

**INFRASTRUCTURAL DEVELOPMENT AND GROWTH  
OF SMALL AND MICRO ENTERPRISES IN THE NAIROBI  
SECTION OF THIKA ROAD, IN KENYA**

**BY**

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## **DECLARATION**

This research project is my original work and has not been presented to any other university for the award of a master's degree.

Signature\_\_\_\_\_ Date \_\_\_\_\_

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

Signature\_\_\_\_\_

Date

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## **DEDICATION**

I dedicate this research project to my family due to their continued sacrifice and support all through this research project. To my father Michael Mulu who is number one champion for girl-child empowerment. I am what I am because of you. To my mother, Mrs. Georgina Michael, you have taught me the art of resilience, you are a gem in my life.

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## **ACRONYMS AND ABBREVIATIONS**

<b>SMEs</b>	Small and Micro Enterprises
<b>SPSS:</b>	Statistical Package for Social Sciences
<b>WB:</b>	World Bank

## **ABSTRACT**

The study sought to answer the research question: does infrastructural development influence the growth of small and micro enterprises (SMEs) along Thika road, in Kenya. The target population of this study was 597 small and micro enterprises, located along Thika Superhighway. Simple random sampling was used to select 179 respondents from the target population. The study used primary data, which was collected by use of a structured questionnaire. The results indicated that infrastructural developments (roads, water and sewerage, telecommunication) were affecting the growth of SMEs along Thika superhighway. However, electricity had no significant influence on the growth of SMEs. The study recommends that the National government as well as County governments in Kenya should come up with policies aimed at improving infrastructure such as roads, telecommunication as well as water and sewerage as a way of ensuring SMEs growth in the country. The national government together with the county government should work hand in hand to ensure that water is made available in all the regions where SMEs are located. This will therefore enhance production activities in the SMEs thus leading to an increase in growth and development of the state's economy.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

The development of the economy of any given nation is dependent on growth of small and micro enterprises. This is because most people depend on small and micro enterprises on a daily basis to obtain products and service. Recklies (2001) posited that small and micro enterprises (SMEs) make a significant role in a country's economy. In most developing nations the Small and Micro Enterprises (SMEs) are seen as engines in the growth of any country. On the other hand, in the developed countries, the SMEs have played a great role, since the last decade, in various ways such as spurring innovations, job creation and creation of new products, thus contributing to the economic growth. However, the growth of small and micro enterprises significantly depend on infrastructures such as water supply, road network, railway, electricity and sewerage systems as they influence effectiveness and efficiency of SMEs.

This study will employ three theories of infrastructure development growth of small and micro enterprises, namely: residential location theory, theory of the firm and the stochastic theory. The residential theory asserts that transport infrastructure impacts the growth of SMEs as it stimulates inward investment and also allows local business to expand. This represents the level of income opportunities and job vacancies, hence attracts people to come and stay in the region as a result facilitating the growth of the SMEs in the region (Calderon & Serven, 2003). On the other hand, the theory of the firm emphasizes that the growth of an SME is dependent on the inputs and output of infrastructure that enters into the production process of an SME, this facilitates its growth. Furthermore, the stochastic theory of a firms' growth suggests that there is no theory of firm growth that is much dominant than the other. It also indicates that the rate of growth of any business is not dependent on the enterprise size but other such as finance and infrastructure.

SMEs in most cases operate on a small scale and their survival to growth stage is mostly sensitive to the changing dynamics which exist in the business environment as compared to larger organizations (Standworth & Curran 2002). Due to the fact that SMEs are

always on a small scale basis, most of their owners always work in uncertainties as they do not know what the outcome might be. This is mainly because of lack of resources that are needed to conduct risk analysis in the market before taking up the risk. Due to their size and locations, small and micro enterprises significantly depend on infrastructural development of the country.

### **1.1.1 Infrastructural Development**

Infrastructure can be defined in various ways but in this perspective, it refers to the organizational and physical structure that is of necessity for the operation and existence of any enterprise. Sullivan and Steven (2003) advanced that infrastructure involves the facilities and the services which are required by any economy so as to function. It assists in the economic development of various sectors of the economy, through increasing the rate of growth of SMEs.

Infrastructure refers to group of elements which are interconnected and are concerned with issue or provision of a framework that supports the whole structure of development. This is essential in determining a country or a region that is in the circle of development whether it is progressing or is lagging behind. In technical terms, infrastructure refers to the structures that guide and support individuals and the entire society, in ways such as telecommunications, electricity grids, bridges, water supply, roads and sewers (Fulmer, 2009). Infrastructure developments such as functionally infrastructures enhance the production process by facilitating the production of services and products. Ukong and Iniodu, (2011) argued that infrastructure development refers to the fundamental physical amenities and facilities on which other activities which may be social, economic or political are highly dependent for their existence.

Hirschman (2008) explained infrastructure as those products that are necessary and if they are not present, then primary, secondary and also tertiary production will not be carried out as they cannot function and work hence may lead to the negative performance of the SMEs. Rauf (2013) established that infrastructure development in general, comprises of a group of facilities that produce services and products to the citizens of a country. These services and products are not provided directly to the citizens but through provision of inputs that are required by sectors such as social, economic and political.

Nkechi *et al.* (2012) in his perspective opined that there is a belief that infrastructural development has a role that is crucial in the process of mind and body development, assisting in the production process under environment, increases the performance of SMEs efficiently and effectively. Infrastructure development is categorized into various sub-groups, which is done on the basis of issue of interest. It can either be social infrastructure or economic infrastructure. Economic infrastructure mainly deals with resources including telecommunications networks, railways, roads, power facilities and port facilities while on the other hand social infrastructure involves facilities which include hospitals, educational institutions, community facilities and justice facilities (Shanks & Barnes, 2008).

Kessides (2003) found out that infrastructure development plays a key role in ensuring that there is economic growth. This is done through the forces of supply and demand, which exist in the markets that allow buying and selling which is a function of all the small and micro enterprises. When infrastructure is aggregated with other factors, it always leads to a high level of production as a result influencing public investment, private investments and also private capitals. Infrastructure has effects both at the macroeconomic and microeconomic levels. At the microeconomic level, the effects of infrastructure are evidenced through the reduction of production cost hence affecting the profitability of the firm, the output level, employment and income. This mainly happens in the small and micro enterprises. Infrastructure development affects the quality and cost in trade logistic, which is a key determinant of competitiveness in the export and import markets. Infrastructure development also leads to the diversification of the economy, mostly in the rural areas, for instance, by accelerating the growth consumption possibilities and alternative employment. Infrastructure development such as telecommunication assists in the provision of easy access to technology in most sectors which facilitates the growth of SMEs. Infrastructure development is of great significance phenomena since it leads to improvement in the transport sector that makes the access to financial resources to be cheaper and faster, thus reducing workers' time which is spent mainly on non-productive facilities or which could improve the health status, thus raising the economic return of any sector to labor. Also, the lack of easily affordable and access

to adequate infrastructure is of great significance in the determination of factors which determine the persistence and nature of poverty.

### **1.1.2 Growth of Small and Medium Enterprises**

Most firms strategies aim at growth (The Economist Intelligence Unit, 2000). They always work towards obtaining a sustainable growth rate in the market and also to be competitive. Simons (2009) articulated that even though most firms work so as to reach a high growth rate, the rate is always risky. Growth is always risky even if it is supported by the underlying operational policies it still remains a challenge that a firm is required to achieve. Growth of a firm exerts pressure on the employees and the firm's infrastructure. This results into an increase in the number of the risk errors which are experienced in ways such as omission or commission. The errors that are experienced usually destroy value and also cost money.

The growth of SMEs is often associated closely with the overall survival and success. When an aim is to reach growth, it is always easy to survive and succeed. In most cases, growth is usually termed as measure of a business success. Also, growth is an important and efficient indicator of how the small and micro enterprises are performing and whether they will be capable of survival. In addition, growth is also an important precondition that indicates that the firm has achieved its business goals. In the case of SMEs, growth usually indicates to the owners that the firm is on a long term basis thus growth is a long term measure of performance. Firms which always have the chances of growing, always have a double indication of survival in the long term than firms that are less likely to survive. When a firm grows at a high rate it reduces the profitability of the firm temporarily but in the long run it ends up increasing (Parker, 2009).

A firm's growth is however faced by many challenges in the empirical and conceptual way. The increase in size of a firm is often termed as a firm's growth. In the world of research, a firm's growth is viewed in different ways and the measures that are applied are also different from those that are applied in the conceptual way (Scott, 2004). Due to this, it might have resulted to the different findings that have been revealed in the past on

the growth of SMEs. Change in the turnover of a firm has been the most frequent measure of the growth of a firm.

Kinuthia (2013) revealed that there is inter-correlation among the measures which are applied on the measurement of growth on a frequent basis in small and micro enterprises. This is not the case when you look at the capital-intensive large companies as there is no inter-correlation among the measures that are adopted. Most studies done in the past on a firm's growth have mainly focused on the large capital-intensive companies, and the growth of small and micro enterprises which are well established, long-lived SMEs have been ignored. In fact, most of the models of organizational life cycle, view growth as one of the stages of development. On the contrary also, it has been indicated that there are new jobs that are created as a result of the old SMEs. However, the studies that have been conducted have focused on the performance of the new ventures and forgetting the existing SMEs and also the factors that lead to improvement in their growth (Scott, 2004).

### **1.1.3 Thika Superhighway**

Thika road, largely recognized as the Thika superhighway, is a vital class "A" road that links Thika town that is located in Kiambu County and Nairobi City. The road has coverage of approximately more than one million total population and it transverses Nairobi Metropolitan highly inhabited areas of Zimmerman, Githurai, Kasarani, Ruiru, Kahawa, Juja and ends up in Thika town (Kinuthia, 2013). Thika Super Highway has been a key infrastructure project by the Government of Kenya and other development partners such as the Chinese Government and the African Development Bank. This project is a key pillar to achieving vision 2030 (Kinuthia, 2013). The construction of the Thika Superhighway has brought about a lot of changes in areas neighboring it by fully opening up these areas. In addition, the construction of the road has led to an improvement of other infrastructures such as communication, water, sewerage system and electric systems. Numerous businesses have been recognized and those that have been in existence have been boosted due to the increase in people and traffic along the Thika superhighway (Olingo, 2016).



Thika Superhighway began about some years back by a great ceremony that was embellished by the former president of Kenya, Mwai Kibaki in the year 2009. During the 10 years when Kenya was under president Kibaki's leadership, Kenya underwent tremendous transformation in terms of development. Infrastructure underwent a total revolution; there was a significant improvement in the living standards of people (Wambua, 2016). Thika Superhighway is about 50.4 kilometer in length, eight-lane super-highway. Thika Superhighway has reduced the traffic-jam in Kenya. The total cost of Thika Superhighway at the present time staggers around Kenya Shillings 27 billion.

However, despite the startup of small and micro enterprises along the road being at a very high note, still there is a great rate in their collapse and also most enterprises along the road hardly last for three years (Wambua, 2016). Due to many challenges they face, most of small and micro enterprises stagnate, lack continuity and eventually collapse. According to Sharu and Guyo (2013), out of every 5 businesses that are established, 3 of them fail in the first months of their operation and others that survive, 80 per cent of them fail before they attain five years.

## **1.2 Research problem**

A SMEs in the economy of any country has a key role to play. It assists in both alleviation of poverty and opportunity creation for the residents in any nation. Recently, SMEs have been faced with several challenges including poor infrastructure level, inaccessibility to finance, inadequate markets and lack of training of employees on technology. These challenges affect the SMEs both positively and negatively thus affecting its performance in the long run. SMEs have a crucial role in the development of the economy through the creation of employment, poverty eradication and establishment of new firms (Heger, Rinawi & Veith, 2014). According to Economic Survey (2015), SMEs have the highest share of job opportunities which account for about 82.7 per cent of the available in Kenya. Globally, small and micro enterprises are largely recognized as engines of growth and development and are the backbone of economy in both developed and developing countries (Sharu & Guyo, 2013).

According to Ndiang'ui (2012), infrastructure development influences transportation, which in turn influences the growth and performance of small and micro enterprises. In an effort to improve the performance of small and micro enterprises in Kenya, the government has been improving infrastructures such as transportation, communications, power supplies, water and distribution networks.

Various studies have been conducted on infrastructural development and small and micro enterprises in Kenya. Nganga, Onyango and Kerre (2011) conducted a study on the influence of infrastructure and technology on SMEs growth (wood enterprises) and found that infrastructure development plays a key role in determining the growth of small wood enterprises. In addition, Ndiang'ui (2012) conducted a study on transport as a major determinant in the performance of small and micro enterprises as in the case of Kibera Division and found that there was a substantial association amongst the transportation factors such as transport cost, insecurity related to transport and also the enforcement in the roads and access act with the SMEs performance. However, these studies were limited to specific types of enterprises and areas and hence their findings cannot be generalized to SMEs along Thika Super Highway. This study therefore sought to answer the research question: does infrastructural development influence the growth of small and micro enterprises along Thika road, in Kenya

### **1.3 Objective of the study**

The objective of the study was to determine the influence of infrastructural development on the growth of small and micro enterprises in the Nairobi section of Thika Road in Kenya.

### **1.4 Value of the study**

The study employed three theories of growth of small and micro enterprises, namely: Residential Location theory, theory of the firm and the stochastic theory. However, these three theories are mainly based on the growth of the small and micro enterprises. The growth of different small and micro enterprises is based on different activities hence they are influenced by factors of different types. This study therefore provides more knowledge on the use of the three theories that may be used in the growth of different

small and micro enterprises. The study also adds more information to the existing body of knowledge on influence of infrastructural development on growth of small and micro enterprises in Kenya. For other researchers and academicians, the study gives a basis whereby further research will be conducted on influence of infrastructural development on growth of small and micro enterprises in Kenya.

The findings of this study would benefit the management of small and micro enterprises as it would provide information on influence of infrastructural development on growth of small and micro enterprises in Kenya as well as how the SMEs can be improved to increase on their performance. In addition, the results of this study would give information which would be utilized to develop strategies on the growth of the small and micro enterprises.

The government of Kenya in the recent past has been on the forefront to ensure that there is growth in the SMEs. Hence the findings of this study, would provide information on the growth of the small and micro enterprises that would be used by the policy makers to develop policies intended to improve entrepreneurship in the county.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter gives a review of literature on infrastructural development and growth of small and micro enterprises. The chapter comprises of a theoretical framework, concept of infrastructural development, growth of small and micro enterprises and effect of infrastructural development on growth of small and micro enterprises.

### **2.2 Theoretical Review**

This section reviews theories related to infrastructure development and the growth of small and micro enterprises. These theories include stochastic models of firm growth, theory of the firm and residential location theory.

#### **2.2.1 Stochastic models of firm growth**

This theory was developed from the school of economics. Hirschmans (2008) emphasized that there are many aspects that influence the growth of small and micro enterprises. There is no factor which is dominant over the other since all of them play a role on the growth of the small and micro enterprises. Gibbs (2000) proposed that the rate of growth of any business is independent of the size of the enterprise in his law of proportionate effect. This implies that the growth of small and micro enterprises does not depend on its size but on factors such as finance and infrastructure development. These factors make the accessibility of people to the firms easily so as to obtain the services and products provided by small and micro enterprises.

Hirschman (2008) further proposed that the rate of growth in the small and micro enterprises decreases at a varying rate as the enterprise size increases. When the size of the enterprise increases due to increase in the number of customers and the level of credits offered to the market, there is an improvement in the performance of the enterprise. On the other hand, the decrease in the size of the enterprise indicates that there is a decrease in the level of finance and other constraints such as infrastructure

development are affecting the enterprises growth hence resulting into poor performance of the small and micro enterprises.

In this study the stochastic models of firm growth was adopted to explain on how the growth of small and micro enterprises is affected by factors such as infrastructure and access to finance. These factors are not depend on each other and there is no factor which is more dominant than the other.

### **2.2.2 Theory of the firm**

The theory of the firm represents the production function of any small and medium enterprise as a function of infrastructure development and technology. This theory indicates the relationships by which the inputs into the production process are converted into output in form of goods and services through the production process (Foley & Green 2009). In this case, the inputs may include raw material, labor and equipment which are used in the production of outputs such as goods and services. The basic assumption in the theoretical view is that transport infrastructure is also used in the production process as a factor that is unpaid input, hence contributing directly to the growth of the small and micro enterprises (Kinuthia, 2013). A good example is the public roads which are always available free of charge to either industrial or commercial activities.

Also, infrastructure development is always considered as a factor that helps in the growth of small and micro enterprises as it facilitates the accessibility of people to the services that are offered by the small and micro enterprises (Foley & Green, 2009). Transport infrastructure is always a function of the production process in the small and micro enterprises as it is used as an input in production of services and goods to the customers of the SMEs.

In this study, the theory of the firm of the firm is used to explain how small and micro enterprises grow as a result of development in factors such as infrastructure. The theory of the firm also explains that infrastructure is a component of the production process in the small and micro enterprises. Hence growth in small and micro enterprises is dependent on improvement of factors such as infrastructure development.

### **2.2.1 Residential Location Theory**

This theory assumes that people always prefer to stay in different places due to different reasons. They assume that there is maximization in the satisfaction of their utility through residing in a particular place as compared to staying in another residential place. The location that is chosen is mainly dependent on the level of accessibility to workplaces, sewerage systems, power supply and water supply (Aleke, 2003).

Infrastructure development may lead to people choosing to live in a specific place and as a result leading to growth of the small and micro enterprises. This is because as the level of infrastructure improves, it leads to an improvement in the residential area of the people and hence the level of accessibility of people to the SMEs is also improved. It plays a key role in the investment process of the SMEs. The growth of small and micro enterprises is a major contribution to the living standards of people living in a specific area as it improves on social amenities and also induce more business activities. This theory is used in this study to explain how infrastructure development leads to people choosing to live in specific areas and as result providing labor and market for the small and micro enterprises (Foley & Green, 2009).

### **2.3 Infrastructural Development**

Infrastructure is an organizational or physical structure that is important and required in the operation of an enterprise and in the daily activities of a society. Infrastructure facilitates the necessary functions of an economy. According to Nkechi et al. (2012), infrastructure refers to a group of interconnected elements that provide a framework necessary in supporting the whole structure for development in a society. These include technical structures that support and guide the society in terms of electricity grid, roads, bridges, sewers, telecommunication and water supply. Infrastructure provides services and products necessarily in the sustenance, enablement and enhancement of the living conditions in a society (Obokoh & Goldman, 2016). In the society, infrastructures facilitate products and services production, finished goods distribution, and promotion of essential services in the society like hospitals and schools.

It is a universal belief that provision of infrastructures increases the effectiveness and efficiency of small and micro enterprises. Infrastructure can be divided into two groups, namely; economic infrastructure and social infrastructure (Oduyoye et al., 2014). Economic infrastructures include railways, roads, port facilities, telecommunication networks and power facilities. On the other hand, social infrastructures include health facilities, community facilities, education institutions and justice facilities. Both social and economic infrastructures contribute to the supply and demand supply, which is the function of SMEs (Ogunmola, 2012). The provision of infrastructure leads to a reduction in cost of production, increases profitability and increases level of output, especially among small and micro enterprises. The opposite is true, poor infrastructure leads to a cycle of poverty in communities as it leads to inefficiency and ineffectiveness of small businesses and hence their closure.

In his study, Beyene (2002) found that good infrastructure availability provides a conducive environment for small and micro enterprises to growth and facilitate economic growth. It is impossible for small and micro enterprises to flourish in the absence of transportation, water supply, power supply and reliable telecommunication. Ognmola (2012) also observed that infrastructure's role in the performance of SMEs cannot be overlooked since infrastructure such as road networks, reliable water supply, efficient telecommunication and power supply are considered to be flavors for SME's performance.

#### **2.4 Growth of Small and micro enterprises**

Small and micro enterprises are considered responsible for driving competition and innovation in various economic sectors. SMEs growth has been defined differently by different authors. Ognmola (2012) considers SMEs' growth to be an increase in the size of a business over a period of time. According to Palei (2015), SMEs' growth is determined by labor force in an organization, capital supply and profitability of a business. Rauf (2013) points out the importance of recognizing the multidimensional nature of growth in SMEs. Therefore, focusing on a single dimension of growth gives misleading results. Measurement of growth of a business should therefore focus on both financial and nonfinancial measures of growth in a business. Financial measures

comprise of traditional accounting measures like profitability, market share and sales growth. According to Scott and Bruce (2007), financial measures of a the growth of business include sales growth, profitability growth, revenues, return on investment, return on equity and return on assets. The non-financial measures of the growth of an SME include performance of the business compared to competitors, customer satisfaction, growth in number of employees, brand awareness, owner's satisfaction, employee satisfaction and customer loyalty.

According to Sharu and Guyo (2013), the financial measures of a business are objective, easy and simple to compute and interpret. Nevertheless, financial measures are historical and are normally unavailable in the public domain, especially for small and micro enterprises. In addition, profitability of a business can easily be manipulated, which normally happens when their owners are seeking for financing from financial institutions like banks and microfinance institutions. The solution to the problem with financial measures is to include non-financial measures. Although non-financial measures are subjective in nature, they can be used to supplement the financial measures.

In various studies conducted in Kenya, the measurement of employment growth and sales growth are the most commonly used measures of the growth of small and micro enterprises. Even though indicators like profits, assets, market share are often used in measuring growth; most researchers prefer employment and sales growth as they do not involve many calculations (Wambua, 2016). In addition, the market share of business depends with the intensity of competition and number of players in an industry. Also, the total assets vary from one industry to another and dependent on the capital intensity of an industry. Compared to manufacturing firms, which are assets intensive, companies in the service industry may require less assets (Recklies, 2001). Therefore, the most reliable measures of growth among small and micro enterprises are sales growth and employment growth. The number of employees in SMEs is easily accessible as it requires counting the number of staff. In addition, sales figure is rarely affected by macroeconomic factors such as exchange rates and inflation.



## **2.5 Empirical Review**

Various studies have been conducted on development of infrastructure and growth of small and micro enterprises, both globally and locally. In Czech Republic, Palei (2015) researched on the effect of infrastructure on the growth of the economy and businesses. The results indicated that infrastructural development in terms of electricity supply, air transport, railroad transport, quality of roads had an influence that was significant on the growth of businesses.

In Nigeria, Obokoh and Goldman (2016) examined on the effect of infrastructure deficiency on the performance of small and micro enterprises. The study employed a longitudinal research design. The results indicated that infrastructure deficiency (road projects, water projects, electricity) had a negative influence on the growth of small and micro enterprises. This was due to the high cost the SMEs were incurring in infrastructure self-provision and in finished goods distribution. In addition, although electricity production had been fully privatized there was no considerable improvement in the supply of electricity.

Abdullahi et al. (2015) also researched on the effect of infrastructure on SMEs performance in Nigeria. Both case study design and descriptive research design were adopted. The results indicated that infrastructure had a significant positive influence on the performance of small and micro enterprises. The available infrastructural facilities like electricity, road, water supply, telecommunication and sewerage system were poor and hence need improvement. In addition, Oduyoye et al. (2014) conducted an empirical study on the influence of infrastructure support on small business growth. Using a survey research design, the study found that the infrastructural support provision has an influence on the growth of small businesses in Ogun State.

In Ghana, Forkuoh and Li (2015) carried out a study on the influence of electricity power on SMEs growth. The results indicated that in the last five years the supply of electricity in Ghana had been fluctuating. The results also indicated that electricity supply fluctuation and power outages had a negative significant influence on small businesses

growth. Power outages led to an increase in the cost of business operation as business owners had to purchase other sources of power.

In Kenya, Nganga et al. (2011) examined on the effect of infrastructure on small and micro enterprises' growth (wood enterprises). Descriptive research design was employed in the study and the study was done in Uasin Gishu, Nakuru and Kericho counties. The results indicated that the infrastructure (communication, roads, energy and water) of the SMEs in the wood industries were accessing was poor, which led to the poor growth of wood enterprises. Using a descriptive survey research design, Ouma (2013) carried out a research on the influence of electrification on SMEs growth in Mbita town. The results revealed a strong relationship between rural electrification and value addition in small towns in the rural areas. Ndiang'ui (2012) conducted a study on transportation and performance of small and micro enterprises using a descriptive survey design. The results indicated that transportation factors such as enforcement of roads and access act, insecurity related to transport and cost of transport influence on the performance of small and micro enterprises.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter presents the techniques, methods and procedures that were used in the selection of the sample size, collection of data and analysis of data. The chapter, specifically, comprised of the research design, target population, sample size and sampling technique, data collection and data analysis and presentation.

### **3.2 Research Design**

A descriptive research design was the most appropriate research design for this study. According to Bryman and Cramer (2012), a descriptive survey design is good in the assessment of trends and opinions and the use of a survey is an effective and efficient way of collecting data that can help a researcher in addressing research questions. According to Bhattacharjee (2012), a descriptive survey design involves posing questions to participants, summarizing the responses using frequencies and percentages and making conclusions about a population from the samples' responses.

### **3.3 Population**

A target population can be referred to as every member of a group of objects, subjects or individuals who either could be hypothetical or real from where the researcher has an intention of obtaining general conclusions of the study variables (Cooper & Schindler, 2006). Small and micro enterprises, located in the Nairobi section of Thika Superhighway, that have been in operation since November 2010 were the target population in this study. This is because Thika Superhighways was completed in November 2012. These included SMEs in Ruaraka, Roasters, Roysambu and Githurai 45. In the year 2010, there were about 120 SMEs in Ruaraka, 145 in Roasters, 112 in Roysambu and 220 in Githurai 45. Although Pangani is located in the Nairobi section of Thika Superhighway, it was not included in the study because the area is also served by other roads like Kiambu Road and Juja road.

**Table 3. 1: Target Population**

<b>Location</b>	<b>Target population</b>
Ruaraka	120
Roasters	145
Roysambu	112
Githurai 45	220
<b>Total</b>	<b>597</b>

**Source: Nairobi County Government (2015)**

### **3.4 Sampling Design**

A sample refers to a small number of an entire target population. According to Greener (2008), a sample size that ranges from 10 to 30 percent of the target population is good representation of the target population. Therefore, this study's sample size was 179 SME owners. Simple random sampling was employed to select the sample from the target population. This method was essential as it gives all members of a population equal opportunities of being selected as part of the sample size.

**Table 3. 2: Sample Size**

<b>Location</b>	<b>Target population</b>	<b>Sample Size</b>
Ruaraka	120	36
Roasters	145	44
Roysambu	112	34
Githurai 45	220	66
<b>Total</b>	<b>597</b>	<b>179</b>

**Source: Nairobi County Government (2015)**

### **3.5 Data Collection**

Data used in the study was Primary data where structured questionnaire were used in the collection of data. Structured questionnaire generates quantitative data, which takes the form of categorical data (nominal and ordinal data) (Kothari, 2004). In addition, the

closed ended questions provided precise information that minimizes information bias and facilitate data analysis. Before data was collected, a pilot test was done to examine the questionnaire's validity and reliability. The questionnaires were then be distributed to the SME owners using a drop and pick up later method as it increases the response rate.

The questionnaire comprised of two main sections, namely; general information, infrastructural development, growth of small and medium enterprise and influence of infrastructural development on the growth of small and micro enterprises.

### **3.6 Data Analysis**

Data analysis process is the packaging of data collected and putting it in an orderly way, and structuring the core elements in a way that the results can be efficiently and easily communicated (Kultar, 2007). Quantitative data was analyzed by the use of descriptive statistics through the help of a statistical software, Statistical Package for Social Sciences (SPSS version 22). Descriptive statistics in the study encompassed frequency distribution, percentages, mean and standard deviation. The results of the study were presented by use of both graphs and tables. Furthermore, correlation analysis of the study was adopted in establishing the relationship existing between the variables.

## **CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION**

### **4.1 Introduction**

This chapter presents the findings, interpretation of results based on the study objective, and discussion of the findings. The chapter begins with the respondents' background information followed by influence of infrastructural development on the growth of small and micro enterprises (SMEs) in the Nairobi Section of Thika Road, growth on small and medium enterprises (SMEs), correlation analysis and discussion of the findings.

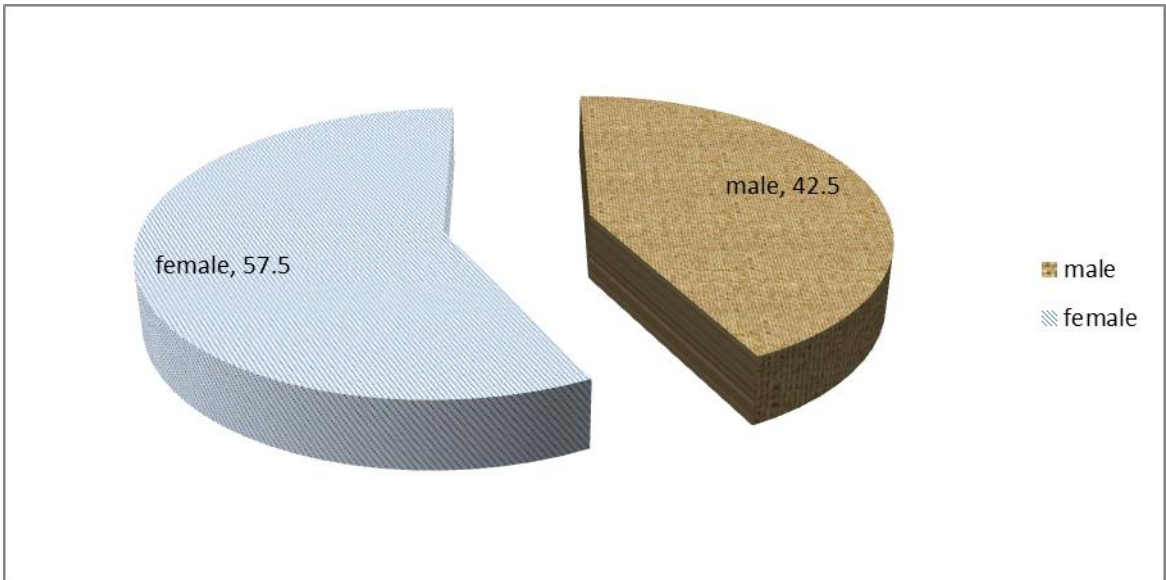
This study's sample size was 179 SMEs, out of which 174 responses were generated and this gave a response rate of 97.21%. 100% response rate was not achieved. This was because not all the questionnaires were fully filled by the respondents. Conversely, according to Kothari (2004) adequate analysis is above 50% and 97.21% response rate was excellent.

### **4.2 Demographic Information**

The demographic information presented is on the gender, age, highest education level, and duration of existence of SMEs.

#### **4.2.1 Gender of the Respondents**

The first demographic characteristic was gender. The results were shown in figure 4.1.



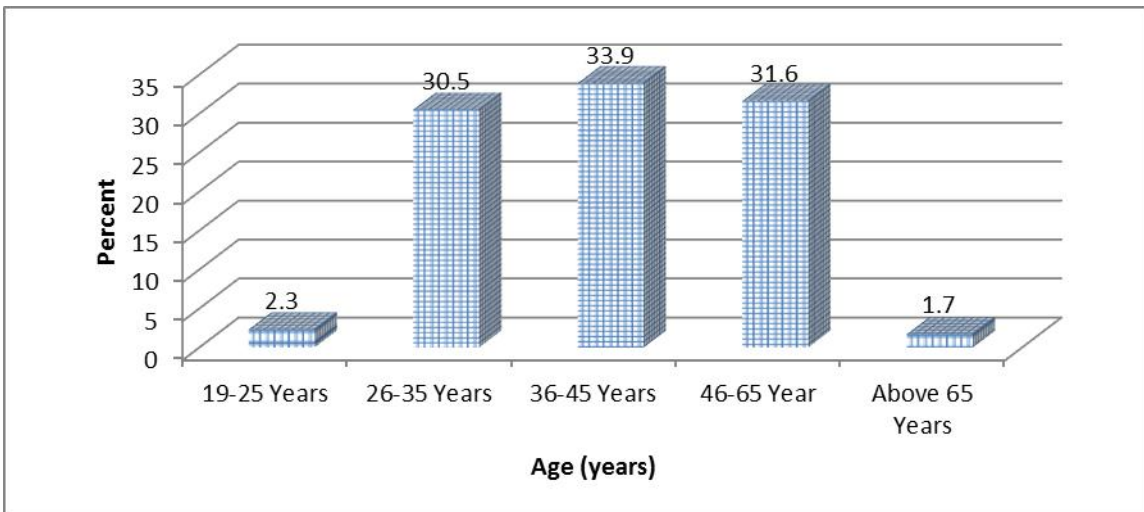
**Figure 4 1: Gender of the Respondent's**

**Source: Primary Data**

Figure 4.1 shows that 57.5% of the respondents were female while 42.5% were male. From the findings, majority of the respondents working in SMEs in the Nairobi section of Thika superhighway were female.

**4.2.2 Age Bracket of the Respondents**

The respondents were further asked to indicate their age bracket. Figure 4.2 shows the results of the study.



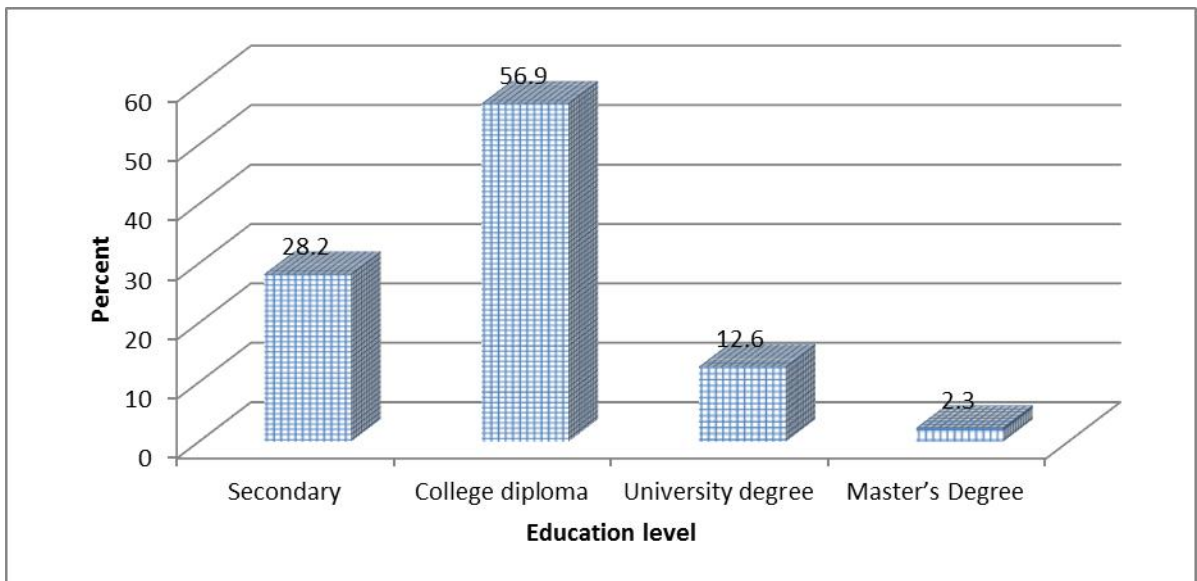
**Figure 4 2: Age Bracket of the Respondents**

**Source: Primary Data**

From the findings, 33.9% of the respondents were aged between 36 and 45 years, 31.6% were aged between 46 and 65 years, 30.3% were aged between 26 and 35 years, 2.3% were aged between 19 and 25 years and 1.75 were aged above 65 years in age. From the findings, it is evident that most of the SME owners in the Nairobi section of Thika superhighway were aged between 36 and 45 years.

**4.2.3 Respondents Highest Level of Education**

The respondents were further asked to indicate their highest education level. The results were as presented in figure 4.3.



**Figure 4 3: Respondents Highest Level of Education**

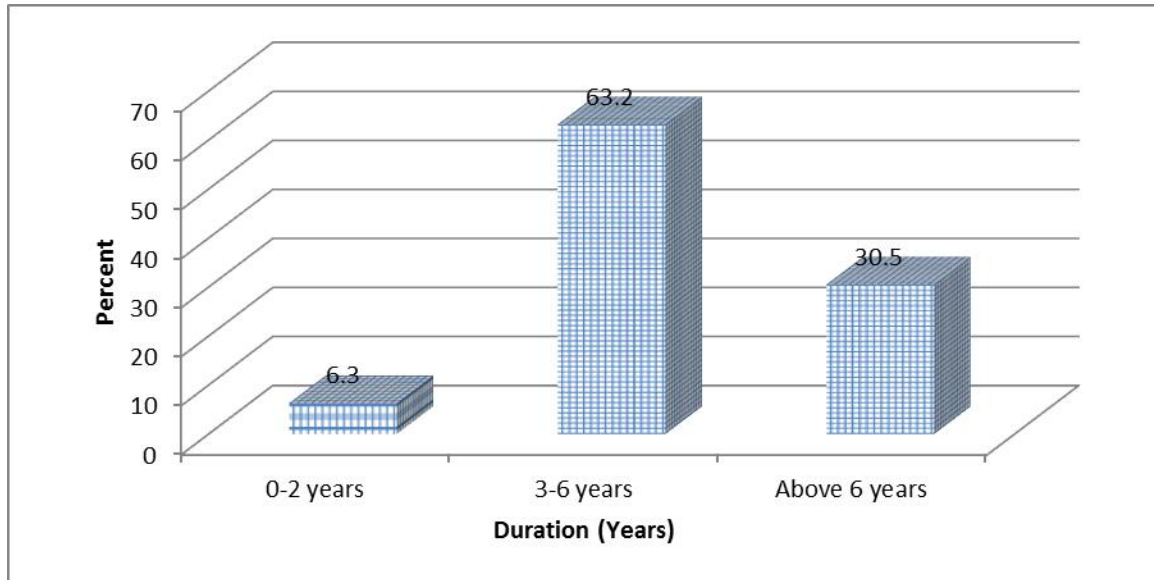
**Source: Primary Data**

As shown in Figure 4.3, 56.9% of the respondents had college diplomas, 28.2% had secondary education, 12.6% had primary level of education and 2.3% had master's degrees. From the results, most of the SME owners in the Nairobi Section of Thika superhighway had secondary level of education.



#### 4.2.4 Duration of existence of the SME

The respondents were requested to indicate the duration of time their SMEs had been in operation. The results were as shown in figure 4.4.



**Figure 4 4: Duration of existence of the SME**

**Source: Primary Data**

From the findings, 63.2% of the respondents indicated that their SMEs had been in existence between 3 and 6 years, 30.5% indicated that their SMEs have been in existence for above 6 years while 6.3% indicated that the SMEs have been in existence between 0 and 2 years. This implies that most of the SMEs in the Nairobi section of Thika superhighway had been in existence for between 3 and 6 years.

#### 4.3 Influence of Infrastructural Development on the Growth Of SMEs

The objective of this study was to determine the influence of infrastructural development on the growth of small and micro enterprises in the Nairobi section of Thika Road in Kenya. This section presents the findings on road related factors, electricity related factors, water and sewerage related factors and telecommunication related factors and their influence on the growth of SMEs along Thika road.

### 4.3.1 Road related factors

The respondents were requested to indicate the extent to which road construction factors influence the growth of SMEs. They were to use 1 to represent no extent at all, 2 to represent low extent, 3 to represent moderate extent, 4 to represent great extent and 5 to represent very great extent. The results were shown in table 4.1.

**Table 4 1: Road related factors**

	<b>N</b>	<b>Mode</b>	<b>Mean</b>	<b>Std. Deviation</b>
Improve access to estates	174	5.00	4.9655	.26109
Reduce time taken to transport stock	174	5.00	4.9770	.15030
Improve distribution of goods	174	5.00	4.9828	.13055
Reduce cost of transporting goods	174	5.00	4.9368	.30700
Improved enforcement of roads and access act	174	5.00	4.9425	.25699
Reduction in road insecurity	174	4.00	4.3276	.60978

**Source: Primary Data**

As indicated in table 4.1, the respondents reported that infrastructure development had led to improved distribution of goods and also reduced time taken to transport stock to a very great extent as indicated by the means of 4.982 and 4.977 respectively. In addition, they indicated that infrastructure development had improved access to estates and also improved enforcement of roads and the access act to a very great extent as indicated by the means of 4.965 and 4.942 respectively. By a mean of 4.936, they indicated that infrastructure development reduced cost of transporting goods to a very great extent. Further, they indicated by the mean of 4.327 indicated that infrastructure development had led to reduction in road insecurity to great extent.

### 4.3.2 Electricity related factors

The respondents were requested to indicate to what extent the construction of Thika road influenced the following electricity related factors. The results were shown in table 4.2.

**Table 4 2: Electricity related factors**

	<b>N</b>	<b>Mode</b>	<b>Mean</b>	<b>Std. Deviation</b>
Improve electricity connections	174	4.00	4.2011	.49249
Reduce power outages	174	3.00	3.2931	.49302
Reduce power interruptions	174	3.00	3.2586	.51206
Reduction in self-provision of power	174	3.00	3.2356	.51193

**Source: Primary Data**

From the findings, the respondents indicated that infrastructure development influenced improved electricity connections to a great extent as shown by a mean of 4.2011. They also indicated that infrastructure development influenced reduced power outages and reduced power interruptions to a moderate extent as shown by the means of 3.293 and 3.258 respectively. Further, they indicated that infrastructure development had influenced reduction in self-provision of power to a moderate extent as shown by a mean of 3.235.

### 4.3.3 Water and Sewerage related factors

The respondents were requested to indicate to what extent the construction of Thika road influenced the following water and sewerage related factors. The results were shown in table 4.3.

**Table 4 3: Water and Sewerage related factors**

	<b>N</b>	<b>Mode</b>	<b>Mean</b>	<b>Std. Deviation</b>
Constant water supply	174	4.00	3.7184	.58498
Improvement in the cleanliness and safety of water	174	4.00	4.0287	.43580
Reduction in water supply interruptions	174	3.00	3.3448	.57556
Improvement in the sewerage system	174	4.00	4.0230	.55822
Reduction in the bursting of sewerage systems	174	4.00	4.0115	.48071

**Source: Primary Data**

From the findings, the respondents indicated that infrastructure development influenced improvement in the cleanliness and safety of water and improvement in the sewerage system to a great extent as shown by the means of 4.028 and 4.023 respectively. In addition, they indicated that infrastructure development influenced reduction in the bursting of sewerage systems and constant water supply to a great extent as shown by the means of 4.01 and 3.718 respectively. However, they indicated that infrastructure development moderately influenced reduction in water supply interruptions as shown by the mean of 3.344.

**4.3.4 Telecommunication related factors**

The respondents were requested to indicate to what extent the construction of Thika road influenced the following telecommunication related factors. The results were shown in table 4.4.

**Table 4 4: Telecommunication related factors**

	<b>N</b>	<b>Mode</b>	<b>Mean</b>	<b>Std. Deviation</b>
Improvement in telecommunication network	174	4.00	4.1667	.44440
Reliability of telecommunication	174	4.00	4.1552	.53117
Cost of communication	174	4.00	3.8736	.64161
Utilization of e-business	174	4.00	3.8391	.66929

**Source: Primary Data**

Table 4.4 shows that the respondents indicated that infrastructure development had influenced improvement in telecommunication network and reliability of telecommunication to a great extent as shown by the means of 4.166 and 4.155 respectively. In addition, they indicated that infrastructure development influenced cost of communication and utilization of e-business to a great extent as shown by the means of 3.873 and 3.839 respectively.

#### **4.4 Growth of Small and Medium Enterprises**

##### **4.4.1 Number of employees in the business**

The respondents were asked to indicate the number of employees they started the business with as well as the current number of employees in their business. The findings were recorded in table 4.5.

**Table 4 5: Number of employees in the business**

<b>Categories</b>	<b>Number of employees at the start of business</b>		<b>Current number of employees</b>	
	<b>Frequency</b>	<b>Percent</b>	<b>Frequency</b>	<b>Percent</b>
1- 5	35	20.1	46	26.4
6-10	9	5.2	88	50.6
11-15	1	.6	22	12.6
More than 15	1	.6	2	1.1
None	128	73.6	16	9.2
<b>Total</b>	<b>174</b>	<b>100.0</b>	<b>174</b>	<b>100.0</b>

**Source: Primary Data**

From the findings, 73.6% the respondents indicated that they started the business without any employees, 20.1% indicated that they started the business with between 1 and 5 employees, 5.2 % indicated that they started their SMEs with between 6 and 10 employees, 0.6% indicated that they started the SME with 11 to 15 employees and the same per cent indicated that they had started with more than 15 employees. From these findings, most of the SME owners did not have employees during the start of their businesses.

The findings indicated that 50.6% of the respondents were currently having 6 to 10 employees, 26.4% indicated they were having between 1 and 5 employees, 12.6% indicated that they were having 11 to 15 employees, 9.2% indicated that they were having no employees in their SMEs and 1.1% indicated that they were having more than 15 employees in their SMEs. From the findings, most of the SME owners were currently having 6 to 10 employees.

From the findings, there has been a change of the number of employees from when the business started to the current state of the business. The SMEs that lacked employees were 73.6% at the start of the business but currently those that do not have employees are 9.2%. The employee number has increased from 5.2% to 50.6% where most of the employees currently have 6 to 10 employees.

#### **4.4.2 Trend of profits of the organization for the past five years**

The respondents were requested to indicate if the profits of their SMEs had been increasing, decreasing or stagnant over the past five years. The results were as shown table 4.7.

**Table 4 6: Trend of profits of the organization for the past five years.**

	<b>Frequency</b>	<b>Percent</b>
Increased	130	74.7
Decreased	4	2.3
Stagnant	40	23.0
Total	174	100.0

**Source: Primary Data**

From the findings, 74.7% of the respondents indicated the profits of their SMEs had been increasing over the past 5 years. 23.0% indicated that the profits of their SMEs had been stagnant for the past five years while 2.3% indicated that the profits of their SMEs had been decreasing over the past five years. From the findings, we can deduce that the profits of the SMEs in the Nairobi section of Thika Superhighway had been increasing over the past five years.

#### **4.4.3 Average profit of SMEs per month**

The respondents were requested to indicate the average profit of SMEs per month in the past one year. The findings were as presented in table 4.8.

**Table 4 7: Average profit of SMEs per month**

	<b>Frequency</b>	<b>Percent</b>
Up to Ksh. 30,000	11	6.3
Ksh.31,000-50,000	72	41.4
Ksh.51,000-100,000	64	36.8
Above Ksh.100,000	27	15.5
<b>Total</b>	<b>174</b>	<b>100.0</b>

**Source: Primary Data**

From the findings, 41.4% of the respondents indicated that the average profit per month of their SMEs was Ksh.31,000 to Ksh.50,000, 36.8% indicated that it was between Ksh 51,000 and Ksh 100,000, 15.5% indicated that it was above Ksh 100,000 while 6.3% indicated that it was less than 30,000. From the findings, we can deduce that most of the SMEs had an average profit of between Ksh 30,000 and Ksh 50,000 per month.

#### **4.4.4 Trend of sales in the last one year.**

The respondents were requested to indicate whether their sales had been increasing, decreasing or stagnant over the last one year. The results were as shown in table 4.9.

**Table 4 8: Trend of sales in the last one year**

	<b>Frequency</b>	<b>Percent</b>
Increased	119	68.4
Decreased	8	4.6
Stagnant	47	27.0
<b>Total</b>	<b>174</b>	<b>100.0</b>

**Source: Primary Data**

The findings of the study indicated that 68.4% of the respondents' sales in their SMEs had been increasing over the last one year. 27.0% indicated that the sales of their SMEs had been stagnant over the last one year, 4.6% indicated that the sales of their SMEs had been decreasing over the last one year. From the findings, the sales of most SMEs in the Nairobi Section of Thika Superhighway had been increasing over the past one year.

#### **4.4.5 Average sales of SMEs per month in the last one year**

The respondents were requested to indicate the average sales of their SME per month in the last one year. The findings were as presented in table 4.10.

**Table 4 9: Average sales of SMEs per month in the last one year**

	<b>Frequency</b>	<b>Percent</b>
Less than Ksh 100,000	22	12.6
Ksh.101,000-500,000	112	64.4
Ksh.501,000-1,000,000	37	21.3
More than Ksh.1,000,000	3	1.7
<b>Total</b>	<b>174</b>	<b>100.0</b>

**Source: Primary Data**

From the findings, 64.4% of the respondents indicated that the average sales in their SMEs per month were between Ksh 101,000 and Ksh 500,000 over the last one year, 21.3% indicated that they were between Ksh 501,000 and Ksh 1,000,000, 12.6% indicated that they were less than Ksh 100,000 and 1.7% indicated that they were more than Ksh 1,000,000 over the past one year. From the findings, we can deduce that most of



the sales of the SMEs in the Nairobi Section of Thika Superhighway had average sales between Ksh 101,000 and Ksh 500,000 over the past one year.

#### 4.4.6 Value of SMEs total assets

The respondents were requested to indicate the value of their SMEs total assets. The results were as shown in table 4.11.

**Table 4 10: Value of SMEs total assets**

	<b>Frequency</b>	<b>Percent</b>
Less than Ksh 100,000	18	10.3
Ksh.101,000-500,000	32	18.4
Ksh.501,000-1,000,000	76	43.7
More than Ksh.1,000,000	47	27.6
<b>Total</b>	<b>174</b>	<b>100.0</b>

**Source: Primary Data**

The findings indicated that 43.7% of the respondents had the total value of their SMEs were between Ksh. 501,000 to Ksh. 1,000,000, 27.6% indicated that the total value of their SMEs were more than Ksh 1,000,000, 18.4% indicated between Ksh. 101,000 and Ksh. 500,000 and 10.3% indicated the total value of their SMEs was less than Ksh. 100,000. From the findings, most of the SMEs total assets were between Ksh.501,000 to Ksh.1,000,000.

#### 4.5 Correlation Analysis

The study used the Pearson product-moment correlation analysis so as to establish the relationship between the variables. To define correlation, a number that is between -1 and +1 measures the degree of relationship between two variables is used. Where the value is positive, this indicates a positive relationship. A value which is negative shows a negative relationship. Where the coefficient is zero, this indicates a negative or a relationship that is inverse between the dependent and independent variables and hence a changing in the independent variable has no effect on the dependent variable.

**Table 4 11: Correlation Analysis**

		<b>Growth of SMEs</b>	<b>Road related factors</b>	<b>Electricity related factors</b>	<b>Water and sewerage related factors</b>	<b>Telecommunication related factors</b>
Growth of SMEs	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	174				
Road related factors	Pearson Correlation	.561	1			
	Sig. (2-tailed)	.000				
	N	174	174			
Electricity related factors	Pearson Correlation	-.009	.17	1		
	Sig. (2-tailed)	.907	.018			
	N	174	174	174		
Water and sewerage related factors	Pearson Correlation	.421	.228	.325	1	
	Sig. (2-tailed)	.000	.003	.000		
	N	174	174	174	174	
Telecommunication related factors	Pearson Correlation	.361	-.144	.017	.361	1
	Sig. (2-tailed)	.000	.059	.825	.000	
	N	174	174	174	174	174

**Source: Primary Data**

The findings of the study indicated that there was a positive relationship between road related factors and growth of SMEs in the Nairobi Section of Thika Superhighway ( $r=0.561$ ,  $p\text{-value}=0.000$ ). The results also show a positive relationship between water and sewerage factors and growth of SMEs in the Nairobi Section of Thika Superhighway ( $r=0.421$ ,  $p\text{-value}=0.000$ ). In addition, there is a positive relationship between telecommunication and growth of SMEs in the Nairobi Section of Thika Superhighway ( $r=0.361$ ,  $p\text{-value}=0.000$ ). However, a negative relationship exists between electricity and growth of SMEs in the Nairobi Section of Thika Superhighway.

#### 4.6 Discussion

From the findings, there was a positive relationship between road related factors and growth of SMEs in the Nairobi Section of Thika Superhighway. These findings concur with Nganga, Onyango and Kerre (2011) who indicated that poorly maintained roads add to the cost of doing business due to the high cost of vehicle maintenance, which subsequently leads to high cost of goods. In addition Ukong and Iniodu (2011) indicated where the road network is in a poor state, the cost of producing and marketing of goods and services is added thus making them less competitive than the substitutes that are imported. The study established that development of roads had led to improved distribution of goods, reduced time taken to transport stock, improved access to estates, improved enforcement of roads and access act, reduced cost of transporting goods and reduction in road insecurity. These findings agree with Nkechi *et al.* (2012) argument that infrastructure development reduces delivery time, accessibility to estates and reduction in the cost of transportation.

The study found that there was no significant relationship between electricity related factors and growth of SMEs in the Nairobi Section of Thika Superhighway. These disagree with World Bank (WB) (2008) which stated that SMEs that are located in areas that have electricity are more active and effective. The study found that electricity connections lead to reduce power outages, reduce power interruptions and reduction in self-provision of power. These findings are in line with Obokoh and Goldman (2016) findings that electricity affects the product effect whereby an increasing the quantity of electricity is expected to increase the productivity of SMEs and vice versa. These findings are also in line with Ogunmola (2012) argument that electricity is therefore important because it is used for purposes that are varied that range from production, storage, powering of office equipment and display of products.

The findings of the study indicated that there was a positive relationship between water sewage related factors and growth of SMEs in the Nairobi Section of Thika Superhighway. These findings concur with Palei (2015) who indicated that an increase in water supply with no or minimal interruptions would lead to increase in production of an

SME. The study established that water and sewerage connections as a results of infrastructure development leads to constant water supply, improvement in the cleanliness and safety of water, reduction in water supply interruptions, improvement in the sewerage system and reduction in the bursting of sewerage systems. These findings agree with Oduyoye et al. (2014) argument that proper draining of sewage lead to cleanliness of the area where the SME was located thus more production.

The study established that there is a positive relationship between telecommunication related factors and growth of SMEs in the Nairobi Section of Thika Superhighway. The study also established that an improvement in telecommunication as a result of infrastructure development leads to improvement in telecommunication network, reliability of telecommunication, cost of communication and utilization of e-business. These findings concur with Nganga, Onyango and Kerre (2011) who indicated that potential benefits of telecommunication to SMEs include enhancing efficiency, cost reduction, market broadening both locally and globally, SMEs empowering through connectivity facilitation thus participating in knowledge economy, assist in product creation and delivery on a scale that is global and providing access to new market. Lack of telecommunication leads to reduced production in an SME.

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

### **5.1 Introduction**

This chapter presents summary of the findings, conclusion, recommendations and areas for further study. The main objective of the study is to determine the influence of infrastructural development on the growth of small and micro enterprises along Thika Road in Kenya.

### **5.2 Summary of the Key Findings**

The study revealed that infrastructure development on road related factors affects the growth of SMEs. The study found that infrastructure development on roads leads to improved distribution of goods and also reduced time taken to transport stock, improved access to estates and also improved enforcement of roads and access act. Further infrastructure development lead to reduced cost of transporting goods, and reduction in road insecurity.

In relation to electricity related factors the study revealed that infrastructure development on affect the growth of SMEs to a great extent whereby it influenced improved electricity connections and reduced power outages and reduced power interruptions. Reduction in self-provision of power was however moderate in terms of its effect on growth of SMEs.

In relation to water and sewerage related factors, the study found that SMEs are affected by infrastructural development through; improvement in the cleanliness and safety of water, improvement in the sewerage system, reduction in the bursting of sewerage systems and constant water supply. Reduction in water supply interruptions however moderately affected the growth of SMEs.

In relation to telecommunication related factors, the study revealed that SME growth was influenced by these factors. This is through the improvement in telecommunication

network, reliability of telecommunication, improved cost of communication and Utilization of e-business.

### **5.3 Conclusion**

The study concludes that infrastructural developments (roads, water and sewerage, telecommunication) were affecting the growth of SMEs along Thika superhighway. However, electricity had no significant influence on the growth of SMEs. The road related factors affecting growth of SMEs included improved distribution of goods, reduced time taken to transport stock, improved access to estates and also improved enforcement of roads and access act reduced cost of transporting goods, and reduction in road insecurity. Electricity related factors affecting growth of SMEs included improved electricity connections and reduced power outages, reduced power interruptions and Reduction in self-provision of power. Water and sewerage related factors affecting growth of SMEs included improvement in the cleanliness and safety of water, improvement in the sewerage system, reduction in the bursting of sewerage systems and constant water supply and reduction in water supply interruptions. Telecommunication related factors affecting growth of SMEs included improvement in telecommunication network, reliability of telecommunication, improved cost of communication and utilization of e-business.

### **5.4 Recommendations for Policy and Practice**

The study found that road related factors influenced improved delivery time and reduction in the cost of transportation among SMEs. The recommendation of the study is that the National government as well as County governments in Kenya should come up with policies aimed at improve infrastructure such as roads, telecommunication as well as water and sewerage as way of ensuring SMEs growth in the country.

This study recommends that Interruptions of water supply should also be minimized. The national government together with the county government should work hand in hand to ensure that water is made available in all the regions where SMEs are located. This will therefore enhance production activities in the SMES thus leading to an increase in growth and development of the state's economy.

Despite the road related factors having been positively associated with growth of SMEs, the authorities in charge of the roads should ensure that road security is maximized and that the roads are well maintained. This will therefore ensure a continuous process in regard to production in the SMEs.

### **5.5 Limitations of the study**

One of the challenge that faced the study was that some SME owners failed to fill the questionnaires as they were busy serving their customers. However, in such cases, the researcher left the questionnaires for them to fill at their free time. The questionnaires were then collected after two days. In other instances, the researcher did not get the owners of the SMEs and had to request for help from the employees. Some of the employees felt as if they were being investigated and hence were hesitant to fill the questionnaires. The researcher however worked at winning their confidence by ensuring participants confidentiality.

### **5.6 Areas for Further Research**

This study was conducted in the Nairobi section of Thika Superhighway, and due to difference in business environment in different parts of Kenya, generalizing the findings of this study is not possible. Therefore, the study suggests further studies in other Counties in Kenya to cover both urban and rural areas. Since the growth of SMEs does not depend on infrastructure development only, further studies should therefore be done to identify other aspects that have an effect on the growth of small and medium enterprises.

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## APPENDICES

### Appendix I: Introduction Letter

KYUNGA FAITH KALUNDA  
UNIVERSITY OF NAIROBI  
P.O.BOX 30197,  
GPO, NAIROBI, KENYA

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

REF: REQUEST FOR PARTICIPATION IN A RESEARCH STUDY

I am Kyunga Faith Kalunda, pursuing a degree of Masters in Science (entrepreneurship and innovations management) in the University of Nairobi. The topic of my research project is “Infrastructural Development and Growth of Small and micro enterprises in the Nairobi section of Thika Road, in Kenya”. The purpose of the study will be to assess the influence of infrastructural development on the growth of small and micro enterprises along Thika Road in Kenya.

It is my request that you agree to participate in this study and your honesty in answering the questions will be highly appreciated. All the information provided will be held with strict confidentiality and you will not be required to write your name in the questionnaire.

Yours faithfully

Kyunga Faith Kalunda

## Appendix II: Questionnaire

This study seeks to assess the influence of infrastructural development on the growth of small and micro enterprises along Thika Road in Kenya. Kindly answer all the questions truthfully and as precise as possible. All the information provided will be treated with anonymity and strict confidentiality. Kindly put a tick in the spaces provided depending on the type of question.

### SECTION A: Background Information

1. Gender

Male  Female

2. State your age bracket.

19-25Years  26-35 Years   
36-45 Years  46-65 Year   
Above 65 Years

3. What is your highest level of education?

Secondary  College diploma   
University degree  Master's Degree

4. When did you start your business?

0-2 years  3-6 years   
Above 6 years

### SECTION B: INFLUENCE OF INFRASTRUCTURAL DEVELOPMENT ON THE GROWTH OF SMES

#### Roads related factors

5. To what extent did the construction of Thika road influence the following? (1=no extent at all, 2=low extent, 3=moderate extent, 4=great extent, 5=very great extent)

Roads related factors	1	2	3	4	5
Improve access to estates					
Reduce time taken to transport stock					
Improve distribution of goods					
Reduce cost of transporting goods					

Improved enforcement of roads and access act					
Reduction in road insecurity					

### **Electricity**

6. To what extent does the construction of Thika road influence the following electricity related factors? (1=no extent at all, 2=low extent, 3=moderate extent, 4=great extent, 5=very great extent)

<b>Electricity</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Improve electricity connections					
Reduce power outages					
Reduce power interruptions					
Reduction in self-provision of power					

### **Water and Sewerage**

7. To what extent does the construction of Thika road influence the following water and sewerage factors? (1=no extent at all, 2=low extent, 3=moderate extent, 4=great extent, 5=very great extent)

<b>Water and Sewerage factors</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Constant water supply					
Improvement in the cleanliness and safety of water					
Reduction in water supply interruptions					
Improvement in the sewerage system					
Reduction in the bursting of sewerage systems					

### **Telecommunication**

8. To what extent does the construction of Thika road influence the following telecommunication related factors? (1=no extent at all, 2=low extent, 3=moderate extent, 4=great extent, 5=very great extent)

<b>Telecommunication</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Improvement in telecommunication network					
Reliability of telecommunication					
Cost of communication					
Utilization of e-business					

### **Growth of SMEs**

9. How many employees did you start your business with?

- 1- 5                    [ ]                    6-10                    [ ]  
11-15                    [ ]                    More than 15 [ ]  
None                    [ ]

10. How many employees do you currently have?

- 1- 5                    [ ]                    6-10                    [ ]  
11-15                    [ ]                    More than 15 [ ]  
None                    [ ]

11. Has the profit of your organization increased or decreased in the last five years?

- Increased                    [ ]                    Decreased                    [ ]  
Stagnant                    [ ]

12. Please indicate the Average profit of your SME per month in the last one year?

- Up to ksh. 30,000                    [ ]                    ksh.31,000-50,000                    [ ]  
ksh.51,000-100,000                    [ ]                    Above ksh.100,000                    [ ]

13. Have the sales of your business increased or decreased in the last one year?

- Increased                    [ ]                    Decreased                    [ ]  
Stagnant                    [ ]

14. Please indicate the Average sales of your SME per month in the last one year?

- Up to Ksh 100,000                    [ ]                    ksh.101,000-500,000                    [ ]  
ksh.501,000-1,000,000                    [ ]                    More than ksh.1,000,000                    [ ]

15. What is the value of your business total assets

- |                       |                          |                         |                          |
|-----------------------|--------------------------|-------------------------|--------------------------|
| Up to Ksh 100,000     | <input type="checkbox"/> | ksh.101,000-500,000     | <input type="checkbox"/> |
| ksh.501,000-1,000,000 | <input type="checkbox"/> | More than ksh.1,000,000 | <input type="checkbox"/> |