of efficiency in production of goods, the independent variable, rose from 40 % to 68.2 % on applying the moderator. The model remained significant with F=148.162 and a p-value of 0.000. Overall, there was improved positive correlation between the independent and dependent variables (R= 0.826). The hypothesis for this variable, efficiency in production of goods was rejected as the p-value was found to be 0.000. This means, efficiency in production is one of the very important factors that has significant influence of the growth of SMEs.

4.14 Overall Model Summary

From Table 4.37, R for model 1 which comprise variable X4, X1,X3 and X2 is 0.712 and for model 2 (which is all the predictors in model 1 plus the moderating

variable, M), R is .830 both of these show that the variables have a positive relationship with the growth of the enterprise with R for model 2 being higher than for model 1. This means, with the moderating variable, the relationship of the predictors with the dependent variable becomes more positive, meaning the influence of the independent variable on the dependent variable becomes more when the moderating variable is applied. For model 1, which represents predictors without the mediator variable, 49.2 % can be explained by their presence where as in the second model, 67.7 % is explained by the presence of model 1 plus the moderator variable. This means the moderator variable has a positive effect on the overall model. It enhances the growth of the enterprise.

Table 4.37: Overall Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.712[a]	.506	.492	.66671	.506	34.874	4	136	.000
2	.830[b]	.688	.677	.53176	.182	78.787	1	135	.000

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

b. Predictors: (Constant), X4, X1,X3,X2, M

a) Overall Model Summary ANOVA

Table 4.38 shows the values of F and p as (F=34.874 and p-value as 0.000) for model 1 and (F= 59.614 and p-value as 0.000) for model 2. This means that the combination of the predictors with or without the moderating variable have significant influence on the growth of SMEs in Kenya. This is shown by the fact that the hypothesis that these variables have no significant influence on the growth of SMEs in Kenya is rejected. Access to market information helps to get prices of inputs and market areas for the products, quality helps establish brand name in the market, there has to be enough volume to meet market demand and lastly, there must be efficiency in producing all that is required by the market. This means all these variables are important for the growth of SMEs.

Table 4.38: Overall Model ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.007	4	15.502	34.874	.000[b]
	Residual	60.453	136	.445		
	Total	122.460	140			
2	Regression	84.286	5	16.857	59.614	.000[c]
	Residual	38.174	135	.283		
	Total	122.460	140			

a. Dependent Variable: Y
b. Predictors: (Constant), X4, X1, X3, X2.
c. Predictors: (Constant), X4, X1, X3, X2, M

b) Overall model Regression Weights

From Table 4.39, quality of goods produced had the biggest contribution in the overall model. It had (β=0.572, t=3.387 and p-value was 0.001). The hypothesis about quality was rejected while for all the other variables were accepted. This means quality is much more important when the combined effect is considered. In model 2, where the moderating variable was introduced, the positive relationship was enhanced but the narrative remained that the moderator is a very necessary ingredient in the growth of SMEs in Kenya. This can be seen from the fact that for every unit of the predictors with the moderator there is 0.977 in the growth of the enterprise.

Table 4.39: Overall model Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.405	.393		-1.030	.305
	X1	.198	.112	.157	1.768	.079
	X2	.572	.169	.406	3.387	.001
	X3	.180	.202	.103	.894	.373
	X4	.170	.188	.112	.904	.367
2	(Constant)	-1.084	.323		-3.360	.001
	X1	.082	.090	.065	.913	.363
	X2	.116	.144	.082	.801	.425
	X3	.059	.161	.034	.366	.715
	X4	.001	.151	.001	.005	.996
	M	.977	.110	.695	8.876	.000

a. Dependent Variable: Y

b) Discussion of the Overall Model

The study whose results are presented in the Tables: 4.37, 4.38, and 4.39 investigated the effect of the use of electrical power on the growth of SMEs in Kenya. The predictors which were used as the independent variables were: access to market information, quality of the goods produced, volume of the goods produced and the efficiency in production of goods by SMEs. As mentioned before in this study, quality, which is described as fitness for use is very important when considered with the other variables as without being fit for use, then it would be useless to manufacture. In Table 4.39, only two variables have significant effect on the growth of SMEs; quality and the mediating variable, electricity. This means that electricity is so important to the manufacturing SMEs. This is in line with ODI, (2014) who states that electricity insecurity affects manufacturing SMEs negatively and this is not statistically significant. It also affects investment decisions in SMEs and by extension growth. This underscores the role of electricity in the manufacturing SMEs. From this table, it can also be seen that when all the variables are applied, no particular variable has a significant effect on the growth of SMEs except quality which without it would be difficult to get a market for the product.

4.15 Summary

This chapter analyzed and discussed the data collected on manufacturing SMEs in Nairobi, Kenya. It showed that access to market information, quality of the goods they manufacture and sell, the volume of the goods they sell and the efficiency of production are all important determinants of their growth. The themes coming up through all the sections investigating the variables were that access to cheap credit is the greatest impediment to enterprise growth. Use of electricity too is a real catalyst in their manufacturing activities. The next chapter will give a summary, conclusion and recommendations.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.2 Introduction

This chapter presents the findings on the specific objectives of the study. A summary, conclusion and recommendations are also presented together with future areas of research. This presentation was guided by the specific objectives of the study.

5.2 Summary of Major Findings

Access to market information is a vital ingredient to an enterprise' growth as it has been proved through the just concluded research. Manufacturers in the SME sector must know where a market for their products exists. This they can know through access to market information. This study sought to establish the influence access to market information has on the growth of an enterprises in Kenya. Market information helps the enterprises to know who needs their products (market pull) and where they can go and market their products (market push). As SMEs sell their products to the markets which they establish through the market information, they receive revenue which in turn raises their financial worth besides giving them funds for future expansion. The SMEs now get to a point where they can buy more assets such as land, open new branches, diversify in terms of their products and hire more people. This amounts to growth. Through the research, it is concluded that access to market information influences growth of SMEs in Kenya.

Quality of goods produced goes along with suitability for use by the customers. Enterprises in the SME manufacturing sector who have adopted production of quality products have experienced growth. From the results obtained from this research, customers favour products that are suitable for use and last long. This in the long run saves them money. Enterprises that manufacture quality items time and again receive new customers as word goes around about their quality products. Customers by word of mouth or otherwise talk to each other about the quality products and this generates

more customers for the manufacturers of the goods. The higher number of customers raises demand for the products and now they have to produce more to meet the new demand level and this eventually raises the company's volume of production and number of workers. This may also lead to increase of assets and even expansion to other areas. The conclusion drawn from the results of this study shows that production of quality goods is a recipe for growth of any manufacturing SME.

High volumes of production have always been perceived as a means of lowering unit costs of the items produced. This was expected to feature in this study and it did. This study showed that economies of scale works well for manufacturing SMEs as the use of the state of the art technologies help them achieve this. This research showed that as a company produced more of the items for sale, they could boost their sales and this would increase their revenue. This increase of revenue would make the enterprise owners to increase their assets due to the availability of more funds. As high volumes of goods were produced at lower per unit cost, the goods produced become cheaper and more people in the market would be able to afford raising the demand for the goods. This attracted more positions for the selling and marketing personnel. As the number of sales and marketing personnel increased, revenue from the sales increased and this translated to the enterprise expanding to other areas. In conclusion, it was found that SMEs using state of the art technology were able to meet the demands of the market at lower prices and this meant more revenue which could be easily used for the expansion of the SME.

This study sought to establish that production efficiency influences growth of small and medium enterprises. Efficiency in production is seen in different forms. When workers know how to use the materials properly such that there is no waste and at the same time avoid situations where reworking is necessitated, there is saving in both time and materials. In this study, SMEs that took care of materials, avoided poor workmanship so that reworking is not necessary saved materials and time. Utilizing of human resources is another area where efficiency is seen. With the utilization of human resources and materials, the enterprises are able to maximize their profits and this translates to more finance and hence growth. In efficient production, production is timely and customers' orders are met and faith in the manufacturing entity

boosted. This by way of snow ball increases customers to the SME as higher revenues result.

Electrical power use has been perceived to have a positive effect in increasing production in SMEs in Kenya. In this study, electrical power was used as a moderating variable and it was found to play a catalytic role. With the use of electrical power, access to market information, production of better quality goods, higher volumes of production and efficiency were noted.

Through its use, telephones, faxes and other electronic equipment are used to pass marketing information. This study showed a positive relationship between the access to marketing information and enterprise growth.

Quality of produced goods was tested for influence of growth of SMEs in Kenya. The study showed that when electrical power was introduced to test its effect in bettering the quality, it was found that its use made reworking less, saved time in that more work could be done during the same time duration compared with working without electrical power. More durable goods could be manufactured using electric power. For instance welded goods were firmer that those which were joined through rivetting. It was also found that majority of respondents stated that their customers were more satisfied with the quality obtained out of the use of electrical power.The findings about the volume of goods produced were that, with the introduction of the use of electrical power the volume of production increased meaning that the enterprises could sell more, make more money and buy more assets and expand. Electrical power use was found to so much influence higher levels of production.

Efficiency in production is related to the growth of enterprises in kenya. In the manufacture of wooden furniture, one of the sectors studied, it was found that firms that used electrical power could do a lot more work than the ones which did not use power. Thus introduction of electrical power as a moderator variable is of great use to the sector.

5.3 Conclusions

In this study, it was noted that access to market information is greatly improved by the introduction of electric power. Electric power in access to market information plays a catalytic role. With electric power, different communication machines can be operated and therefore get market information. This is an input to a communication system that is indispensable. Market information is so related to business growth that enterprises should ensure that their businesses are well linked to sources of market information as this is how they can know where there are market opportunities for their products. It is therefore concluded that market information is a very vital ingredient for enhancing growth of SMEs in Kenya.

According to the study, customers desire to buy an item that works well and lasts long. It was noted that most the respondents' description of quality was service and longevity. It is a desired attribute of products by customers. For manufacturing concerns, quality, which in the Eastern world is termed fitness for use should be observed as it creates a name for a company and through the goodwill, companies are able to get new customers who in turn buy from the company and increase their revenue base. This study concludes that companies should therefore adopt quality for their success.

According to the study, producing in bulk, thus practicing economies of scale is an important idea in business growth. This is because as the volume of production goes high, unit cost of the product dips. This in turn makes the price in the market competitive. With the company becoming a low cost supplier, this attracts more customers. This translates to more revenue and a company can now invest more for expansion. In conclusion, high volumes of production and at low cost leads to leadership in low prices and this makes a company sell more netting in more revenue which can now be used for further expansion.

In this study, efficiency in production was seen to be positively related to an enterprise growth. As an enterprise produced items efficiently, this produced the effect of creating a good name for the company. A company that is efficient in working on customers' jobs will usually benefit from new customers being referred

to it by the existing ones. Through efficiency, an enterprise may win more and more tenders from existing and new customers and this ultimately translates to more revenue and possible expansion. However, qualified human resource is necessary if efficiency is to be achieved. This study, therefore, concludes that efficiency is necessary if more revenue and expansion of an enterprise is to be realized.

The variables in this study: access to market information, quality of produced goods, volume of produced goods, and efficiency in production of goods were found to have significant influence in the growth of SMEs in Kenya. Their combined influence on the growth of SMEs contributed a sizable percentage to the growth of the SMEs. Use of electric power was found to make access to market information possible through the use of electronic equipment, enhance use of quality initiatives, make automation possible and this made uniformity of produced items possible as well as speed in production affecting efficiency positively. It is, therefore, concluded that electric power use should be taken as a part of the production process as it has a catalytic effect on the growth of SMEs in Kenya.

5.4 Recommendations

As access to market information has been found in this study to positively relate to the growth of an enterprise, it is recommended that every manufacturing concern should ensure that they get the latest methods of communication available in the market. This study showed that even social media is now very important in getting market information. This enables an enterprise to grow their market share and thereby grow their revenue. Access to market information in its various forms needs the use of electrical power and therefore it is recommended that electricity be installed by all SMEs for without its use, access to market information is limited. With electrical power use, there are many selling opportunities for an enterprise; they can sell by way of advertising over the internet, social media, by phone or even through the print media.

This study established that quality of goods produced enhanced growth of an enterprise and further, the respondents agreed that out of maintaining certain accepted standards, their goods were preferred by their customers to other similar

goods. This study had more than a half of the respondents involved adopting quality initiatives. Their following strictly set standards made their products marketable. It is recommended that manufacturers follow strictly the set industry standards and where possible do even better than the industry standards, hire qualified persons to enable them meet the standards, have quality control measures to avoid reworking as this wastes time and man hours. It was further found that good quality products builds the name of the company in the market.

As production of goods in large quantities translate to more revenue for the manufacturing concern, SMEs should endeavour to produce as much as possible. It is therefore recommended that manufacturing firms produce in large quantities so as to bring down cost per unit and therefore compete well in the market. For this to be possible, electrical power must be connected as this makes automation possible. With automation, large volumes of similar items is possible. These large volumes of products when sold translates to revenue for the SME and this to growth. This growth can be extended to rural areas through enterprise expansion and this lowers the unemployment in the country.

One of the greatest factors that influence growth as found in this study was leadership. Leadership as noted in this study sticks out followed by the push to meet deadline and then utilization of human resources. This study recommends good and strong leadership, push to meet deadlines and utilization of human resources in an enterprise. Efficiency matches well with highly trained human resources. With highly trained human resources, production of good quality goods is enhanced, waste reduced and time saved. This positions an enterprise well in the market. These results can be seen in Table 4.6.

Use of electrical power in this study was found to enhance productivity, hours of working, power machines for communication and manufacturing processes and therefore it is recommended that power be connected to all SMEs. This will help them in gaining access to market information, making good quality items as most measuring equipment use electrical power. With electrical power, SMEs can easily employ automation to boost the volumes of production and improve efficiency. It is

therefore recommended that every manufacturing concern should be connected to electric power to tap the benefits there are. It is also recommended that manufacturing concerns should form linkages with the right people or organization in order to tap the skills which they may not possess.

5.5 Areas for Future Research

This research dealt with investigating the influence access to market information, quality of produced goods, volume of produced goods and efficiency in production of goods have on the growth of SMEs in Kenya with electrical power as the mediating variable. This study was carried out in one geographical area. For future researches, the study recommends that future studies should cover other counties as well as other sectors of the economy in Kenya and the results compared. Future studies should also cover other sectors of the economy as well as other developing economies. Other mediating variables should also be used in place of use of electrical power.

There are several types of research designs but this study used descriptive research design. For future research, a different design can be used and the results compared. With electrical power, the four predictors contributed up to 68 percent of SME growth. To get up to the 100 percent level, there needs other predictors to contribute the remaining 32 percent. The conceptual framework for future studies therefore should be expanded to cover additional predictors such as, infrastructure which include roads, fibre, railway and air transport and access to credit as a major predictor.

REFERENCES

Aaltio, L. & Eskelinen (2016). *Proceedinds of the 11th European Conference on Innovation and Entrepreneurship:* Jyaskyla: Academic Conferences and Publishing International Ltd.

Ahiawodzi, A.K., & Adade,T.C (2012). Access to Credit and Growth of Small and Medium Scale Enterprises in the Ho Municipality of Ghana**.** *British Journal of Economics, Finance and Management Sciences, Business Case Studies* 6(2)34-48.

AJBMR, (2012). *The relationship between Electricity Power and Unemployment Rates in Nigeria* 2 (2), 10-19.

Allen, M.M.C. (2014). *Business Systems Theory and Employment Relations: The Oxford Handbook of Employment Relations.* Oxford: Oxford University Press

Amy, D. (2020). *Revenue Growth Engine: How to align Sales and Marketing to Acelerate Growth.* Los Angeles: Convergence Consulting.

Andres, L. (2012). *Designing and Doing Survey Ressearch.* New Delhi: SAGE publishers.

Authority, C. M. (2010). *Capital raising opportunities for SMEs: The development of micro-cap securities markets in Kenya.* Nairobi: Capital Markets Authority.

Bajpal, N. (2011). *Research Methods*. New Delhi: Dorling Kindersley India Pvt Ltd.

Barnes, D. (2010). *The Challenge of Rural Electrification: Strategies for Developing Countries.* Washington DC: Resources for the Future.

Baumane-Vitolina, I., & Cals, I. (2013). Theoretical framework for using resource based view inworld the analysis of sme innovations. *European Scientific Journal December, 1*(1857).174-182.

Bendrey, M., Hussey, R., & West, C. (2003). *Essentials of Management Accounting in Business.* London: CENGAGE learning EMEA.

Benstone, J.G. (2010).*The Selected Works of George J Benstone: Banking and Finance Volume 2.* New York: Oxford University Press.

Bocarnea, M.C., Reynolds, R.A., & Baker, J.D. (2012). *Online instruments, Data Collection, and Electronic Measurements: Organizational Advancements.* Hershey PA. IGI Global.

Bolz, R. W. (2011). *Manufacturing Automation Management: Productivity Handbook.* New York: Springer Publishing.

Bose, T., Uddin, R., & Mondal A. (2013). Impacts of Electricity Access to Rural SMEs, International. *Journal of Managing Value and Supply Chains (IJMVSC).* 4 (4) 17-27.

Bouazza, A. B., Ardjouman, D., & Abada, O. (2015). Establishing the Factors Affecting the Growth of Small and Medium-sized Enterprises in Algeria. *International Journal of Social Science*, *4*(2), 101-115.

Broughton, P. D. (2016). *How to Think Like an Entrepreneur*. London: Picador-MacMillan Publishers.

Bruce, P. & Bruce, A. (2017). *Practical Statistics for Data Scientists.* Sebastopol: O' Reilly Media, Inc.

Bunyasi, G.N.W., Bwisa, H., & Namusonge, G. (2014). Effect of Access to Business Information on the Growth of Small and Medium Enterprises in Kenya. *International Journal of Business and Social Sciences, 5*(10) 121-128.

Capald, N. & Idowu, S.O. (2017). *Dimensional Corporate Governance: An inclusive Approach.* Gewwerbestrasse: Springer Internatiomal Publishing.

Castellani *et al.(*2018). *Contemporary Issues in International Business: Institutions, Strategy and Performance.* Gewerbestrasse: Springer Nature Publications.

Carrlane, (2015). *Carrlane International Catalogue for jigs and fixtures.* St. Louis: Carrlane Manifacturing Company.

Ciment, J. (2015). *Social Issues in America: An Encyclopedia.* New York: Routledge Publishers.

Chaffey, D. & Smith, PR. (2017). *Digital Marketing Excellence: Planning, Optimizing and Integrating Online Marketing.* New York: Routledge Publishers.

Churchill, N. C., & Lewis, V. L. (1983). Growing concerns. *Harvard Business Review*: *The Five Stages of Small Business Growth* 61(3)30-50.

Cicek, C. G. (2020). *Handbook of Research on the Application of International Transportation for World Trade.* Hershey PA: IGI Global Publishers.

Coopersmith (2010). Old Technologies Never Die, They Just Don't Get Updated, Texas A&M University. *International Journal for the history of engineering & technology*. 80 (2), 166–82,

Cravens, D.W., Meunier-FitzHugh, K.L. & Piercy, N.F. (2012). *The Oxford Handbook of Strategic Sales and Sales Management.* London: Oxford University Press.

Creswell, W. J. (2014). *Research Design: Quantitative, Qualitative and Mixed Method Approaches (4th Ed).* Thousand Oaks: SAGE publications Inc.

Curran, J. & Storey, D.J. (2016). *Small Firms in Urban and Rural Locations.* London: Routledge.

Dana, L.P., Ratten, V. & Honyenuga, B. Q. (2018). *African Entrepreneurship: Challenges and Opportunities For doing Business.* Gewerbestrasse: Palgrave Macmillan.

Daniel, J. (2012). *Sampling Essentials: Practical Guidelines for making Sampling Choices.* Thousand Oaks: SAGE Publications ,Inc.

Davidson, P., Achtenhagen, L. & Naldi, L. (2010). *Small Firm Growth.* Hanover: Now Publishers Inc.

Dean, R.K., Benwell, G., & Ghandour, A. (2015). *The Impact of Leadership On Ecommerce System, Success in Small and Medium Enterprises Context.* Dunedin: Otago University Press.

UoIDAES, (2012). *The Nigerian Journal of Rural Extension and Development vol.6.* University of Ibadan.

Dinkelman,T. (2010). *The Effects of Rural Electrification on Employment: New Evidence fron South Africa*. Princeston, NJ: Princeton University Press.

Dudovskiy, J. (2017). *Research Methodology: positivism Research Philosophy.* Retrieved from http://research-methodology.net/research-philosophy/ positivism/

Eberhard, *et al.* (2016). Independent Power Projects in Sub- Saharan Africa. Washindtin, DC: World Bank.

Elaswad, H., & Shahudul, M.I. (2013). Determinants of Manufacturing SMEs Growth: A Review. *Journal of Manufacturing Operations Research and Sustainability, 1*(2), 46-59.

Eriobunah, E.C., & Nosakhare, M. E (2013). *Solutions to Entrepreneurs problems in Nigeria: A Comparison with Sweden.* Blekinge: Blekinge Institute of Technology Press.

Escobar, S. (2015). *Total Quality Managementy and Six Sigma.* New York: Clanrye International.

European Union (2013). *Regional policy for smart growth of SMEs: Guide for Managing Authorities and bodies in charge of the development and implementation of Research and Innovation Strategies for Smart*

Specialisation. Brussels: European Commission, Directorate-General for Regional and Urban policy.

Ezell, S. J. & Atkinson, R. D. (2011). *International Benchmarking of Countries' Policies and Programs Supporting SMEManufacturers.* Washington, D.C: National Institute of Standards and Technology (NIST).

FAO, (2016). *Addressing Rural Youth Migration at its Root Cause: A conceptual Framework.* Rome: FAO, United Nations.

Finnegan, R. & Horton, R. (2017). *Modes of Thought in Western and Non-Western Societies.* Eugene: WIPf and Stock Publishers.

Fjose, S., Grünfeld, L., & Green, C. (2010). *SMEs and growth in Sub-Saharan Africa Identifying SME roles and obstacles to SME growth. MENON Business Economics*.Oslo: Menon-publicationno.

Frank, C. R. (2015). *Production Theory and Indivisible Commodities. Woodstock:* Princeton University Press.

Gana, B.A., Jamri, B., & Ibrahim, A.(2012). Relevance of Manpower Training, Development and Changes in Organizations. *Journal of Social Science and Policy Review.4,* 72-83.

Garnsey, E. (1998). A theory of the early growth of the firm. *Industrial and corporate change*, *7*(3), 523-556.

GCU, (2016).*Innovation, Enterprise and Entrepreneurship*. Glasgow: GCU Wikipreneurs. Glasgow: Caledonian University

Gellings, C.W. (2015). *Exploring the Value of Electricity.* Atlanta: Fairmont Press.

Gitman, *et al.*(2018). *Introduction to Business.* Houston: Rice University Press.

Gordon, A.R. (2015). *Regresion Analysis for the Social Sciences* (2 ed.). New York: Routledge Publishers.

Gravetter, F., & Forzano, L. A. (2015). *Research methods for the behavioral sciences*. Stamford: Nelson Education.

Greiner, L. E. (1972). Evolution and revolution as organizations grow. *Harvard Business Review* (July-August issue) 37-46.

Greiner, L. E. (1986). *Evolution and revolution as organizations grow. The Leader Manager*. Arizona City: John Wiley & Sons.

Gunaratne, A., & Weerawardena, J. (2005). Predicting the course of small business internationalisation: An entrepreneurial marketing perspective. *In Australia and New Zealand Marketing Academy Conference (ANZMAC, 2005)* (pp. 36-43). Perth: University of Western Australia.

Heale, R. & Twycross, A. (2015). *Validity and Reliability in Quantitative Studies.* Retrieved from http://www.ebn.bmj.com.

Holmes,A., Illowsky, B. &Dean, S. (2018). *Introductory Business Statistics.* London: Samurai Media Ltd.

Hossain, M. Z. (2012). *Total Quality Management to Gain Competitive advantages.* Saarbrucken: Lap Lambert Academic Publishing GmbH KG.

Idea Group Inc.(IGI), (2013). *Small and Medium Enterprises: Concepts, Methodologies, Tools and Applications.* New York: Business Science Refernce.

IFC (2011). *Financing SMEs in Kenya.5*(1)

ILO (2010). *A Skilled Workforce for Strong, Sustainable and Balanced Growth a G20 Training Strategy.* Geneva: International Labour Office.

IMF (2013). *Poverty Reduction Strategy Paper, Asia and Pacific Dept.* Bangladesh: IMF.

Jibrilla, A. A. (2013). Impact of government interventions on small scale entreprises in Mubi North local government area, Adamawa state, Nigeria. *Journal of Economics and Sustainable Development*, *4*(17) 121-128.

Jokorvic M. (2014). *Factors Affecting Growth of SMEs in Gatundu Region North Sub-county.* Munich: Grin Publishing GmbH.

Kamunge, M. S., Njeru, A., & Tirimba, O. I. (2014). Factors Affecting the Performance of Small and Micro Enterprises in Limuru Town Market of Kiambu County, Kenya. *International Journal of Scientific and research Publication, 4(12)1-20.*

Kandray, D. (2010). *Programmable Automation Technologies*. New York: Industrial Press.

Kenneth, W., Rebecca, M. N., & Eunice, A. (2012). Factors affecting adoption of electronic commerce among small medium enterprises in Kenya: Survey of tour and travel firms in Nairobi. *International Journal of Business, Humanities and Technology*, *2*(4), 76-91.

Kinyua, A.N. (2014). Factors affecting the performance of small and medium enterprises in the Jua Kali sector in Nakuru town Kenya. *IOSR Journal of Business and Management 16*(1), 80-93

KIPPRA, (2010). *A comprehensive study and analysis on energy consumption patterns in Kenya.* Nairobi: KiPPRA.

KiPPRA, (2013). *Creating an Enabling Environment for Stimulating Investment for Competitive and Sustainable Counties*. Nairobi: KiPPRA.

Kiraka R., Kobia M., & Katwalo, A. (2013). *Micro, Small and Medium EnterpriseGrowth and Innovation in Kenya: A Case Study on the Women Enterprise Fund. ICBE-RF Research Report No. 47/13.* Nairobi: Trust Africa.

Kiveu, M., & Ofafa, G. (2013). Enhancing market access in Kenyan SMEs using ICT. *Global Business and Economics Research Journal, 2*(9), 29-46.

Kok, J.M.P., & Wit, G. (2013). *Do SMES create more and better jobs? New Evidence for Europe by Scientific Analysis of Entrepreneurship and SMEs*. Panteia: Zoetermeer.

Koshy, P. & Prasad, V.J. (2021). *SME and Economic Development.* New Delhi: IERD-global SME news.

Kotler, P. (2015). *Philip Kotler's Marketing Theory.* Sunnyvale: Linkedin Corporation.

KPMG (2015).Tax Rates online. Retrieved from https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online.html.

Kumar, D. (2012). *Enterprise Growth Strategy: Vision, Planning and Execution.* Surrey: Gower Publishing Ltd.

Kumar, D. (2015). *Building Sustainable Competitive Advantage Exercutive Enterprise Leadership.* New York: Routledge Publishing.

Lincoln, A. R. (2013). *Development of a Dynamic Costing Model for assessing Downtime and Unussual Capacity Costs in Manufacturing.* Atlanta: Georgia Institute of Technology.

Longenecker *et al* (2017). *Small Business Management: Launching and Growing Entrepreneurial Ventures.* Boston: Cengage Learning Publishers.

Mackenzie, F., & Taylor,D. R. F. (2011). *District Focus as a Strategy for Rural Development in Kenya: The case of Murang'a District, Central Province*. Retrieved from www.tandfonline.com

Manzano, J.J., Chalifour, N. & Kotze, L.J. (2016). *Energy, Governance and Sustainability.* Cheltenham: Edward Elgar Publishing Ltd

Masocha, R., Zindiye S. & Chiliya, N.(2012). The Impact of Government and Other Institution's Support on the performance of Small and Medium Enterprises in the Manufacturing Sector in Harare, Zimbabwe. *International Journal of Business and Management.* 3(6), 655-667.

Maunganidze, F. (2013). The role of government in the establishment and development of SMEs in Zimbambwe: Virtues and Vices. *Journal of business and education,* 4(1)1-16.

Masouras, A. (2015). *Understanding Competition and Diversity in Television Programming: Economic Crisis and Television.* Hamburg : Anchor Academic Pumplishing.

McGregor, H. (2011). *Electricity*. New York: Windmill Books.

Meru, A. (2012). *Business Incubation and Business Development in Kenya.* SaarBrucken: LAP Lambert Academic Publishing GmbH KG.

Michalowicz, M. (2017). *Profit First: Transform Your Business From a Cash-Eating Monster to a Money-Making Machine.* Panchshila: Penguin Publishing Group.

Milne, J. (2010). *Evaluation Cook Book .Questionnaires: Some Advantages and Disadvantages.*Aberdeen*:* Aberdeen University press.

Mogeni, N, S. (2016). Challenges Facing the Growth of SMEs in the Furniture Subsector in Nakuru County Town, Kenya. *European Journal of Business and Management*, *8*(27), 115-134.

Mtega, P. W. (2016). Access to and Usage of Information among Rural Communities: a Case Study of Kilosa District Morogoro Region in Tanzania. *Partnership: the canadian Journal of Library and Information and Research* 7(1), 1646.

Mungai, E.N. & Ogot, M.(2012). Gender, Culture and Entrepreneurship in Kenya. *International Business Research. 5*(5).

Mura, L. (2018). *Entrepreneurship: Development Tendencies and Empirical Aproach.* Rijeka: InTech Publishers.

Mwakaje, A.G. (2010). Information and Communication Technology for Rural Farmers' Market Access in Tanzania. *Journal of Information Technology Impact, 10*(2), 111-128.

Mwangi,R.M., Sejjaaka,S., Canney ,S., Maina, R., Kairo, D., Rotich, A., Owino, E., Nsereko, I., & Mindra , R. (2013). *Constructs of Successful and Sustainable SME Leadership in East Africa, Trust Africa, ICBE-RF Research Report N0. 79/13.*Trust Africa

Mwaura, A. T. W., Gathenya, J. W., & Kihoro, J. M. (2015). Influence of Entrepreneurial Group Dynamics on the Performance of Women owned Enterprises in Kenya. *International Journal of Academic Research in Business and Social Sciences, 5*(10), 206-223.

Ndemo, *et al.* (2017). *Digital Kenya: An Entrepreneurial Revolution in the Making.* London: Springer Nature.

Ndoro, T. (2012). *Why SMEs Need to Thrive not Just Survive. R*etrieved on May 13, 2016 from www. hangaconsulting.com

Ng'ang'a, S.I. , Onyango, G.M. & Kerre, B.M. (2011). Collective Efficiency and Small Enterprise growth in Kenya. *KCA Journal of Business Management* 3 (2)

Nieman G., & Pretorious M. (2004). *Managing Growth: A Guide for Entreprenuers*. CapeTown: Juta and Company Ltd.

Nikolaidis, Y. (2013). *Quality Management in Reverse Logistics: A Broad look on Quality Issues and Their Interaction with Closed-Loop Supply Chains.* London: Springer-Verlag International Publishing.

NITC (2012). *Introduction to jigs and fixtures.* Calcuta: NITC.

Northouse, P.G.(2017). *Introduction to Leadership: Concepts and Practice.* Thousand Oaks: SAGE Publications.

Ochanda,M.M.(2014). Effect of Financial Deepening on Growth of Small and Medium-sized Enterprises in Kenya: A case of Nairobi County. *International Journal of Social Siences and Entrepreneurship, 1*(11), 191-208.

OECD (2010). *Innovative SMEs and Entrepreneurship for Job Creation and Growth. Paper No.1.* Paris: OECD.

OECD, (2017). *Business Dynamics and Productivity.* Paris: OECD Publishing.

OECD & SWAC, (2020). *Africa's Urbanisation Dynamics. Africapolis,Mapping a New Urban Geography.* Paris: OECD Publishing.

ODI,(2014). *How does Electricity Insecurity Affect Business in Low and Middle In come Countries.* London: Ukaid.

Okpara, J. (2011). Factors constraining the growth and survival of SMEs in Nigeria: Implications for poverty alleviation. Bingley: Emerald: Management Research Review, *34*(2), 156 – 171.

Ongaki, N.M. & Otundo, E.M. (2015). *Strategies of Coping with Foreign Market Challenges by Small and Medium Enterprises in Kenya.* New Delhi: EduPedia Publications (P) ltd.

Onuka, A.O.U., & Ajayi, K. O. (2012). Effects of manpower development on workers' job performance. *European Journal of Educational Studies, 4*(3), 423.

Onuonga, S. M., Etyang, M., & Mwabu, G. (2011). Demand for Energy in the Kenyan Manufacturing Sector. International Research Center for Energy and Economic Development. *Journal of energy and Development, 34*(2), 265-276.

Pallant, J. (2016). *SPSS Survival Manual. Step by Step Guide to Data Analysis Using IBM (6th,Ed)*. London: Allen and UNWIN.

Penrose, E. T. (2019). *The growth of Firms ,Middle East Oil and Other Essays.* Abington: Taylor & Francis.

Pomffyova, M. (2018). *Management of Information Systems.* London: IntecjhOpen Publishers.

Potts, D. (2013). *Migrating Out of Poverty: Rural-Urban and Urban-Rural Migration Flows as Indicators of Economic Opportunity in Sub-Saharan Africa: What Do the Data Tell Us? Research Program Consortium*. Falmer: University of Sussex.

Porter, M.E. (2017). *Competitive Strategy: Techniques for Analyzing Industries.* New York: Free Press

Privitera, J.G. (2014). *Research Methods for the Behavioral Sciences*.New York: Sage Publications Inc.

Pushpakumari, M. D. (2011). *Owner-Manager Values and Business performance: An Empirical Analysis of Manufacturing SMEs in Sri Lanka.* Nugegoda: University of Sri Jayewardenepura Press.

Ravitch, S. M. & Riggan , M. (2012). *Reason and Rigor: How Conceptual Frameworks Guide Research.* Thousand Oaks: SAGE Publications.

Renny, M. (2011). Micro and Small Enterprise Sector and Existing Support System with emphasis on High-Tech oriented Entrepreneurship in Kenya. *Journal of Language,Technology & Entrepreneurship in Africa,* 3(1), 99-108.

ROK (2010). *Kenya National Industrialization Policy Framework, Draft Five, Drafting Review Committee.* Nairobi: Government Printer.

ROK (2012). *Sessional Paper No. 10 , Kenya Vision 2030*. Nairobi: Government Printer.

Rosenfeld, S.A. (2012). *Competitive Manufacturing: New Strategies for Regional Development.* New Brunswick: Transaction Publishers.

Rosnes, O. & Shkaratan, M. (2011). *Africa's Power Infrastructure: Investment, Integration, Efficiency.* Washington,D.C: World Bank.

Ruirie, G.M. (2012). *Determinants of growth of manufacturing SMEs in Kenya: A case study of industrial area in Nairobi.* Nairobi: University of Nairobi Press.

Ryan, T.P., (2013). *Sample Size Determination and Power*. Hoboken: John Wiley & Sons Inc.

Sagwe,J., Gicharu, S., & Mahea, T. (2011). *A study on youth and women Entrepreneurs' preparedness in Kenya: A case study of the Kenya Youth enterprise Development Fund and Kenya women enterprise fund beneficiaries using the TRISTART Business Evaluation Tool. Kenya Institute of Management.* Nairobi: Kenya Institute of Management.

Saldivar, M.G. (2012). *Primer Survey Response Rates*. Tallahassee: Florida State University Press.

Shortall, S., & Warner, M. E. (2012). *Rural transformations: Conceptual and Policy Issues.* New York, Routledge Publishers.

Shucksmith, M., *et al,(* 2012). *Rural Transformations and Rural Policies in the United States and United Kingdom.* New York, Routledge.

Sarwoko, E. & Frisdiantara, C. (2016). Growth Determinants of Small Medium Enterprises (SMEs). *Universal Journal of Management, 4*(1), 36-41

Schwartz, A.R.(2012). *Regulation of U.S Equity Markets.* CUNY: Baruch College Press.

Sevilla, C.G., Ochave, J.A, Punsalan,T.G., Regala, & Uriarte, (2010). *Research Methods.* Quezon City: Rex Book Store, Inc.

Shah, S., Nazir, T., & Zaman, K. (2013). A literature review on growth models and strategies: The missing link in entrepreneurial growth. *Management Science Letters, 3*(8), 2189-200.

Shimp,T., & Andrews, J. C. (2013). *Advertising Promotion and Other Aspects of Integrated Marketing Communications.* Pretoria: Cengage Learning.

Sivanagaraju, S., Balasubba, M., & Srilatha, D. (2010). *Generation and Utilization of Electrical Energy.* New Dheli: Dorling Kindersley (India) Pvt. Ltd.

Soini,E., & Veseli, L. (2011). *Factors Influencing SME growth in Kosovo*. Turku: Turku University of Applied Sciences.

Staicu, G.L. (2017). *Poverty, Inequality and Policy.* Rijeka: Intech Publishers.

Stern, D.I., & Kander, A. (2012). The Role of Energy in the Industrial Revolution and ModernEconomic Growth. *The Energy Journal, 33*(3), 1-36.

Sulistoyawati, W., Saidi, I. A., & Qudus, N. (2017). Improving quality of SME Products Through Training Product Legality on Science and Technology Program for Entrepreneurship at Muhammadiyah University of Sidoarjo. *Proceedings of the ICECRS , 1*(2), 62-65.

Tambunan, T.T.H. (2019). *Development of MSMEs in Developing Countries: Stories from Asia, Africa and Latin America.* New Delhi: Akinik Publications.

Tantau, A.D. & Fratila, L.C. (2017). *Entrepreneurship and Business Development in the Renewable Energy Sector.* Hershey: P.A.: IGI Global.

Tejada, J.J., & Punzalan, J.R.B. (2012). Misuse of Slovan's Formula. Diliman: University of Philippines. *The philippine Statistician, 61*(1), 129-136.

Tyebjee, T. T., Bruno, A. V., & McIntyre, S. H. (1983). Growing ventures can anticipate marketing stages. *Harvard Business Review, 61*(1), 62.

UNIDO, (2010). *Energy Infrastructure and Industrial Development, Research Statistics Branch. Working Paper, 12/2009*. Vienna: Program Coordination and Field Operations Division.

USAID, (2013). *An Assessment of market information Systems in East Africa: Briefing Paper*. Nairobi: USAID.

Ursachi, G., Horodnic, I.A., & Zait, A (2015). How Reliable Are Measurement Scales? External Factors With Indirect Influence on Reliability estimators. *Procedia Economics and Finance 20 , 679-686*

Wafullah, N. T. (2018). *Agricultural Marketing.* Burlington: Arcler Education Incorporated.

Wang'ombe, M. (2013), The Role of The Family Counsel Board of The Growth of Small and Medium Enterprises in Kenya After Exit of The Founder : A Case of Nairobi Central Business District family Small SMEs. *International Journal of Arts and Entrepreneurship, 1*(2).1-13.

Wanjau, K., Gakure, R., & Kahiri, J., (2013). The Role of Quality Adoption in Growth and Management of Small & Medium Enterprises in Kenya. *European Scientific Journal,* 9(7), 458-467.

Wangombe, M. (2013). The role of the family counsel board on the growth of small and medium enterprises in Kenya after exit of the founder: A case of Nairobi CBD family small SMEs. *International Journal of Social scienceand Entrepreneurship. 1*(2), 588-600.

Wasserman, N. (2012). *The Founder's Dilemma: Anticipating and Avoiding the Pitfalls that can Sink a Startup.* Princeton: Princeton University Press.

Wilkins, G. (2010). *Technology Transfer for Renewable Energy.* New York: Taylor and Francis Publishers.

Woldie,A., & Thomas, B. (2018). *Financial Entrepreneurship for Economic Growth in Emerging Nations.* Hershley, PA: IGI Global.

World Bank (2010). *Companion Note for the MSME Country Indicators* . IFC's World Bank-IFC Global Indicators and Analysis. Yemen GEM Country Brief. Retrieved from http://www.ifc.org/ifcext/gempepmena.nsf/Attachments.

World Bank (2011). *Challenges of Enterprise Performance in the Face of Financial Crisis: Eastern Europe and Central Asia.* Washington, DC: World Bank.

World Bank, (2012). *Trade Competitiveness Diagnostic Toolkit.* Washington D.C: World Bank.

World Bank (2014). *Entrepreneurship Education and Training: Insights from Ghana, Kenya, and Mozabique.* Washington D.C: World Bank.

World Bank (2017). *Infrastructure for Economic Growth and Shared Prosperity in Kenya: Addressing Infrastructure Constraints, Promoting Economic Growth, and Reducing Inequality.* Washington D.C: World Bank.

Worth, S.M. (2010). *The Association Guide to Going Global: New Strategies for a Changing Economic Landscape.* Hoboken: John Wiley & Sons. Inc.

Wymenga, P. *et al*. (2013). *Improving the Market Performance of Business Information Services Regarding Listed SMEs-Final Report.* Rotterdam: ECSIP Consortium.

Wang, Y. (2016). What are the biggest obstacles to growth of SMEs in developing countries? An empirical evidence from an enterprise survey. *Borsa Istanbul Review*. 16 (3), 167-176.

Yeboah, M. A.(2015). Determinants of Sme Growth: An Empirical Perspective of Smes in the Cape Coast Metropolis, Ghana. *The journal of Business in Developing Nations.* 14(1)1-31.

Zachriadis, T. & Hadjikyriakou (2016). *Social Costs and Benefits of Renewable Electricity Generation in Cyprus.* New York: Springer International Publishing.

APPENDICES

Appendix I: Letter of Introduction

Dear Sir/Madam

My name is Philemon Ndolo, a post graduate student pursuing a Doctor of Philosophy (Ph.D) Degree in Entrepreneurship at Jomo Kenyatta University of Agriculture and Technology. I am conducting a research on the topic: ***Determinants of Growth in Small and Medium Enterprises in Kenya.*** I would like to request you by this letter to respond to the attached questionnaire. The information you provide will be treated with confidentiality and will not be diverged to any third parties. The information will be used for academic purposes only. I would like to thank you in advance for your time and cooperation.

Philemon Ndolo

Ph.D. Student

Appendix II: Questionnaire

Part A: Background Information

1. Name of organization ……

For each of the questions from 2-7, put a tick in the box that corresponds to your answer.

Part B: General Organization Data

2. For how long has your company been operating?

(a) 0-5 yrs [ ] (b) 6-10yrs [ ] (c) 11-20yrs [ ] (d) 20yrs+ [ ]

3. Please mention how many employees your company has…….

4. Which sub sector does your company belong to? Please tick one.

a) Metal & allied [ ]

b) Wooden furniture [ ]

c) Textile Products [ ]

d) Leather & footwear [ ]

e) Other please mention. ……

5. Legal form/ ownership of the enterprise:

a) A partnership [ ]

b) Sole owned [ ]

c) Limited Liability Company [ ]

d) Other please specify [ ]

Part C: Access to Market Information

6. Is the organization connected to fax or internet a) Yes [ ] b) No [ ]

For questions 7-21 kindly indicate the extent to which you agree with the following statement in the scale: SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree

		SA	A	N	D	SD
7	Access to marketing information is very key to my business growth.					
8	Use of internet to access marketing information has made doing business very easy.					
9	With well trained manpower in using internet the business has been growing.					
10	Electric power has been quite an asset in our getting market information.					
11	With market information machines, we get market information in a timely manner.					
12	Participation in exhibitions created a network that boosts sales for the enterprise which in turn leads to growth of the enterprise.					
13	Membership to the appropriate SME associations would improve access to market demands and contribute to enterprise growth.					

For questions 14-20, kindly indicate to what extend you use the different methods to access market information in your industry by ticking the appropriate box. 1= Never Used,2= used at least once in six months 3=Used at least once in 3 months, 4= Often used , 5= Used most of the time.

	Method of Access	1	2	3	4	5
14	Telephone					
15	Fax					
16	Word of mouth					

17	Newspapers					
18	Electronic Media(Radio/Television)					
19	Internet (Web)					
20	Social Media					
21	E mail					

22. What challenges do you face in marketing your products?

.....

.....

.....

Part D: Quality of Products-

Quality of goods produced

For questions 23-35, indicate by ticking in the appropriate box to what extent you agree with the following statement using the scale:

SA= Strongly Agree, A=Agree , N= Neutral , D = Disagree, SD= Strongly Disagree

		SA	A	N	D	SD
23	We follow strick guideline to make our products					
24	Our products must comply with the industrial set Standards					
25	We hire qualified personnel in our workshops					
26	We employ quality control measures on every product.					
27	Our products are made in a way such that reworking we do not do any reworking on them.					
28	Our strict standards has increased our sales and we have employed more people to cope with the demand.					
29	Company finances have increased.					
30	Our customers say our products last long and have been worked on nicely.					
31	Electricity use has helped us improve the quality of our products					

32	We ensure the inputs we use are of high quality.					
33	Our customers are now always happy with our products.					
34	Our customers say our products are durable compared to those of our competitors.					
35	Development of higher value-added products improved the competitiveness of the enterprise in the market					

Part E: Volume of Produced Goods

36. Number of units made per month since connecting electricity is now between :

a) 50 and 100 units from less than 50 [ ]

b) 101- 250 units from less than 101 [ ]

c) 251 – 500 units from less than 251 [ ]

d) Over 500 units [ ]

37. As a result of using electricity, the number of employees has increased by between:

a) 1- 2 people [ ]

b) 3-5 people [ ]

c) 6-10 people [ ]

d) over 10 people. [ ]

The volume of the goods produced

For questions 38- 49, kindly indicate the extent to which you agree with the following statements by ticking in the appropriate box in the scale:

SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree

		SA	A	N	D	SD
38	We always meet the demand for our products in the market.					
39	Access to credit makes us unable to meet the demand for our goods in the market					

40	Price of inputs makes us unable to meet the market demand for our products					
41	The production technology in our company affects the volume of our output.					
42	The production technologies we use does not cope with the volume of work we have.					
43	With state of the art machines we are able to meet the market demand.					
44	With the adoption of the use of electrical power, automation has been made possible and our volumes of production have increased.					
45	We are now able to sell more and make more money.					
46	The company's physical assets have increased as a result of increased volume of produced goods and hence sales.					
47	Our banks ask for very high value collateral whenever we want to borrow to increase our volume of production and this pulls us backwards.					
48	Lower price for the inputs boosts our production levels.					
49	Our selling prices determines the volume of our sales.					

50. Do you have any other factor that affects the volume of production in your enterprise? Please mention.

.....

.....

.....

Part F: Efficiency of Production

Efficiency in Goods Production

For questions 51-59, kindly indicate the extent to which you agree with the following statement in the scale: SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree by ticking in the appropriate box.

	Leadership and Manpower and Machine Utilization	SA	A	N	D	SD
51	Leadership is what matters in this company					
52	Even with good leadership we never meet our production targets.					
53	We usually meet our deadlines.					
54	We have been religiously utilizing the manpower we have.					
55	With state of the art machines we have been meeting our goals.					

56	We have been able to minimize waste of our raw materials.					
57	The machines we use consume very little power but the volume of work the do is enormous.					
58	Connection to electric power has helped us to get things done in a timely manner.					
59	We have had low productivity due to using inefficient technology					

60. What do you suggest which can improve efficiency in you enterprise?..please mention.....
.....
.....

Part G: Use of Electrical Power

61. Electricity was installed in my business premises:

a) Less than 6 months ago [ ]

b) Between 6 and 1 year ago [ ]

c) Between 1- 2 years ago [ ]

d) Over two years ago [ ]

For questions 62-67, indicate to what extent do you agree with the following statement using the scale: SA= Strongly Agree, A=Agree , N= Neutral , D = Disagree, SD= Strongly Disagree by ticking in the appropriate box.

	Use of Electrical power	SA	A	N	D	SD
62	Connecting electricity has helped my business grow					
63	With the use of electricity, we have automated our production.					
65	Electricity has made it possible to extent working hours					
66	Electricity has made more enterprises to come up in our neighbourhood.					
67	With electrical power we are able to do things like metal fabrication, flour milling and many more that was not possible before.					

68. How did connecting electricity affect your business growth?

.....

.....

69. Since your organization started using electric power has it grown? Yes No

Part H: Growth of SMEs

For questions 70-72, kindly indicate the extent to which you agree with the following statements in the scale: SA= Strongly Agree, A=Agree, N= Neutral, D = Disagree, SD= Strongly Disagree by ticking in the appropriate box.

		SA	**A**	**N**	**D**	**SD**
70	Since access to market information was eased, we have been able to expand our operations to other areas.					
71	Our company now has been able to buy more assets since the introduction of electricity,					
72	With the access to market information, higher sales volumes , the company has made more finances and hired more personnel					

73. What would you say should be done to help small companies to grow?.....

……

……

……

Appendix III: List of Organizations to be Sampled

1. Nilkanth Furnishers Limited
2. Abdullas Black Smith
3. House Of Linenkenya Limited
4. Brand Track Ltd
5. Rupra Construction Co. Ltd
6. Malvic Ltd
7. Sandstorm Africa Limited
8. Sandstorm Africa Ltd
9. Sandstorm Africa Ltd
10. Sandstorm Africa Ltd
11. Sandstorm Africa Ltd
12. Dynamo (General) Enterprises
13. Jane Chabari
14. Smartline Outfitters
15. Agog Collections Limited
16. Gracejoy Tailors
17. Rehoboth Fashions Ltd
18. Clique Ltd
19. Pegton Cutting And Bending
20. Cresent Metal Dealers
21. Cyro Ventures
22. Anntex Designers Textile
23. Meticulous Designs Ltd
24. Ital Dry Cleaners Ltd
25. Samuel Karimi Karige
26. Continental Chemist
27. Unique Metalbeds Limited
28. Mukorino General Traders
29. Anne Wawira Mbai
30. Cena Agencies

31. Molokai Ltd T/A Manix Clothing Store
32. Egra H/Ware
33. Masqiq Metal & Plumbing Works
34. Stage Hardware Stores
35. Charles Thiga Waweru
36. Zingo Investments
37. Manix Ltd
38. Blue Waves Enterprises Limited
39. Quick-Wholesalers
40. Elsus Leather Stores
41. Sahara Leather Stores
42. Patrick Mwangi
43. By Grace Leather Shop
44. Ndundume Leather Store
45. Giam Leather Shop
46. Wanjiru Leather Shop
47. Executive World Ltd
48. Leather Trading Company
49. Ken Sandals
50. Ushidi Leather Dealers
51. Muka Designers
52. Azu's Leather Limited
53. Azu's Leather Limited
54. Limwood Enterprises
55. Iron Juggleries
56. Luxus Woods (K) Ltd
57. Stainless Steel Products Ltd
58. Raj Metals Ltd
59. Kato Manufacturers Ltd
60. Rift Valley Leather Limited
61. Modulec Engineering Systems Ltd
62. Arax Mill Ltd

63. Fine Wood Works Limited
64. Polysynthetic E.A. Ltd
65. Abbey Kenya Limited
66. Delta Pro Kenya
67. Spry Engineering Co Ltd
68. Govind Fabricators Limited
69. Metco Limited
70. Thorlite Kenya Limited
71. Bakequip Limited
72. Metco Ltd
73. Electro Air Systems Limited
74. Admart Africa Ltd
75. Gurdev Engineering And Construction 76. Works Ltd
77. New Era Graphics
78. Rapid & Quality Results Eng. (K)
79. Orbit Engineering Ltd
80. Orbit Engineering Ltd
81. Omline Enterprises
82. Donholm Metal Fabricator
83. Poa High Tech Engineering
84. Panesar Crankshaft Centre Limited
85. M M K Metal Works
86. Page Signs And Graphics Ltd
87. Degnice Hydroli's
88. Power Tools & Hardware
89. Saikati Enterprises
90. Habib -Leather Industry Africa.
91. Furntec Kenya
92. Assi Engineering & Construction Works Ltd
93. Carter Metallic Skills
94. Fixon Metal Works
95. Year 2000 Plywood

96. Brand Park
97. M.A Tayebjee
98. Mahtab Ltd
99. Monicah W. Maina
100. Manix Ltd T/A Levi's
101. Njoken Enterprises
102. Jokim Craft
103. African Lily Enterprises
104. Rift Valley Leather Rd
105. Excutive World Limited
106. Magyka Traders
107. Magyka Traders
108. River Yala Leather Works
109. Anesh Metal Works
110. Waka's Enterprises
111. Zipo Shoes And Leather
112. Gathome Enterprises
113. Seline Akinyi Orinda
114. Mohamed Fahad Ali
115. Nelly W. Icharia
116. Executive World Ltd
117. Weza Fabrics Ltd
118. Dubai Fashions
119. Pemex Enterprises Limited
120. Leah Njuguna Boutique
121. Ivory Pearls Collection
122. Bliston Enterprises
123. Store 66 Ltd
124. Bashir Raha Mohamed
125. Joyvic Textiles
126. Matim General Trading Ltd
127. Scolastica Nyawira

128. Dong Fang Development Co. Ltd
129. Winka Fashions
130. Gracious Textiles
131. Divas Textiles
132. Felistas W. Kinuthia
133. Annastasia Mutono Musavi
134. Rowetex Fashions
135. Stanley Mburu Kuria
136. Shamar Textiles
137. Pramukh Wear
138. Robert N Kihuha
139. Saadia Abdullahi Haji
140. Anita Enterprises
141. Jj Textiles And General Trading
142. Xiang Long Compony Ltd
143. Yussuf Mohammed Nur
144. Bemuta D Fashions
145. J.J Textiles And General Trading
146. Bijal Textile
147. John Bosco Mululu
148. Cesare Ettore Investment
149. Renzo Africa Limited
150. Sankin Limited
151. Weza Fabrics Limited
152. Hebron Fashion Limited
153. Cotton World Textiles
154. Sabina Collection
155. Turaf Investment Limited T/A Bianco 156. Nero
157. Jenaida Agency
158. Scolada Textiles
159. Danes Enterprises
160. Small And Tidy Shop

161. Kiboko Collections Company
162. Rismuj Enterprise
163. Alika Textiles
164. Sheetal Leather Pride
165. Kirti Enterprises
166. Abdirahman Maalim Omar
167. Riziki Sales.
168. Alice Trading
169. Annabelle Thom
170. African Lily Ernterprise
171. Rift Valley Leather Ltd
172. Joseph Ndungu Kariuki
173. Crisca Stores
174. A. Sam Textile
175. Fartun Osman Abdi
176. Bonafrica Investment Limited
177. Muktar Ali Ahmed
178. Ismail Mohamed Ali
179. Muhyadin Raghe 2
180. Muhyadin Raghe 1
181. Mohamed Ali Abdi
182. Yaseen Omar
183. Nanjenja Agency
184. Fatuma Abdullahi Ibrahim
185. Esther Ndila Nzomo
186. Dawn Textile
187. Hassan Salah Abdow
188. The Wardrobe
189. Mohamed Abdi Ismail
190. Fine Touch Tailoring Accessories
191. Venasa Enterprises
192. Virginiah Mwende Nzyoka

193. Patrick Maina
194. Torex Textiles
195. Grace Textiles
196. Iko Textiles
197. Lucy Muthoni Irungu
198. Rhema Textiles
199. Ismail Mohamed Ali
200. Josephine Kiranga
201. Shelmith N Kagunda
202. Susan N. Kimani
203. Motson Designs
204. Allon Metal Works
205. Hussein M Ali
206. Erijomy Textiles
207. Bashir Muhyadin Raghe
208. Marina Enterprises
209. Kasmall Hair Saloon And Barber Shop
210. Orchid Furniture Ltd
211. Mara Creation Nairobi Ltd
212. Lulu Develpment Company Ltd
213. Syntans And Chemicals (Africa) Ltd
214. Dismas Leather Shop
215. Virginiah Mwende Nzyoka
216. Tradesun Textiles
217. Alitex Textiles
218. Sankim Textile
219. Kenya Lighting Industries Ltd
220. Perinn Enterprises
221. Njumu Leather Shop
222. Spine Leather Shop
223. Sema Leather Kenya
224. Kanini Repair Metal Work

225. Moksh Limited
226. Kings And Queens Textile
227. Rengi Scrap Metal
228. Textile Shop
229. Finyard Enterprises
230. Nalina Ltd. /Adelphi The Leather Shop
231. Balozi Shoe Designers
232. University Way General Supplies Ltd
233. Kartech Engineering Limited
234. Wide Range Concepts Company Limited
235. Sekemu Steel Metal
236. Nairobi Mens Wear
237. Pattori
238. Mohanlal Naran & Bros
239. Afro Moda
240. Fairlane Textiles
241. Bwiroy Enterprises
242. Topstar Tailoring And Textiles
243. Njeri Designers
244. Amarsons Collections Ltd
245. Far Horizone Hides And Skins
246. East African Canvas Company Ltd
247. Elegant Designs
248. Praise Textile
249. Irene Njeri
250. Liztri Suppliers
251. Samtex Clothing Africa
252. Calortex Stores
253. Safi Fashion
254. Sanof Textiles
255. Ganaal Ventures
256. Solomon Mwangi

257. Sahra Mohamed
258. Peter Njoroge
259. Blex Textiles
260. Sunatex Textile
261. Vestes Couture Two Five Four
262. Vision Collection
263. Stevens Home Solutions & Merchandise
264. Makena Young Life Designers
265. Abdiwahid Muhumed Hassan
266. Lucky Fashions
267. Liimon Enterprises
268. Ken -Knit (K) Ltd
269. Asian Saree Boutique And Tailors
270. New Classic Hijab Shop
271. Procure For You
272. Jocapi Ventures
273. Gobtex [K] Ltd
274. Home And Hospitality Tetiles Co Limited
275. Nice Textiles
276. Zelippah Wanjiru Gathungu
277. Formika Limited
278. Joykin Fashions & Design
279. Josiah Murithi N T/A Rusan Textiles
280. Washedi Fruitex Two
281. Joel Wachira Karite
282. Exclusive Collections
283. Liimon Enterprises
284. Promitex Textiles
285. Rosetex Trading Co
286. Muncat Traders
287. Asmah Stores
288. Teejay Textiles

289. Mink Fashions
290. John Bosco Mululu
291. S. N. Patel
292. Nissim
293. Joysacy Investments
294. Beauty Beat Textiles
295. Masue Textile
296. Osmanbey Designers
297. Wiltex Fashions
298. Unique Textile Collections
299. Satkirit Creations Ltd
300. Gurdev Engineering And Construction 301. Works Ltd
302. Zylino Wood Products Enterprises
303. Tryluck Woodwork
304. Antiqa Furniture Limited
305. Siesta Timber & Hardware
306. Prinik Enterprises
307. Premiercraft Iron Art
308. Challenge Engineering Works Ltd
309. Shuang Hong Ltd
310. Sanskaar Limited
311. Unity Timber And Woodworks
312. Finlay Brushware Ltd
313. Silver Tech Agencies
314. Gurey Wood Products
315. Shakur Engineering
316. Fanaka Timber.